SAICA SUSTAINABILITY INTEGRATION GUIDANCE FOR ACCOUNTING EDUCATORS

VERSION 1.0
2026

DIFFERENCE MAKERS

EMBEDDING SUSTAINABILITY AS A MINDSET

BUILDING SUSTAINABILITY INTO ACCOUNTING EDUCATION PRACTICE

CA(SA) AGA(SA) AT(SA) SAICA DIFFERENCE MAKERS™

Embedding Sustainability As A Mindset | Building Sustainability Into Accounting Education Practice

SAICA Sustainability Integration Guidance for Accounting Educators

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Transparency statement

AI was used in preparing this guidance document primarily as a research and support tool. The conceptual framing, writing, and academic argumentation remain the work of the authors. It assisted with:

- Checking completeness of coverage and identifying relevant references.
- Suggesting ways to improve clarity and consistency of formatting.
- Supporting some editing and restructuring for readability.

Preface

Why this guidance was written

This guidance responds to a growing need to support accounting educators across all disciplines as sustainability expectations, governance requirements, and professional judgement demands continue to evolve. While sustainability has become increasingly prominent in professional standards, regulatory discourse, and public accountability, many educators face uncertainty about how to meaningfully integrate these considerations into existing curricula without increasing workload or diluting disciplinary rigour.

The guidance is therefore not intended to add new content burdens. Instead, it aims to support more intentional use of existing teaching practices, assessment designs, and disciplinary material. Its purpose is to help educators surface sustainability, governance, and ethical considerations that are already embedded, though not always made explicit, within accounting education.

In doing so, the guidance frames sustainability not as an external compliance obligation, but as a professional, educational, and ethical imperative central to contemporary accounting practice.

Sustainability as a foundational professional concept

Sustainability is not a new or additional element within the CA(SA) Competency Framework. Principles of sustainability, stewardship, and long-term value creation have long been embedded within expectations of good governance, ethical conduct, and professional judgement, particularly through the King Codes of Corporate Governance and the Integrated Reporting Framework.

Integrated reporting, in particular, was developed to articulate how organisations create value over time through the responsible governance of multiple capitals, informed by strategy, risk, performance, and stakeholder relationships. Sustainability considerations are therefore inherent to these frameworks, rather than an external overlay or specialist reporting domain.

This guidance builds on, rather than replaces, existing professional knowledge. It invites educators to surface and make explicit the sustainability reasoning that already underpins contemporary accounting practice and professional decision-making.

It is written for accounting educators who teach as subject-matter experts within their respective disciplines and who are already familiar with the CA(SA) Competency Framework. It presupposes a foundational working knowledge of the Integrated Reporting Framework, governance codes such as King V, and practical exposure to integrated reports as coherent accounts of governance, strategy, risk, and value creation over time.

Where readers are less familiar with these materials, the guidance may be read aspirationally, as an invitation to deepen professional engagement rather than as an introductory text or technical manual.

Scope and intent of the guidance

This guidance has been developed to support accounting educators across all disciplines in interpreting and applying SAICA's CA of the Future Competency Framework within teaching, learning, and assessment practices. Sustainability-related governance, ethical reasoning, professional judgement, and long-term value creation are understood as pervasive considerations relevant throughout the programme, rather than as isolated topics belonging to specific modules or disciplines.

The purpose of the workgroup was not to review, expand, or prescribe the content coverage of the competency framework, nor to define a comprehensive set of sustainability topics, standards, or disclosures for inclusion in curricula.

Accordingly, the guidance deliberately avoids exhaustive lists or checklists of sustainability concepts, frameworks, or requirements. Instead, it focuses on supporting educators to engage with the existing competency framework in a reflective and intentional manner, fostering sustainability mindsets, professional judgement, and integrated thinking across diverse disciplinary and institutional contexts.

Editorial note on authorship and voice

This guidance is the product of a collaborative, multi-author process involving accounting educators and practitioners with diverse disciplinary expertise. Individual sections therefore reflect the perspectives, examples, and emphases of their respective contributors. Rather than imposing a single homogenised narrative voice, the editor has chosen to retain these distinct voices to reflect the plural and contextual nature of sustainability practice and accounting education. Contributors are acknowledged at section level to support transparency and intellectual attribution. The document has been curated for coherence and alignment with SAICA's CA of the Future Competency Framework, but it is not intended to read as a single-author textbook.

Mandi Olivier
Johannesburg, 2026

Anria S. van Zyl
Stellenbosch, 2026

Message from SAICA Leadership
Preparing the Profession for a Sustainable Future

The sustainability reporting imperative

Sustainability reporting is now central to credible corporate reporting, effective governance and responsible economic participation. Organisations must explain their financial performance and how sustainability-related risks and opportunities affect strategy, business models, cash flows, access to finance, cost of capital and prospects over time.

A globally recognised baseline matters because capital markets need relevant, consistent, comparable and assurable information. The IFRS Sustainability Disclosure Standards—IFRS S1 and IFRS S2—issued by the ISSB, provide this common language while allowing jurisdictions to reflect local legal, economic, environmental and developmental circumstances.

Global alignment and South African relevance

Global momentum behind the ISSB Standards is strong. As per the IFRS foundation data, as at December 2025, 39 jurisdictions have already decided to use or are taking steps to introduce ISSB Standards in their legal or regulatory frameworks, representing about 60% of global GDP, more than 40% of market capitalisation and around 60% of greenhouse-gas emissions. Sustainability disclosure is rapidly becoming a mainstream component of corporate reporting and capital markets. For South Africa, engaging with this global baseline is both an economic and sovereign imperative. As a connected economy, it must remain competitive and attractive to capital, while enabling businesses to communicate sustainability-related risks, opportunities and performance in a language trusted by investors, lenders and stakeholders. South Africa must also retain the sovereign ability to determine how global standards are incorporated locally. Implementation should reflect our Constitution, development priorities, socioeconomic realities, energy context, institutional capacity and just-transition commitments. Global alignment and national sovereignty can coexist through a considered, proportionate and phased pathway.

Embedding sustainability in business practice

The sustainability landscape continues to evolve. Climate change remains urgent, but sustainability also includes biodiversity, water security, pollution, resource use, circularity, human rights, human capital, inequality, community resilience and food security. New risks and opportunities will emerge as science, technology, regulation, markets and stakeholder expectations develop. Sustainable corporate practice must move beyond traditional corporate social investment. It must be embedded in purpose, governance, strategy, operations, investment decisions and relationships. Organisations do well by doing good, and lasting commercial success depends on resilient economies, cohesive societies, capable institutions and healthy natural systems.

Capital, trust and assurance

At the centre of this transition is capital. Access to capital, and its terms, increasingly depend on how organisations identify and manage sustainability-related risks and opportunities. Investors and lenders need credible information on future cash flows, financing needs, asset values, resilience and cost of capital. Trust in capital markets depends on transparent, decision-useful reporting based on reliable, globally recognised standards and supported by strong governance, systems, controls and assurance. Assurance over sustainability disclosures will be essential to credibility, reducing greenwashing and enabling stakeholder reliance.

This broader view covers all six capitals: financial, manufactured, intellectual, human, social and relationship, and natural. These are interconnected: short-term financial gains may erode other capitals, while responsible investment in people, innovation, infrastructure, relationships and environmental resilience can strengthen long-term performance. The profession must account for both inputs and outcomes: how capital is allocated and how that allocation affects value creation or erosion for the organisation and, where relevant, its stakeholders, society and the natural environment.

The profession's role in value creation

The accountancy profession has a central role in sustaining this trust. Its public-interest responsibility extends to the credibility and connectivity of financial and sustainability-related information. Established competencies in measurement, reporting, governance, controls, ethics and assurance must now be integrated with sustainability, technology, strategy, risk management and long-term value creation. Accounting for sustainability requires more than recording resource allocation and spend. It requires understanding what resources have achieved, the dependencies and impacts created, and whether value has been created, preserved or eroded over time.

Future-fit skills and technology

In the Fifth Industrial Revolution and beyond, technical proficiency alone will not suffice. As AI and automation take on more data processing and routine analysis, human intelligence - ethical judgement, empathy, context, imagination and responsible decision-making - will become even more important. Critical thinking and foresight will be essential. Professionals must challenge assumptions, assess evidence, recognise uncertainty and consider outcomes across time horizons - especially when identifying sustainability-related risks and opportunities and their possible financial effects.

Professionals must translate complex sustainability matters into decision-useful information by estimating financial effects, understanding data and model limitations, applying scenario analysis and judgement, and communicating uncertainty transparently where precise measurement is not possible. Digital transformation, AI and sustainability create opportunities and risks. Digital technologies can strengthen data collection, traceability, scenario analysis, forecasting and performance monitoring, while AI can process complex datasets, detect patterns, model climate impacts and support better decisions.

Digital transformation and AI also have sustainability consequences, including energy and water use, data-centre emissions, e-waste, supply-chain dependencies, cybersecurity exposure, data-quality challenges, bias, workforce disruption and unequal access. These must be built into governance and risk management.

Academia as a catalyst for capability

Integrated learning is essential. Future professionals must connect sustainability with governance, strategy, risk management, metrics, targets, financial reporting, assurance and technology, and apply this knowledge to identify risks and opportunities, assess financial implications, establish controls and communicate clearly. Academia is a critical enabler, developing future-fit skills, testing new ideas and preparing the next generation for leadership. Academic institutions can generate independent, reliable and locally relevant insights for sustainability reporting, climate resilience and responsible value creation. Academia can bridge theory and practice through interdisciplinary research, relevant curricula and case studies, innovation and an evidence base for policy and market development. Collaboration across disciplines will be vital because sustainability challenges cannot be addressed through a single lens.

SAICA, academia and policy leadership

The partnership between academia and SAICA is fundamental to building capacity at scale. Through targeted interventions for prospective and current members, academics, training offices and the wider reporting ecosystem, we can embed sustainability knowledge throughout professional development, from curricula and educator support to research, practical resources, assessments and CPD. This collaboration will also strengthen the profession's advocacy and advisory role in South Africa's sustainability-reporting policy. The profession can help balance transparency with compliance costs, recommend proportionate and phased requirements, and promote interoperability to reduce duplication and reporting burdens.

African voice and global influence

A well-designed reporting environment should protect market attractiveness while advancing responsible business, credible disclosure and sustainable development, contributing to a resilient economy and a prosperous future. South Africa and Africa must actively help shape global standards, rather than merely receive requirements developed elsewhere. African circumstances, knowledge, innovation and lived experience must inform the global agenda. A meaningful African voice is essential to ensure international standards reflect emerging-market realities, adaptation needs, development priorities, capacity constraints and a just transition. The move to a sustainable, low-carbon economy must be fair, inclusive and supportive of legitimate development objectives.

Globally recognised and locally relevant competencies will enhance the mobility of accountancy professionals. As sustainability reporting becomes embedded, professionals who connect financial reporting, sustainability, assurance, governance, technology, strategy and risk management will be increasingly valued across jurisdictions and better equipped to serve South African and African priorities.

Purpose of the guide

This guide gives academia a foundation for integrating sustainability into teaching, learning, research and professional formation. It invites institutions to treat sustainability as a core dimension of accounting education, business leadership and professional responsibility.

I sincerely thank every contributor for sharing their knowledge, experience and time in developing this guide, and the academic institutions and educators who will adopt it. Their partnership with SAICA will help keep education relevant to practice, inform practice with evidence, and enable the profession to serve markets, society and the public interest.

Continuing commitment

This publication is the first phase of evolving work. As standards, technologies, market expectations, policy responses and climate-related events reshape sustainability, the pace of future development, review and updates will be critical to keeping this initiative relevant.

Our commitment must be to continuous learning, timely adaptation and sustained collaboration. Through this guide, we help build a profession that accounts not only for financial outcomes, but also for the resilience, quality and inclusivity of value created - strengthening trust, supporting sustainable markets and contributing

Patricia Stock CA(SA)
Chief Executive Officer
South African Institute of Chartered Accountants

Message from IFAC Leadership
Embedding Sustainability as a mindset in Accounting Education

Accountancy education has reached an inflection point.
Around the world, the profession is grappling with profound changes in the way organizations create, report, assure, and communicate value. Sustainability considerations are becoming increasingly integrated into business strategy and decision making. Artificial intelligence and other emerging technologies are reshaping how information is generated, analyzed, and consumed. Expectations of professional accountants continue to expand, while the pace of change shows no signs of slowing.

In this environment, it is worth asking a fundamental question: What should accountancy education be preparing learners for?
For many years, professional education has understandably focused on ensuring aspiring accountants acquire a robust body of technical knowledge. Technical competence remains essential. Professional accountants must continue to possess the expertise, ethical foundation, and professional judgment necessary to serve the public interest and meet society's expectations.

However, the future of the profession will increasingly be defined not simply by what the next generation of accountants know, but by what they are able to do with that knowledge.

Accountancy education is therefore evolving from a model primarily concerned with the acquisition of knowledge to one focused on developing capabilities. Technical knowledge remains the foundation, but it is no longer sufficient on its own. Tomorrow's professional accountants will need to communicate effectively, apply critical thinking, solve complex problems, collaborate across disciplines, exercise sound professional judgment, and demonstrate intellectual curiosity throughout their careers.

These capabilities are becoming more important, not less.
This is particularly evident in the era of artificial intelligence. As technologies continue to transform access to information and automate routine tasks, the relative importance of memorization is diminishing. The ability to recall information remains valuable, but greater value increasingly lies in understanding context, interpreting information, asking better questions, exercising skepticism, making ethical judgments, and communicating insights effectively.

Technology can augment human capability, but it cannot replace the professional judgment, integrity, and critical thinking that underpin trust in the profession.

For educators, this presents both a challenge and an opportunity. The challenge is to move beyond viewing new developments as additional content that must be added to already crowded curricula. The opportunity is to rethink how learning experiences can be designed to develop the capabilities that will enable graduates to succeed throughout increasingly diverse and dynamic careers.

Sustainability provides an excellent example of this shift.
Too often, sustainability is viewed as another subject to be incorporated into the curriculum or another compliance requirement to be addressed. This perspective risks missing the broader significance of sustainability and its implications for the future of the profession.

Sustainability is not 'just' another topic. It must be a mindset.
It requires individuals to understand organizations within their broader economic, environmental, and societal contexts. It requires the ability to consider financial and non-financial information together, appreciate long-term value creation, and recognize the interconnectedness of business decisions and their wider impacts. It requires professionals who can navigate complexity, uncertainty, and competing stakeholder perspectives.

These are precisely the types of capabilities that modern accountancy education should seek to develop.

This understanding informed IFAC's recent revision of the International Education Standards (IES) in response to the rapid emergence of international sustainability reporting and assurance standards. As part of that work, we were clear that sustainability could not be treated as an add-on or standalone component of professional education.

Instead, sustainability needed to be embedded throughout the learning journey.
Students and aspiring professional accountants must be able to understand how sustainability-related information intersects with financial information and how both contribute to decision making. They need to appreciate sustainability considerations throughout the reporting cycle, from strategy and planning to data collection, management accounting, reporting, assurance, and the decisions made along that continuum.

Professional accountants do not operate in isolated technical silos. They work across functions, collaborate with specialists from multiple disciplines, and help organizations make sense of increasingly complex information. Preparing future professionals requires educational approaches that reflect this reality.

That is why the framing of this publication is so important.

By focusing on "embedding sustainability as a mindset," this guide moves beyond discussions about curriculum content and compliance requirements. Instead, it invites educators to consider how sustainability can become integrated into the way students think, analyze, and make decisions.

This approach recognizes that sustainability is not confined to a single module, class, or assessment. Sustainability can – and should – be explored through auditing, financial reporting, management accounting, finance, taxation, governance, ethics, assurance, and business strategy. More importantly, it can be used as a means to develop broader capabilities such as systems thinking, business acumen, interdisciplinary collaboration, and creative problem solving.

South Africa is particularly well-positioned to contribute to this global conversation.

The South African profession has long demonstrated leadership in integrated thinking, corporate governance, and integrated reporting. It has shown a willingness to engage with broader questions about value creation, accountability, and the role of business in society. These foundations provide a strong platform from which to advance sustainability integration within accountancy education and offer valuable insights to educators around the world.

The development of this guide also illustrates the importance of collaboration across the accountancy education ecosystem. Professional accountancy organizations, universities, employers, training offices, regulators, and standard setters all have a role to play in preparing future-ready professionals. No single stakeholder can achieve this transformation alone.

Ultimately, the goal is not to produce professional accountants who are experts in every aspect of sustainability. Rather, it is to develop professionals who understand when sustainability matters, can identify relevant risks and opportunities, know when to consult specialists and how to work effectively with them, and have the intellectual curiosity to expand their expertise far beyond their initial professional development.

That requires education systems that prioritize capability development alongside technical competence. It requires learning experiences that encourage curiosity, adaptability, judgment, and lifelong learning. And it requires a recognition that the future success of the profession will depend as much on how accountants think as on what they know.

I therefore commend the authors and the SAICA Sustainability Integration Guidance Working Group for this timely and thoughtful contribution. This guide reflects a forward-looking approach to accountancy education that aligns closely with global developments while building on the unique strengths of the South African profession.

Most importantly, it recognizes that embedding sustainability as a mindset is not simply about preparing students for the reporting requirements of today. It is about equipping future professional accountants with the capabilities needed to create, communicate, and sustain value in an increasingly complex world.

Bruce Vivian
Director, Head of Education, Member Monitoring, and Development
International Federation of Accountants

Introduction: How to Approach the Guidance

Sustainability and transversal competencies are fundamentally about professional judgement under uncertainty, ambiguity, stakeholder conflict, and trade-offs.

This guidance is intended to be read and used as a professional development and curriculum design resource for accounting educators. It assumes disciplinary expertise, familiarity with the CA of the Future Competency Framework, and a working knowledge of contemporary governance and reporting frameworks, including King V and the Integrated Reporting Framework. It does not rehearse foundational material, nor does it substitute for engagement with primary standards, codes, and professional literature.

This guidance should also be read in light of the evolving international professional landscape, including recent revisions to the International Education Standards (IESs) issued by the International Federation of Accountants (IFAC), effective from June 2026, which place increased emphasis on sustainability, ethical reasoning, professional judgement, and digital acumen within professional accounting education.

Readers are encouraged to approach the document holistically. The structure of the guidance is deliberate, with later sections building conceptually on earlier foundations. Selective or fragmentary reading risks reinforcing the very misconceptions this guidance seeks to address, particularly in relation to integrated thinking, sustainability, stakeholder engagement, and value creation. At the same time, the guidance is not prescriptive. Educators are not expected to engage with every section or illustration, but rather to draw purposefully on those elements that support their teaching context, learning outcomes, and disciplinary focus.

While this guidance is intentionally expansive, it is not exhaustive. The sustainability landscape continues to evolve rapidly, shaped by changing standards, technologies, regulatory expectations, and societal priorities. It would be neither realistic nor responsible to attempt a definitive or comprehensive treatment of all sustainability-related developments.

Accordingly, the guidance prioritises first principles: enduring concepts of governance, value creation, professional judgement, stakeholder accountability, and systems thinking that remain relevant even as specific frameworks, metrics, and tools change. Although care has been taken to reflect current developments at the time of writing, the emphasis is deliberately placed on conceptual foundations and pedagogical approaches that educators can adapt over time, rather than on prescriptive content that risks rapid obsolescence.

The guidance should therefore be treated as a stable reference point and enabling framework, rather than as a closed or final statement. Its purpose is not to add content to already crowded curricula, but to support more intentional framing, teaching, and assessment of existing disciplinary material in ways that reflect contemporary professional expectations.

In a field characterised by uncertainty and change, professional relevance depends less on exhaustive content coverage than on the ability to reason, integrate perspectives, and exercise judgement. This guidance is designed to support educators in cultivating those capacities, both in their students and in their own ongoing professional practice.

Anria S. van Zyl
Stellenbosch, 2026

Acknowledgements

The development of *Embedding Sustainability as a Mindset: Building Sustainability into Accounting Education Practice* was made possible through the generous contributions, collaboration and shared expertise of a dedicated group of academics across a wide range of academic programme providers.

SAICA wishes to extend our sincere appreciation to all those who willingly gave of their time, knowledge and experience to contribute to the development of this guidance document. Their commitment involved extensive engagement, thoughtful reflection, sharing of academic and practical insights, and collaboration throughout the development process.

Their contribution was entirely voluntary, reflecting a shared commitment to advancing sustainability within accounting education and to supporting academics in preparing future accounting professionals for an increasingly complex and sustainability-conscious world.

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Special recognition must be given to Anria van Zyl for the pivotal role she played in bringing this document to fruition. From conceptualisation through to the final product, Anria willingly took on the responsibility of coordinating and managing the process, guiding contributors, overseeing the development and editing of the content, and ensuring that the various contributions were brought together into a coherent whole. Her professionalism, commitment, expertise and exceptional attention to detail were instrumental in producing the comprehensive and high-quality document presented today. Her contribution is sincerely appreciated and deserves special acknowledgement.

We also thank the SAICA Sustainability Technical Committee, who took the time to review and comment on the document. They too commended the contributors to this guidance document for their academic rigour and focus on the development of a sustainability mindset among prospective CAs(SA). This guidance was described as a robust piece of work that could also serve as a reference in the broader sustainability practitioner space.

Mandi Olivier
Head: Accountant of the Future
South African Institute of Chartered Accountants

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Part 1: Reframing Accounting Education for Sustainability

Purpose of Part 1:

Part 1 is directed at accounting educators, irrespective of the discipline they are currently teaching in. Its purpose is not to introduce new sustainability content, but to prompt reflection on how sustainability is already embedded within accounting education, and how teaching practices, disciplinary assumptions, and assessment choices shape the development of future professionals. Each section is organised around a guiding question intended to support reflective engagement rather than prescriptive instruction.

Section Summaries:

Section 1: Why is sustainability an accounting education issue, rather than an external or optional concern?

This section positions sustainability as integral to the accountant's public interest mandate, governance role, and responsibility for decision-useful information, rather than as activism or technical specialisation.

Section 2: What do we mean by sustainability, integrated thinking, ESG, and reporting, and why does conceptual clarity matter for teaching?

It distinguishes between overlapping but distinct concepts, helping educators avoid conflation and reinforcing sustainability as upstream reasoning rather than downstream disclosure.

Section 3: What does governance actually involve, and where do accountants sit within it?

This section repositions governance as a management accounting and decision-making function, emphasising integrated thinking, information systems, and assurance as central professional responsibilities.

Section 4: What kind of professional is the CA(SA) of the future being designed to become?

It demonstrates that sustainability has long been embedded in the competency framework through professional values, judgement, and transferable capability, and reframes lifelong learning as a core professional requirement rather than curriculum expansion.

Section 5: How should educators engage with sustainability as a complex, contested, and uncertain domain?

This section provides a conceptual primer to build educator confidence, emphasising that sustainability cannot be taught through certainty or checklists, but through critical reasoning, humility, and professional judgement.

Key Takeaway:

Part 1 argues that embedding sustainability does not require educators to teach more content, but to teach with greater intentionality about judgement, uncertainty, and professional responsibility. It prepares educators to model the capabilities the profession now requires, rather than to perform certainty in a domain where none exists.

A brief history of disasters and tragedies that shaped the concept of corporate sustainability

The development of corporate sustainability has been shaped by a series of environmental, social, and governance failures that exposed the limits of purely financial and compliance-driven approaches. The illustrative timeline below highlights selected events that influenced sustainability thinking over time. It is not intended to be comprehensive or used as content coverage, but to provide historical context for why sustainability is fundamentally concerned with governance, accountability, and long-term value creation.

Major shaping events (social, environmental, or economic) that shifted sustainability narratives

Theoretical, governance, and thought-leadership milestones that shaped corporate sustainability thinking

1953
Birth of Modern CSR
Howard Bowen's *Social Responsibilities of the Businessman*
First scholarly case that managers owe duties beyond profits

1962
Awakening of the environmental movement
Rachel Carson, *Silent Spring*
Demonstrated ecological harm of chemicals, spurring public regulation and environmental NGO's

1967
First super-tanker catastrophe
Torrey Canyon oil spill (UK)
Showed governments and insurers the true cost of marine pollution; renewed calls for liability regimes.

1969
Disaster leads to Earth Day
Santa Barbara offshore blow-out (USA)
Catalysed NEPA, the EPA and the first Earth Day (1970) proving citizen activism can rewrite policy

1970
Shareholder-primacy backlash begins
Milton Friedman "The Social Responsibility of Business is to Increase Profits"
Clarified the ideological fault-line that still frames CSR debates

1972
Environment goes multilateral
UN Stockholm Conference
Linked pollution to development, seeding global norms

1984
Stakeholder Theory
R. Edward Freeman, *Strategic Management: A Stakeholder Approach*
Re-defined the "who" of responsibility - any group that can affect or be affected

1984
Worst-ever industrial gas leak
Bhopal (Union Carbide, India)
Exposed lethal risk in supply chains; drove demand for international safety and disclosure standards

1986
Nuclear catastrophe
Chernobyl (USSR/Ukraine)
Underscored trans-boundary risk; asset managers begin factoring disaster scenarios

1987
"Sustainable Development"
UN Brundtland Report, *Our Common Future*
Fused environment and development, bringing sustainability into the boardroom

1989
Valuing reputational risk
Exxon Valdez oil spill (USA)
Multi-billion-dollar cleanup and lawsuits showed investors the price of poor ESG

1991
CSR pyramid
Archie B. Carrol, *The Pyramid of CSR*
Provided a practical hierarchy (economic → philanthropic) for action and disclosure

1995
Brent Spar disposal row
Shell vs Greenpeace
Consumer boycotts revealed brand risk; corporate engagement with NGO's intensified

1995
Corporate complicity in human-rights abuses
Execution of Ken Saro-Wiwa and "Ogoni Nine"
Put "social licence to operate" and community consent onto the ESG agenda; led to mandatory human-rights-due-diligence laws.

1997
Triple Bottom Line
J. Elkington, *Cannibals with Forks*
Shifted reporting from single-line profit to People-Planet-Profit

1997
Birth of Global Sustainability Guidelines
Global Reporting Initiative (GRI) founded
Provided the first universal framework for non-financial disclosure

1999
Market Signals meet sustainability
Dow Jones Sustainability Index Launched | Hawken, Lovins & Lovins, *Natural Capitalism*
Early evidence that ESG leaders can outperform

2000
Corporate Citizenship gains traction
UN Global Compact Launched
Encouraged companies to adopt UN principles: human rights, labour, environment, anti-corruption

2006
CSR meets competitive strategy
Porter & Kramer, "Strategy & Society"
Argue that responsibility is a source of advantage, not a philanthropic cost item

2008-09
Global Financial crisis exposes systemic risk and short-termism
Collapse of Lehman Brothers; worldwide credit freeze
Markets recognise that social, environmental and financial risks are intertwined

2010
Deep-water risk frontier
BP Deepwater Horizon blow-out (Gulf of Mexico)
Record $65 bn cost accelerated talk of "licence to operate" and integrated risk disclosure

2011
Creating Shared Value (CSV)
Porter & Kramer
Moves narrative to co-creating business & societal value

2013
Supply-chain tragedy
Rana Plaza factory collapse (Bangladesh)
Over 1 000 deaths triggered accords on audit & transparency in global supply chains

2013
Value Creation
IIRC, International Integrated Reporting Framework
Centred reporting on how organisations create value over time via six capitals

2016
Integrated Thinking codified
King IV (SA)
Links governance to value creation

Section 1: Introduction and Background

Section Contributors:

Anria van Zyl | Yvette Lange | Jacqui Kew | Janine Christian | Senzo Ndlangamandla

How this section fits into the guidance:

This section provides the conceptual foundation for the guidance. It is intended to help accounting educators make sense of why sustainability has become central to the profession, what this means for accounting education, and how sustainability should be understood beyond reporting standards and compliance requirements.

How this section is meant to be read:

This section is not a technical overview of sustainability frameworks, nor is it intended to be read sequentially or exhaustively. Readers are encouraged to engage with it selectively and reflectively, drawing on those parts most relevant to their disciplinary context and teaching role.

1.1 Why this guidance?

Sustainability is no longer peripheral to accounting practice or education. It is central to how organisations are governed, how value is created and protected, and how professional judgement is exercised in complex social, environmental, and economic contexts. SAICA's CA of the Future Competency Framework (2026a, 2026b) (hereafter referred to as the CA of the Future Framework) reflects this shift by positioning sustainability, integrated thinking, ethics, and professional judgement as core elements of professional competence.

This guidance has been developed to support accounting educators in embedding sustainability meaningfully within teaching, learning, and assessment across the curriculum. Its purpose is not to prescribe content or replace existing disciplinary materials, but to provide a coherent conceptual foundation, shared language, and practical orientation that educators can adapt within their own disciplinary contexts.

Importantly, this document is not a textbook, syllabus, or question bank, nor is it written for students. It does not provide exhaustive coverage of sustainability standards, frameworks, or technical requirements. Instead, it is a professional companion for accounting educators, offering conceptual framing, illustrative examples, and pedagogical signposts for use alongside existing course materials.

The purpose of this guidance is not to turn educators or students into sustainability specialists. Rather, it seeks to provide sufficient conceptual grounding and shared language to support educators in integrating sustainability thoughtfully and proportionately, while equipping students to exercise professional judgement where sustainability considerations intersect with accounting decisions.

Given the nature of the topic, this guidance assumes that accounting educators already have:

1. a foundational understanding of the latest version of CA of the Future Framework; and
2. deep disciplinary expertise in their respective fields (e.g. financial reporting, management accounting, taxation, auditing).

On this basis, the guidance does not attempt to "map" sustainability mechanically onto each discipline. Rather, it assumes that educators are well positioned to identify relevant touchpoints between sustainability and their subject areas using the concepts, examples, and questions presented throughout the document.

The guidance is therefore structured to move from foundational concepts and governance principles toward applied teaching considerations. Readers are encouraged to engage with it selectively and reflectively, drawing on those sections most relevant to their teaching context, institutional environment, and curriculum design responsibilities.

The document is structured in four parts:

- Part 1 introduces foundational concepts and principles for embedding sustainability in accounting education. While these concepts are, in our view, essential for understanding how and why sustainability should be embedded across the curriculum, this section does not provide a comprehensive summary of all concepts explicitly referenced in the CA of the Future Framework.
- Part 2 offers strategies for teaching, assessment, and curriculum design. The intention is not that every module should adopt all the ideas presented, but rather that this section should stimulate reflection and inspire contextually appropriate approaches.
- Part 3 provides practical tools and resources to support classroom use, with a stronger emphasis on illustrative, discipline-specific applications.
- Part 4 concludes with a reflection on the future of the profession and accounting education in light of the evolving landscape.

Across these sections, the guidance encourages reflective, critical, and values-driven approaches to sustainability education.

The field of sustainability reporting and education is rapidly evolving. While this guidance reflects the most up-to-date frameworks and practices available at the time of writing, it is likely that new standards, regulations, and pedagogical approaches will emerge. Readers are therefore encouraged to treat this document as a flexible companion rather than a definitive manual, and to adapt and update its use in line with future developments.

1.2 International Developments Shaping Local Practice

For many accounting educators, sustainability has become more visible only in recent years, particularly following the establishment of the International Sustainability Standards Board (ISSB) and the release of IFRS S1 and IFRS S2. These developments have brought sustainability squarely into the domain of financial reporting, capital markets, and regulatory compliance, prompting renewed attention within accounting curricula.

However, sustainability is not a new concept, nor did it originate in reporting standards. Its roots lie in broader debates about sustainable development, corporate responsibility, governance, and long-term value creation that predate current disclosure frameworks by several decades. International initiatives such as the Brundtland Report, the United Nations Sustainable Development Goals, and the evolution of integrated reporting reflect a long-standing effort to respond to systemic environmental and social challenges through governance, accountability, and decision-making.

The recent proliferation of sustainability reporting standards should therefore be understood as part of a longer historical trajectory rather than a sudden rupture. These standards seek to formalise, standardise, and assure information about sustainability-related risks and impacts, particularly for investors and capital markets. They do not, however, define sustainability itself, nor do they capture its full ethical, social, and ecological dimensions.

For accounting education, this distinction is critical. If sustainability is framed primarily as a reporting or compliance exercise, students risk developing a narrow, instrumental understanding focused on disclosure mechanics rather than governance, professional judgement, and long-term responsibility.

This distinction has long been emphasised within the South African governance context. Central to the King approach to corporate governance is the view that reporting is not an end in itself, but the culmination of a broader process of ethical leadership, integrated thinking, and value creation. From this perspective, sustainability reports do not in themselves make an organisation sustainable, rather, they provide a structured account of how an organisation has governed itself, made decisions, and responded to its responsibilities over time. Reporting is thus best understood as the telling of a value creation story, grounded in governance, strategy, and organisational behaviour, rather than as a technical objective in its own right.

In recent years, sustainability reporting has shifted from a largely voluntary practice to a global expectation, driven by regulatory, market, and stakeholder pressures. One of the most significant developments in this regard is the introduction of the IFRS Sustainability Disclosure Standards by the ISSB. IFRS S1 sets general requirements for sustainability-related disclosures, while IFRS S2 focuses specifically on climate-related disclosures and builds on the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD). Together, these standards aim to establish a global baseline of investor-focused sustainability reporting.

Alongside climate, nature-related considerations are receiving increasing international attention. Organisations depend on and affect nature in ways that can give rise to significant risks and opportunities, and these considerations are closely interconnected rather than forming separate sustainability narratives. The Taskforce on Nature-related Financial Disclosures (TNFD) has established voluntary recommendations and guidance for identifying, assessing, managing and disclosing nature-related dependencies, impacts, risks and opportunities. The growing importance of nature-related information is also reflected in the ISSB's work to develop further guidance to support the application of IFRS S1 to nature-related risks and opportunities.

A Very Brief History of Sustainability Reporting

- Global Developments
- South African Developments
- Investor / Market Forces

This timeline highlights key milestones in the formalisation of sustainability reporting and disclosure. It should be read as illustrating the evolution of reporting frameworks, not the origins of sustainability itself, which has long been rooted in governance, ethics, and sustainable development.

1972
UN Stockholm Conference on the Human Environment
The environment becomes a global policy issue and influencing future reporting frameworks

1987
The Brundtland Report ("Our Common Future)
Introduced the concept of sustainable development; shaped the triple bottom line approach to reporting

1992
Rio Earth Summit
Adopted Agenda 21; pushed for corporate disclosure of environmental and social impacts

1994
King I
Introduced stakeholder inclusivity into governance principles, laying the groundwork for integrated sustainability reporting in South Africa

1994
Triple Bottom Line (John Elkington)
Framed reporting around economic, environmental and social value creation

1997
Global Reporting Initiative (GRI) launched with Ceres
First attempt to standardise sustainability disclosures globally

2000
UN Global Compact Launched
Voluntary corporate commitment to align strategies with principles on human rights, labour, environment, and anti-corruption, encouraging public sustainability reporting

2000
Carbon Disclosure Project (CDP) founded
Created a global platform for companies to disclose climate risks and emissions data to investors

2002
King II
Embraces the triple-bottom-line and made sustainability reporting a governance requirement in South Africa

2002
World Summit on Sustainable Development (Johannesburg)
Raised global attention to sustainable development goals and the need for measurable corporate accountability

2004
JSE launches the Socially Responsible Investment (SRI) Index
First of its kind by an exhange in emerging markets

2004
"Who Cares Wins" (UN Global Compact)
Coined ESG and linked it to corporate reporting and investment decisions

2006
UN Principles for Responsible Investment (UN-PRI)
Global investor pledge to integrate ESG, increasing demand for sustainability disclosure

2009
King III
Sets the stage for Integrated Thinking in South Africa, Intertegrated Report primary report on "apply-or-explain"

2010
Integrated Reporting Committee (IRC SA) founded
Led to the development of South Africa's Integrated Reporting guidance

2010
International Integrated Reporting Council (IIRC) formed
Global coalition promoting a consistent integrated reporting framework, drawing on SA experience

2010
JSE Amends Listing Requirements
Required listed companies to issue integrated reports or explain non-compliance

2011
Sustainability Accounting Standards Board (SASB) founded
Developed industry-specific sustainability disclosure standards for investors; later merged into ISSB

2011
Pension Funds Act amended
Required trustees to consider ESG factors in investment decisions

2011
Code for Responsible Investing in South Africa (CRISA) launched
SA framework for institutional investors to integrate ESG into investment and ownership

2014
EU Non-Financial Reporting Directive (NFRD)
First EU-wide requirement for large companies to disclose ESG information

2015
JSE replaces SRI Index
Adopted FTSE ESG methodology for responsible investment benchmarks

2015
UN Sustainable Development Goals (SDGs)
17 global goals can be used to link corporate sustainability to measurable societal outcomes

2016
King IV
Shift focus to value creation, integrated thinking and the six capitals

2016
GRI Standards
Shifted to modular sustainability reporting standards. Focus on impacts and stakeholder inclusivity

2017
Task Force on Climate-related Financial Disclosures (TCFD) Framework
Framework for consistent climate risk disclosure in mainstream filings

2021
Updated GRI Standards
Greater focus on material impacts over performance indicators

2021
Update <IR> Framework
Clarified integrated reporting concepts; last revision before IIRC merged with SASB

2021
IIRC and SASB merge into Value Reporting Foundation
Combined <IR> and SASB Standards, later integrated into the ISSB under IFRS foundation

2021
International Sustainability Standards Board (ISSB) at COP 26
IFRS Foundation formed global board to set baseline sustainability disclosure standards.

2022
EU Adopts Corporate Sustainability Reporting Directive (CSRD)
Expanded EU ESG reporting scope; made ESRS mandatory

2022
JSE issues Sustainability and Climate Disclosure Guidance
Voluntary guidance aligned to GRI, TCFD, and draft ISSB standards

2023
EU Sustainability Reporting Standards (ESRS) adopted
Detailed EU sustainability standards; implications for SA exporters

2023
ISSB releases IFRS S1 and S2
Baseline global sustainability disclosure standards, aligned with TCFD

2024
IAASB finalises ISSA 5000
First global, profession-agnostic baseline for assuring any sustainability information, applicable to all frameworks

2026
King V
The next evolution of SA Governance code, likely reflecting ISSB, assurance standards and global ESG trends

In parallel, the European Union's Corporate Sustainability Reporting Directive (CSRD) is expanding the scope and depth of sustainability reporting in Europe. Through the European Sustainability Reporting Standards (ESRS), companies are required to disclose both financially material information and broader sustainability impacts in line with a double materiality approach. These developments have implications beyond the EU, affecting non-EU companies, including South African entities, with significant European operations or exposure.

Other international initiatives remain influential. The Global Reporting Initiative (GRI) continues to shape impact-focused reporting for a wide range of stakeholders. At the same time, the assurance of sustainability information is gaining prominence. The International Auditing and Assurance Standards Board (IAASB) has issued ISSA 5000 as a global baseline standard for sustainability assurance, supported by new ethical and independence requirements developed by the International Ethics Standards Board for Accountants (IESBA).

These international developments intersect with South Africa's long-standing emphasis on governance and integrated reporting, as reflected in King V, and the Johannesburg Stock Exchange (JSE) Listings Requirements. Local regulators, including the JSE and the Companies and Intellectual Property Commission (CIPC), are increasingly aligning domestic reporting expectations with international developments, for example through the introduction of the XBRL sustainability module in 2024. At the same time, professional accountants are expected to play a growing role in supporting the credibility and assurance of sustainability information.

The Omnibus and the Evolving Sustainability Reporting Landscape

The sustainability reporting landscape is evolving rapidly. A recent illustration is the European Union's Omnibus simplification packages, sometimes referred to as "Stop-the-Clock" measures, which propose adjustments across multiple sustainability-related initiatives, including the Corporate Sustainability Reporting Directive (CSRD), the Corporate Sustainability Due Diligence Directive (CSDDD), the EU Taxonomy, and the European Sustainability Reporting Standards (ESRS).

Recent political agreement at EU level signals a recalibration of scope, timelines, and reporting complexity in response to implementation challenges, capacity constraints, and stakeholder feedback. These developments include, among others:

- delaying certain reporting and due diligence obligations for specific categories of entities;
- adjusting scope thresholds to reduce the number of organisations subject to detailed requirements; and
- simplifying selected disclosure datapoints within the ESRS.

Importantly, these changes do not represent a retreat from sustainability or accountability objectives. Core principles, including double materiality, remain intact, underscoring that while the form and timing of reporting requirements may evolve, the substance of governance, risk management, and long-term value creation expectations persists.

For South Africa, the Omnibus developments highlight two key lessons. First, the international sustainability reporting environment is inherently dynamic and will continue to evolve in response to changing political, economic and societal priorities. Second, this uncertainty reinforces the importance of accounting education that prioritises the development of a sustainability mindset and integrated thinking, enabling future professionals to adapt confidently to changing compliance requirements while remaining anchored in sound governance and long-term value creation.

For accounting education, this reinforces critical point: while familiarity with current reporting developments is important, sustainability should not be taught primarily as a set of fixed standards. Instead, education should focus on principles that:

- prioritise the development of professional judgement,
- governance awareness, and
- integrated thinking

that enable future professionals to adapt confidently to changing regulatory and reporting landscapes over time.

1.3 The South African Sustainability Reporting Landscape

South Africa's sustainability reporting landscape has evolved within a distinctive governance context, shaped by a long-standing emphasis on ethical leadership, integrated thinking, and stakeholder inclusivity. Through successive King Codes, South Africa has positioned sustainability not as a standalone reporting exercise, but as an outcome of sound governance, strategic decision-making, and responsible organisational behaviour.

In recent years, this governance-led tradition has intersected with growing international regulatory and market pressures. South African companies, particularly those operating in global capital markets or with international operations, are increasingly expected to align with multiple sustainability reporting and assurance frameworks. As a result, local practice often reflects the simultaneous use of several global standards, each serving different reporting audiences and purposes.

Regulatory and market bodies in South Africa have responded by encouraging structured alignment with international developments while retaining a governance-based approach. Initiatives by the Johannesburg Stock Exchange, the Companies and Intellectual Property Commission, National Treasury, and financial sector regulators signal a gradual movement toward greater consistency, digitalisation, and international comparability in sustainability-related disclosures. At the same time, these developments stop short of prescribing a single reporting framework, reflecting an acknowledgement of the diversity of organisational contexts and sustainability impacts.

This evolving environment presents both challenges and opportunities. Organisations must navigate increasing complexity, manage data quality across a wide range of environmental, social, and governance topics, and build capacity for credible assurance. However, South Africa's integrated reporting legacy provides a strong foundation for harmonising global standards, while developments such as the Green Finance Taxonomy create opportunities to attract sustainable investment and strengthen market credibility.

For accounting education, this context underscores the need to equip students not with mastery of individual standards, but with the capacity to interpret, integrate, and adapt to a complex and changing reporting landscape.

South African Regulatory and Market Signals in Sustainability Reporting

South Africa's sustainability reporting environment is being shaped by a combination of regulatory signals, market expectations, and international developments. Rather than mandating a single reporting framework, local authorities and market bodies are gradually encouraging greater alignment, comparability, and credibility in sustainability-related disclosures.

Key developments include guidance issued by the Johannesburg Stock Exchange (JSE), which encourages listed companies to enhance sustainability and climate-related disclosures and recognises international standards, including those developed by the International Sustainability Standards Board (ISSB), as an emerging global baseline for investor-focused reporting. Similarly, the Companies and Intellectual Property Commission (CIPC) has introduced a sustainability module within its XBRL filing system to support more structured and comparable sustainability disclosures.

At a broader policy level, National Treasury's South African Green Finance Taxonomy provides a framework for classifying green and sustainable economic activities, aligning with international taxonomies and supporting efforts to attract sustainable investment. Financial sector regulators and policymakers have also signalled an intention to consider international sustainability reporting developments, including ISSB standards, within future regulatory frameworks.

Alongside reporting developments, the assurance of sustainability information is gaining prominence. International assurance and ethics standards issued by the International Auditing and Assurance Standards Board and the International Ethics Standards Board for Accountants are expected to influence assurance practices in South Africa as sustainability information becomes more decision-relevant.

Taken together, these signals point toward greater international alignment in sustainability reporting while retaining South Africa's governance-led approach. They also highlight the complexity of the current landscape, reinforcing the importance of accounting education that prioritises professional judgement, integrated thinking, and ethical awareness over narrow mastery of individual standards.

1.4 Focus on Developing a Sustainability Mindset

Research consistently shows that accounting education has traditionally emphasised technical competency, cost–benefit analysis, and conceptual mastery of subject matter, often prioritising cognitive skills over attitudinal and behavioural attributes (Powell & McGuigan, 2024; Carnegie, 2022; Carnegie et al., 2024; Cripps & Smith, 2023; Wyness & Dalton, 2018). While students may recognise the importance of sustainability, Wyness and Dalton (2018) demonstrate that problem-based and applied learning approaches are more effective than technical content alone in fostering engagement, motivation, and practical understanding of sustainability-related issues.

Accounting education that focuses narrowly on technical competencies, without being explicitly values-driven, risks framing the natural environment and society merely as resources to be managed rather than as responsibilities to be stewarded. This risk is evident even within contemporary sustainability reporting frameworks. For example, while IFRS S1 and IFRS S2 aim to establish a global baseline for sustainability disclosures, their investor-focused orientation necessarily frames sustainability primarily in terms of financial risk and opportunity, rather than as a strategic and ethical imperative embedded within business models, governance, and organisational behaviour.

If accounting continues to be conceptualised primarily as transactional and investor-centred, graduates are unlikely to develop "the potential to be responsible leaders who behave ethically and create sustainable value for a wide range of stakeholders within an organisational context" or to demonstrate "the ability to display integrated thinking to interpret, analyse and evaluate financial and non-financial information, to influence others, and make impactful decisions" (SAICA, 2026a). This creates a tension between the aspirations articulated in the CA of the Future Framework and prevailing teaching and assessment practices.

The urgency for addressing this tension is amplified by global challenges such as climate change, biodiversity loss, and increasing inequality. Carnegie (2022) observes that how accounting is defined and taught shapes what future professionals learn to value and prioritise, arguing that accounting contributes to a better world only when it is purposefully directed toward the wellbeing of both society and the natural environment. Cripps and Smith (2023) similarly highlight the formative role of higher education in shaping future leaders' behaviours, attitudes, and values. Against this backdrop, a critical question emerges: are current accounting curricula genuinely developing the values, behaviours, and judgement required to meet both SAICA's competency expectations and broader calls for a sustainable profession?

A sustainability mindset provides a conceptual response to this challenge. Rimanoczy (2020) conceptualises such a mindset as encompassing three interlinked dimensions:

- **to know** (cognitive understanding),
- **to do** (behavioural action), and
- **to be** (identity, values, and emotional engagement).

UNESCO (2017) echoes this tripartite framing through its emphasis on cognitive, socio-emotional, and behavioural learning in education for sustainable development. Importantly, Powell and McGuigan (2024) caution that knowledge and skills alone are insufficient to drive behavioural change; sustainable mindsets are cultivated when values and attitudes are explicitly engaged through educational design.

Within accounting education, developing a sustainability mindset does not imply turning students or educators into sustainability specialists. Rather, for entry-level Chartered Accountants, it involves cultivating the capacity to recognise sustainability-related risks and opportunities, to understand how these intersect with financial performance, governance, and long-term value creation, and to ask the right questions when engaging with business decisions, disclosures, and assurance processes. This includes the ability to identify potential greenwashing, misalignment between strategy and sustainability claims, or governance weaknesses, and to escalate concerns or seek specialist input where appropriate.

Accordingly, sustainability should not be siloed into a single course or treated as an add-on to existing curricula. While a baseline level of sustainability knowledge is necessary, the priority should be on embedding the values and beliefs that inform professional judgement, stakeholder relationships, and ethical decision-making across the accounting curriculum. This orientation is reinforced by the CA of the Future Framework (SAICA, 2026b), which foregrounds business ethics, relationship-building skills, and emotional intelligence as core components of professional competence. These attributes are foundational to helping students develop the capacity **to be**: to appreciate diverse perspectives, to recognise impacts on people and the planet, and to act responsibly within complex organisational contexts.

In short, cultivating a **sustainability mindset** in accounting education requires moving beyond knowledge acquisition and technical compliance toward an integrated focus on values, behaviours, and critical reflection. Such an approach equips future Chartered Accountants not to master every sustainability standard, but to engage thoughtfully, ethically, and confidently with sustainability challenges as responsible professionals and contributors to long-term value creation.

Accordingly, this guidance is intended to support accounting educators in intentionally designing teaching, learning, and assessment practices that foster a sustainability mindset. Rather than prescribing sustainability content or technical coverage, it provides conceptual framing, pedagogical principles, and illustrative approaches that educators can adapt within their disciplinary contexts. In doing so, the guidance seeks to support the development of professional judgement, integrated thinking, and ethical awareness aligned with the aspirations of the CA of the Future Framework, and to prepare graduates for responsible participation in complex organisational and societal contexts.

The sections that follow translate this educational intent into practical considerations for curriculum design, teaching approaches, and assessment.

Teaching Toolkit: Getting Started as a Sustainability-Oriented Accounting Educator

This teaching toolkit is intended as a reflective entry point for accounting educators. Rather than prescribing sustainability content, lesson plans, or assessment methods, it offers prompts and illustrative examples to help lecturers interrogate how sustainability is currently positioned within their teaching, how it aligns with their disciplinary identity, and how their own assumptions about accounting, value creation, and responsibility shape student learning. Used in this way, the toolkit supports educator development as a foundation for subsequent curriculum, teaching, and assessment design. Throughout this toolkit, references to sustainability reporting are used as illustrative entry points into broader sustainability considerations, rather than as the focus of sustainability education.

Reflecting on how sustainability reporting is positioned in your teaching

Educators may find it useful to reflect on questions such as:

- How do I currently frame sustainability reporting in my module: primarily as compliance, governance, value creation, or risk management?
- Do students encounter sustainability data as something separate from financial information, or as integral to financial and strategic decision-making?
- Which drivers dominate my teaching narrative: regulatory change, investor expectations, stakeholder accountability, or governance considerations?
- How do I present the role of the Chartered Accountant in relation to sustainability: as a technical reporter, a guardian of credibility, a professional exercising judgement, or a combination of these?

These reflections can help surface implicit assumptions about sustainability and accounting that shape how students interpret the subject.

Mapping different sustainability lenses encountered in practice

Accounting educators may also reflect on the range of sustainability perspectives already implicit in their teaching. The table below illustrates different lenses commonly encountered in practice and the kinds of questions they foreground.

Perspective	Frameworks	Ephasis
Integrated thinking	<IR> Framework; King V	Connectivity, Six Capitals, serving both investors and stakeholders
Investor focus	ISSB (S1, S2), SEC	Financial Materiality, Decision-useful data
Stakeholder focus	GRI. CSRD/ESRS	Double Materiality, Broader impacts
Assurance focus	ISSA 5000, IESSA	Credibility, Ethics, Trust

This overview is intended to support reflection on balance and emphasis, rather than to suggest comprehensive framework coverage within a single module.

Interrogating your own values and assumptions as an accounting educator

Educators' beliefs about the purpose of accounting, the role of markets, and the nature of value creation strongly shape how sustainability is positioned in teaching, often implicitly. Before designing learning activities or assessments, it can be useful for educators to reflect critically on their own assumptions and comfort levels.

Reflective questions may include:

- How do I personally understand the role of accounting in society: as a neutral technical function, a governance mechanism, or a contributor to broader social and environmental outcomes?
- Do I implicitly privilege financial value over social and environmental considerations in my teaching examples, case studies, or explanations?
- How comfortable am I engaging with ethical tension, uncertainty, and trade-offs in the classroom, and how does this influence what I emphasise or avoid?
- How do my own professional background and experiences shape the way I talk about sustainability, risk, and responsibility?
- Where might my teaching unintentionally reinforce narrow, transactional views of accounting?

Engaging with these questions can help educators identify where sustainability is already embedded in their teaching practice, as well as where opportunities exist to broaden perspectives and make values and assumptions more explicit.

Reference points for educator familiarisation

Educators seeking to deepen their own understanding may wish to consult selected professional and practitioner resources, such as those provided by SAICA, IFAC, or other accounting and sustainability bodies. These resources are offered as optional reference points rather than prescribed reading and may be engaged with selectively depending on disciplinary context and teaching focus.

- SAICA Sustainability Resources
  - www.saica.org.za/initiatives/sustainability

Section 2:
Framing Sustainability for Accounting Educators

Section Contributors:

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Purpose and position of this section within the guidance

This section focuses on developing conceptual clarity around sustainability, ESG, and related ideas as they are encountered in accounting education. Its purpose is to support educators in understanding how different sustainability lenses are used, interpreted, and framed in practice, rather than to prescribe specific content, standards, or coverage requirements.

More detailed engagement with sustainability-related value creation trade-offs, ethical tensions, and applied sustainability concepts is addressed in later sections of the guidance. Broader governance considerations, ethical dimensions, regulatory developments, and applied teaching and assessment strategies are likewise developed elsewhere.

Readers are therefore encouraged to treat this section as a conceptual foundation that informs, but does not replace, the more applied discussions that follow.

2.1 Sustainability thinking in the South African Context

In this guidance, sustainability is understood first and foremost as a governance- and values-based concept, concerned with ethics, long-term value creation, and responsibility toward society and the natural environment. It is not treated as a technical reporting exercise or a discrete area of specialist knowledge, but as a foundational orientation that shapes how organisations define purpose, make decisions, and assess performance over time.

In the South African context, this understanding of sustainability is strongly informed by the governance framework established by King IV (IoDSA, 2016) and carried forward in King V (IoDSA, 2025). King positions organisations as corporate citizens with rights and responsibilities toward society and the environment, and embeds sustainability at the heart of ethical leadership, accountability, and stakeholder inclusivity. Sustainable development is framed as governing for value creation in the short, medium, and long term, across the interconnected economic, social, and environmental context, and through the six capitals (financial, manufactured, intellectual, human, social and relationship, and natural). Sustainability, in this framing, is not optional or peripheral; it is integral to how organisations are governed.

Within this governance tradition, integrated thinking plays an important enabling role. As articulated in King V and the International Integrated Reporting Framework (<IR> Framework) (IIRC, 2021), integrated thinking refers to the process by which organisations actively consider the relationships between strategy, governance, performance, and the various capitals in their broader context. It is often misunderstood as primarily about breaking down organisational or disciplinary silos; however, its core purpose is to support more holistic reasoning about how decisions affect value creation over time.

Integrated thinking on its own, however, does not guarantee sustainable outcomes. In practice, it can be applied narrowly, for example as a mechanism to align investor-focused disclosures, manage risk, or optimise capital allocation. For this reason, the guidance distinguishes between integrated thinking as a cognitive and governance framework, and sustainability thinking, which applies integrated thinking explicitly through the lens of sustainable development.

Sustainability thinking foregrounds ecological limits, social and ecological justice, and intergenerational equity, while recognising that organisations must continue to fulfil their fiduciary duties to shareholders and contribute to a growing and resilient economy. It asks not only how different forms of capital are connected, but whether organisational decisions actively support long-term resilience, fairness, and regeneration for both society and the natural environment.

This distinction is particularly important in accounting education. If students encounter integrated thinking only as a technical or compliance-oriented process, they may miss the deeper ethical and strategic orientation that sustainability requires. Sustainability thinking, by contrast, equips future accountants to connect financial and non-financial performance with broader questions of responsibility, legitimacy, and long-term value creation.

This understanding of sustainability builds on the Brundtland definition of sustainable development as “meeting the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987). Framed in this way, sustainability is concerned with long-term value creation, intergenerational responsibility, and the fair distribution of benefits and burdens across society and the natural environment. Reporting frameworks and indicators may later be used to operationalise these commitments, but they are not the starting point for sustainability thinking.

South Africa’s sustainability context is further shaped by deeply intertwined environmental and social challenges. Alongside climate risks and biodiversity loss, the country continues to grapple with the legacies of apartheid, persistent inequality, unemployment, and poverty. Sustainability in this setting therefore demands attention to social justice, understood as fairness in the distribution of wealth, opportunities, and privileges, and to ecological justice, which recognises both the disproportionate environmental burdens borne by marginalised communities and the intrinsic value of the natural world. These dimensions intersect: those least responsible for environmental degradation are often the most exposed to its consequences.

In summary, defining sustainability in a South African accounting context requires starting from King’s governance ethos: corporate citizenship, stakeholder inclusivity, integrated thinking, and sustainable development. In this framing, sustainability is not driven by disclosure requirements or reporting techniques, but by how organisations are governed, how decisions are made, and how value is created over time. Reporting does not define sustainability; it merely tells the story of governance choices, trade-offs, and impacts.

For accounting education, this perspective establishes sustainability as foundational rather than technical. It provides the anchor for how subsequent concepts, tools, and teaching approaches are understood, ensuring that reporting and measurement remain downstream expressions of a governance- and values-led approach to business. The practical implications of integrated thinking and value creation, including how these concepts are applied in decision-making, teaching, and assessment, are explored in later sections of the guidance.

2.2 From Corporate Social Responsibility to Sustainability Thinking

Contemporary discussions of sustainability in business did not emerge in isolation. They reflect a longer evolution in how organisations have understood their responsibilities toward society and the environment. Early expressions of corporate social responsibility (CSR) can be traced back several centuries. One of the earliest documented examples is the Wedgwood family's 18th-century business practices, which combined commercial success with concern for worker welfare and community development. These early initiatives framed responsibility largely in moral and philanthropic terms, grounded in the idea that successful businesses had obligations beyond profit generation.

During the 20th century, CSR became more formalised in response to industrialisation, labour movements, and increasing public scrutiny of corporate power. In practice, however, CSR was often operationalised through voluntary, peripheral, or philanthropic activities, such as charitable giving or community projects, rather than being embedded within core business strategy and decision-making. This emphasis on the "social" dimension, frequently detached from governance structures and the underlying business models that generated many of the social challenges being addressed, led to criticism that CSR functioned as an add-on or temporary remedy rather than a driver of substantive organisational change.

In the late 1990s, Elkington's (1997) Triple Bottom Line (TBL) framework represented an important conceptual shift. By proposing that organisations should account for environmental, social, and economic performance, TBL sought to broaden the definition of business success beyond financial results alone. Related formulations, such as the "4Ps" (People, Planet, Prosperity, and Profit), similarly attempted to capture a more holistic view of value creation. While these frameworks played a critical role in expanding corporate accountability, they also contributed to later conceptual ambiguity. Over time, the "economic" dimension was frequently reframed as "governance" in the ESG acronym, blurring distinctions between responsibility, reporting, and sustainability itself.

As sustainability challenges intensified, scholars and practitioners increasingly recognised the limitations of CSR and TBL approaches that treated responsibility as fragmented, voluntary, or external to core organisational logic. Visser's (2011) "Ages and Stages of CSR" provides a useful synthesis of this evolution. His framework traces a progression from defensive and compliance-driven responsibility, through managerial and strategic approaches, toward what he describes as the "Age of Responsibility." This final stage reflects a systemic shift in which responsibility is embedded within governance, value creation, and stakeholder relationships, rather than expressed through isolated initiatives.

Taken together, the evolution from early CSR through the triple bottom line to sustainability thinking reflects a gradual but important shift in how responsibility is understood in business. What began as peripheral, voluntary, or reputational activity has increasingly been reframed as a question of governance, strategic orientation, and long-term value creation. This shift signals a move away from viewing responsibility as something organisations do toward viewing sustainability as something organisations are and how they operate.

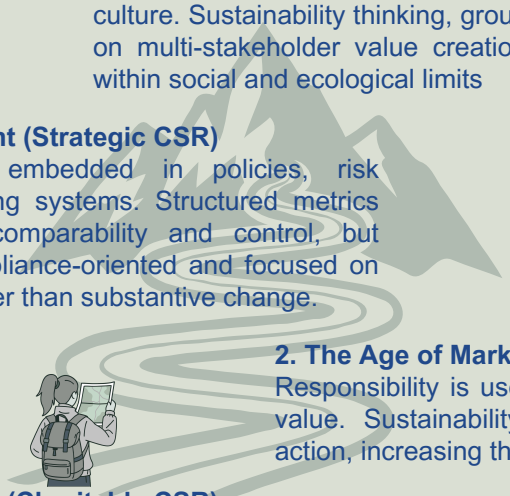
For accounting education, this distinction is critical. Teaching sustainability through the lens of CSR or TBL alone risks reinforcing fragmented or compensatory approaches that sit alongside core financial decision-making rather than shaping it. Sustainability thinking, by contrast, requires educators to foreground questions of purpose, accountability, and legitimacy, setting the foundation for understanding whose interests are served by business activity and how trade-offs are recognised and governed. These issues are taken up explicitly in the following section.

Ages and Stages of Corporate Social Responsibility

Visser (2011) identifies a series of overlapping "ages" through which corporate social responsibility (CSR) has evolved. These stages reflect changing assumptions about the purpose of business and the nature of corporate responsibility.

4. The Age of Responsibility (Systemic CSR)
Responsibility is embedded in governance, strategy, and organisational culture. Sustainability thinking, grounded in integrated thinking, focusses on multi-stakeholder value creation, resilience, and long-term impact within social and ecological limits

3. The Age of Management (Strategic CSR)
Responsibility becomes embedded in policies, risk management, and reporting systems. Structured metrics and standards support comparability and control, but practice may remain compliance-oriented and focused on procedural adherence rather than substantive change.



2. The Age of Marketing (Promotional CSR)
Responsibility is used to enhance reputation and brand value. Sustainability claims may outpace substantive action, increasing the risk of greenwashing.

1. The Age of Philantropy (Charitable CSR)
Responsibility is expressed through voluntary giving, community projects, or Corporate Social Investment (CSI) initiatives, often disconnected from core business strategy and decision-making

The journey metaphor illustrates that corporate responsibility evolves through overlapping orientations rather than linear stages. Organisations, like individuals, may navigate multiple paths simultaneously.

2.3 Sustainability as a Multi-Stakeholder Mindset

In the South African governance context, sustainability is anchored in the principle of stakeholder inclusivity, as articulated in King IV and reaffirmed in King V. King V (IoDSA, 2025) makes clear that an organisation's purpose and performance extend beyond shareholders alone. Value creation is understood as a process that balances the legitimate and interdependent interests of a wide range of stakeholders, including employees, customers, communities, regulators, investors, and the natural environment, over the short, medium, and long term.

This framing positions sustainability as a governance orientation, rather than a discrete function or reporting exercise. A multi-stakeholder mindset requires organisations to recognise that long-term organisational success is inseparable from social legitimacy, environmental stewardship, and ethical decision-making. Sustainability, in this sense, is concerned not only with outcomes, but with how trade-offs are identified, evaluated, and governed.

2.3.1 Integrated Thinking and Integrated Reporting

The principle of stakeholder inclusivity underpins the role of integrated thinking within the King framework. Integrated thinking refers to the active consideration of the relationships between strategy, governance, performance, and the various forms of capital on which an organisation depends. It provides the cognitive and managerial foundation for understanding how value is created, preserved, or eroded across multiple stakeholders and time horizons.

Integrated thinking, in turn, informs integrated reporting. King V recognises the integrated report as the organisation's primary report, intended to communicate how value is created over time through the interaction of financial and non-financial factors. This expectation is reinforced by the JSE Listings Requirements, which encourage listed companies to issue an integrated report, or to explain why they have not done so. The <IR> Framework similarly positions the integrated report as a holistic account of value creation across the six capitals: financial, manufactured, intellectual, human, social and relationship, and natural.

While some commentators continue to argue that the annual financial statements remain the primary corporate report, the governance consensus in South Africa increasingly positions the integrated report at the centre of stakeholder communication. Importantly, this does not elevate reporting above governance. Rather, it reinforces the principle that reporting is the outcome of integrated thinking and governance practice, not its driver.

2.3.2 Materiality and Multi-Stakeholder Accountability

For integrated reporting to fulfil its intended purpose, it must be informed by a broadened understanding of materiality. A multi-stakeholder mindset requires organisations to consider both:

- financial materiality, which focuses on how sustainability-related issues affect enterprise value and investor decision-making; and
- impact materiality, which considers how the organisation's activities affect people, society, and the environment.

These perspectives reflect different, but complementary, accountability logics. Impact-oriented approaches foreground outward effects on stakeholders and ecosystems, while investor-focused approaches emphasise risks and opportunities relevant to capital providers. Integrated reporting seeks to hold these perspectives together within a single, coherent narrative of value creation, consistent with King's emphasis on inclusive governance and integrated thinking.

Importantly, these materiality perspectives are mirrored in how stakeholders are identified and prioritised. A narrow, investor-centred conception of stakeholders aligns closely with financial materiality, focusing on those parties whose interests directly influence enterprise value. A broader conception of stakeholders, by contrast, aligns with impact materiality, recognising individuals, communities, and ecosystems that may be affected by organisational activities regardless of their direct influence on financial performance.

A multi-stakeholder mindset therefore requires organisations to move beyond a purely instrumental view of stakeholders and to recognise accountability to those who bear the social and environmental consequences of business decisions. This reinforces the idea that sustainability is not defined solely by who holds economic power, but by who is affected, over what time horizon, and in what ways.

2.3.3 From Compliance to Responsibility

The shift toward multi-stakeholder governance builds on the trajectory described in Visser's (2011) Ages and Stages of CSR, where corporate responsibility evolves from defensive and compliance-driven approaches toward the "Age of Responsibility." In this stage, sustainability is embedded within governance, strategy, and organisational culture, rather than treated as a peripheral or reputational concern.

For accountants and business leaders, this shift has important implications. Embracing the ethos of King V requires asking not only what value is created, but for whom, over what time horizon, and at what cost to others or the environment. Sustainability thus becomes a driver of long-term, shared prosperity rather than a narrow compliance obligation.

Integrated reporting is best understood as a journey rather than a destination. As with corporate responsibility more broadly, organisations often operate across multiple orientations simultaneously. Some reports remain narrow and investor-centred, while others reflect a more mature, multi-stakeholder philosophy of value creation. The background box that follows illustrates this spectrum, showing how integrated reporting can evolve from a compliance-oriented exercise into a practice that makes sustainability thinking and integrated governance visible in organisational decision-making.

Framing sustainability through materiality and stakeholder accountability also reinforces an important boundary for accounting education. Sustainability thinking is not primarily about reporting formats, assurance processes, or compliance with specific standards. Rather, it concerns how organisations recognise responsibility, exercise judgement, and govern the consequences of their decisions. Reporting and assurance play a critical role in making these judgements visible and credible, but they remain downstream expressions of governance and values-based decision-making. For educators, this distinction is essential: the objective is not to train sustainability specialists, but to develop professionals capable of asking the right questions, recognising trade-offs, and understanding the broader implications of business activity.

Positioning Integrated Reporting: From Compliance to Transformation

Integrated Reporting (<IR>) can be applied through very different lenses. For some organisations, it functions mainly as a compliance tool, shaped by investor priorities and the use of ESG metrics. For others, it is a strategic sustainability framework, embedding multi-stakeholder value creation, long-term resilience, and systemic awareness. In practice, integrated reporting is a journey: organisations may move gradually along this spectrum, or even display elements of compliance and transformation at the same time. The matrix illustrates this range—from metrics-led disclosure to transformative sustainability practice.

Figure 1 illustrates how i<IR> may be positioned differently in practice, ranging from compliance-oriented, investor-centred disclosure to transformative, multi-stakeholder sustainability practice. The matrix is illustrative rather than prescriptive: organisations may occupy multiple positions simultaneously, and movement across the spectrum reflects differences in governance orientation, use of metrics, and integration of sustainability thinking, rather than stages of maturity.

	Narrow Focus (Investor-centred)	Broad Focus (Multi-stakeholder)
ESG Metrics-driven	**Compliance-oriented <IR>** This approach treats the integrated report primarily as a reporting shell. The focus is on comparable KPIs for investors, with ESG metrics used narrowly to demonstrate compliance. The time horizon is short to medium term, and risk or opportunity items are disclosed only insofar as they directly affect enterprise value.	**Metrics-plus <IR>** Here, some stakeholder disclosures are added, but the overall report remains KPI-led. ESG metrics dominate the narrative, while stakeholder issues are typically framed as risks or enablers for enterprise value rather than as material concerns in their own right.
Sustainability Driven	**Strategic <IR>** This approach integrates ESG data and KPIs into corporate strategy but retains a predominantly investor-centred perspective. The emphasis is on long-term risk and opportunity management, with sustainability primarily framed as a way to ensure enterprise resilience and value preservation. Although still investor-led, this positioning signals a stronger ethical and forward-looking orientation than compliance-driven reporting.	**Transformative <IR>** Integrated thinking guides decisions. Multi-stakeholder value creation at the core. Considers intergenerational equity, planetary boundaries, and systemic resilience and stewardship. Uses ESG metrics and KPIs as governance tools, not the end goal.

Low sustainability Integration) → Moderate / Transitional sustainability integration → High sustainability integration

Figure 1: Positioning Integrated Reporting Across a Spectrum of Practice

2.4 ESG and Sustainability reporting as downstream instruments

As sustainability has gained prominence in corporate governance and capital markets, environmental, social, and governance (ESG) considerations have become increasingly visible in reporting, risk management, and investment analysis. In practice, ESG is often used interchangeably with sustainability. However, the two are not the same, and conflating them risks obscuring the broader governance and value-based foundations of sustainability.

ESG is best understood as a reporting and analytical lens, developed primarily to support investor decision-making. It translates selected sustainability-related risks and opportunities into structured metrics and disclosures that can be compared across organisations and incorporated into capital allocation decisions. In current practice, ESG disclosures are increasingly shaped by investor-focused standards such as IFRS S1 and IFRS S2, which frame sustainability-related information through the lens of enterprise value, financial risk, and opportunity. These standards could provide a global baseline for capital markets, but they do not define sustainability itself.

By contrast, sustainability is a broader governance and strategic orientation. As outlined in the preceding sections, sustainability thinking is concerned with organisational purpose, values, stakeholder inclusivity, and long-term value creation within social and ecological limits. Sustainability reporting seeks to communicate aspects of this orientation, but it necessarily represents a partial and selective view, shaped by what can be measured, standardised, and assured. Impact-oriented disclosure approaches, such as those informed by the Global Reporting Initiative (GRI), focus on an organisation's effects on people, society, and the environment, supporting accountability to a wider range of stakeholders. Like ESG disclosures, however, they remain tools for communication rather than substitutes for sustainability thinking.

This distinction has important implications. When sustainability is framed primarily through ESG scores, indicators, or compliance requirements, complex social, environmental, and ethical considerations risk being reduced to technical exercises. Organisations may perform well against selected metrics while underlying governance practices, business models, or stakeholder impacts remain unchanged. Scholars have cautioned that ESG frameworks, while useful for comparability, can reinforce superficial engagement unless they are accompanied by deeper reflection on context, power, and implementation (Mishra & Pandey, 2025).

Similar concerns arise in relation to assurance. As ESG reporting remains largely voluntary in many jurisdictions, credibility is often sought through third-party verification. Darnall et al. (2022) distinguish between process-focused assurance, which checks conformity with reporting frameworks, and content-focused assurance, which evaluates the completeness, accuracy, and substance of disclosures. They find that content-focused assurance is more effective in promoting meaningful accountability, yet note that prevailing practices often prioritise procedural compliance. This further underscores the risk that reporting and assurance mechanisms privilege form over substance when sustainability is treated as a technical reporting challenge rather than a governance responsibility.

From a governance perspective, ESG and sustainability reporting are therefore downstream instruments. They do not create sustainability; rather, they reflect how organisations interpret and communicate sustainability-related issues through particular accountability lenses. Their credibility depends on the quality of upstream governance, integrated thinking, and decision-making processes that shape what is reported and why.

For accounting education, this distinction is critical. ESG frameworks and sustainability reporting standards should not be presented as proxies for sustainability itself. Instead, students should be equipped to understand why these instruments exist, whose interests they primarily serve, and what their limitations are. Developing this critical awareness enables future accountants to interpret disclosures thoughtfully, recognise potential greenwashing or misalignment, and appreciate the broader governance context within which reporting and assurance operate.

ESG and sustainability reporting are therefore treated as important, but instrumental, components of sustainability practice. They form part of the professional toolkit through which sustainability is communicated, assessed, and assured, but they should not be conflated with sustainability itself. Understanding ESG and reporting as downstream of governance and sustainability thinking reinforces the central message of this section: sustainability begins with mindset, values, governance, and organisational decision-making, and only later takes form through reporting, measurement, and verification.

Taken together, the discussion in this section highlights that much of the confusion surrounding sustainability in accounting education arises not from the number of frameworks in use, but from differences in purpose, orientation, and accountability logic. Concepts such as integrated reporting, ESG disclosure, and sustainability reporting are often treated as interchangeable, when in practice they serve distinct functions and audiences.

The key distinction is not between frameworks, but between how they are used. The same reporting artefact can reflect very different governance orientations, ranging from investor-centred compliance to multi-stakeholder accountability grounded in sustainability thinking.

The background box and summary table that follow are intended to help educators interpret these differences, clarifying how integrated reporting, ESG reporting, and sustainability reporting relate to one another as downstream expressions of underlying governance choices, rather than as competing definitions of sustainability.

Orientations to Sustainability-Related Reporting

This table illustrates how sustainability-related reporting artefacts, including <IR>, may be used in practice to reflect different governance orientations and accountability logics. The distinctions shown are illustrative rather than prescriptive, and organisations may exhibit features of multiple orientations simultaneously. The table is intended to support conceptual clarity, not to define curriculum coverage or reporting requirements. The key distinction is not simply between frameworks, but between the governance and accountability orientations reflected in how reporting frameworks and artefacts are interpreted and applied in practice. This distinction is particularly important in integrated reporting, where the same terminology may be used across jurisdictions and in academic literature while reflecting different assumptions about primary audience, materiality, and accountability. The two integrated reporting orientations presented below are therefore intended to make these differences explicit; they do not represent different versions of the Integrated Reporting Framework.

Table 1: Distinguishing Sustainability-Related Reporting Approaches by orientation and purpose

Report	<IR> within a multi-stakeholder accountability orientation	<IR> within an investor-oriented accountability orientation	ESG Reporting (e.g. IFRS S1/S2)	Sustainability / Impact Reporting (e.g. GRI)
Primary purpose	Explain how the organisation creates value for multiple stakeholders over the short-, medium and long term.	Communicate enterprise value creation primarily for capital providers	Provide decision-useful sustainability information for investors	Disclose an organisation's impact of the economy, environment and people
Primary audience	Broad stakeholder group, including investors, employees, communities, regulators, and society.	Investors and providers of financial capital	Investors, regulators, and capital markets	Multi-stakeholder audiences including affected communities and civil society
Accountability Logic	Inclusive governance and stewardship across multiple capitals	Enterprise value protection and optimisation	Financial risk and opportunity mamangement	Accountability for social and environmental impacts
Materiality Focus	Explicit double materiality, integrating impacts and enterprise value through integrated thinking.	Primarily financial materiality, with broader impacts considered insofar as they affect enterprise value.	Financial materiality (investor relevance and enterprise value).	Explicit double materiality, prioritising impacts on people and the environment, while recognising related organisational risks.
Time horizon	Explicitly short, medium, and long term, including intergenerational considerations	Short to medium term, with longer-term risks framed through investor relevance	Predominantly short to medium term	Medium to long term, aligned to sustainable development outcomes
Role of Sustainability Governance	Central governance communication embedding sustainability thinking and strategy	Reporting artefact supporting investor-focused governance	Downstream disclosure instrument supporting capital allocation	Impact disclosure tool supporting transparency and stakeholder dialogue

Section 3: Governance, Integrated Thinking, and the Role of Accounting

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Purpose and Positioning of Section 3

This section reframes governance in accounting education by shifting the focus from a predominantly audit- and compliance-oriented view toward governance as a system of decision-making, accountability, and value creation enacted through integrated thinking. While governance is often discussed in relation to board structures, controls, and external assurance, this section emphasises that governance is realised in practice through everyday managerial decisions, performance measures, incentives, and information systems.

Drawing on the principles of King V, the section positions integrated thinking as a foundational governance capability that connects strategy, risk, sustainability, and performance across the organisation. It highlights the central role of accountants in designing, governing, and using sustainability-relevant information to support informed decision-making, rather than treating sustainability as a downstream reporting or assurance exercise.

The purpose of this section is not to provide a technical exposition of governance codes or reporting standards, but to support educators in broadening how governance is conceptualised and taught.

3.1 Reframing Governance: From Oversight to Organisational Practice

Governance is often narrowly understood as being limited to the composition, roles, and formal oversight functions of the board of directors. In this narrow view, governance is reduced to board charters, committee structures, and compliance checklists. While these elements are important, they represent only one part of how governance operates in practice.

In reality, governance extends far beyond the boardroom. It is the system through which organisations are directed, controlled, and held accountable, shaping how strategy is set, how risks and opportunities are identified and managed, how performance is measured and rewarded, and how organisations engage with society and the natural environment. Governance is therefore both structural and behavioural: it concerns not only who holds authority, but how decisions are made, on what information they are based, and in whose interests they are taken.

King V reflect this broader conception by positioning governance as outcomes-based, stakeholder-inclusive, and oriented toward sustainable value creation over the short, medium, and long term (IoDSA, 2025). Similarly, the OECD defines corporate governance as the set of relationships between management, the board, shareholders, and other stakeholders that provides the structure through which organisational objectives are set and performance is monitored (OECD, 2015). Together, these perspectives emphasise that governance is not confined to oversight after the fact, but embedded in the processes through which organisations operate and make choices.

For accountants and accounting educators, recognising this broader understanding of governance is critical. If governance is taught primarily as a matter of board mechanics or audit oversight, students risk missing its deeper connection to accountability, ethical leadership, and long-term value creation. Governance should instead be understood as an organising logic that shapes how information is generated, how trade-offs are evaluated, and how responsibility is exercised across the organisation.

From this perspective, integrated reporting is best understood as one of the mechanisms through which governance is made visible. It reflects how organisations apply governance principles in practice by explaining how value is created, preserved, or eroded across multiple capitals. The foundations of effective governance, however, lie upstream in the quality of decision-making, information, and accountability systems that support integrated thinking.

This broader view of governance provides the conceptual foundation for the discussion that follows, where integrated thinking is examined as a core governance capability, and the role of accounting in enabling sustainable decision-making is explored in greater depth.

Governance Mechanisms Supporting Sustainability

Effective sustainability governance depends not only on formal board oversight, but on a set of interconnected mechanisms that shape how sustainability considerations are embedded into organisational decision-making. These mechanisms operate across leadership, management processes, information systems, and assurance arrangements.

King V emphasise ethical and effective leadership, stakeholder inclusivity, and accountability for sustainable value creation. In practice, this requires boards and executives to integrate sustainability into the organisation's purpose, strategy, risk management, performance management, and remuneration structures, rather than treating it as a parallel "ESG" or compliance function.

A range of tools and standards support this governance orientation. Investor-focused sustainability disclosure standards, such as IFRS S1 and S2, provide guidance for reporting sustainability-related risks and opportunities relevant to enterprise value. Impact-focused frameworks, such as the Global Reporting Initiative (GRI), support accountability for organisational impacts on people, society, and the environment. These frameworks are best understood as downstream instruments that reflect governance and decision-making choices made upstream.

Assurance plays a critical role when applied as part of a combined assurance model, as promoted by King V. When effectively implemented, combined assurance shifts the emphasis away from verifying the final report alone and toward providing confidence in the quality, reliability, and integrity of the sustainability-related information systems and data used for governance and management decision-making.

For accountants, this integrated view of governance underscores a professional responsibility that extends beyond reporting and assurance to include the design of performance measures, internal controls, data governance processes, and information systems that support integrated thinking in practice.

3.2 Integrated Thinking as a Governance Capability

Integrated thinking has deep roots in South African corporate governance and did not emerge as a reporting innovation. Its origins can be traced to the King I Report (1994), which first articulated the principle that organisations have responsibilities extending beyond shareholders to include employees, society, and the natural environment. This early emphasis on stakeholder inclusivity laid the foundation for a governance model in which long-term value creation is inseparable from social and environmental considerations.

King II (2002) built on this foundation by explicitly linking governance to sustainability and the triple bottom line of economic, social, and environmental performance. It recognised that organisational success cannot be assessed purely in financial terms and that governance must account for multiple forms of value and risk. Importantly, this framing positioned sustainability as a governance concern rather than a peripheral social initiative.

With King III (2009), South African governance guidance took a further step by formally introducing integrated thinking as a mindset. King III emphasised that governance, strategy, performance, and sustainability should not be treated as separate silos, but as interdependent elements of value creation. Integrated thinking was thus framed as an ongoing way of thinking and decision-making, rather than a reporting requirement.

King IV (2016), and more recently King V (2025), consolidate and deepen this evolution. Together, they position integrated thinking as a core governance capability that underpins sustainable value creation over the short, medium, and long term. Integrated thinking requires governing bodies and management to actively consider the interdependencies between strategy, risk, performance, and sustainability within the broader triple context of the economy, society, and the environment, and across the six capitals (financial, manufactured, intellectual, human, social and relationship, and natural).

In this framing, integrated thinking is not optional, nor is it confined to reporting cycles. It is the means through which organisations surface trade-offs, allocate resources, and make informed decisions in conditions of complexity and uncertainty. Integrated reporting, in turn, is best understood as one of the ways in which integrated thinking is communicated, rather than the driver of governance itself.

A defining feature of integrated thinking in the South African context is its stakeholder-inclusive orientation. While stakeholder inclusivity was first articulated in King I, King IV and King V reinforce it as a core principle of governance. Organisations are expected to recognise that they are embedded within society and the natural environment, and that value creation must balance the legitimate needs and interests of multiple stakeholders, not only providers of financial capital. This approach distinguishes South African governance from more shareholder-centric models and aligns integrated thinking with broader global sustainability objectives, including the UN Sustainable Development Goals.

For accounting education, this evolution is critical. Integrated thinking reframes governance as an active, ongoing capability that depends on the quality of information, judgement, and decision-making across the organisation. Understanding integrated thinking in this way prepares future accountants to engage meaningfully with sustainability governance, not as a reporting obligation, but as a central feature of how organisations are directed, controlled, and held accountable.

The Octopus Model of Integrated Thinking and Reporting (Adapted from King and Roberts (2013) and IRC SA (2014))

The Integrated Reporting Committee of South Africa (IRC SA) uses the octopus model as a metaphor to illustrate the relationship between integrated thinking and integrated reporting.

In the model, the head represents the collective mind of the organisation, encompassing governance and strategy. The tentacles represent the six capitals (financial, manufactured, intellectual, human, social and relationship, and natural) through which the organisation senses, responds to, and interacts with its internal and external environment. Integrated thinking involves the continuous coordination of these capitals as conditions, risks, and opportunities evolve.

Integrated reporting is depicted not as the driver of this process, but as one of its outcomes. The integrated report provides a high-level narrative explaining how the organisation creates, preserves, or erodes value over time, while more detailed reports (such as financial statements, governance reports, or sustainability disclosures) address specific information and compliance needs.

The octopus model reinforces that integrated reporting is meaningful only when underpinned by integrated thinking. It also highlights that integrated thinking is an ongoing governance capability rather than a periodic reporting exercise.

King V and the Future Direction of Sustainability Governance

King V (IoDSA, 2025) represents the next stage in South Africa's governance journey. Building on King IV's consolidation of integrated thinking and outcomes-based governance, King V responds to contemporary socio-economic, technological, and environmental challenges by reframing governance as a dynamic, values-driven system. Sustainability, impact, and accountability are positioned as central organising principles rather than peripheral considerations.

Addressing Emerging Governance Challenges

- **Technology governance:**
  King V gives explicit attention to the governance of data, cybersecurity, and artificial intelligence (AI). It emphasises responsible and ethical AI use, the necessity of human oversight, and alignment with evolving digital regulation, highlighting technology as a core governance concern rather than a technical afterthought.

- **Risk and opportunity:**
  Risk governance is expanded beyond prevention and control to include opportunity-focused risk-taking. Boards are encouraged to equip organisations to identify and pursue sustainable growth opportunities while managing systemic and long-term risks.

Embedding Sustainability and Impact

- **Sustainability as a core principle:**
  King V positions sustainability not as an add-on, but as the organising principle of governance. The shift from the "six capitals" to "resources and relationships" broadens accessibility while reinforcing the interconnected nature of value creation.

- **Double materiality:**
  King V formally introduces impact materiality alongside financial materiality, requiring organisations to assess both (i) how sustainability-related issues affect enterprise value and (ii) how organisational activities affect society and the environment.

- **Ubuntu as a governance value:**
  A distinctly South African contribution, Ubuntu is introduced as a guiding governance value, reinforcing interconnectedness, human-centric leadership, accountability, and social cohesion.

Implications for Accounting Education

- **Beyond financial statements**:
  Students must be equipped to prepare and interpret integrated reports that connect financial performance with social and environmental outcomes.

- **Measuring impact:**
  Accounting education should engage with non-financial information, including carbon emissions, human rights i impacts, and social value creation.

- **Governance of technology:**
  King V's emphasis on AI and data governance creates opportunities to explore ethical responsibility, professional judgement, and accountability in modern accounting practice.

- **Ethics and accountability:**
  A stronger emphasis on principle-based governance reinforces the need to foreground values, ethics, and professional responsibility in accounting curricula.

King V also creates clear avenues for further scholarship and curriculum development, including sustainability assurance (e.g. ISSA 5000), applications of impact materiality, governance of emerging technologies, and the role of Ubuntu in corporate culture.

3.3 Governance Beyond Audit: The Central Role of Management Accounting

While governance frameworks and board oversight are essential, governance is enacted in practice through the everyday decisions, controls, and information systems that shape organisational behaviour. In this sense, governance is not only a matter of policy and oversight, but of how organisations decide what to measure, what to reward, what to prioritise, and what to ignore. These functions sit squarely within the domain of management accounting.

Management accounting systems translate governance intent and strategy into operational reality. They determine how costs are allocated, how performance is evaluated, how capital is deployed, and how trade-offs between competing objectives are navigated. In this sense, management accounting does not merely support governance; it operationalises it. What organisations choose to measure and manage ultimately signals what they value.

From a sustainability perspective, this is critical. Governance for sustainable value creation depends on information about environmental impacts, social outcomes, resource dependencies, and long-term risks and opportunities. If these dimensions are absent from budgeting systems, performance scorecards, investment appraisal models, and incentive structures, sustainability remains peripheral regardless of the language used in governance codes or reports.

This helps clarify the different roles played by accounting sub-disciplines. External audit primarily verifies information after the fact, providing assurance that reported information is complete, accurate, and prepared in accordance with relevant standards. Management accounting, by contrast, governs forward-looking decision-making. It shapes behaviour by influencing how managers plan, decide, and act. In short: audit verifies; management accounting governs.

Recognising this distinction is particularly important for accounting education. When governance is framed narrowly through an auditing lens, students may come to associate sustainability primarily with reporting and assurance at the end of the value chain. A management accounting perspective instead highlights sustainability as a matter of design: the design of cost systems, performance measures, capital allocation processes, and information flows that guide organisational behaviour over time.

King V explicitly acknowledge this broader view by emphasising that governing bodies are responsible for ensuring that strategy, risk, performance, sustainability, and the information systems that support them are integrated. This integration cannot occur without management systems capable of producing decision-useful sustainability information. CFOs, management accountants, and information specialists therefore play a central role in enabling effective governance for sustainable value creation.

To support this integrated governance model, King IV introduced the concept of combined assurance, which King V further reinforces through its emphasis on data governance, technology oversight, and the reliability of information used for decision-making. Combined assurance is intended to provide the governing body with a coherent and coordinated view of organisational performance, risks, and sustainability matters by aligning assurance activities across the organisation. It integrates management assurance embedded in internal controls and performance systems, specialist assurance (such as sustainability or IT reviews), internal audit, and external audit.

Importantly, combined assurance assumes the existence of robust underlying information systems. It does not substitute for weak management accounting or poorly defined sustainability metrics. Where sustainability information is fragmented, inconsistently measured, or disconnected from operational decision-making, combined assurance can offer only limited comfort. In such cases, assurance risks reinforcing a compliance-oriented mindset rather than improving governance quality.

Combined Assurance as a Governance Mechanism

Combined assurance refers to the coordinated approach through which different assurance providers work together to support effective governance. In the King V framework, combined assurance is designed to ensure that the governing body receives a consistent, credible, and comprehensive view of organisational performance, risks, and sustainability impacts.

Combined assurance typically draws on multiple layers:

- Management assurance, embedded in internal controls, performance management, and information systems;
- Specialist assurance, such as sustainability, environmental, IT, or compliance reviews;
- Internal audit, providing independent assurance on controls, risk management, and governance processes; and
- External audit and assurance, focusing on financial statements and, increasingly, sustainability disclosures.

Crucially, combined assurance does not replace robust management accounting systems. Its effectiveness depends on the quality of the underlying data, metrics, and controls that management designs and operates. Where sustainability information is poorly defined or inconsistently measured, combined assurance risks reinforcing a false sense of confidence rather than improving decision-making.

For accounting professionals, combined assurance therefore highlights the interdependence between governance, management accounting, information systems, and assurance. Assurance can only be as strong as the systems it relies on.

Seen through this lens, combined assurance reinforces rather than diminishes the importance of management accounting. Assurance can enhance trust in information, but it cannot correct fundamentally flawed system design. Effective sustainability governance therefore depends first on the quality of the information produced by management accounting systems, and only then on the assurance applied to that information.

This understanding positions management accounting as a critical governance capability. It also exposes the limits of current practice: many organisations lack the integrated information systems required to support sustainability-oriented decision-making. These limitations, and their implications for governance and accounting education, are explored in the next section.

3.4 Information, Systems, and the Limits of Current Practice

While King V provide a strong governance framework, their effectiveness is constrained by the limitations of current information systems and accounting practices. In many organisations, sustainability-related information remains fragmented, manually assembled, or disconnected from core management accounting systems. As a result, governance often relies on information that is backward-looking, inconsistent, or insufficiently integrated into everyday decision-making.

Although South Africa has been a global pioneer of integrated reporting, implementation has not been without challenges. In practice, many organisations continue to treat the integrated report as a compliance artefact or a reputational communication exercise, rather than as evidence of integrated thinking embedded in governance and management processes. In such cases, sustainability disclosures are aggregated at reporting stage, without demonstrating how environmental and social considerations have influenced strategy, risk management, performance measurement, or capital allocation. This risks reducing integrated reporting to a tick-box exercise and undermining its credibility and transformative intent.

Doing the Laundry - When Reporting Masks Weak Governance

Corporate reporting is sometimes criticised for different forms of "washing": disclosures that create the appearance of responsibility without the underlying substance to support them.

- Greenwashing refers to portraying products, activities, or strategies as environmentally responsible while masking harmful practices.
- Bluewashing involves aligning with voluntary initiatives or global compacts for reputational benefit without meaningful implementation.
- SDG- or rainbow-washing describes superficial claims of alignment with the UN Sustainable Development Goals without credible targets, strategies, or evidence of impact.
- Social-washing emphasises charitable or community initiatives while ignoring systemic labour, human rights, or inequality-related issues.

These practices undermine stakeholder trust and weaken the legitimacy of sustainability and integrated reporting. They illustrate why robust governance, reliable information systems, and credible assurance are essential. Without these foundations, sustainability-related reporting risks becoming a marketing exercise rather than a mechanism for accountability, learning, and long-term value creation.

A central constraint lies in the information systems that underpin governance and reporting. Effective integrated thinking depends on reliable, comparable, and decision-useful information across financial and non-financial domains. Weak data governance, siloed systems, and inconsistent definitions make it difficult to connect financial performance with environmental and social impacts, obscuring trade-offs and limiting accountability. Where sustainability information is produced primarily for disclosure purposes, it is often unsuitable for managerial decision-making.

These challenges are compounded by a rapidly evolving reporting and regulatory landscape. Boards and executives must navigate multiple, sometimes overlapping, sustainability frameworks and expectations; grapple with data quality issues, particularly for complex areas such as Scope 3 emissions and just transition indicators; and make explicit choices about materiality, including whether to adopt a narrow, investor-focused lens or to embrace double materiality. At the same time, regulatory momentum is increasing, with developments such as the EU CSRD and ESRS expanding reporting and assurance obligations for South African companies with international exposure, alongside growing expectations from the JSE and other local bodies.

These limitations point to a deeper issue: governance frameworks can only be as effective as the information systems that support them.

Together, these conditions highlight the limits of current practice and reinforce the need for governance approaches that are adaptive, systems-oriented, and forward-looking. They also foreground the critical role of accountants. As designers and stewards of information systems, accountants are uniquely positioned to improve data integrity, integrate financial and sustainability information, and ensure that information used for governance is reliable, relevant, and trusted. By strengthening the information foundations of decision-making, accountants can help shift integrated reporting away from superficial compliance and toward meaningful communication of long-term value creation.

The implications of this role for accounting education and professional practice are explored further in later sections, particularly in relation to sustainability information, performance measurement, and the development of appropriate systems and capabilities.

3.5 Implications for Accounting Education and Professional Practice

The analysis in this section reinforces that integrated thinking is not primarily a reporting construct, but a governance capability that shapes how organisations understand value creation, risk, and responsibility. For accountants, integrated thinking enables the connection of financial performance with operational realities, sustainability impacts, and long-term strategic consequences, rather than treating these as separate or sequential considerations.

When integrated thinking is reduced to the preparation of an integrated report, its transformative potential is lost. Its real significance lies upstream, in shaping management decisions about resource allocation, performance measurement, system design, and assurance priorities. In this sense, integrated thinking governs the questions organisations ask long before reporting occurs, not merely how answers are packaged afterward.

For accounting education, this implies that integrated thinking cannot be confined to a single module or treated as an advanced reporting topic. Instead, it should be cultivated across financial reporting, management accounting, auditing, and taxation, enabling students to reason across capitals, time horizons, and stakeholder interests when making and evaluating business decisions. Integrated thinking also intersects with digital acumen, as students must understand how organisational information systems shape what can be seen, measured, and governed. Developing this capability is central to preparing entry-level Chartered Accountants to act as responsible business leaders rather than narrow technical specialists.

The absence of integrated, decision-useful sustainability information in many organisations reflects not only system limitations but also professional choices about what accountants prioritise, measure, and assure. Strengthening integrated thinking within the profession therefore represents both a technical and an ethical responsibility.

The teaching toolkit that follows is designed to support educators in reflecting on how their own teaching practices foster, or constrain, the development of integrated thinking as a governance capability in future accounting professionals.

Teaching Toolkit: Embedding Integrated Thinking and Reporting

This toolkit is designed to support accounting educators in rethinking how governance and integrated thinking are conceptualised and taught across the curriculum. It does not prescribe teaching methods or assessment designs. Instead, it invites educators to reflect on how their own disciplinary assumptions, teaching practices, and emphases shape students' understanding of governance, responsibility, and value creation. In particular, it aims to help educators move beyond a narrow, reporting- or audit-centred view of governance, and toward an understanding of governance as a lived, operational, and decision-oriented system that permeates everyday business activity.

Re-examining Assumptions About Governance

Educators are invited to reflect on the following foundational question:

- Do I implicitly assume that my module is not related to governance?

Related reflective prompts include:

- If so, what understanding of governance does this convey to students?
- Is governance framed primarily as compliance, oversight, or reporting, rather than as decision-making, accountability, and value creation?
- How might the concepts I teach (for example costing, tax planning, performance management, internal controls, or disclosure judgements) actively shape how organisations are directed, controlled, and held accountable in practice?

These questions are particularly relevant in accounting education, where governance is often taught indirectly through auditing standards rather than explicitly through management, systems, and strategic choices.

Integrated Thinking as a Governance Capability

Section 3 positions integrated thinking as a core governance capability, not as a reporting framework.

Educators may wish to consider:

- Do students encounter integrated thinking mainly as something that happens after decisions are made, through reports and disclosures?
- Where, if at all, do students practise reasoning across financial and non-financial information before decisions are taken?
- How do disciplinary silos in the curriculum (financial reporting, management accounting, auditing, taxation) inhibit or enable integrated thinking?
- To what extent are non-financial considerations (such as environmental impacts, employee wellbeing, regulatory risk, or reputational effects) treated as routine inputs into accounting exercises, rather than as peripheral or optional additions?

Framing integrated thinking as a way of reasoning, rather than as an output, requires normalising the inclusion of non-financial information in teaching examples, exercises, and assessments. When sustainability-related information is embedded alongside financial data as a matter of course, students are more likely to develop the habit of considering trade-offs, interdependencies, and long-term consequences as part of everyday accounting judgement.

Governance Through Measurement, Incentives and Choices

Governance is enacted through what organisations choose to measure, reward, and prioritise.

Educators may reflect on:

- What do my teaching examples and assessments signal about what "matters" in organisations?
- How are cost structures, performance indicators, tax strategies, and capital allocation decisions presented in relation to sustainability outcomes?
- What remains invisible or marginalised in current accounting systems, and what are the governance consequences of this invisibility?

These reflections help reposition management accounting and taxation as central to governance, alongside (but not subordinate to) auditing and financial reporting.

Assurance as Part of Governance, Not an End Point

Rather than treating assurance as the final step in reporting, this section frames assurance as integral to governance and information reliability.

Educators may consider:

- Do students understand the distinction between verifying a report and assuring the quality of the underlying systems and data?
- How clearly is combined assurance positioned as a governance mechanism rather than an audit technique?
- Are students encouraged to see assurance planning as shaping what information is produced, trusted, and used in decision-making?

This reframing supports a more substantive understanding of assurance as part of an ongoing governance ecosystem.

Developing the Accountant as a Responsible Business Leader

Finally, educators are encouraged to reflect on the professional identity being cultivated through their teaching:

- Are students primarily prepared to comply with rules, or to exercise judgement in complex, value-laden contexts?
- Do they see accountants as passive reporters, or as active stewards of organisational information and accountability?
- How explicitly are ethics, responsibility, and long-term value creation integrated into technical teaching?

Developing integrated thinking as a governance capability is central to preparing entry-level Chartered Accountants to act as responsible business leaders who can navigate complexity, uncertainty, and competing stakeholder interests.

Practical Tools for Upskilling Educators:

- The Good Governance Academy- an initiative founded by Professor Mervyn King providing resources and governance related events and talks.
- Accounting Streams – international open teaching materials, case studies, and videos aligned with sustainability and governance principles.

Section 4:
Developing Transferable Capability for a Changing Profession: Sustainability within the CA of the Future Competency Framework

Section Contributors:

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Purpose of this section:

This section addresses a core challenge for accounting education: how to prepare students for a professional environment in which sustainability expectations, technologies, standards, and societal demands continue to evolve. Its purpose is not to introduce additional sustainability content, nor to forecast future technical requirements. Instead, it focuses on the principles, skills, and learning capabilities that enable graduates to engage responsibly with change over time.

Sustainability is not separate from ethics, professional judgement, digital acumen, or governance; it is embedded within them. Accordingly, this section emphasises the development of transferable capabilities that allow students to apply core accounting principles across new and uncertain contexts, rather than relying on fixed bodies of knowledge.

This section is particularly important for educators, as it clarifies why responding to sustainability through content expansion alone is neither feasible nor aligned with the profession's direction. Understanding this section provides the foundation for designing teaching, assessment, and learning experiences that equip future Chartered Accountants to continue learning, adapting, and exercising judgement responsibly throughout their careers.

4.1 Defining the CA(SA) of the Future

The SAICA Competency Framework (2026a; 2026b) defines a CA(SA) as an ethically responsible business leader who fulfils a public mandate by applying integrated thinking to create sustainable value for a wide range of stakeholders within an organisation. At entry level, Chartered Accountants are expected to demonstrate ethical behaviour, professional competence, and the capacity for responsible leadership that supports long-term value creation in the public interest.

At its core, the role of the CA(SA) extends beyond the preparation or audit of financial statements. It encompasses the preparation, interpretation, analysis, and evaluation of both financial and non-financial information to support informed decision-making by diverse stakeholders. Such information must be decision-useful and characterised by integrity, relevance, accuracy, and clarity, and must be communicated in a manner consistent with the profession's public-interest mandate.

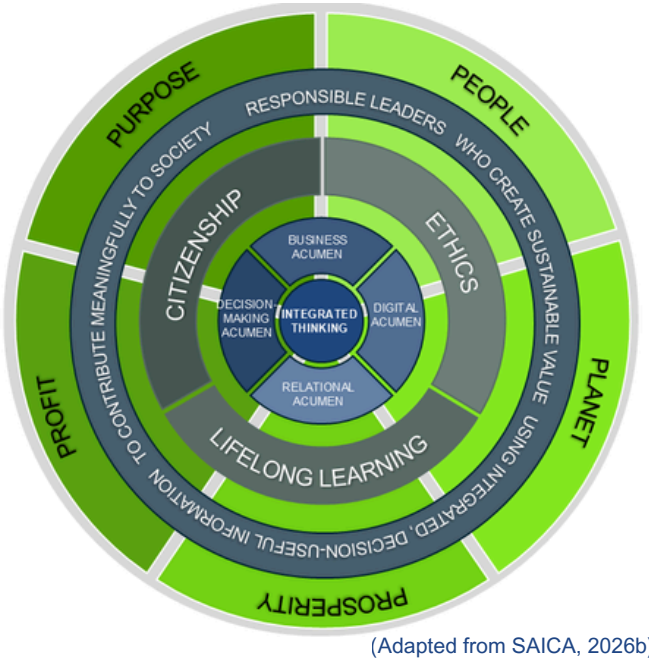
A central principle of the Competency Framework is that value creation is defined in sustainability terms. It extends beyond short-term financial returns or organisational viability to encompass outcomes that are economically viable, socially responsible, and environmentally sound over the short, medium, and long term. This framing aligns with South Africa's governance tradition, particularly King V's emphasis on stakeholder inclusivity, and positions CAs as custodians of organisational legitimacy, resilience, and trust.

Integrated thinking lies at the heart of this professional identity. It is not a peripheral or specialist skill, but a pervasive capability that shapes how accountants approach decisions, trade-offs, and accountability across organisational contexts. The Competency Framework embeds integrated thinking directly within the Professional Values, Attitudes, and Acumens (PVAAs), ensuring that ethical reasoning, decision-making, business acumen, and relational acumen are inseparable from technical competence.

As articulated earlier in this guidance, however, integrated thinking on its own does not guarantee sustainable outcomes. Integrated thinking provides the means for connecting financial and non-financial considerations, but sustainability thinking provides the orientation that guides how those connections are interpreted and acted upon. Sustainability thinking applies integrated thinking through the lens of sustainable development, foregrounding ecological limits, social and ecological justice, intergenerational equity, and long-term resilience.

From this perspective, sustainability is not an add-on to the curriculum or to professional practice. It is an implicit and explicit expectation embedded within the PVAAs, technical competencies, and professional responsibilities of CAs(SA). If the CA(SA) of the Future is expected to create sustainable value, then they must be able to practise sustainability thinking as an extension of integrated thinking, rather than treating sustainability as a downstream reporting or compliance exercise.

This framing also has direct implications for accounting education. If sustainability and integrated thinking are embedded within the CA(SA) competency framework, educators must understand how their own disciplines contribute to governance and value creation. In practice. financial reporting, management accounting, auditing and assurance, and taxation, each shape what is measured, prioritised, incentivised, and rendered visible within organisations. These disciplinary choices can either support sustainable value creation or contribute to its depletion. **Developing sustainability capability therefore does not require adding new content, but rather making explicit the governance and value implications already embedded within disciplinary teaching.**



(Adapted from SAICA, 2026b)

Figure 2: The CA(SA) of the Future and the Integrated Creation of Sustainable Value

Figure 2 illustrates this integrated conception of sustainable value creation through the 5Ps:

- People and Planet highlight social and environmental stewardship;
- Prosperity and Profit reflect economic and financial performance; and
- Purpose provides the overarching mandate that aligns these outcomes with the profession's duty to serve the public interest.

4.2 The CA(SA) of the Future in a Global Professional Context

SAICA's CA of the Future Competency Framework was not developed in isolation. Its emphasis on sustainability, integrated thinking, ethical judgement, and professional values reflects a broader global reorientation within the accounting profession. Across jurisdictions, professional bodies increasingly recognise that the legitimacy and relevance of accountants depend on their ability to serve the public interest in an era marked by planetary limits, digital disruption, and persistent socio-economic inequality.

Importantly, **this shift is capability-based rather than content-based.** Globally, the profession is moving away from defining competence as mastery of an expanding body of technical rules, and toward defining it as the capacity to exercise judgement, integrate financial and non-financial information, and adapt responsibly as standards, technologies, and risks evolve. Sustainability expectations therefore do not represent a new technical domain, but a reframing of what professional competence means.

4.2.1 Global Anchors and Convergence

The International Federation of Accountants (IFAC) provides the primary global reference point for professional accountancy bodies. Its International Education Standards, particularly IES 2 (Technical Competence), IES 3 (Professional Skills), and IES 4 (Professional Values, Ethics and Attitudes), explicitly embed sustainability, integrated thinking, ethical reasoning, and multidisciplinary collaboration within professional formation (IFAC, 2025a,b,c).

SAICA's competency framework is fully aligned with this direction. It embeds integrated thinking to move beyond siloed technical skills, foregrounds public interest and sustainability as anchors of professional legitimacy, and ensures transferability by integrating these expectations across both technical competencies and the PVAAs. Alignment with IFAC ensures global recognition of the CA(SA) qualification while positioning the accountant as an active contributor to governance, resilience, and societal trust, rather than a narrow compliance specialist.

Beyond IFAC, convergence is evident across major professional bodies. While terminology differs, global frameworks increasingly emphasise:

- professional judgement over rule compliance;
- ethical reasoning and public-interest responsibility;
- integrated thinking as a core cognitive capability;
- digital acumen as essential for modern decision-making; and
- lifelong learning as a professional obligation rather than an optional extra.

Professional bodies such as ACCA, CIMA, ICAEW, and CPA Canada have all redesigned their frameworks to embed sustainability, ethics, technology, and employability across qualification pathways. This convergence signals that sustainability, integrated thinking, and ethical leadership are no longer peripheral concerns but defining features of professional identity worldwide.

4.2.2 SAICA's Positioning

Within this global movement, SAICA's framework is both aligned and distinctive. Its explicit embedding of sustainability across technical competencies and PVAAs goes further than many peer frameworks, reflecting South Africa's unique socio-economic, environmental, and developmental context. Rather than treating sustainability as a specialist field, SAICA positions it as integral to value creation, legitimacy, and long-term resilience.

For educators, the implication is clear. Sustainability has been implicitly and explicitly embedded in the competency framework for more than a decade. The task is therefore not to add content, but to design learning experiences that develop transferable capabilities. These capabilities enable graduates to interpret evolving standards, engage responsibly with sustainability-related risks and opportunities, and continue learning throughout their professional lives.

Seen in this light, sustainability is not an additional burden placed on accounting education. It is an expression of a globally shared understanding of what it means to be a competent, ethical, and future-ready professional accountant.

4.3 Why Content Expansion is the Wrong Response

A common response to the growing prominence of sustainability in accounting is to assume that curricula must expand to include additional topics, standards, and technical detail. This often takes the form of adding new content on sustainability reporting frameworks, climate standards, taxonomies, or ESG metrics. While understandable, this response reflects a misinterpretation of what the CA of the Future Competency Framework is asking educators to do.

Sustainability-related standards, tools, and expectations are evolving rapidly. New disclosure requirements, assurance standards, technologies, and regulatory approaches continue to emerge and will do so for the foreseeable future. Attempting to "keep up" by continually adding content risks overwhelming both educators and students, while still failing to future-proof graduates for professional practice.

Crucially, the competency framework was never intended to require educators to predict or pre-teach every future sustainability development. Its focus is not on exhaustive coverage of current standards, but on developing the capabilities that enable graduates to interpret, evaluate, and respond to change over time. Teaching fixed content in a fast-changing landscape can quickly become obsolete, particularly when learning is driven by examination requirements rather than professional judgement.

This challenge is often exacerbated by exam-oriented teaching models, where pressure to "cover the syllabus" encourages content accumulation rather than conceptual integration. In such contexts, sustainability can appear as an additional burden rather than as an organising lens that helps students make sense of complexity, trade-offs, and uncertainty.

From this perspective, the issue is not a lack of sustainability content in the curriculum. Rather, it is a misalignment between how the framework is interpreted and how teaching is designed. The framework calls for a shift in emphasis: from content coverage to capability development; from rule application to judgement; and from siloed topics to integrated thinking.

Responding to sustainability by expanding content therefore risks missing the intent of the competency framework. A more effective response is to embed sustainability thinking into existing topics, examples, assessments, and discussions, enabling students to practise applying professional judgement in contexts where financial, social, environmental, and ethical considerations intersect.

4.4 Developing Transferable Capability

The CA(SA) of the Future cannot operate in disciplinary silos. While traditional accounting education has often prepared students narrowly to succeed in examinations, such an approach does not cultivate the confidence or adaptability required to apply knowledge in unfamiliar, evolving contexts. In contrast, the SAICA Competency Framework requires Chartered Accountants to demonstrate the ability to transfer learning across domains and contexts, a capability that is essential in a sustainability-driven and rapidly changing professional environment.

Although the terms transferable and transversal competencies are often used interchangeably, they emphasise different dimensions of this capability. Transferable competencies are more commonly associated with the business context and refer to versatile capabilities developed in one setting that can be applied effectively in another. These competencies enhance employability and career adaptability (Jacqmot & Mathelart, 2020). In accounting, this includes the ability to interpret, analyse, and apply standards or regulatory frameworks, capacities that remain relevant whether the subject matter is financial reporting, sustainability disclosure, or governance-related information.

Transversal competencies, by contrast, are more frequently used in educational and policy contexts to describe broad capabilities that cut across disciplines and underpin integrated learning (Jacqmot & Mathelart, 2020). These align closely with the PVAAs in the SAICA framework, and includes ethical reasoning, relational acumen, professional judgement, and lifelong learning.

In practice, both terms point to the same underlying idea: competencies that are not bound to a single technical domain but are fundamental to navigating complexity, exercising judgement, and creating sustainable value. This view is consistent with IFAC's observation that many foundational accounting competencies are inherently transferable and remain effective when applied to sustainability-related contexts, enabling professionals to adapt to emerging demands without abandoning their core expertise (IFAC, 2024).

As discussed further in Section 4.6, the CA(SA)'s role in governance and in providing decision-useful information across sectors and industries depends on the ability to work with diverse forms of data and information systems. While the technical content may change, for example from financial data to sustainability metrics, the underlying principles of analysis, assurance, and professional judgement remain consistent. Transferable competencies therefore enable CAs to apply their expertise reliably across contexts, reinforcing the credibility of information systems and supporting effective governance and accountability.

For educators, this has important implications. The competencies required to apply sustainability and integrated thinking are already being developed, at least in part, within every accounting sub-discipline, even where sustainability is not taught explicitly.

- Financial reporting develops interpretive, disclosure, and measurement competencies that are directly transferable to sustainability and integrated reporting, ensuring information is reliable, comparable, and decision-useful for governance purposes.

- Management accounting equips students with skills in scenario analysis, costing, and performance measurement, which can be applied to evaluating environmental trade-offs, carbon pricing, and social impact metrics in long-term decision-making.

- Taxation builds interpretive and evaluative competencies through the application of complex legislation, skills that readily transfer to sustainability-related regulations such as environmental levies or carbon taxes.

- Auditing instils assurance mindsets, risk assessment, and evidence-based judgement, competencies that are essential for the assurance of sustainability information and the integrity of both financial and non-financial disclosures.

A critical pedagogical task for lecturers is to make this transfer explicit. Students do not automatically recognise that the analytical and interpretive skills they practise in one discipline are the same capabilities required in another context. Without deliberate scaffolding, they may assume that their competencies are bounded by subject silos. By drawing these connections explicitly, educators help students recognise their own adaptability and build confidence in applying professional judgement across disciplinary and contextual boundaries.

Ultimately, an emphasis on transferable capability reinforces a central message of this guidance: sustainability education is not about adding more technical content to an already crowded curriculum. It is about cultivating a sustainability mindset, the capacity to approach problems holistically, recognise interdependencies, and apply professional judgement across economic, social, and environmental contexts. By developing this mindset, educators prepare students to extend their technical expertise into new domains as sustainability standards, regulations, and expectations continue to evolve.

4.5 Lifelong learning as a Professional Necessity

In a sustainability-driven professional environment, lifelong learning is not an optional personal attribute but a core requirement of professional competence. Sustainability-related standards, technologies, governance expectations, and societal priorities are evolving continuously, often faster than formal curricula or professional examinations can be updated. As a result, no initial qualification, however rigorous, can equip graduates with all the technical knowledge they will need over a professional lifetime.

For the CA(SA) of the Future, lifelong learning is therefore best understood not as ongoing content acquisition, but as the capacity to continually engage with unfamiliar frameworks, emerging risks, and evolving forms of accountability. This capacity depends directly on the transferable competencies discussed in Section 4.4, particularly professional judgement, ethical reasoning, integrated thinking, and digital acumen.

From a professional perspective, sustainability amplifies the need for lifelong learning in three important ways:

First, standards and regulatory expectations will continue to change. Sustainability disclosure requirements, assurance standards, tax instruments, and governance codes are developing rapidly and unevenly across jurisdictions. Professionals must be able to interpret new requirements, assess their relevance, and apply them responsibly within organisational contexts. Teaching fixed sustainability content cannot future-proof graduates against this volatility.

Second, sustainability problems are inherently ill-structured. They involve trade-offs across time horizons, stakeholder groups, and forms of value that cannot be resolved through technical rules alone. Lifelong learning in this context relies on the ability to ask the right questions, interrogate assumptions, evaluate evidence, and exercise judgement under uncertainty. These capabilities are cultivated through education that prioritises reasoning and integration over rote application.

Third, professional accountability extends beyond compliance. As discussed in Sections 2 and 3, accountants play a central role in governance through the design, interpretation, and assurance of information systems. When sustainability information is incomplete, contested, or novel, professionals must be able to identify gaps, seek specialist input, and adapt systems and controls accordingly. This requires confidence in one's ability to learn continuously, rather than reliance on predefined templates or checklists.

Lifelong learning in the accounting profession can therefore be understood as a continuum. At entry level, university education lays the foundation by developing conceptual understanding, professional judgement, and "learning-to-learn" capabilities. During training contracts and early professional practice, these capabilities are refined through supervised application, reflection, and exposure to real-world complexity. In mature professional practice, continuing professional development formalises this process, ensuring ongoing relevance and accountability.

The critical implication for accounting education is that lifelong learning cannot be deferred to post-qualification CPD. It must be embedded from the outset through teaching and assessment practices that normalise uncertainty, require integration across disciplines, and encourage reflective engagement with unfamiliar problems. When students are trained primarily to reproduce known answers in stable contexts, lifelong learning becomes rhetoric rather than reality.

In the sustainability context, preparing students for lifelong learning therefore means preparing them to engage confidently with change. This includes developing the ability to interpret evolving standards, to work with new forms of data, to understand the governance implications of sustainability risks and opportunities, and to exercise ethical judgement in the face of competing demands. By focusing on transferable capability rather than content accumulation, accounting education equips future Chartered Accountants to remain competent, credible, and legitimate throughout their professional lives.

4.6 Implications for Accounting Education and Professional Practice

The preceding sections have established that sustainability is not an additional domain to be taught, but a context in which professional judgement, governance, and value creation are exercised. This section therefore does not introduce new competencies or content expectations. Instead, it synthesises what the CA(SA) of the Future competency framework already implies for accounting education and professional practice when sustainability, integrated thinking, transferable skills and lifelong learning are taken seriously.

In particular, this section clarifies how sustainability is embedded across the PVAAs and technical competencies, and how the accountant's role in governance, information systems, and decision-making positions the profession at the centre of sustainability outcomes. The focus is on orientation rather than prescription: on how educators understand their disciplinary role, design learning experiences, and prepare graduates to exercise professional judgement in evolving and uncertain contexts.

4.6.1 Sustainability is Embedded, Not Added

Sustainability is not introduced as an additional domain within the CA(SA) of the Future competency framework. Rather, it is implicitly and explicitly embedded across both technical competencies and the Professional Values, Attitudes, and Acumens (PVAAs). The framework therefore does not position sustainability as a specialist area or a discrete body of knowledge, but as a context in which professional competence is exercised.

Explicitly, sustainability is embedded within the PVAAs that define the professional identity of the CA(SA). These include ethical reasoning and integrity, professional judgement, integrated thinking, relational acumen, and lifelong learning. Together, these attributes frame how accountants are expected to interpret information, evaluate trade-offs, and act in the public interest when confronted with complex economic, social, and environmental challenges.

Implicitly, sustainability is embedded within existing technical competencies. Core accounting skills such as interpretation, measurement, control, assurance, and governance do not change when applied to sustainability-related information. What changes is the context in which they are applied. Whether accountants are working with financial data, sustainability metrics, or integrated information, the underlying professional capacities remain the same.

From this perspective, the competency framework does not expect educators or students to master every sustainability standard, framework, or disclosure requirement. Instead, it expects graduates to be able to apply existing competencies in new and evolving contexts, exercising judgement, scepticism, and ethical reasoning as sustainability expectations continue to develop. This aligns with research emphasising the role of professional accountants in advancing integrated thinking and sustainability-related accountability through the application of established competencies rather than the accumulation of additional technical content (Boharu et al., 2022).

For accounting educators, this distinction is critical. The framework does not require sustainability content to be “added on” to an already crowded curriculum. It requires educators to recognise when sustainability considerations are present and to design learning experiences that make these contexts visible. When students are asked to apply accounting knowledge in situations involving uncertainty, multiple stakeholders, and long-term consequences, sustainability and the PVAAs emerge naturally as part of professional practice.

In this sense, sustainability capability is not built through content expansion, but through contextual application. By foregrounding sustainability as a context rather than a topic, accounting education can remain coherent, manageable, and aligned with the intent of the CA(SA) of the Future framework.

4.6.2 The Role of Disciplines in Governance and Value Creation

Sustainability capability does not sit outside the accounting disciplines, nor does it require the creation of new disciplinary territories. Rather, sustainability is the context within which accounting disciplines already operate, shaping how governance is enacted and how value is created, protected, or eroded over time.

Each accounting discipline contributes in distinct but interrelated ways to governance and decision-making. Collectively, these contributions determine the quality of information on which organisations rely, the credibility of disclosures, and the legitimacy of business decisions in the eyes of stakeholders.

Financial reporting plays a central role in organisational legitimacy and accountability. Through recognition, measurement, and disclosure, it determines how performance and position are communicated to external stakeholders. When applied in sustainability contexts, these same competencies underpin the credibility of integrated and sustainability reporting, ensuring that information is reliable, comparable, and decision-useful. Weaknesses in disclosure or transparency therefore reflect not only sustainability challenges, but failures of core accounting practice.

Management accounting shapes governance through its influence on internal decision-making, trade-offs, and resource allocation. Cost structures, performance indicators, and budgeting processes determine what is prioritised, rewarded, or ignored within organisations. Sustainability-related decisions, such as investments in decarbonisation, workforce development, or supply chain resilience, depend on management accounting systems that can incorporate long-term impacts and non-financial considerations into routine decision processes.

Auditing and assurance underpin trust in both financial and non-financial information. The assurance mindset, characterised by scepticism, evidence-based judgement, and risk assessment, is essential for credible sustainability reporting and governance. As sustainability information becomes more decision-relevant, the assurance function extends beyond verifying final reports to evaluating the robustness of underlying systems, controls, and data governance arrangements.

Taxation influences governance through behavioural incentives and compliance mechanisms. Tax policy shapes organisational behaviour by encouraging or discouraging certain activities, including those related to environmental protection, resource use, and social outcomes. The interpretive and evaluative skills developed in taxation enable Chartered Accountants to assess the sustainability implications of fiscal measures, advise responsibly, and align organisational strategies with evolving regulatory expectations.

Viewed together, these disciplinary contributions highlight a critical point for accounting education: sustainability is not a parallel domain that competes with existing subjects for space in the curriculum. Rather, it is the operating environment within which accounting disciplines are increasingly applied. Poor sustainability outcomes often reflect weaknesses in governance, information systems, controls, decision-making, accountability, and organisational oversight. In this sense, sustainability challenges cannot be separated from the quality and application of accounting expertise itself.

For educators, this framing invites a shift in emphasis. Rather than asking where sustainability can be "added" to a discipline, the more productive question is how each discipline already shapes governance and value creation, and how this role changes when decisions must account for long-term impacts, multiple stakeholders, and systemic risk. Making this connection explicit helps students understand their future professional responsibilities and reinforces the central role of accountants in enabling sustainable and legitimate organisational practice.

4.6.3 Information Systems, and Digital Acumen as Professional Responsibilities

A core professional responsibility of the Chartered Accountant is the preparation and stewardship of decision-useful information in the public interest. In a sustainability context, this responsibility extends beyond financial data to include information that reflects the interconnected economic, social, and environmental dimensions of value creation. Sustainability information therefore does not emerge spontaneously; it is the outcome of deliberate choices about what is measured, how it is controlled, and how it is interpreted.

Integrated thinking depends on integrated data. When sustainability information is fragmented, manually assembled, or disconnected from core accounting systems, governance is weakened and decision-making impaired. The credibility of sustainability disclosures rests on the same foundational principles that underpin financial reporting, including reliability, relevance, comparability, completeness, and verifiability. CAs are uniquely positioned to apply these principles consistently across both financial and non-financial information.

Digital acumen is therefore not an elective capability, but a professional necessity. Accountants must understand how information systems capture, process, and safeguard sustainability-related data, and how internal controls support data integrity and accountability. This includes ensuring clarity of purpose, explicitly linking information to user needs and decision contexts, and establishing governance structures that prevent sustainability information from becoming noise or a vehicle for greenwashing.

Crucially, the accountant's role is not limited to compiling or assuring final reports. It includes contributing to the design and oversight of information systems that enable organisations to identify risks, evaluate trade-offs, and assess performance across multiple capitals. When sustainability information is unreliable, poorly governed, or misaligned with decision-making, this reflects a failure of professional practice rather than a failure of sustainability itself.

For accounting education, this reinforces the need to normalise the use of non-financial information in examples, exercises, and assessments. By doing so, educators help students understand that sustainability-related data is subject to the same standards of rigour, judgement, and accountability as financial information, and that integrated thinking is realised through systems and information, not slogans or reports.

4.6.4 Implications for Teaching and Assessment

If sustainability is understood as a context for professional judgement rather than as additional content, then teaching and assessment must be oriented accordingly. The primary shift is not methodological but epistemic: from certainty to uncertainty, from recall to reasoning, and from isolated tasks to integrated decision-making.

Teaching should therefore normalise uncertainty and complexity, reflecting the conditions under which sustainability-related decisions are made in practice. Students should be required to work with multiple forms of information, financial and non-financial, quantitative and qualitative, and to integrate these in forming defensible judgements. Rather than rewarding the reproduction of known answers, learning activities should emphasise interpretation, justification, and ethical reasoning.

Assessment plays a critical role in reinforcing this orientation. Effective assessment should surface trade-offs across time horizons, stakeholders, and forms of value; require students to interpret incomplete or imperfect information; and situate tasks within governance and accountability contexts. When assessment signals that judgement, integration, and responsibility matter, students are more likely to internalise sustainability as a professional way of thinking rather than as a reporting requirement.

In this way, teaching and assessment become key mechanisms through which transferable capability and lifelong learning are cultivated, preparing graduates to engage responsibly with sustainability challenges throughout their professional lives.

Section 5:
Making Sense of Sustainability: Concepts, Context, and Common Misconceptions

Section Contributors:

Anria van Zyl

Purpose of this section:

The purpose of this section is to support accounting educators by providing a working orientation to sustainability concepts that increasingly shape the professional context in which accountants operate.

It is not:

- intended to develop subject-matter expertise,
- nor to prescribe additional curriculum content.

Rather, this section is designed to help lecturers recognise and situate sustainability-related ideas as they arise naturally within existing accounting topics, examples, and professional discussions.

In an environment where sustainability-related expectations, standards, and terminology continue to evolve, educators are not expected to predict future requirements or master every emerging framework. Instead, the aim is to build sufficient conceptual confidence so that sustainability can be engaged with thoughtfully, critically, and proportionately when it intersects with governance, decision-making, reporting, assurance, and professional judgement.

How to read this section:

This section should be read as a primer for orientation, not as a syllabus or technical manual. It offers a shared language and conceptual grounding to reduce uncertainty and to support consistent interpretation across disciplines. The focus is on sense-making, not coverage.

Readers are encouraged to approach this section with the question:

“What do I need to understand well enough to engage responsibly with sustainability when it arises in my teaching or professional judgement?”

rather than:

“*What additional content must now be taught?*”

5.1 Working Knowledge, Not Mastery

Accounting educators are not expected to become experts in climate science, ecology, or public policy. Their task is not to memorise the intricacies of planetary boundaries, carbon cycles, or energy technologies, but to develop a working knowledge of the sustainability concepts most relevant to the profession. This level of literacy is sufficient to prevent teaching from falling into oversimplification or rote learning, and to ensure that students encounter sustainability as a contested, values-driven field rather than a set of slogans to be memorised.

A narrow or purely technical approach risks producing students who can reproduce the "right" buzzwords, without appreciating the complexities and trade-offs these concepts entail. In practice, this can encourage a compliance mentality or even reinforce the very weaknesses that have made sustainability disclosures prone to greenwashing. Without a basic conceptual grounding, educators may inadvertently reward memorisation over reflection, or frame sustainability as a fixed checklist rather than an ongoing negotiation shaped by context, values, and uncertainty.

Engaging with sustainability in accounting education may therefore feel uncomfortable for some educators. Unlike technical standards, sustainability-related questions are often characterised by uncertainty, incomplete information, contested values, and the absence of a single correct answer. This discomfort is not a sign of inadequate expertise; it reflects the nature of the domain itself. As educators charged with developing responsible business leaders, accountants cannot reasonably expect students to navigate complexity, ambiguity, and ethical tension if educators themselves retreat to certainty, checklists, or fixed solutions. Embracing uncertainty, remaining intellectually curious, and reasoning openly in unfamiliar territory are not optional dispositions; they are core attributes of responsible professional judgement.

The goal of this section is therefore modest but vital. It seeks:

- to equip educators with a conceptual toolkit for recognising why sustainability debates differ across contexts, stakeholders, and time horizons;
- to highlight why sustainability education must prepare students to navigate ambiguity, conflict, and values-based reasoning rather than seek simple solutions; and
- to provide a shared vocabulary and reference point that can be woven into teaching, case studies, and assessments across the accounting curriculum.

This section does not attempt to be comprehensive. Rather, it introduces essential building blocks:

(i) sustainability as a contested and normative concept;
(ii) the distinction between weak and strong sustainability;
(iii) the role of local values and culture;
(iv) the dynamics of wicked problems and polycrises; and
(v) the implications of systemic interconnections.

These ideas are presented as a foundation background knowledge for teaching; they are not intended to impose an additional burden of technical expertise.

Educators who work with these ideas are better able to challenge oversimplified or absolutist student responses, to show how professional judgement must grapple with trade-offs and uncertainty, and to foster a learning environment in which sustainability is treated as a dialogical and reflective practice rather than a static body of facts.

In short, the task is not mastery but literacy: sufficient confidence and conceptual grounding to prevent reductionism and to model the habits of critical engagement, openness, and humility that the profession now demands. Developing working knowledge also strengthens educators' confidence. Rather than fearing that gaps in scientific or technical expertise will undermine their credibility, educators can model the professional stance of being informed without claiming omniscience. This communicates to students that judgement is always provisional, grounded in available evidence and ethical reasoning, and that even experts operate within uncertainty.

Section 5 therefore does not ask educators to master sustainability content or to become technical specialists. It asks them to model the very capabilities the profession now requires: adaptability, reflective judgement, openness to multiple perspectives, and the confidence to engage responsibly with complexity in the public interest.

- *Western, Educated, Industrialised, Rich and Developed*

CSR Priorities in WEIRD* vs African Contexts

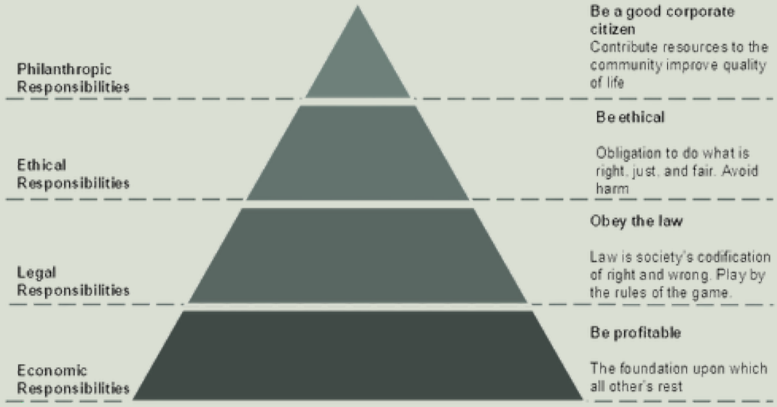
This comparison illustrates why sustainability and responsibility cannot be taught as universal technical concepts, but must be understood as context-dependent and value-laden.

Corporate Social Responsibility (CSR) frameworks are often criticised as superficial or symbolic. Yet in African contexts, CSR has frequently played a substantive role in addressing social and economic needs that extend beyond the capacity of the state (Visser, 2005).

WEIRD Contexts:

Carroll's CSR Pyramid (1991):

Carroll's widely cited CSR Pyramid (shown in figure 3) reflects contexts with strong institutions and enforcement. Economic and legal responsibilities form the foundation, followed by ethical conduct and philanthropy. This ordering assumes effective regulation, comprehensive welfare systems, and clear separation between public and private responsibilities.



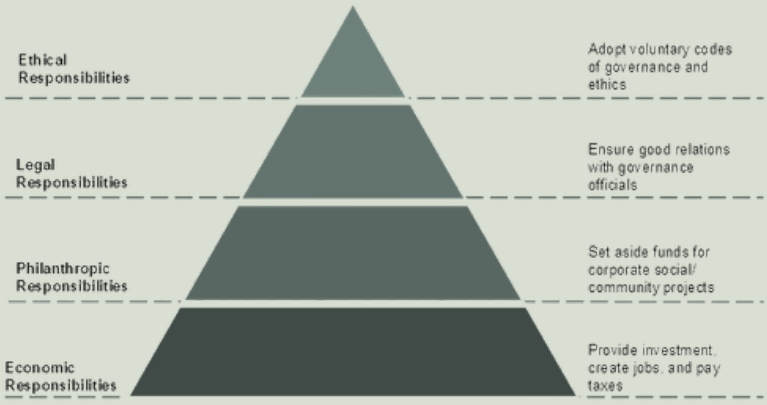
(Adapted from Carroll, 1991)

Figure 3 Carrol's CSR Pyramid

Africa's CSR Pyramid (Visser, 2005):

In many African contexts, the hierarchy looks different, as shown in figure 4. Economic responsibility still dominates, but philanthropy often precedes legal and ethical responsibilities. This reflects practical realities rather than moral deficiency.

- Economic responsibility includes employment creation, inclusion, and local development.
- Philanthropy is often expected, not optional, where firms help fill gaps in education, health, and infrastructure.
- Legal responsibility may carry less weight where enforcement is uneven.
- Ethical responsibility becomes critical, as legitimacy depends on trust, leadership, and relational accountability rather than compliance alone.



(Adapted from Visser, 2005)

Figure 4 Visser's modified CSR Pyramid for Africa

Implications for Governance and Accounting:

These contrasting pyramids demonstrate that sustainability and responsibility cannot be reduced to a universal hierarchy or technical checklist. What counts as "responsible" conduct depends on institutional strength, socio-economic conditions, and community expectations.

For accounting professionals, this has direct implications. Where formal enforcement is weaker, internal governance, ethical leadership, and reliable information systems become critical sources of accountability. Decisions about disclosure, assurance, resource allocation, and performance measurement therefore require contextual judgement, not mechanical application of global models.

Why This Matters for Accounting Education:

For educators, this comparison reinforces why sustainability must be taught as situated, contested, and value-laden. It prepares students to exercise professional judgement across different contexts, rather than assuming that concepts developed in WEIRD economies can be applied unchanged. In this sense, sustainability education is not about teaching a single "correct" model, but about equipping future accountants to reason responsibly about legitimacy, trade-offs, and public value in diverse settings.

5.2 Context Matters: No One-Size-Fits-All Sustainability

Sustainability cannot be reduced to a universal recipe. What counts as a “responsible” or “sustainable” decision depends on local environmental conditions, laws, socio-economic circumstances, cultural values, and developmental priorities. Environmental impacts and dependencies are similarly location-specific; for example, the significance of water use or ecosystem disturbance depends on resource availability, ecological sensitivity, and competing needs. For accounting educators, this means that sustainability must be taught as plural and situated, rather than as a checklist of global best practices or technically “correct” answers.

When organisations communicate sustainability strategies and performance, context is central to how those disclosures are interpreted. A South African company may legitimately prioritise employment security, energy access, or inclusive development in response to entrenched inequality and constitutional imperatives, while a European peer may emphasise efficiency gains, emissions reduction, or low-carbon consumption. Without contextual explanation, disclosures may be misread, and students may learn to treat sustainability as a copy-and-paste exercise rather than a matter of professional judgement.

Context also mediates the relationship between the local and the global. International frameworks and regulatory developments, such as the CSRD or IFRS S2, establish expectations that must be interpreted through national priorities, institutional capacity, and historical constraints. For South African educators, this requires making explicit that global standards are not neutral or value-free; they reflect particular economic histories, governance traditions, and power structures. Teaching sustainability without acknowledging this risks obscuring the judgement required to apply global expectations responsibly in local contexts.

For accounting education, the implication is clear: **sustainability challenges should be presented as context-dependent, contested, and value-laden.** Students need to learn not only what different sustainability strategies look like, but why they differ, and how competing imperatives are balanced in practice. This positions sustainability as an arena requiring interpretation, justification, and ethical reasoning, rather than technical compliance.

In South Africa, sustainability is shaped not only by market pressures and global standards, but also by constitutional and legal obligations rooted in the country's history of inequality and transformation. Constitutional imperatives relating to equality, dignity, and environmental rights are operationalised through legislation such as Broad-Based Black Economic Empowerment (B-BBEE), labour law, and environmental regulation, directly influencing organisational priorities, trade-offs, and disclosures. This makes sustainability debates qualitatively different from those in wealthier economies.

The concepts that follow illustrate why sustainability must be understood and taught in context.

5.2.1 Appreciating Local Values and Culture

Educators should not teach sustainability as culturally neutral or universally agreed, but as inherently value-laden and socially situated. Sustainability cannot be separated from the values, traditions, and lived realities of the communities within which organisations operate.

South African law makes this explicit. The National Environmental Management Act (NEMA) defines the environment broadly to include not only land, water, and ecosystems, but also the social, economic, aesthetic, and cultural conditions that influence human well-being (South Africa, 1998). This understanding is operationalised through Environmental Impact Assessments (EIAs), which require decision-makers to consider social and economic consequences alongside ecological impacts before authorising development activities. Both the Constitution of the Republic of South Africa (1996) and NEMA therefore position community values, culture, and participation as intrinsic to sustainability, rather than as external considerations.

For companies, this has practical consequences. Organisational legitimacy depends not only on regulatory compliance, but also on maintaining a social licence to operate: the ongoing acceptance of activities by affected communities and stakeholders. This licence is relational and fragile, built on trust, procedural fairness, and cultural sensitivity, and can be withdrawn when operations are perceived as unjust, extractive, or dismissive of local concerns (Stuart et al., 2023).

Ethical worldviews further shape what is considered legitimate and responsible. The African philosophy of ubuntu emphasises interdependence, collective responsibility, and obligations to both present and future generations (Metz, 2011). This perspective challenges individualistic and efficiency-driven framings of sustainability that dominate many Western, Educated, Industrialised, Rich, Democratic (WEIRD) contexts (Henrich, Heine & Norenzayan, 2010). Introducing ubuntu alongside global sustainability frameworks enables students to see why sustainability cannot be reduced to a universal template, and why professional judgement must account for plural value systems.

At the same time, not all stakeholder demands are inherently legitimate. The <IR> Framework requires boards to respond to the legitimate and reasonable needs and expectations of stakeholders. This distinction foregrounds professional judgement: assessing which claims protect rights and well-being, and which are opportunistic, incoherent, or incompatible with long-term value creation, is a core governance responsibility.

For accounting education, placing context at the centre of sustainability teaching is therefore essential. It requires moving beyond absolutist or purely metrics-driven approaches and guiding students to analyse the socio-economic, legal, cultural, and community dimensions that shape sustainability debates. This approach also supports curriculum decolonisation by resisting the uncritical transfer of WEIRD models, validating plural knowledge systems, and recognising that sustainability is shaped by history, power, and place. When students are exposed to competing perspectives and ethical trade-offs, sustainability becomes a dialogical and reflective practice rather than a technical exercise.

5.2.2 Weak vs Strong Sustainability

The distinction between weak and strong sustainability is not intended to categorise organisations as “right” or “wrong,” but to help students recognise the assumptions embedded in sustainability claims, strategies, and disclosures. Sustainability is often framed in terms of obligations to future generations, yet there is no consensus on what those obligations entail or how they should be balanced against present needs.

Weak sustainability assumes that different forms of capital (natural, financial, manufactured, human, and social) are broadly substitutable. Under this view, environmental degradation may be considered acceptable if the resulting economic benefits are reinvested in ways that enhance overall societal welfare. For example, the depletion of mineral resources may be justified if extraction revenues fund education, infrastructure, or skills development that benefit future generations.

Strong sustainability, by contrast, rejects the assumption of full substitutability. It holds that certain forms of natural capital are irreplaceable and must be preserved in their own right. Assets such as biodiversity, freshwater systems, and stable ecosystems are viewed as non-negotiable foundations for long-term human well-being. From this perspective, present generations lack the ethical authority to trade off critical ecological assets on behalf of future generations whose needs and values are unknown.

WICKED PROBLEMS AND SUSTAINABILITY

The term wicked problem was introduced by Rittel and Webber (1973) to describe policy challenges that resist definitive solutions. Sustainability challenges are widely recognised as wicked problems because they span social, environmental, and economic domains and are shaped by contested values.

Unlike technical problems, wicked problems:

- **Are ambiguous:** different stakeholders define the problem in different ways;
- **Have no final solution:** interventions reshape the problem rather than resolve it;
- **Involve value conflicts:** competing priorities make consensus difficult;
- **Carry irreversible consequences**: decisions often have long-term and unintended effects.

Challenges such as climate change, energy transitions, poverty, and biodiversity loss exhibit these characteristics. For example, large-scale biofuel production was promoted as a climate mitigation strategy, yet it diverted land from food production, increased fertiliser use, accelerated deforestation, and undermined food security in vulnerable regions. Similarly, dam-based water security may stabilise supply in the short term while displacing communities, degrading ecosystems, and triggering downstream conflict.

For educators and students, wicked problems underscore the limits of checklist thinking and optimal solutions. Professional judgement in sustainability requires humility, deliberation, and engagement with diverse stakeholders. Responses must be provisional, adaptive, and context-sensitive rather than definitive. Learning to reason within this uncertainty is central to sustainability literacy and to the ethical responsibilities of the accounting profession.

The mining sector illustrates this divergence clearly. A weak sustainability perspective may endorse extraction provided that economic benefits are redistributed through community development or national investment. A strong sustainability perspective would argue that some resources should remain unexploited, regardless of potential financial returns, because ecological loss cannot be adequately compensated through other forms of capital.

These distinctions are not merely theoretical. They shape how organisations define sustainability strategies, how regulators design policy, and how accountants and assurance providers evaluate claims of responsible practice. In South Africa, environmental law reflects these tensions through four recurring principles of sustainable development (Glazewski, 2005):

- Intergenerational equity: preservation of natural systems for the benefit of future generations.
- Sustainable use: exploitation of natural resources in a manner that is rational, prudent, and appropriate.
- Intragenerational equity: equitable use of resources within the current generation.
- Integration: embedding environmental considerations into economic and development planning.

Together, these principles underscore that sustainability is not a single calculation but a values-based negotiation. Stakeholders may legitimately disagree on what constitutes responsible action, even when working from the same data.

For accounting education, introducing weak and strong sustainability equips students to understand why sustainability disclosures reflect trade-offs rather than definitive answers, and why professional judgement cannot be reduced to metrics or benchmarks alone. Accounting choices are never neutral; they reflect assumptions about substitution, equity, and responsibility over time. Engaging with this distinction helps students develop the critical capacity to question underlying assumptions and to recognise why sustainability debates are inherently contested.

5.2.3 Developmental Needs of Countries and the Just Transition

The concept of a just transition is not a technical formula or policy slogan. It is a governance and ethical challenge shaped by unequal starting points, competing needs, and difficult trade-offs across time horizons. Much of the discomfort associated with sustainability debates arises from historical realities that have influenced how some countries industrialised rapidly while others remain underdeveloped or resource-constrained. These histories continue to shape not only development pathways but also how stakeholders interpret risk, legitimacy, and value. As a result, sustainability-related decisions and disclosures are read through different social, economic, and cultural lenses, requiring careful navigation rather than technical optimisation. Engaging with this discomfort is therefore intrinsic to professional judgement in sustainability contexts.

Sustainability challenges do not look the same in all countries. In many high-income economies, sustainability is increasingly framed around reducing consumption and advancing circularity, often expressed through the “5Rs” of refuse, reduce, reuse, repurpose or repair, and recycle. These priorities reflect contexts in which citizens already enjoy secure access to infrastructure, healthcare, education, and energy. In such settings, sustainability debates focus largely on shrinking ecological footprints and moderating excess (Noronha, 2025).

By contrast, many developing economies face a fundamentally different dilemma. They must still build the infrastructure and productive capacity required for economic participation, including roads, ports, housing, digital systems, and power grids. Yet pursuing this development through fossil-fuel-dependent or extractive pathways risks intensifying global ecological crises (Aquilas, Ngangnchi & Mbella, 2024). Historically, industrialised economies achieved prosperity through resource-intensive growth and later outsourced environmentally harmful production to the Global South (Goldin, 2016). This legacy has left many low- and middle-income countries carrying a double burden: development catch-up alongside disproportionate environmental impact.

South Africa illustrates this paradox sharply. While the country inherited a relatively strong industrial base and infrastructure, deep inequality, unemployment, and uneven service delivery mean that many citizens still lack reliable access to energy, water, housing, and education. At the same time, South Africa has one of the highest ecological footprints on the continent, driven largely by coal dependency and extractive industries. Sustainability in this context is therefore not only an environmental issue, but a social and developmental one.

The notion of a just transition has emerged in response to these realities. A just transition recognises that climate action cannot be separated from poverty reduction, employment, and social stability. It seeks to integrate decarbonisation with social protection, skills development, and inclusive economic opportunities (PCC, 2022). Without such integration, sustainability transitions risk being "green but unjust," eroding legitimacy, destabilising communities, and entrenching inequality.

For organisations, this has direct implications for governance and disclosure. Sustainability reporting cannot focus solely on emissions trajectories or technological substitution. It must also explain how transition strategies address labour impacts, community resilience, and long-term social wellbeing. These are not ancillary concerns; they are central to legitimacy and trust. For accountants, this means that sustainability information must be prepared and interpreted with an explicit awareness of context, stakeholder expectations, and the social meaning attached to value.

For accounting educators, this section underscores why sustainability cannot be taught as a neutral or purely technical exercise. Students need to grapple with why strategies celebrated as sustainable in Europe or North America may be perceived as unjust or harmful in South Africa. Embedding the just transition into cases, simulations, and assessment tasks makes visible the trade-offs between ecological responsibility and developmental imperatives, and helps cultivate the professional judgement required to navigate them responsibly.

5.2.4 Industries, Inequality and the Company-Level Challenge

Industry context shapes what sustainability risks, costs, and opportunities look like, and therefore what responsible accounting judgement entails at firm level. Not all industries contribute equally to sustainability challenges. Heavy industries such as energy, mining, and manufacturing drive disproportionately large ecological footprints, while service-based sectors often appear less resource-intensive but remain dependent on infrastructure built on extractive foundations. For example, South Africa's coal-dependent energy sector and mining industries are major contributors to the country's high ecological footprint, even as large portions of the population lack secure access to energy, healthcare, or education.

These differences matter directly for accounting practice. Cost structures, performance indicators, capital allocation decisions, and risk management systems must reflect industry-specific sustainability exposures. What is material for a mining company may be peripheral for a financial services firm, and vice versa. Teaching sustainability without attention to industry context therefore risks encouraging generic disclosures rather than informed professional judgement rooted in governance and decision-making.

At the company level, the challenge becomes even more complex. Global frameworks such as the Sustainable Development Goals (SDGs) were designed to track progress at the national and international scale, not to measure the performance of individual firms. It is misleading, for instance, for a company to claim it "delivers SDG 1: No Poverty" in the same way a government would. Corporate actions can contribute to poverty alleviation, but they cannot substitute for systemic social policies. This creates a risk of over-claiming, reputational damage, and greenwashing if firms overstate their contribution to the SDGs.
These firm- and industry-level trade-offs cannot be fully understood without situating them within broader patterns of human development and ecological constraint.

To address this gap, the <IR> Framework provides a more useful tool at company level. By considering effects on the six capitals (financial, manufactured, intellectual, human, social and relationship, and natural), companies can better articulate how their activities contribute to or detract from broader sustainable development outcomes over time. This perspective helps bridge the scale mismatch between global goals and firm-level accountability.

For educators, it provides a pedagogical anchor: teaching students to connect micro-level disclosures with macro-level societal outcomes, and to evaluate not just whether companies "say the right things," but whether their value creation processes meaningfully advance human and ecological wellbeing.

Comparative Indicators: HDI and Ecological Footprint

Why this comparison matters:

When discussing different development pathways, it is useful to compare indicators of human wellbeing with indicators of ecological sustainability. The Human Development Index (HDI) captures how far countries have progressed in meeting basic social thresholds, while the Ecological Footprint (EF) shows whether those achievements have been secured within the Earth's ecological limits.

Read together, these indicators illustrate a central sustainability dilemma: development strategies look different across contexts because countries face different social needs and ecological constraints. Some must reduce environmental overshoot, while others must raise human wellbeing without overshooting in the first place.

Human Development Index (HDI):

The HDI, developed by the United Nations Development Programme, is a composite measure of wellbeing based on three dimensions:

- Health: life expectancy at birth
- Education: expected and mean years of schooling
- Income: gross national income per capita (PPP-adjusted)

High HDI values reflect expanded capabilities and life opportunities, not only material wealth. Low HDI scores signal constraints linked to poverty, limited access to education, and poor health outcomes.

Ecological Footprint (EF):

The Ecological Footprint, developed by the Global Footprint Network, measures the biologically productive land and sea area required to support consumption and absorb waste, particularly carbon emissions. It is expressed in global hectares (gha) and compared with planetary biocapacity.

Currently, global biocapacity is approximately 1.48 gha per person, while average human demand is about 2.65 gha per person, meaning humanity uses the equivalent of 1.8 Earths each year. This overshoot is reflected in Earth Overshoot Day, which in 2025 fell on 24 July.

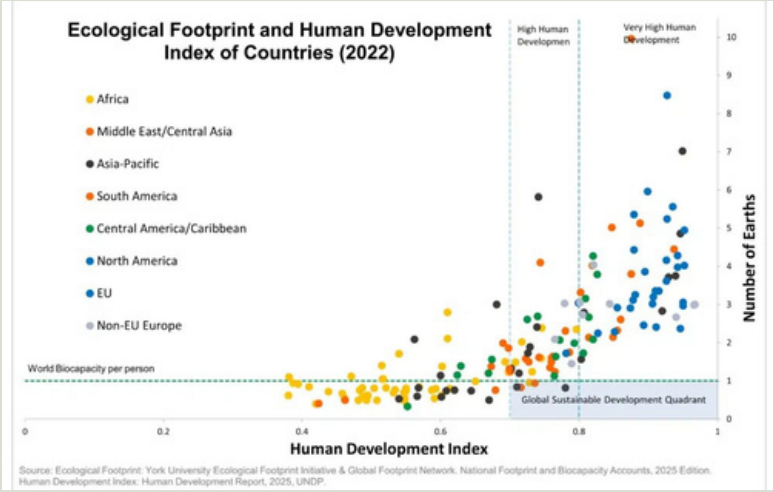
The EF makes visible the gap between current consumption patterns and ecological limits, although it does not fully capture biodiversity loss or ecosystem resilience.

Reading HDI and EF together (see Figure 5):

When HDI and EF are considered jointly, they reveal the tensions at the heart of sustainable development:

- High-income countries often achieve high HDI levels but with large ecological footprints that exceed planetary limits.
- Low-income countries may remain within ecological boundaries but fall short on social thresholds such as health, education, and income.
- South Africa illustrates a hybrid case: a relatively high ecological footprint, driven by coal dependence and extractive industries, alongside stagnating HDI outcomes due to inequality and unemployment.

This comparison shows that ecological overshoot does not guarantee human wellbeing, and that development without regard for ecological limits undermines future prosperity.



(Source: https://www.footprintnetwork.org/our-work/sustainable-development)

Figure 5 The Ecological Footprint and Human Development Index of Countries

Teaching relevance:

For accounting educators, the HDI–EF pairing is a powerful visual and analytical tool. It helps students interrogate sustainability claims, question whether value creation is inclusive and durable, and recognise why professional judgement must balance social thresholds with ecological boundaries rather than optimise a single metric.

5.2.5 Balancing Rights, Needs, and Trade-offs

Balancing sustainability inevitably requires judgements about competing rights, needs, and wants, and these judgements have direct implications for how sustainability is understood and evaluated in professional education. Reasoning, justification, and ethical awareness therefore matter more than the identification of a single "correct" outcome. Sustainability challenges resemble wicked problems rather than technical puzzles: goals are contested, trade-offs unavoidable, and what appears effective in one setting may fail, or even be morally indefensible, in another (Rittel & Webber, 1973). In practice, there are no simple recipes that can be copied and pasted across contexts. Each situation requires deliberation, stakeholder dialogue, and the exercise of professional judgement.

In South Africa, this complexity is not only a matter of policy but also of law. Section 24 of the Constitution explicitly requires "ecologically sustainable development" while simultaneously promoting "justifiable economic and social development" (Constitution of the Republic of South Africa, 1996). This dual mandate obliges decision-makers to weigh competing priorities: protecting ecosystems and planetary integrity, while addressing unemployment, poverty, and inequality. Sustainability is therefore framed as a process of balancing, rather than the pursuit of a single dominant objective.

Crucially, this balancing act often turns on the distinction between rights, needs, and wants, a distinction that is ethically charged and politically sensitive. While human dignity requires access to basic capabilities such as energy, water, housing, healthcare, and education, not all forms of consumption can be defended on the same moral grounds. Decisions about resource use therefore raise uncomfortable questions about whose needs are prioritised, whose lifestyles are protected, and whose claims are constrained. These questions cannot be resolved through accounting techniques alone.

A widely cited principle in sustainability debates is that the planet can support humanity's basic needs, but not unlimited wants. While access to water, energy, housing, healthcare, and education is essential to human dignity, high-consumption lifestyles place demands on ecological systems that cannot be universally replicated. This distinction exposes a central ethical tension in sustainability governance: extending decent living standards to those currently deprived, without normalising patterns of over-consumption that exceed planetary limits. Decisions about resource allocation therefore involve more than efficiency; they require judgement about sufficiency, fairness, and restraint. Such questions are uncomfortable precisely because they challenge deeply held assumptions about entitlement, growth, and progress.

From a governance perspective, such tensions are unavoidable. Boards and executives are routinely required to justify decisions that advantage some stakeholders while disadvantaging others, or that protect short-term livelihoods at the cost of long-term ecological harm. Accounting information plays a central role in these judgements by shaping how trade-offs are framed, quantified, and communicated. The way impacts are measured, aggregated, or excluded influences which rights and needs become visible, and which remain marginalised.

For companies, this legal and ethical framing translates into a responsibility to explain how strategic decisions balance environmental limits with social imperatives. Employment strategies, energy choices, and resource use cannot be justified solely in terms of profitability or efficiency; they must also be defended in relation to justice, legitimacy, and long-term ecological viability. Disclosure, in this sense, becomes an exercise in accountability rather than promotion, requiring organisations to articulate why particular trade-offs are considered acceptable in their specific context.

For educators, the implication is equally important. Students must be guided to recognise that accounting for sustainability is never neutral. It involves judgements about acceptable thresholds, distributional consequences, and intergenerational responsibility. Preparing students for such dilemmas requires learning environments where uncertainty is normalised and ethical tension is openly discussed, rather than avoided.

Taken together, these dimensions, local values and culture, weak and strong sustainability, developmental needs, industry-specific impacts, and the balancing of rights and trade-offs, illustrate why sustainability cannot be reduced to a checklist. As highlighted in the Wicked Problems background box, sustainability challenges are inherently contested, ambiguous, and resistant to definitive solutions. For educators, the task is not to simplify this complexity, but to help students learn how to reason responsibly within it. This contextual grounding provides the foundation for the next step: understanding sustainability as a normative and complex concept.

Needs, Wants and the Uncomfortable Truth

It is widely accepted that the planet can support humanity's basic needs, but not unlimited wants. This distinction lies at the heart of the sustainability challenge. Human development requires access to dignity-enhancing fundamentals such as clean water, energy, food security, housing, education, and opportunities for decent work. Yet the consumption patterns of the wealthiest societies extend far beyond what Earth's ecosystems can regenerate.

This imbalance has long shaped global sustainability debates. In the late twentieth century, environmental crises were often attributed to population growth in poorer regions, while far less attention was paid to unequal consumption. One provocative comparison observed that the average German housecat consumed more resources than the average rural African. The deeper question remains unresolved: who has the legitimacy to define "minimum needs" for present and future generations, particularly when those doing the defining consume far beyond ecological limits?

Hans Rosling's "magic washing machine" illustration captures this tension vividly. He divided the world into four broad income groups: those below the poverty line, those just above it, those above the "wash line" with access to electricity and appliances, and those above the "airline line" whose high-consumption lifestyles drive a disproportionate share of global emissions. Rosling's insight was not that consumption is inherently wrong, but that technologies such as washing machines dramatically improve dignity, health, and opportunity, especially for women. Development aspirations are therefore reasonable and legitimate.

The challenge, then, is not to deny people access to modern living standards, but to reimagine how those standards can be delivered within planetary boundaries. Sustainability, framed in this way, is not a call for universal sacrifice but a governance challenge: expanding wellbeing while transforming production systems, business models, and consumption patterns so that ecological limits are respected.

Incremental behavioural changes still matter, but the greater risk lies in mistaking individual restraint for a sufficient response to structural problems. Sustainability ultimately demands judgement about sufficiency, fairness, and responsibility, rather than simple prescriptions about consumption.

Resources:

Hans Rosling's Ted Talk – The magic washing machine

If the World were a village of 100 people (2022 Edition)

5.3 Sustainability as a Normative and Complex Concept

Sustainability is not a neutral or purely technical term; it is an essentially contested concept. Different actors define it in markedly different ways. Some emphasise maintaining economic growth while reducing environmental harm, others prioritise ecological integrity even at the expense of growth, while still others frame sustainability primarily in terms of social justice and equity (Dobson, 1996; Hopwood, Mellor & O'Brien, 2005). These competing interpretations reflect divergent values, worldviews, and assumptions about what constitutes legitimate development and a good life.

This normative character creates both opportunity and risk for accounting education. On the one hand, sustainability offers a powerful lens through which to develop critical thinking, ethical reasoning, and professional judgement. On the other, it carries the danger of normative scripting if educators present particular value positions as self-evident or beyond debate. When sustainability is taught as a settled doctrine rather than a contested space, students may learn compliance rather than judgement.

For educators, this requires a deliberate shift in orientation. The task is not to shield students from disagreement or controversy, but to help them engage with it responsibly: to ask whose values are at stake, whose interests are prioritised, and which trade-offs are implied. Treating sustainability as a dialogical encounter, rather than a set of correct answers, supports the development of intellectual humility, pluralism, and principled reasoning, capacities that are central to professional accounting practice (see further discussion in Section 8).

This framing lays the foundation for the subsections that follow. To navigate sustainability responsibly, students must understand that:

- social, economic, and ecological systems are dynamic and interconnected, with the potential for tipping points and unintended consequences;
- scientific knowledge evolves, uncertainty is unavoidable, and risk is perceived differently across stakeholders; and
- contested values require deliberation, justification, and dialogue, rather than rote learning or technical optimisation.

Taken together, these insights underscore why sustainability education cannot be reduced to memorising the "right" answers. Instead, it must cultivate reflective professionals who can reason ethically, interpret evidence critically, and exercise judgement in conditions of complexity and ambiguity.

5.3.1 From Systems Thinking to Sustainability (and Integrated) Thinking

Sustainability thinking does not introduce an unfamiliar way of reasoning for Chartered Accountants. At its core, it builds on forms of systems thinking that are already fundamental to sound accounting, assurance, and governance practice. When performed rigorously, accounting work has never been purely transactional or reductionist. It requires an understanding of how activities, processes, incentives, controls, and decisions interact across an organisation and over time.

Systems thinking refers to the recognition that outcomes are shaped not only by individual components, but by the relationships and feedback loops between them (Meadows, 2008). In practice, this means appreciating that interventions in one part of a system often generate effects elsewhere, sometimes with delays or unintended consequences. Feedback loops, non-linear dynamics, and threshold effects are therefore central features of complex organisational and societal challenges.

In professional accounting practice, this way of thinking is already evident. Auditing, when conducted properly, requires tracing transactions through end-to-end business processes, understanding how information flows through systems, and assessing how risks, controls, human behaviour, and governance structures interact. Supply chain analysis, internal control evaluation, risk assessment, and assurance planning all depend on a systemic understanding of the organisation rather than isolated line items or balances. Similarly, effective financial management and strategic decision-making require an appreciation of how operational, financial, regulatory, and behavioural factors reinforce or constrain one another.

Sustainability does not replace this mode of thinking; it extends it. The shift required is not from technical competence to something fundamentally different, but from a narrow system boundary to a broader one. Traditional accounting education has often focused systems thinking primarily on financial outcomes and compliance objectives. Sustainability challenges require professionals to apply the same discipline of systemic analysis beyond the profit and loss statement, to include social, environmental, and long-term value effects.

This extension finds formal expression in the concept of integrated thinking. The <IR> Framework defines integrated thinking as the active consideration of the relationships between an organisation's various operating and functional units and the capitals that the organisation uses or affects. These capitals, financial, manufactured, intellectual, human, social and relationship, and natural, are not independent silos. Decisions affecting one invariably influence others, often across different time horizons.

For example, investments in renewable energy infrastructure may reduce emissions and long-term transition risk, strengthening natural and financial capital. At the same time, they may increase short-term costs, affect energy affordability, alter employment patterns, and create new dependencies in supply chains. A systems-based, integrated perspective makes such trade-offs visible rather than obscured. It also highlights how decisions framed as environmentally beneficial can generate social or distributional consequences that must be acknowledged and governed.

Systems thinking also draws attention to scale and accumulation. Small, repeated decisions, whether related to procurement, energy use, pricing, or data management, can compound into significant systemic effects. Conversely, poorly designed interventions can shift risks rather than resolve them, transferring burdens to vulnerable communities, ecosystems, or future generations. Understanding these dynamics is essential for credible governance, assurance, and disclosure.

For educators, linking systems thinking and integrated thinking provides a powerful pedagogical bridge. It reinforces continuity with existing professional competencies, while clarifying why sustainability cannot be treated as a peripheral topic or a technical add-on. Students should be encouraged to analyse cases in context, considering interdependencies, feedback effects, and trade-offs, as well as the intended and unintended outcomes of value creation processes, rather than focusing solely on compliance with standards or the optimisation of short-term financial metrics.

By framing sustainability thinking as an extension of systems thinking that accountants already practise, educators can position sustainability as a natural evolution of professional judgement. The task is not to abandon rigour, but to apply it consistently across a wider conception of value creation. In doing so, future CAs are better prepared to fulfil their governance responsibilities in a world where financial performance, social outcomes, and ecological limits are increasingly inseparable.

5.3.2 Planetary Boundaries and Tipping Points

Planetary boundaries and tipping points highlight a central reality of sustainability: the Earth system is complex, adaptive, and only partially understood. Tipping points refer to critical thresholds beyond which change becomes self-reinforcing and often difficult, or impossible, to reverse. These dynamics are typically driven by feedback loops, processes where initial changes amplify themselves once certain limits are crossed. Well-documented examples include:

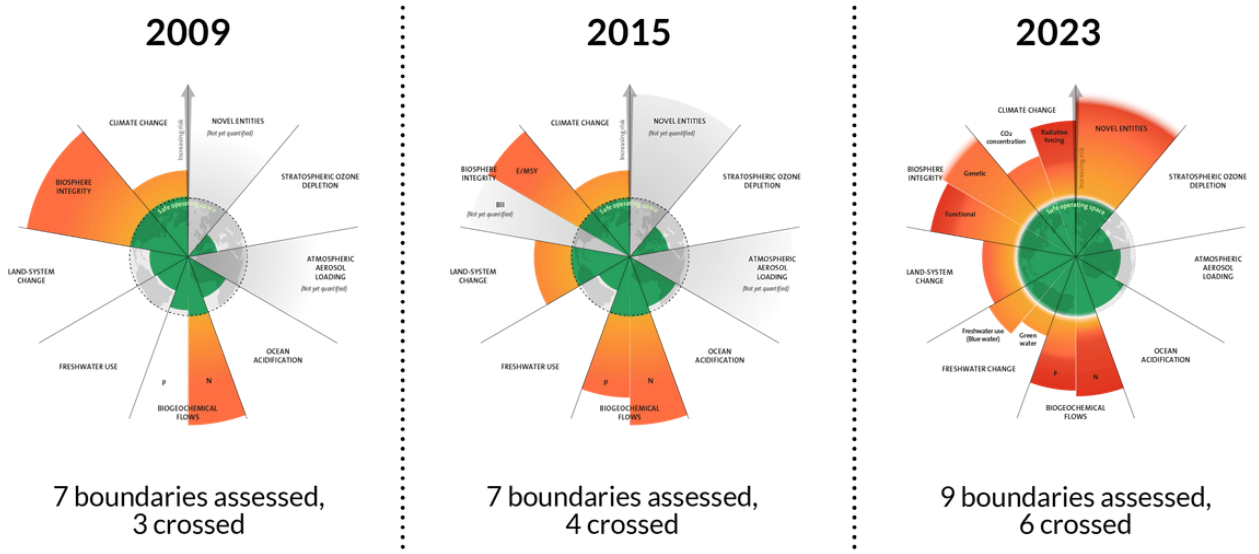
- the Greenland ice sheet melts faster as reduced ice cover lowers reflectivity (the albedo effect), causing greater heat absorption;
- in the Amazon rainforest, deforestation weakens rainfall recycling, increasing fire risk and forest dieback; and
- in the Arctic, thawing permafrost releases methane and carbon dioxide, accelerating further warming (Lenton et al., 2008).

Whether a system reaches a tipping point depends not only on the immediate trigger, but also on the underlying resilience of the system. Resilience refers to the capacity of ecological and social systems to absorb disturbance while retaining core structure and function. It can be eroded gradually through cumulative pressures such as biodiversity loss, land degradation, pollution, or social inequality, leaving systems increasingly vulnerable to sudden shifts. Conversely, resilience can be strengthened through diversity, redundancy, learning, and adaptive governance arrangements that allow systems to respond to change without collapsing (Folke et al., 2010).

The Planetary Boundaries framework provides a way of visualising these risks. It identifies a “safe operating space for humanity” by mapping biophysical limits within which Earth systems have historically remained relatively stable (Rockström et al., 2009; Steffen et al., 2015). Boundaries function as warning lines rather than precise thresholds: crossing them does not guarantee immediate collapse, but it significantly increases the likelihood of destabilising feedbacks and tipping dynamics. Importantly, the framework makes visible why sustainability cannot be reduced to linear cause-and-effect reasoning or managed through isolated interventions.

The 2025 Planetary Health Check indicates that seven of the nine planetary boundaries have now been transgressed: Climate Change, Biosphere Integrity, Biogeochemical Flows (nitrogen and phosphorus), Land-System Change, Freshwater Change, Novel Entities, and Ocean Acidification. Only Stratospheric Ozone Depletion and Atmospheric Aerosol Loading remain within the safe operating space (Planetary Boundaries Science, 2025). Figure 6 illustrates the progression from 2009 to 2023, showing how both the number of boundaries assessed and the number transgressed increased over a relatively short period. The subsequent transgression of Ocean Acidification in 2025 reinforces the continuing direction of this trend.

It can be helpful to frame planetary boundaries as warning lines and tipping points as cliff edges. Staying within boundaries preserves buffers and resilience; crossing them narrows the margin for error and increases the risk that relatively small shocks will trigger large, irreversible changes. The implication for accounting education is not that students should be able to predict or prevent tipping points with precision. Rather, they must understand that many sustainability risks cannot be fully controlled, modelled, or optimised away.



(Credit: Azote for Stockholm Resilience Centre, Stockholm University. Based on Richardson, Steffen, Lucht, Bendtsen, Cornell et al. (2023),Steffen, Richardson, Rockström, Cornell, Fetzer et al. (2015) and Rockström et al. 2009)

Figure 6: The evolution of the planetary boundaries framework.

This perspective calls for humility in professional judgement. In sustainability contexts, confidence in a single "correct" solution or a perfectly mitigated risk is often misplaced. Decisions are made under conditions of incomplete information, long time horizons, and interacting uncertainties. For educators, this means modelling not certainty, but responsible reasoning: demonstrating how professionals weigh evidence, acknowledge limits to knowledge, consider unintended consequences, and remain open to revision as conditions evolve.

For students, the key insight is that sustainability is not about solving discrete problems in isolation, but about maintaining systemic resilience across interconnected social, economic, and ecological domains. Planetary boundaries and tipping points therefore reinforce the need for integrated thinking, ethical awareness, and reflective judgement, capacities that are central to the professional identity of the CA(SA) of the future.

Resources:
www.planetaryhealthcheck.org

5.3.3 The Age of the Polycrisis

Sustainability challenges do not arise in isolation. Increasingly, they interact in ways that amplify risks and produce outcomes more severe than the sum of their parts. This condition is often described as a polycrisis: a situation in which multiple crises become entangled, reinforcing one another across social, economic, environmental, and institutional systems (Lawrence et al., 2023).

In a polycrisis, shocks cascade rather than remain contained. Climate change–induced drought, for example, can reduce agricultural yields, triggering food insecurity. Food insecurity may in turn intensify poverty, migration, and political instability, weakening governance capacity and reducing society's ability to respond to subsequent environmental or economic shocks. The COVID-19 pandemic provided a vivid illustration of this dynamic: what began as a public health emergency rapidly evolved into a global economic, social, educational, and governance crisis, exposing vulnerabilities across supply chains, labour markets, and public institutions. Each disruption magnified the others.

The polycrisis lens is particularly relevant in the South African context, where climate shocks, energy insecurity, unemployment, and inequality intersect. A severe drought does not merely threaten water supply. It can disrupt electricity generation, increase food prices, undermine livelihoods, and exacerbate social tension. Energy shortages constrain economic activity and public service delivery, while high unemployment and inequality reduce household resilience. These compounding effects illustrate why sustainability cannot be approached through isolated interventions or single-issue strategies, but requires systemic and integrated thinking.

For accounting educators, the concept of polycrisis carries two important implications. First, it reinforces the need to prepare students for deep uncertainty. The future will not unfold along stable or predictable trajectories, and professional judgement cannot rely solely on linear projections or historical patterns. Second, it foregrounds resilience and adaptability as central professional capabilities. Students must be encouraged to think beyond short-term efficiency or compliance, and to consider how organisations can remain viable, legitimate, and responsible when multiple risks converge and interact.

It is also useful to distinguish polycrisis from the concept of wicked problems. Wicked problems refer to challenges that are complex, contested, and resistant to definitive solutions; attempts to address them often generate new problems or unintended consequences (Rittel & Webber, 1973). Polycrisis, by contrast, describes the interaction and amplification of multiple systemic risks occurring simultaneously. While wicked problems emphasise ambiguity, value conflicts, and trade-offs, polycrisis emphasises cascading effects across interconnected systems. Together, these concepts highlight why sustainability demands both ethical reasoning and systemic awareness.

For educators, teaching these ideas alongside one another helps students understand that sustainability is shaped not only by contested values, but also by reinforcing crises that exceed the control of any single organisation or discipline. This reinforces a core message of this section: professional competence in sustainability is not about predicting or managing every risk, but about cultivating the judgement, humility, and adaptability required to act responsibly in an increasingly complex and interdependent world.

Resources:

The World Economic Forum's Transformation Maps, provide a useful resource to make sense of the connections between different economies, industries and global issues.

Doughnut Economics

In 2012, Kate Raworth, working with Oxfam, introduced Doughnut Economics as a way of reframing what it means for humanity to thrive in the twenty-first century. The central challenge is deceptively simple: to meet the needs of all people while staying within the ecological limits of the planet.

The model visualises this challenge as a doughnut-shaped space. The inner ring, the social foundation, represents minimum standards required for human dignity, such as access to food, housing, healthcare, education, and political voice. These dimensions draw on internationally agreed social goals, including those reflected in the Sustainable Development Goals (UN, 2015). Falling below this foundation results in social shortfall.

The outer ring, the ecological ceiling, is defined by the planetary boundaries framework (Rockström et al., 2009). Crossing these boundaries risks destabilising Earth's life-support systems through climate change, biodiversity loss, land-system change, and other forms of ecological overshoot. The space between the two rings represents a safe and just operating space for humanity, where social needs are met without breaching planetary limits. The doughnut does not prescribe specific policies or solutions; rather, it provides a diagnostic lens for evaluating whether development pathways are socially inclusive and ecologically viable.

Doughnut Economics website

For business and accounting, the implication is not ideological but practical. Organisations must be able to explain how their strategies, business models, and resource allocations contribute to value creation within these constraints. The design of governance systems, performance metrics, and disclosures plays a central role in determining whether firms support regenerative and distributive outcomes, or whether they reinforce social shortfall and ecological overshoot.

(Source: Raworth, 2012)

Figure 7: A safe and just space for humanity

5.3.4 Uncertainty, Perceived Risk, and the Evolution of Science

Sustainability decisions are rarely taken under conditions of complete knowledge. Scientific understanding evolves over time, and practices once regarded as safe or acceptable may later be recognised as harmful. The historical use of lead in petrol, the proliferation of plastics, and the prolonged underestimation of climate risk all illustrate how ignorance, delay, and overconfidence can impose severe long-term costs (Meadows, 2008; Steffen et al., 2015). These examples underscore a central lesson for sustainability education: certainty is often illusory.

Risk is not only a technical assessment but also a social construct. While expert analyses may conclude that an activity falls within acceptable risk thresholds, stakeholders may interpret the same evidence differently, placing greater weight on precaution, legitimacy, and ethical responsibility. The Brent Spar oil platform controversy of the 1990s illustrates this tension. Technical experts determined that deep-sea disposal was safe and cost-effective, yet public opposition, amplified by Greenpeace's campaign, rejected the plan as irresponsible. Under pressure, Shell dismantled the platform on land. Subsequent analysis suggested that the land-based solution generated greater environmental harm than the original proposal, highlighting how decisions made under uncertainty can produce unintended and counterproductive outcomes.

For educators, this case demonstrates why sustainability risks cannot be taught as purely technical matters. Students must understand that risk is perceived, contested, and negotiated across stakeholders with differing values, priorities, and tolerances for uncertainty. Developing the ability to weigh evidence alongside social legitimacy and ethical considerations is therefore central to professional judgement.

For the accounting profession, this has direct implications for disclosure and governance. Sustainability reporting is not simply about presenting established facts; it also involves communicating assumptions, limitations, and areas of uncertainty in ways that support informed decision-making and trust. Accountants must be able to explain not only what is known, but also what is uncertain, why it matters, and how risks are being managed.

In this context, established principles of environmental governance provide structured ways of acting responsibly under uncertainty, balancing the need for caution with the discipline of evidence-based evaluation:

The Precautionary Principle (Act responsibly under uncertainty):
Codified in NEMA s2(4)(a)(vii), the precautionary principle requires a cautious, risk-aware approach when scientific knowledge is incomplete (Republic of South Africa, 1998; Glazewski, 2005). It shifts the burden of proof toward demonstrating safety and encourages transparent engagement with uncertainty rather than assuming that inaction is neutral. For accountants, this principle reinforces the importance of disclosing uncertainty and risk exposure rather than deferring responsibility.

The Preventive Principle (Stop harm at the source):
NEMA s2(4)(a)(ii) requires pollution and environmental degradation to be avoided where possible, and otherwise minimised and remedied (Republic of South Africa, 1998). Prevention aligns closely with accounting logic: preventing harm is typically more cost-effective and less disruptive than remediation. It emphasises early intervention, sound system design, and robust internal controls.

The Polluter Pays Principle (Ensure costs are fairly allocated):
NEMA s2(4)(p) requires those responsible for environmental harm to bear the costs of prevention and remediation (Republic of South Africa, 1998). South Africa's experience with acid mine drainage on the Witwatersrand illustrates the long-term consequences when these costs are externalised (Glazewski, 2005). For accountants, this principle translates into accurate recognition of environmental liabilities, provisioning, and transparent disclosure of long-term obligations.

Taken together, these principles reinforce a critical message for sustainability education: professional competence does not lie in predicting perfect outcomes, but in exercising informed judgement under

uncertainty. Educators should therefore normal ambiguity, uncertainty, and contestation within sustainability-related teaching and assessment, helping students develop the capacity to reason critically, engage with competing perspectives, and make defensible decisions in contexts where complete certainty is rarely possible.

5.3.4 Critical Thinking and Professional Judgement

Because sustainability is both normative and complex, it cannot be taught as a set of fixed answers. It must instead be approached as a field of contestation in which students encounter competing perspectives, test assumptions, and articulate reasoned positions. A key risk for educators is normative scripting, where personal commitments are presented, implicitly or explicitly, as the only legitimate interpretation. While values inevitably shape teaching, the educational task is not to eliminate values, but to create space for deliberation, challenge, and refinement of judgement. Sustainability education is therefore best framed as a dialogical encounter that sharpens reasoning, nurtures humility, and builds the capacity to act ethically under conditions of uncertainty.

At the same time, future CAs(SA) are not expected to become environmental scientists or climate modellers. Their professional role is different. What is required is an informed appreciation of the complexity and interconnectedness of business within society and the ecological systems on which it depends. Accountants must recognise that boardroom decisions generate effects beyond financial statements, often producing unintended consequences and externalities that shape community wellbeing, ecosystem integrity, and long-term value creation.

This complexity is compounded by persistent dilemmas and paradoxes that confront decision-makers (Nel & Kotze, 2009), including:

- Ethical dilemmas: what should be protected, and at whose expense?
- Efficiency dilemmas: how much is enough, and for whom?
- Effectiveness dilemmas: does an intervention work, and at what cost?
- Equity dilemmas: who benefits, and who bears the burden?
- Liberty dilemmas: when, if ever, should individual freedoms be constrained for collective outcomes?
- Uncertainty dilemmas: how should decisions be made with incomplete knowledge or unproven threats?
- Evaluation dilemmas: how can incommensurable elements be weighed, such as economic growth versus ecological integrity?

Uncertainty is further intensified by knowledge gaps, delayed or synergistic system responses, and divergent value orientations, such as anthropocentrism versus ecocentrism, or growth-centred versus quality-of-life priorities. Decision-making in sustainability contexts is therefore inherently value-laden, requiring the navigation of competing claims and the justification of trade-offs rather than the optimisation of a single objective (Nel & Kotze, 2009).

Sustainability debates are also shaped by narrative power. Governments, regulators, corporations, investors, civil society organisations, and media actors frame sustainability in ways that reflect particular interests and incentives. Dominant narratives, including those promoted by large institutional investors or advisory firms, may advance important conversations while simultaneously serving private agendas. Students therefore need more than technical competence. They must develop the critical judgement to interrogate claims, recognise framing effects, and form defensible professional views.

A credible professional opinion in this domain requires clarity about assumptions, attention to evidence, awareness of trade-offs, and openness to counter-arguments. Educators can support this by embedding habits of critical appraisal, asking who benefits, who pays, who decides, and on what basis; encouraging engagement with diverse sources; scrutinising data boundaries and methodologies; and requiring students to articulate and defend their reasoning. Assessment should reward the quality of reasoning rather than conformity to a predetermined “correct” sustainability position (Gray, 2013).

The aim is to develop graduates who can reason, argue, and act responsibly in the grey zones that define sustainability practice, while anticipating both risks and opportunities for business and society. What is required is not scientific mastery, but the capacity to arrive at a defensible professional judgement, one that can be justified with evidence, articulated with integrity, and revised as new information emerges. This emphasis on student voice and professional judgement links directly to the dialogical education approaches discussed in Sections 8 and 9, where strategies for creating critical, participatory, and reflective learning spaces are explored.

Timeline of Existential Fears: Uncertainty, Risk and Social Response

Existential fears are not unique to climate change; they recur across history in many forms. Some were grounded in emerging scientific evidence, others reflected systemic governance failures, and many were shaped by cultural narratives or speculative concerns. Whether ultimately justified or not, such fears have repeatedly influenced public opinion, policy priorities, and stakeholder expectations. The timeline below is not exhaustive, but illustrates how perceptions of risk, real, exaggerated, or imagined, have continually framed debates about the future.

This timeline intentionally juxtaposes foundational sustainability events, governance failures, speculative fears, and cultural narratives. Its purpose is not to retrospectively judge which concerns were "correct," but to show how uncertainty, incomplete knowledge, and social perception have always shaped collective responses to existential threats. For professional accountants, it highlights that stakeholder inclusivity and legitimacy depend not only on technical risk assessment, but also on the capacity to listen to, interpret, and respond responsibly to diverse stakeholder concerns, rather than dismissing them out of hand.

1859 - Carrington Event
The largest recorded solar storm disrupted telegraphs worldwide. Today a storm of similar scale could cripple satellites, GPS, and global power grids.

1914-18 World War I
First industrial-scale war, mass death, ecological devastation, and the collapse of global order.

1927 - Metropolis
Fritz Lang's silent firm depicted industrial dystopia, class division, and the dehumanising effects of technology

1929-39 The Great Depression
A global economic collapse that showed the fragility of financial systems and sparked fears of long-term decline, unemployment, and social unrest.

1930s - The Dust Bowl
An ecological disaster caused by unsustainable farming practices and drought, reinforcing awareness that human activity can destabilise natural systems and destroy livelihoods at scale

1938 - War of the Worlds
H. G. Wells' novel popularised the alien invasion trope. The 1938 Orson Welles radio adaptation caused real panic, showing how fiction can blur into social fear.

1939 - 45 World War II
Genocide, nuclear weapons, and global mobilisation highlight humanity's destructive capacity and reshape existential imagination.

1948 onwards - Nuclear Annihilation
Hiroshima and Nagasaki, followed by Cold War proliferation, created enduring global dread of atomic destruction.

1949 - Nineteen Eighty-Four
George Orwell's novel crystallised fears of surveillance, propaganda, and totalitarian control - tropes still evoked in debates about digital authoritarianism.

1950s - Alien Paranoia Films
The Day the Earth Stood Still (1951) reflected Cold War fears about infiltration and technology. Later works such as Invasion of the Body Snatchers (1956/1978), 2001: A Space Odyssey (1968), and The X-Files (1990s) kept alien contact as a metaphor for anxiety, control, and mistrust.

1962 - Cuban Missile Crisis
Nuclear war narrowly averted. Cemented "mutually assured destruction" as the dominant existential anxiety of the Cold War era.

1962 - Silent Spring
Rachel Carson's exposé of pesticide harms ignited modern environmentalism and fears of ecological collapse.

1968 - Night of the Silent Dead
Introduced the zombie apocalypse genre as metaphor for contagion, consumerism, and social breakdown. The zombie apocalypse became a Cold War and pandemic-era metaphor for societal collapse.

1970s-1990s Acid Rain
Industrial emissions devastated forests and lakes. Eventually mitigated by sulphur emission controls, demonstrating effective global policy.

1973 - Soylent Green
Dystopian film of overpopulation and resource depletion, in which people are unknowingly fed human remains. Reinvoked today in debates on alternative proteins ("you will eat bugs and be happy").

1984 - The Terminator
Cemented sentient AI and technological rebellion in the global imagination. Recent AGI has revived the debate

1985 - Ozone Hole
Discovery of severe ozone depletion triggered fears of mass cancer and ecosystem collapse. Addressed successfully by the Montreal Protocol.

1986 - Grey Goo Nanotech
The fear that runaway self-replicating nanobots can consume the biosphere. The metaphor took off in media and sci-fi, often as a shorthand for technology-driven extinction.

1990s - Chemtrail Conspiracy
Claims emerged that contrails from aircraft contained chemical/biological agents. Debunked repeatedly but still widely believed. Theories around climate manipulation continue to blend with genuine scientific discussions of geoengineering.

1993 - HAARP Facility Opens
The High-frequency Active Auroral Research Program in Alaska spawned theories about weather manipulation, climate control, and even mind control.

1995 - Outbreak
Hollywood pandemic triller that foreshadowed Ebola, SARS, and COVID-19 anxieties.

1999 - Y2K Bug
Millennium computer glitch feared to crash global systems. Averted by massive pre-emptive coding work, but often remembered as "hype."

2001 - September 11 and the Surveillance State
The 9/11 attacks reframed existential fear around global terrorism and vulnerability to asymmetric threats. In their aftermath, expanded state surveillance (e.g., the Patriot Act, global intelligence sharing) normalised the trade-off between liberty and security, embedding fear of unseen enemies and reinforcing a culture of suspicion.

2004 - The Day After Tomorrow
Popular films such as The Day After Tomorrow dramatized the collapse of the North Atlantic 'conveyor belt' (AMOC), turning a complex climate risk into instant apocalypse and shaping how the public imagines tipping points.

2008 - Global Financial Crisis
Sparked fears of systemic collapse in global finance, exposing fragility of interconnected economies.

2008 - Large Hadron Collider Fears
Lawsuits and headlines warned CERN's LHC might create a black hole and destroy the planet. Thoroughly debunked, but popular enough to delay experiments.

2009- 2012 End TImes
Conflated Mayan calendar "end times," pole-shift theories, and cinematic spectable.

2010 - Stuxnet Cyberweapon
First known malware to cause physical destruction (crippling Iran's nuclear centrifuges). Marked the dawn of cyberwarfare as an existential risk to infrastructure.

2010's "Zombie Wildlife"
Chronic Wasting Disease in deer ("zombie deer"), rabbit papillomavirus ("jackalope horns"), and squirrelpox fed into zombie apocalypse tropes.

2011 - Black Mirror
Dystopian tech anthology highlighting surveillance, AI, and digital dependence. Brought speculative futures into everyday scenarios.

2020 - COVID-19 Pandemic
Demonstrated the global fragility of economies, health systems, and governance under systemic shock.

2020's Climate Change
Interlocking risks — tipping points, teleconnections, droughts, food insecurity, energy crises, political unrest — create the defining systemic challenge of our time.

For responsible business leaders, the lesson is clear: existential fears, whether grounded in evidence, amplified by uncertainty, or shaped by narrative, cannot simply be accepted or dismissed. The presence of uncertainty or disagreement among experts does not negate the seriousness of sustainability risks; rather, it underscores the need for professional judgement that is evidence-informed, reflexive, and attentive to both scientific insight and stakeholder concern. Leaders must therefore critically assess evidence, interrogate dominant narratives, and engage openly with the concerns of diverse stakeholders. This capacity for discernment is essential not only to avoid panic-driven responses, but to support resilient, and forward-looking decision-making. Meaningful stakeholder engagement also central to maintaining trust, identifying emerging risks, and recognising opportunities.

Teaching Toolkit: Teaching Sustainability without False Certainty

This toolkit is not intended to turn accounting educators into sustainability experts, nor to require mastery of environmental science, climate modelling, or public policy. Its purpose is to provide explicit permission and professional grounding for teaching sustainability in a domain where uncertainty, disagreement, and incomplete knowledge are not failures, but defining features.

If sustainability challenges were simple, technically tractable, and supported by clear, uncontested solutions, they would already have been resolved through best practice. The persistence of sustainability problems is precisely what signals their complexity.

You are not expected to be the oracle

Educators are not required to have all the answers, and they should not feel compelled to perform certainty where none exists. Sustainability, like many areas of professional accounting practice, operates under conditions of ambiguity, evolving evidence, and competing values.

Modelling responsible professional judgement includes being able to say:

- "The evidence is still emerging."
- "Experts disagree on this."
- "There is no single correct answer here."

Far from undermining credibility, such statements mirror how accountants already operate when dealing with estimates, provisions, going concern assessments, risk disclosures, and scenario analysis.

Continuity with existing accounting practice

Sustainability does not require a new pedagogical identity. Good accountants already think systemically when:

- auditing supply chains;
- assessing control environments;
- evaluating risk interactions;
- interpreting incomplete or imperfect data;
- exercising professional scepticism.

Teaching sustainability simply extends this reasoning beyond the traditional financial statement to include social and environmental consequences, unintended outcomes, and longer time horizons.

Moving from "having answers" to "facilitating judgement

The educator's role shifts from transmitting solutions to facilitating judgement. This involves:

- encouraging students to surface assumptions;
- asking who benefits, who bears costs, and over what time horizon;
- recognising trade-offs rather than optimising single metrics;
- legitimising multiple defensible interpretations.

Assessment should therefore reward the quality of reasoning, not alignment with a predetermined sustainability position.

Normalising discomfort as professional growth

Discomfort is not a sign of inadequate expertise. It reflects the nature of sustainability as a contested, normative, and complex field. Expecting certainty in such contexts risks producing false confidence rather than sound judgement.

By teaching openly within uncertainty, educators model the intellectual humility, curiosity, and ethical responsibility that the profession now demands of future business leaders.

Preparing for the future

This guidance does not ask educators to advocate particular sustainability outcomes, nor to resolve debates that society itself has not settled. It asks educators to prepare students to engage responsibly with complexity, to reason under uncertainty, and to exercise professional judgement in the public interest.

That is not an expansion of the curriculum.
It is the fulfilment of the profession's mandate.

Educators do not need new case studies to begin. Sustainability questions already arise naturally in standard accounting topics. These conversations require reframing, not additional content.

Perfect case studies are unnecessary and often counterproductive. Existing examples can be extended by asking simple prompts: What information is missing? What assumptions are being made? What trade-offs are visible or hidden? How might another stakeholder interpret this differently?

Uncertainty should be named rather than avoided. Students should be shown that judgement, not memorisation, is being assessed. Modelling professional humility includes asking what additional information would be required to reach a responsible decision, or when expert input is warranted.

Progress can begin through low-stakes experimentation: adding a single reflective question, introducing one prompt on unintended consequences, or allowing students to justify why impacts cannot be quantified.

Educators are not expected to stay ahead of every sustainability development. Learning alongside students is both legitimate and professionally appropriate. Sustainability will not stabilise into a final set of standards or answers.

Waiting for certainty risks irrelevance. Iteration, reflection, and incremental learning are not interim measures; they are the new reality of professional practice in a changing world.

Part 2: Operationalising Sustainability For Accounting Learning, Teaching and Assessment

Purpose of Part 2:

Part 2 builds on the conceptual foundations established in Sections 1–5 by focusing on how sustainability can be operationalised within accounting learning, teaching, and assessment practices that are already familiar to accounting educators.

Rather than introducing sustainability as a separate content area, this part demonstrates how sustainability capability is developed through how accounting is taught, assessed, and discussed. Integrated thinking, ethical reasoning, professional judgement, and long-term value creation are treated not as additional topics, but as orientations that reshape existing pedagogical choices across modules and levels.

The emphasis throughout is on normalisation rather than expansion. Sustainability is embedded by reframing familiar accounting concepts, learning activities, assessments, and feedback processes, without adding curriculum content or displacing technical rigour.

How to Read Part 2:

Sections 6–9 are designed to be read as a connected sequence that moves from conceptual reframing to pedagogical implementation:

- Section 6 reframes value creation and the six capitals as practical gateways to integrated thinking and sustainability reasoning in accounting education.
- Section 7 demonstrates how stakeholder engagement and ethical risk management function as core governance capabilities and powerful pedagogical entry points for sustainability and professional judgement.
- Section 8 establishes the pedagogical orientation required for sustainability education, emphasising learning through dialogue, conflict, discomfort, and critical reflection.
- Section 9 translates these pedagogical commitments into concrete teaching, assessment, feedback, and digital design choices that can be adopted incrementally across accounting curricula.

Read together, these sections show that sustainability capability is not developed through content addition, but through intentional alignment between learning conditions, assessment design, feedback practices, and professional identity formation.

Key Takeaway:

Part 2 shows how sustainability can be embedded into accounting education by reframing familiar topics and teaching practices to foreground judgement, ethics, and integrated thinking, without expanding content or redesigning curricula.

Section 6:
Value Creation and Six Capitals as Gateways to Integrated and Sustainability Thinking

Section Contributors:

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How to read this section:

This section positions value creation and the six capitals as a gateway to integrated thinking and sustainability reasoning in accounting education. This section assumes a working familiarity with integrated reports as narrative governance documents, rather than as compliance artefacts or disclosure checklists.

In the King V governance frameworks, value creation is explicitly defined as a multi-stakeholder, sustainability-oriented outcome. Organisations are expected to explain how their strategies, business models, and decisions create, preserve, or erode value across financial, social, and environmental dimensions, over the short, medium, and long term. Integrated reporting is the mechanism through which this governance story is communicated. It does not redefine value creation; it makes it visible, coherent, and accountable.

Crucially, the core elements underpinning this approach are already embedded in the CA(SA) Competency Framework and are already taught across accounting disciplines. Business models, performance measurement, risk management, stakeholder engagement, materiality, and accountability are not new topics. What has changed is the context in which they must now be understood and applied.

The shift required is therefore one of emphasis, not content expansion. Concepts that have traditionally been treated as financially self-contained must now be used as lenses for analysing dependencies, trade-offs, unintended consequences, and long-term resilience. Value creation can no longer be assessed solely through short-term financial outcomes; it must be evaluated in relation to the condition and availability of the capitals on which organisations and societies depend.

Purpose and scope of this section:

This section does not introduce sustainability as an additional subject area. Instead, it shows how:

- the value creation process,
- the six capitals, and
- stakeholder-inclusive governance

already provide practical, low-friction entry points for embedding sustainability thinking into learning, teaching, and assessment across all accounting modules.

The section is designed to be read as a conceptual scaffold, not a technical manual. It explains:

- how value creation is understood in contemporary governance frameworks;
- why trade-offs and tensions are unavoidable;
- how integrated thinking translates systems awareness into professional judgement; and
- how these ideas can be used pedagogically without adding curriculum overload.

Readers are encouraged to approach this section reflectively, asking whether familiar ways of framing value remain sufficient in a context where governance, sustainability, and long-term resilience are increasingly intertwined. Start by asking:

- Where is value already discussed in my module?
- Which capitals are implicitly prioritised or ignored?
- How might existing examples be reframed to surface trade-offs, dependencies, or long-term consequences?

The teaching toolkit at the end of the section consolidates these ideas into adaptable classroom prompts and assessment cues.

6.1 Value Creation as the Core of Sustainability and Governance

Value creation lies at the heart of sustainability thinking, integrated thinking, and contemporary governance. It is not a neutral or purely technical concept, nor is it limited to financial performance. Rather, it reflects how organisations generate, preserve, or erode value over time for themselves, for society, and for the natural systems on which they depend.

The International <IR> Framework defines value creation as "the process that results in increases, decreases, or transformations of the capitals caused by the organisation's business activities and outputs" (IIRC, 2021). Crucially, this definition makes explicit that value creation is dynamic and multidimensional: organisational activities can simultaneously create value in some areas while eroding it in others. Value is therefore not guaranteed, linear, or universally positive.

King V positions value creation even more explicitly as a governance outcome. It states that organisations exist "not only to make a profit, but to create value in a sustainable manner" over the short, medium, and long term (IoDSA, 2025). In this framing, value creation is inseparable from ethical leadership, stakeholder inclusivity, and accountability within the broader context of society and the environment. Governance is judged not only by compliance with rules, but by whether decision-making contributes to sustainable value rather than short-term extraction.

Together, these framings establish several critical implications for accounting education. First, value creation must be understood in both financial and non-financial terms. Financial returns remain important, but they are neither sufficient nor decisive indicators of sustainable performance. Second, value creation cannot be evaluated solely from the perspective of capital providers. Different stakeholders experience value differently, and governance requires balancing legitimate and reasonable needs across groups. Third, value creation must be assessed over time. Actions that appear beneficial in the short term may undermine resilience, legitimacy, or ecological integrity in the long term.

This understanding of value creation aligns directly with sustainability thinking. Sustainability is concerned not only with whether organisations survive financially, but with whether their activities contribute to economic viability, social wellbeing, and environmental integrity across generations. Value creation, in this sense, becomes the practical expression of sustainability in organisational decision-making. It is where abstract commitments to sustainability are translated into choices about strategy, resource allocation, performance measurement, and accountability.

For educators, this framing is particularly important. Students often encounter value creation implicitly, through discussions of profitability, efficiency, or shareholder returns. Section 6 reframes value creation explicitly as a sustainability concept: one that requires attention to multiple forms of value, multiple stakeholders, and multiple time horizons. Doing so creates a natural bridge between accounting disciplines and sustainability, without requiring the addition of new subject matter.

Reader orientation:

Before proceeding, an important clarification is required. Value creation is already explicitly embedded in the CA of the Future competency framework, particularly through its emphasis on governance, integrated thinking, business models, strategy and risk management. The argument in this section is therefore not that value creation should be introduced as a new or discrete topic in accounting curricula.

Rather, the case advanced here is that value creation should be treated as a foundational, cross-cutting concept that informs how existing topics are taught across modules. Value creation is already present in financial reporting, management accounting, auditing, assurance, taxation, and governance, but it is often addressed implicitly, narrowly, or primarily through a short-term financial lens. Making value creation explicit allows educators to surface sustainability considerations that are already embedded in professional judgement, risk assessment, performance evaluation, and disclosure.

The sections that follow therefore do not prescribe additional technical content or reporting frameworks. Instead, they provide conceptual lenses that help educators and students connect existing accounting knowledge to broader questions of sustainability, trade-offs, and long-term impact. Framed this way, value creation becomes a unifying pedagogical anchor rather than an add-on, reinforcing continuity with current professional competencies while expanding their relevance in a changing economic, social, and environmental context.

6.2 Perspectives on Value Creation

Traditional accounting education has often treated value creation as synonymous with financial performance: profitability, returns to investors, and growth in shareholder wealth. While these measures remain important, they are no longer sufficient to explain how organisations create, preserve, or erode value over time. Contemporary governance and reporting frameworks therefore require a broader and more nuanced understanding of value creation, one that explicitly recognises outcomes beyond profit.

Both King V and the <IR> Framework make this shift explicit. Value creation is not defined solely by financial surplus, but by the effects of organisational activities on multiple forms of capital, across different stakeholders and time horizons. This reframing moves attention away from isolated outputs or short-term gains and towards outcomes: the real-world consequences, intended and unintended, of business decisions. Several complementary perspectives help unpack this broader conception of value creation:

6.2.1 From Financial Outputs to Multi-Capital Outcomes

The six capitals framework provides a structured way of understanding value creation as a multi-dimensional process. Financial and manufactured capital remain central, but they are inseparable from intellectual, human, social and relationship, and natural capital. Decisions that improve one capital may simultaneously weaken another. For example, cost reductions achieved through workforce casualisation may improve short-term financial outcomes while eroding human capital, trust, and long-term organisational resilience.

For teaching, this perspective helps students recognise that value creation cannot be inferred from financial results alone. It requires examining how outcomes are distributed across capitals and whether apparent success in one dimension conceals deterioration elsewhere.

6.2.2 From Shareholder Returns to Stakeholder Outcomes

King V explicitly adopts a stakeholder-inclusive approach to value creation. Organisations are expected to consider the legitimate and reasonable needs of stakeholders, not as an act of benevolence, but as a governance imperative linked to sustainability and legitimacy. Value is therefore experienced differently by different groups: what constitutes value for investors may not align with what constitutes value for employees, communities, regulators, or future generations.

This perspective challenges the assumption that trade-offs can always be resolved through market signals or financial optimisation. It also reinforces that sustainability-related conflicts are not signs of failure, but inherent features of value creation in complex social systems.

6.2.3 From Activities to Outcomes and Externalities

A critical distinction in sustainability thinking is between activities, outputs, and outcomes. Organisations often report extensively on what they do, policies adopted, initiatives launched, investments made, without adequately accounting for the outcomes that follow. Value creation, however, is realised not at the level of intent, but at the level of effect.

Outcomes include not only benefits, but also negative externalities and unintended consequences. Environmental degradation, community displacement, health impacts, or systemic risk may emerge indirectly from otherwise rational business decisions. Accounting for value creation therefore requires attention to what is produced, who bears the costs, and over what timeframe.

These considerations may also extend beyond an organisation's direct operational boundaries. Sustainability-related impacts, risks and dependencies may arise upstream or downstream in the value chain through suppliers, customers, communities, infrastructure providers, or natural systems. An organisation may therefore be connected to impacts that occur outside its own operations, while also depending on resources, relationships and systems over which it has limited direct control. Understanding value creation requires consideration of these wider relationships, including where an organisation can exercise control, where it can exert influence, and where managing shared risks and opportunities requires engagement or collaboration

6.2.4 From Strategic Intent to Resource Reality

A further critical perspective on value creation concerns the availability, quality, and resilience of the resources required to execute strategy. Strategies do not succeed or fail in abstraction; they depend on access to reliable financial, human, social, manufactured, intellectual, and natural capital. When these resources are degraded, constrained, or contested, even well-designed strategies become unviable.

This perspective highlights that value creation is not only about what organisations aim to achieve, but about whether the capital base required to deliver those outcomes is being preserved or depleted over time. For example, aggressive growth strategies may rely on scarce water, stressed energy systems, fragile community relationships, or highly specialised skills. If these capitals are eroded faster than they are replenished, apparent short-term value creation masks long-term value destruction.
From a governance standpoint, this reframes sustainability risk as a strategic feasibility risk rather than an external moral concern. Decisions that undermine workforce capability, social licence, ecosystem stability, or infrastructure reliability directly constrain future strategic options. In this sense, sustainability is inseparable from prudent resource stewardship and long-term organisational viability.

For teaching, this perspective provides a powerful analytical lens. Students can be asked not only whether a strategy is profitable, but whether it is resource-realistic: What capitals does the strategy depend on? Are those capitals stable, degrading, or contested? What happens to strategic outcomes if resource availability changes? Such questions make visible how value can be gradually eroded through the silent depletion of enabling resources, even when short-term financial indicators appear strong.

6.2.5 From Static Performance to Dynamic Value Creation Over Time

Value creation is inherently dynamic. Short-term improvements may undermine long-term viability, while investments that appear costly in the present may strengthen resilience and legitimacy over time. Both King V and the <IR> Framework emphasise the need to evaluate value creation across the short, medium, and long term, recognising that sustainability is inseparable from temporal trade-offs.

For students, this perspective disrupts the notion of a single “correct” answer. It highlights why professional judgement is required to balance present performance against future risk, opportunity, and obligation.

6.2.6 Pedagogical significance

Taken together, these perspectives reposition value creation as a contested, outcome-focused, and judgement-driven concept, rather than a purely technical monetary calculation. They provide educators with a coherent way to integrate sustainability into existing topics by asking different questions of familiar material: What outcomes are being created? Across which capitals? For whom? At what cost? And over what time horizon?

These perspectives also set the foundation for the next section, where the inevitability of trade-offs in value creation is examined explicitly.

6.3 The Six Capitals as the Resource Base of Value Creation

Both the <IR> Framework and King V emphasise that value creation is best understood through the lens of the six capitals. The capitals translate the abstract notion of “value” into tangible categories of resources and relationships that organisations draw upon, transform, and affect.

Crucially, not all capitals are owned or controlled by the organisation. Many are provided or sustained by society and the natural environment, often without direct compensation.
For example:

- Public goods and infrastructure (such as roads, rail networks, electricity grids, and digital infrastructure) are collectively funded yet enable private business activity.
- Human capital is developed through public education, healthcare, and social systems long before individuals enter employment.
- Natural capital is sustained through ecosystem services such as clean water, pollination, carbon sequestration, and climate regulation, which underpin economic activity but are rarely priced explicitly.

Recognising these dependencies makes visible that organisations operate within shared systems of value. Value creation is therefore not solely an internal managerial process, but a social and ecological exchange that relies on resources and relationships beyond the firm's boundaries.

Each capital, when increased, can contribute to organisational value. However, value creation is rarely neutral. It often involves additionalities (positive spillovers beyond the organisation, such as community skills development arising from employee training) and externalities (uncompensated costs imposed on society or the environment, such as pollution, congestion, or ecosystem degradation).

In practice, increases in one capital frequently entail pressure on another. Business decisions therefore require directors, owners, and management to consider the combined effects across all six capitals and to adjust strategy accordingly. For example, investment in renewable energy infrastructure may strengthen natural capital and social legitimacy, while reducing financial capital in the short term through high upfront costs.

The Tragedy of the Commons

Many forms of manufactured and natural capital function as shared resources. Roads, ports, and electricity grids are collectively funded and maintained, while air, water, and biodiversity are common goods that underpin all economic activity. Even where one organisation invests responsibly in maintaining these resources, others may overuse or degrade them, creating collective risks. This dynamic is commonly described as the tragedy of the commons (Hardin, 1968).

Importantly, commons degradation is not inevitable. It reflects failures of coordination, governance, and accountability. For organisations, this means that value creation depends not only on internal management, but also on the quality of shared systems shaped by the actions of multiple actors. Recognising this dependency reinforces the importance of governance, collaboration, and transparent reporting in sustaining the capitals on which long-term value creation relies.

This perspective makes clear that maximising financial capital alone is no longer the sole, or even primary, objective of responsible governance. Sustainability depends on maintaining a balanced set of capital outcomes over time, amplifying additionalities while mitigating externalities and capital erosion.

Taken together, the six capitals provide more than a reporting framework. They offer a disciplined way to examine how organisations interact with the economy, society, and the natural environment, highlighting both dependencies and responsibilities. The following subsection outlines each capital in turn, showing how it contributes to sustainable value creation.

6.3.1 The Six Capitals Defined

It is also important to note that the classification of capitals is not as rigid or standardised as in financial statements. Organisations may group, rename, or interpret capitals differently depending on their industry, context, and strategy, and this flexibility is intentional. The purpose of the six capitals framework is not uniform disclosure, but integrated thinking about the full range of resources and relationships that underpin sustainable value creation. Likewise, organisations are not required to disclose all six capitals if certain capitals are not relevant or material to their business model.

Financial capital
Refers to the funds available to an organisation, obtained through debt, equity, or retained earnings. It enables investment, payment for services, and continuity of operations. While essential, decisions that maximise financial capital in the short term may undermine other capitals, highlighting the importance of considering externalities and long-term resilience.

Manufactured capital
Comprises the physical objects and infrastructure used in production or service delivery. This includes assets owned or leased by the organisation, as well as infrastructure provided by society, such as roads, ports, or energy grids. Investment in manufactured capital can enhance efficiency and resilience, while under-maintenance or short-term cost-cutting may erode long-term value.

Intellectual capital
Captures the organisation's intangible, knowledge-based assets, including intellectual property, systems, processes, data, software, and organisational know-how. Much intellectual capital is not recognised under IAS 38, yet it is central to innovation and competitiveness. Under-investment risks stagnation, while knowledge spillovers often generate benefits beyond the firm.

Human capital
Refers to the competencies, capabilities, experience, and motivation of people within the organisation. Investment in human capital strengthens organisational capacity and contributes to wider societal benefit, as skills are transferable across roles and industries. Practices that erode wellbeing, such as burnout or unsafe working conditions, impose costs on employees, families, and public systems.

Social and relationship capital
Encompasses the networks of trust, legitimacy, shared norms, and stakeholder relationships on which organisations depend. This includes relationships with customers, suppliers, regulators, communities, and institutions. Strong social and relationship capital enhances resilience and legitimacy, while ethical failures or reputational damage can rapidly erode it.

Natural capital
Includes environmental resources and ecosystem services that underpin economic activity, ranging from renewable and non-renewable resources (such as water, minerals, forests, and biodiversity) to regulating services like carbon sequestration, pollination, and climate stability. Unsustainable use externalises costs to society and future generations, while stewardship can generate positive additionalities, including legitimacy, risk reduction, and long-term value preservation.

6.3.2 Assessing Resource Quality, Availability, and Strategic Viability

Value creation is constrained not only by strategy, but by the quality and availability of the capitals on which organisations depend. The six capitals framework highlights that businesses operate within social, ecological, and institutional systems whose capacity to support value creation is finite and uneven.

Capitals are dynamic rather than fixed. Natural capital can be degraded, human capital strengthened or exhausted, and social and relationship capital built or eroded through governance choices. These changes directly affect whether value creation remains viable over time.

This shifts attention from isolated performance outcomes to the durability of the resource base underpinning strategy. Business models that rely on declining capital quality may appear successful in the short term but undermine resilience and long-term viability.

Integrated thinking therefore requires organisations to recognise their dependence on multiple capitals and to consider whether those capitals are being maintained or depleted. Strategic decisions must account for resource constraints, not only financial feasibility.

For educators, this perspective reinforces continuity with existing accounting competencies. Students already assess asset quality, capacity limits, and risk in financial and management contexts. Extending this logic to human, social, and natural capitals broadens analysis without adding new technical content.

6.4 The Value Creation Process and Integrated Thinking in Practice

Value creation is not merely an abstract aspiration, but a process that can be analysed, governed, and communicated. The <IR> Framework conceptualises this through its value creation model, which explains how organisations use and affect multiple capitals over the short, medium, and long term. This perspective is central to integrated thinking and provides a practical foundation for embedding sustainability across the accounting curriculum.

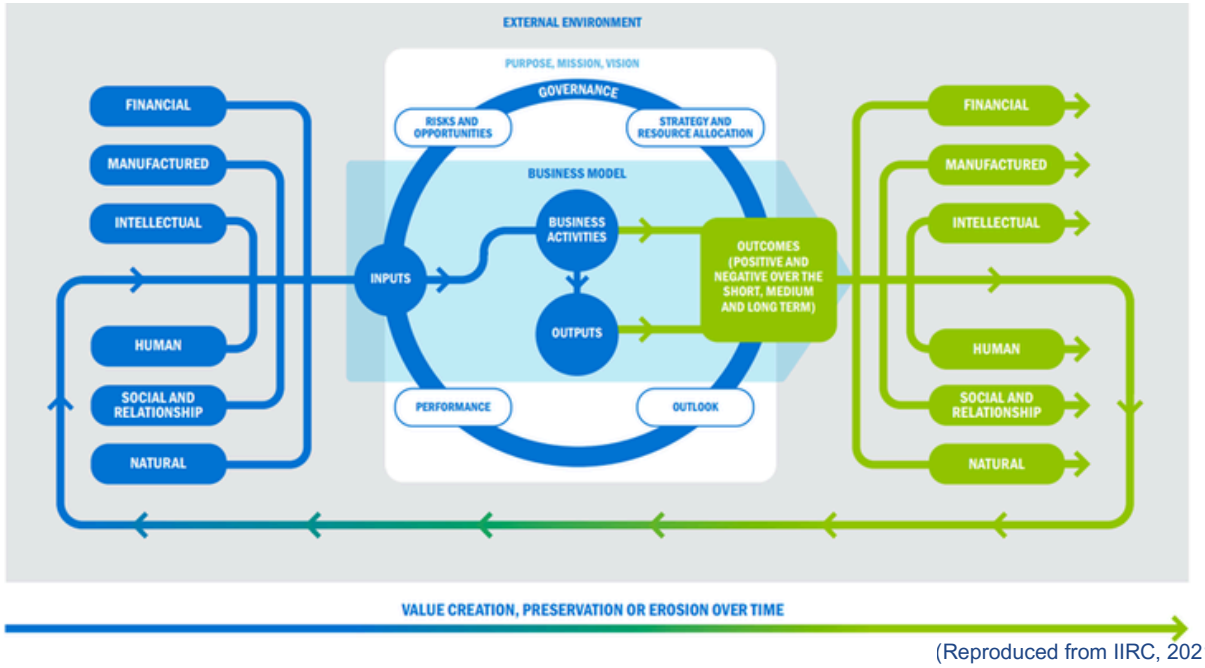
At its core, the value creation model illustrates how an organisation's business model, operating within a specific external environment, draws on and affects the six interconnected capitals. Organisational activities do not simply generate financial results; they also produce outcomes that increase, decrease, or transform these capitals, often in uneven and unintended ways. Some effects are internal to the organisation, while others accrue to stakeholders and society more broadly.

Figure 8 reproduces the value creation process as presented in the <IR> Framework. It highlights three features that are critical for professional judgement:

Connectivity: Value is created through interdependencies. Changes in one capital affect others, and outcomes emerge from the interaction between organisational activities, stakeholder relationships, and the external environment.

Flows of value: Value creation includes both positive and negative movements in capitals. Growth in financial capital may coincide with depletion of natural capital, erosion of trust, or long-term human capital risks. Integrated thinking requires recognising and explaining these trade-offs, rather than obscuring them.

Time horizons: Outputs are immediate, but outcomes unfold over time. Integrated thinking therefore requires decision-makers to consider whether short-term gains compromise medium- or long-term resilience.



(Reproduced from IIRC, 2021)

Figure 8: The Value Creation Process

In South Africa, this model is often colloquially referred to as "Ollie the Octopus" (IRC of SA), reflecting the multiple connections radiating from organisational activity into society and the environment. While informal, the metaphor usefully reinforces that value creation is inherently relational and systemic, not linear or siloed.

Crucially, this framework is explicitly multi-stakeholder. Both the <IR> Framework and King V emphasise that organisations create value for themselves and for others, and that governing bodies are accountable for balancing the legitimate and reasonable needs of stakeholders in pursuit of sustainable value creation. Integrated reporting is therefore not a communication tool aimed solely at investors, but a governance mechanism through which organisations explain how their strategies, risks, and resource dependencies affect value over time.

From an educational perspective, the value creation process provides low-threshold, high-impact entry points for embedding sustainability into existing teaching. It aligns naturally with:

- management accounting discussions of resource allocation and performance;
- auditing and assurance considerations of completeness, balance, and credibility;
- financial reporting debates around materiality, boundaries, and disclosure;
- risk management and governance discussions concerning stakeholder relationships and long-term viability.

Rather than introducing sustainability as an additional topic, the value creation process invites educators to reframe familiar content. Students can be asked not only whether value is created, but for whom, through which capitals, at what cost, and over what time horizon. In doing so, sustainability becomes visible as an inherent feature of professional judgement, not an external overlay.

By grounding sustainability in the value creation process and integrated thinking already embedded in professional frameworks, this section reinforces a central message of this guidance: educators are not being asked to add new content, but to teach existing content differently. Integrated thinking simply makes explicit what good accounting, governance, and professional judgement have always required, attention to context, consequences, and the long-term stewardship of value.

The SDG's and Value Creation

The United Nations Sustainable Development Goals (SDGs) provide a globally recognised articulation of sustainable development outcomes. While the <IR> Framework focuses on how organisations create value through the six capitals, many organisations use the SDGs to contextualise what that value creation contributes to at a societal level.

The distinction is important:

- The six capitals describe the resources and relationships an organisation uses, affects, and transforms.
- The SDGs articulate the social and environmental outcomes that societies collectively seek to achieve.

When used appropriately, linking value creation to the SDGs helps organisations explain how their activities contribute, positively or negatively, to broader development priorities, without implying that firms can "deliver" the SDGs on their own.

For example:

- Investment in clean technology → affects Natural Capital, contributing to SDG 13: Climate Action.
- Skills development → strengthens Human Capital, contributing to SDG 8: Decent Work and Economic Growth.
- Building community trust → enhances Social and Relationship Capital, contributing to SDG 16: Peace, Justice, and Strong Institutions.

This relationship is often illustrated using the SDG "wedding cake" model shown in Figure 9. This model illustrates that:

- The biosphere (SDGs 6, 13, 14, 15) underpins all economic and social activity.
- Society (SDGs 1–5, 7, 11, 16) depends on a stable biosphere.
- The economy (SDGs 8–10, 12) rests on both.

The model reinforces a core sustainability insight: economic value creation is contingent on social wellbeing, which in turn depends on ecological stability.

(Credit: Azote for Stockholm Resilience Centre, Stockholm University CC BY-ND 3.0. Based on Rockström & Sukhdev, 2016)

Figure 9: The SDG Wedding Cake Model

Teaching tip:
Ask students to map a single business decision onto both the six capitals and the relevant SDGs. This helps them distinguish value creation processes from societal outcomes, and avoids treating the SDGs as a branding exercise.

6.5 Trade-Offs, Tensions and the Limits of Optimisation

While the aim of integrated thinking is to create value across all six capitals, in practice this is rarely fully achievable. Trade-offs are inevitable: strengthening one capital often comes at the expense of another. For example, investment in staff training enhances human capital but may temporarily reduce financial capital through direct costs and lost productivity. Both the <IR> Framework and King V explicitly acknowledge this reality. King V, in particular, emphasises that governing bodies must balance competing stakeholder interests across the economy, society, and the environment, and be transparent about the basis for their decisions. Trade-offs therefore sit at the heart of governance and sustainable value creation.

Those charged with governance are required to assess the outcomes of business activities and identify the trade-offs that have occurred, or are likely to occur, across the value creation process. This assessment must also consider risks associated with inputs, activities, outputs, and outcomes. Not all risks require active management; however, those deemed material to the organisation or to key stakeholders must be addressed and discussed in the <IR>.

Here, the concept of double materiality becomes critical. What is considered material depends on the lens applied:

- Financial materiality focuses inward, assessing risks and opportunities that affect enterprise value;
- Impact materiality looks outward, considering the organisation's effects on society and the environment.

Timing Mismatches in Trade-Offs

Trade-offs are not only about which capitals are affected, but also when the effects are felt.

- Short-term costs, long-term benefits:
- Investing in renewable energy may erode financial capital today, while reducing emissions, operating risk, and energy costs over decades.
- Short-term gains, long-term erosion:
- Cutting maintenance or environmental safeguards can improve immediate profitability, but gradually undermines manufactured and natural capital, increasing future risk and remediation costs.

These timing mismatches make sustainability judgements particularly challenging.

Decisions that appear value-enhancing in the short run may create hidden liabilities that only materialise later, while actions that seem costly today may be critical for long-term resilience and legitimacy.

For this reason, the board and directors must explicitly consider time horizons when evaluating trade-offs, continuously reassessing the quality and availability of the capitals on which the organisation depends. Transparent disclosure of when impacts and outcomes are expected to occur is therefore central to materiality assessments and to countering short-termism.

Teaching tip:
Ask students to evaluate the same decision twice, once using a one-year horizon and once using a ten-year horizon, and compare how their judgements about value creation, risk, and materiality change.

Depending on which lens is prioritised, the board of directors may reach very different conclusions about which trade-offs warrant attention. Importantly, assessing trade-offs is not only about mitigating negative effects. It can also reveal opportunities arising from shifts in capital availability, stakeholder expectations, or regulatory contexts. On this basis, organisations must make intentional strategic choices, allocating resources in ways that balance risks and trade-offs at levels considered acceptable to both the organisation and its stakeholders.

Transparency is therefore essential. Decisions and actions must be explained clearly, enabling internal and external stakeholders to evaluate, challenge, and respond to the choices made. This reinforces accountability and supports trust.

Finally, trade-offs intersect directly with the concepts of additionalities and externalities introduced earlier. Decisions may generate positive spillovers, such as community skills development or enhanced legitimacy, while simultaneously imposing uncompensated costs, such as pollution or resource depletion. Recognising, disclosing, and managing these effects is central to responsible governance and leadership.

This focus on trade-offs and net effects also echoes the original intent behind the Triple Bottom Line. Elkington's early articulation was not a call to optimise three separate performance silos, but to ask whether organisational activity results in a net positive contribution to economic prosperity, social wellbeing, and environmental integrity over time. What has changed is not the underlying concern, but the sophistication of the tools now available. Integrated thinking and the six-capitals framework refine this original insight by providing a more explicit structure for analysing how gains in one dimension may depend on, or be offset by, losses in another. The central governance question therefore remains unchanged: whether, on balance, value is being created or eroded for the organisation and its stakeholders in the long term.

6.6 Value Creation and Trade-Offs as a Pedagogical Tool

The six capitals framework provides a practical and flexible entry point for embedding sustainability across learning, teaching, and assessment in all accounting modules. Because real-world business decisions always involve trade-offs, the framework provides an intuitive and accessible way for students to engage with systems thinking, ethics, and long-term value creation.

Teaching with trade-offs is effective because it:

- Encourages students to trace ripple effects across multiple capitals, making interdependencies visible rather than treating impacts in isolation.
- Moves thinking beyond shareholder primacy by asking who gains, who loses, and whether outcomes are legitimate and justified over time.
- Requires students to evaluate consequences, articulate assumptions, and defend professional judgements in ways that align with King V's outcomes-based approach to governance.

Crucially, this pedagogy does not require new content or specialised sustainability cases. Trade-off reasoning can be embedded into existing topics, tutorials, and assessments across financial reporting, management accounting, auditing, taxation, and governance by reframing questions to focus on value creation outcomes, unintended consequences, and time horizons.

This approach also develops key competencies articulated in the SAICA CA of the Future framework, including decision-making, ethical reasoning, relational acumen, and professional communication. These outcomes align closely with broader competency-oriented sustainability education literature, which increasingly emphasises that sustainability competence is not primarily about content accumulation, but about developing the ability to reason across complexity, uncertainty, competing stakeholder interests, and long-term consequences (Wiek et al., 2011).

Several pedagogical and competency-development models reinforce these capabilities. For example, de Villiers' ABCD model (de Villiers, 2021) highlights seven interconnected competencies (the "7Cs"), including critical thinking, collaboration, communication, and citizenship. Similarly, Miller and Willows' RESPOND model (Miller and Willows, 2024) emphasises iterative processes of reflection, evaluation, synthesis, negotiation, and decision-making. Although these models were not developed specifically for sustainability education, they align strongly with the forms of judgement, systems thinking, stakeholder engagement, and trade-off reasoning required in sustainability-related professional contexts.

These capabilities are increasingly important within contemporary professional environments characterised by sustainability challenges, technological disruption, stakeholder scrutiny, governance complexity, and long-term value creation pressures. Future business leaders and accounting professionals will be required not only to interpret information, but also to navigate ambiguity, evaluate competing priorities, engage constructively with stakeholders, and exercise responsible professional judgement in contexts where there are rarely simple or risk-free solutions.

Together, these perspectives reinforce a central argument of this guidance: embedding sustainability into accounting education is not primarily about adding new technical content, but about shaping how students are asked to think, reason, communicate, and justify decisions within complex organisational environments.

By integrating trade-off analysis into routine learning activities and assessments, educators can make sustainability visible as a foundational way of thinking, rather than a peripheral topic. In doing so, integrated thinking becomes a shared pedagogical language across the curriculum, preparing students to navigate the complex value creation challenges they will face as CAs(SA) in practice.

Teaching Toolkit: Value Creation and Trade-Offs in Practice

This toolkit consolidates practical classroom activities, prompts, and competency links for teaching value creation, the six capitals, and trade-offs. Activities should require students not only to identify which capitals are affected, but also to exercise judgement by stating whether value is created, destroyed, or maintained, and explaining the reasoning behind their conclusion. The examples below are illustrative, not prescriptive; they are intended to demonstrate how sustainability reasoning can be embedded into existing topics, assessments, and class discussions without changing module content.

Perspectives on Value Creation:

Activates to illustrate the key perspectives introduced in Section 6.2

Table 2: Classroom activities to illustrate the five perspectives of value creation

Perspective	Classroom Activity	Student Learning Focus
Multi-Capital	Trace the ripple effects of one decision (e.g., water use, staff training) across all six capitals.	Recognise that value extends beyond money and is multi-dimensional.
Stakeholder vs Shareholder	Stakeholder mapping: ask "Who defines value?" and "Who gains or loses?"	Understand legitimacy and the need for inclusive value creation.
Double Materiality	Two-column activity: *Impacts on company* vs. *Impacts by company*.	See sustainability as a two-way relationship between business and society.
Future Perspective	Scenario planning: compare short-, medium-, and long-term outcomes.	Develop forward-looking judgement and resilience thinking.
Resource Quality and Availability	Assess how constraints in key capitals limit strategic options and create long-term risks, even in profitable firms.	Recognise that short-term financial performance can mask the erosion of underlying capitals.

Trade-Offs in Teaching: Prompts and Tips

Trade-offs help students see that decisions are rarely "win–win." They highlight competing claims, ethical dilemmas, and timing mismatches. Generic Classroom Prompts:

- "Identify the capitals affected in this decision. Which increase, which decrease?"
- "For each affected capital, is value created, destroyed, or maintained? Explain your reasoning."
- "Who gains, who loses, and is the trade-off justified?"
- "How do short-term outcomes compare to long-term impacts?"
- "What changes for stakeholders when viewed through different materiality lenses?"

Teaching Tips:

- Always start from the end: what changed for stakeholders and capitals?
- Use before/after or with/without scenarios.
- Remind students that not everything can be quantified.
- Pair trade-off analysis with stakeholder mapping.
- Compare short-, medium-, and long-term impacts to reveal timing mismatches.

The Six Capitals in Teaching:

Prompts to encourage integrated thinking when analysing each capital.

Table 3: Prompts and examples for integrating the six capitals into classroom discussion

Capital	Classroom Cue	Example Prompt	Capital	Classroom Cue	Example Prompt
Financial	Highlight trade-offs between short-term profits and long-term resilience.	"How might a short-term profit decision affect other capitals?"	**Human**	Explore the impact of workforce decisions.	"How do layoffs affect human vs. financial capital?"
Manufactured	Compare maintenance vs. neglect scenarios.	"What happens to efficiency, costs, and reputation if infrastructure is neglected?"	**Social & Relationship**	Map stakeholder relationships and legitimacy.	"What forms of trust or reputation matter most in this case?"
Intellectual	Discuss innovation and knowledge spillovers.	"Why does under-investment in R&D create risks beyond the firm itself?"	**Natural**	Analyse externalisation of environmental costs.	"How does this decision affect natural resources or ecosystem services?"

Linking Trade-Offs to Competencies:

The table below shows how trade-off activities can build Professional Values, Attitudes, and Acumens.

Table 4: Linking trade-off activities to the development of PVAAs

PVAA Competency	How the Activity Can Help to Develop it	Evidence to Look For
Critical Thinking	Identify interdependencies across capitals; compare scenarios (e.g. short-term financial gain vs. long-term human/natural resilience).	Explicit pros/cons, scenario notes, "what-if" reflections.
Ethical Behaviour	Evaluate who bears costs/benefits; apply fairness and justice tests.	Identification of affected parties; ethical reasoning.
Communication	Translate complex trade-offs into plain language (memos, slides, infographics).	Clear narrative, visual mapping, justified recommendation.
Relational Acumen	Map stakeholders, engage diverse perspectives, and negotiate solutions.	Stakeholder maps, feedback evidence, revised options.
Decision-Making	Define criteria, score scenarios, and justify choices.	Transparent criteria, weighted options, decomented risks.

Section 7: Transformative Learning through Stakeholder Engagement and Ethical Risk Management

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How to read this section:

This section positions stakeholder engagement not as a peripheral communication activity, but as a core governance and risk mechanism through which organisations identify material issues, surface emerging risks, design decision-useful information, and maintain legitimacy in a multi-stakeholder environment.

Stakeholder engagement is treated here as a continuous process of listening, sensemaking, and accountability, rather than a one-off consultation or reporting requirement. It spans everyday organisational interactions (with employees, customers, suppliers, regulators, and communities) through to formal disclosure mechanisms such as integrated reports, AGMs, and assurance processes.

Purpose and scope of this section:

The purpose of this section is to show why and how stakeholder engagement can be used as a powerful pedagogical entry point for sustainability, governance, and professional judgement in accounting education.

As with Section 6, this section assumes a working familiarity with integrated reports as narrative governance documents, not as compliance artefacts or disclosure checklists. Many misunderstandings about stakeholder engagement arise when reports are approached selectively or when engagement is reduced to a public relations exercise, rather than understood as integral to value creation, risk management, and accountability.

This section therefore does not introduce stakeholder engagement as a new topic. Instead, it demonstrates how existing curriculum elements, such as risk assessment, materiality, governance, ethics, and communication, already rely on stakeholder perspectives, whether explicitly acknowledged or not.

Positioning within the guidance

Read together, Sections 6 and 7 demonstrate that sustainable value creation and stakeholder engagement are inseparable.

Value creation clarifies what outcomes matter; stakeholder engagement shapes how those outcomes are understood, prioritised, legitimised, and governed.

For accounting educators, this integration provides a practical and accessible way to embed sustainability thinking without adding content, by reframing familiar topics through the lens of multi-stakeholder judgement, relational accountability, and professional responsibility.

In this sense, stakeholder engagement is not an “extra” sustainability requirement. It is a core professional capability, one that underpins effective governance, credible reporting, and the accountant’s role in holding organisations to account in complex, contested, and uncertain environments.

7.1 Why Stakeholder Engagement Matters

Stakeholder engagement is a cornerstone of sustainability reporting, integrated thinking, and responsible governance. The <IR> Framework identifies stakeholder relationships as one of the six capitals that underpin value creation, while King V, elevates stakeholder inclusivity as a foundational governance outcome. King V does not introduce stakeholder inclusivity as a new concept, but sharpens the accountability expectation by requiring governing bodies to demonstrate how stakeholder engagement informs decisions, trade-offs, and long-term value creation. Together these frameworks emphasise that organisations operate within a web of interdependent relationships, and that legitimacy and long-term success depend on responding to the legitimate and reasonable needs and expectations of stakeholders over time.

Crucially, stakeholder engagement should not be understood as a once-off consultation exercise or a reporting activity undertaken at year-end. It is a continuous process of accountability-oriented communication that spans the full organisational cycle: listening to stakeholder concerns and expectations through everyday interactions (such as employee forums, customer engagement, supplier relationships, and community interfaces), integrating those insights into decision-making and risk management, and then communicating back through formal mechanisms such as governance disclosures, AGMs, and corporate reports. Accountability, in this sense, is not possible without communication, nor without an understanding of how different stakeholders experience risk, value, and harm.

This framing aligns directly with the core professional role of the Chartered Accountant. The accounting profession exists, fundamentally, to support accountability in the public interest. Preparing information, assuring its credibility, and communicating it transparently are all mechanisms through which organisations are held to account. From this perspective, stakeholder engagement is not peripheral to accounting practice; it is integral to the credibility of governance, assurance, materiality assessments, and value creation narratives.

For accounting education, stakeholder engagement therefore provides an accessible and powerful pedagogical entry point into sustainability thinking. While students are typically accustomed to considering shareholders and capital providers, they often have limited exposure to the perspectives of employees, communities, regulators, customers, or future generations. Mapping and analysing stakeholder perspectives pushes students to confront competing interests, recognise the limits of shareholder primacy, and evaluate the ethical and governance implications of organisational decisions.

This also exposes a longstanding blind spot in traditional financial reporting. Financial statements often assume usefulness by compliance, rather than testing usefulness through engagement. Reports may be technically correct yet fail to be decision-useful for significant stakeholder groups. Integrated reporting, by contrast, requires organisations to be explicit about who information is prepared for, why it is relevant, and how it informs accountability. Without stakeholder engagement, disclosures risk becoming performative rather than informative.

This shift is not merely conceptual but professional. The CA of the Future Competency Framework explicitly identifies relational acumen, ethical behaviour, communication, and professional judgement as core competencies. Teaching stakeholder engagement enables these capabilities to be developed through practical activities such as stakeholder mapping, salience analysis, role-playing consultations, and debates about competing stakeholder claims. In doing so, students learn that sustainability is not a checklist of disclosures but a dynamic process of listening, interpretation, judgement, and response.

Ultimately, stakeholders matter because governance, risk, materiality, and value creation cannot be assessed in isolation from them. Treating stakeholder engagement as a continuous accountability process reinforces continuity with existing accounting competencies while clarifying why sustainability demands more than technical compliance. It requires accountants who can listen, interpret, communicate, and justify decisions in ways that sustain trust, legitimacy, and long-term value creation.

7.1.1 Who Counts as a Stakeholder?

Both the <IR> Framework and the King V governance frameworks adopt a broad, relational understanding of stakeholders. A stakeholder is not defined solely by contractual claims or financial capital provided to the organisation, but by the presence of a legitimate relationship of influence or impact.

The <IR> Framework defines stakeholders as individuals or groups that affect, or are affected by, an organisation's activities, outputs, or outcomes. This definition deliberately extends beyond providers of financial capital to include those who contribute to, depend on, or bear the consequences of organisational value creation.

King V emphasise that governing bodies must consider stakeholders whose rights, interests, or expectations may be materially affected by the organisation's decisions, operations, and long-term strategy. Importantly, stakeholders are not limited to those with immediate economic power. Legitimacy arises from impact, dependency, and responsibility, not only from ownership or control.

Across both frameworks, stakeholders typically include, but are not limited to:

- providers of financial capital (shareholders, lenders);
- employees and organised labour;
- customers and end-users;
- suppliers and business partners across the value chain;
- regulators and public institutions;
- communities affected by operations, including future generations; and
- the natural environment, represented through proxies such as regulators, civil society, or scientific bodies.

Crucially, these frameworks do not suggest that all stakeholders must be treated identically, nor that all interests can be fully satisfied. Rather, they require governing bodies to identify relevant stakeholders, understand the nature of their claims, and exercise professional judgement in balancing competing needs and expectations over time.

For accounting education, this definition is foundational. It makes clear that stakeholder engagement is not about expanding disclosure indiscriminately or appeasing every interest group. It is about understanding who is affected, how, and why, and ensuring that decisions, risks, and trade-offs are evaluated through a stakeholder-inclusive lens. This framing sets the groundwork for understanding stakeholder engagement as a governance responsibility, rather than a communications or compliance exercise.

Stakeholder Inclusivity vs. Stakeholder Capitalism

It is important to distinguish stakeholder inclusivity from stakeholder capitalism, as the two are often conflated in public debate.

Stakeholder inclusivity, as framed in King V, and the <IR> Framework, is a governance principle. It requires boards and governing bodies to consider and balance the legitimate and reasonable needs, interests, and expectations of stakeholders when making decisions. Its purpose is to enable sustainable value creation through fair, transparent, and accountable governance.

Stakeholder capitalism, by contrast, is a broader and contested macroeconomic philosophy, popularised in global forums such as the World Economic Forum. It proposes a systemic reorientation of capitalism away from shareholder primacy toward wider societal outcomes.

While both concepts emphasise stakeholders, they operate at different levels. Stakeholder inclusivity is about how organisations are governed and how decisions are made. Stakeholder capitalism is about how economic systems should be structured.

For teaching purposes, this distinction matters. Integrated thinking and sustainability education do not require abandoning capitalism or endorsing a particular ideology. They require recognising that effective governance depends on engaging stakeholders responsibly and integrating their perspectives into decision-making.

7.1.2 King V: Stakeholder Inclusivity as a Foundation of Governance

In South Africa, stakeholder inclusivity is not merely a best practice; it is a governance imperative. King V position stakeholder inclusivity alongside ethical and effective leadership as a foundational condition for sustainable value creation. Governing bodies are expected to balance the legitimate and reasonable needs, interests, and expectations of stakeholders within the interconnected context of the economy, society, and the environment.

King V does not introduce stakeholder inclusivity as a new concept. Rather, it sharpens the accountability expectation by requiring governing bodies to demonstrate how stakeholder engagement informs decisions, trade-offs, and long-term outcomes. Inclusivity is therefore assessed not by the volume of engagement activities, but by whether stakeholder perspectives meaningfully shape strategy, risk oversight, and resource allocation.

Meaningful stakeholder relationships are thus not optional or peripheral. They are foundational to:

Governance
Effective governance depends on transparent, inclusive decision-making that sustains legitimacy and trust over time. Boards are expected to explain how stakeholder considerations influence strategic choices, particularly where competing interests must be balanced.

Risk oversight
Engaging stakeholders early and continuously surfaces risks and blind spots that traditional risk registers often miss, especially social, environmental, reputational, and ethical risks. Stakeholder engagement therefore functions as a critical input into enterprise risk management.

Value creation
Sustainable value cannot be created or preserved if stakeholders perceive harm, exclusion, or unfairness. Balancing value across the six capitals requires explicit recognition of trade-offs and their consequences for different stakeholder groups across time horizons.

Importantly, stakeholder inclusivity does not require directors to prioritise stakeholder interests above their fiduciary duties to the organisation and its providers of financial capital. Rather, King V make clear that considering the legitimate and reasonable needs and expectations of stakeholders is an essential part of fulfilling fiduciary duty in a complex, interdependent environment. Directors remain accountable for acting in the best interests of the organisation, but those interests must be understood over the short, medium, and long term, and within the broader economic, social, and environmental context in which the organisation operates.

From this perspective, stakeholder inclusivity reframes fiduciary duty rather than displacing it. Long-term value creation, organisational resilience, and legitimacy cannot be achieved if material stakeholder risks, dependencies, or impacts are ignored. While excluding stakeholder concerns may temporarily protect short-term financial outcomes, it exposes the organisation to strategic, reputational, legal, and operational risks that ultimately undermine fiduciary responsibilities. Engaging stakeholders is therefore not a departure from sound governance, but a necessary condition for exercising professional judgement responsibly and in the best interests of the organisation over time.

For educators, this framing is important. Stakeholder engagement should not be taught as a communications or public relations exercise. Under King V, it is a core governance capability and a risk management tool that ultimately determines whether organisations maintain legitimacy and resilience or erode trust and long-term value.

7.1.3 Stakeholder Engagement in the <IR> Framework

The <IR> Framework positions stakeholder relationships at the centre of value creation. Organisations create, preserve, or erode value not in isolation, but through ongoing interaction with the needs, expectations, and resources of their stakeholders. Stakeholder engagement is therefore not a peripheral activity or a disclosure formality; it is integral to how organisations define material issues, allocate resources, and demonstrate accountability over time.

Stakeholder engagement underpins several core principles of the <IR> Framework:

Determining materiality
Organisations cannot identify which capitals, risks, and opportunities are most significant without considering stakeholder perspectives. Materiality is shaped not only by financial thresholds, but by how issues affect, and are perceived by, those who influence or are affected by the organisation.

Demonstrating connectivity
The <IR> Framework requires organisations to show how stakeholder needs and expectations influence strategy, governance, risk management, and resource allocation. Connectivity means that engagement is embedded across the value creation process, rather than treated as a separate or symbolic exercise.

Enhancing accountability
Integrated reports are addressed to providers of financial capital, but they operate within a stakeholder-inclusive model of governance. Organisations are expected to explain how decisions, trade-offs, and outcomes affect a range of stakeholders whose resources, trust, and cooperation underpin long-term value creation. Accountability therefore extends beyond shareholders alone, reinforcing the need for transparent explanation of how competing interests have been considered and balanced over time.

To give effect to these principles, the <IR> Framework expects organisations to explain how stakeholder engagement is carried out in practice. Integrated reports should disclose:

- Who key stakeholders are, and how these groups were identified;
- The methods and frequency of engagement (e.g., surveys, forums, consultations, partnerships);
- The main issues raised by stakeholders;
- How stakeholder input has influenced strategy, risk assessments, and reporting; and
- The quality of stakeholder relationships, whether they are strong, weak, improving, or under strain, and what actions are being taken in response.

While the <IR> Framework establishes the overarching principles, other sustainability frameworks provide more detailed disclosure requirements. The GRI Standards (2024) identify stakeholder inclusivity as a foundational reporting principle and require organisations to explain how stakeholder views shape reporting content. Similarly, IFRS S1 and S2 (ISSB) require disclosure of governance, strategy, risk management, and metrics related to sustainability and climate risks, which in practice necessitates engagement across the value chain.

Taken together, these frameworks confirm that stakeholder engagement is not optional or episodic. It is a continuous process of dialogue, listening, sensemaking, and response. Stakeholder expectations evolve as social, economic, and environmental contexts shift, and meaningful engagement therefore requires regular reassessment and transparency about how stakeholder input informs organisational decisions.

For accounting education, this reinforces that engagement is not about “ticking a box,” but about understanding how information, risk, legitimacy, and value creation are socially situated and dynamically shaped.

7.2 Stakeholder Mapping and Salience

Not all stakeholders have the same influence, urgency, or capacity to affect organisational outcomes. Directors must therefore exercise judgement in prioritising among competing voices, balancing the claims of stakeholders with significant power against those whose interests are legitimate but less visible or resourced. Stakeholder mapping and salience analysis provide structured tools to support this process.

One widely cited approach is the stakeholder salience model developed by Mitchell, Agle and Wood (1997). This framework proposes that stakeholder salience is shaped by three attributes:

- **Power:** the ability of a stakeholder to influence the organisation or its decisions;
- **Legitimacy:** the perceived appropriateness or validity of a stakeholder’s claim; and
- **Urgency:** the degree to which stakeholder claims call for immediate attention.

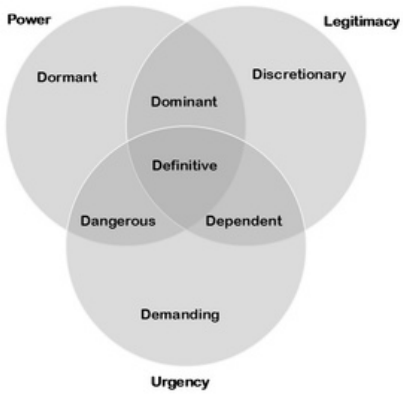

Figure 10: Stakeholder Salience Model

Stakeholders who possess all three attributes tend to command the greatest attention, for example regulators during a compliance breach, or affected communities during a social or environmental crisis. Importantly, salience is not fixed. Stakeholders may gain or lose salience over time as circumstances change, reinforcing that engagement priorities must be reassessed continuously rather than treated as static classifications.

A complementary and more operational tool is Mendelow's Matrix, which maps stakeholders according to their level of power and level of interest. Stakeholders with high power and high interest require active engagement and ongoing dialogue, while those with lower power or interest may require monitoring or targeted communication. For educators, the matrix offers an accessible classroom tool: students can plot stakeholder groups into quadrants and debate how engagement strategies should differ across contexts.

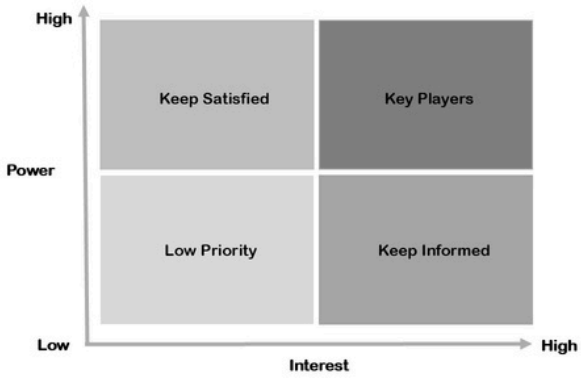

Figure 11: Mendelow's Matrix

Both approaches are intentionally simplified representations of complex social realities. They do not determine who ought to be prioritised, nor do they resolve ethical tensions about whose voices deserve greater weight. Instead, they surface conflicts, trade-offs, and blind spots that might otherwise remain implicit. Used thoughtfully, stakeholder mapping becomes less about categorisation and more about questioning assumptions embedded in decision-making.

It is also important to guard against treating stakeholder engagement as a static checklist, as often found in textbook summaries. Stakeholders must always be identified and assessed in relation to the specific organisation, industry, and situation. For example, questions such as whether directors themselves should be considered stakeholders, or whether those conducting engagement shape outcomes through framing and interpretation, remind students that stakeholder identification is an exercise in professional judgement rather than mechanical classification.

As a pedagogical tool, stakeholder mapping is particularly powerful. It enables students to visualise competing claims, practise prioritisation under constraint, and grapple with ethical questions about power, representation, and fairness. When combined with trade-off analysis, it helps students connect abstract governance principles to real-world dilemmas, supporting the development of relational acumen, ethical reasoning, and critical judgement in line with the CA of the Future competency framework.

7.3 Stakeholder Engagement as Risk Management

Stakeholder engagement is not only a governance principle but also a critical tool for identifying and managing risk. Traditional risk registers often focus narrowly on financial or operational exposures, overlooking social, environmental, and ethical risks that arise when stakeholder concerns are ignored. Early and systematic engagement enables organisations to surface blind spots, anticipate emerging trends, challenges and opportunities, and strengthen organisational resilience. Sustainability-related risks are commonly grouped into three broad categories:

Physical risks:
Impacts arising from climate change and ecological degradation, such as droughts, floods, water scarcity, or biodiversity loss.

Transition risks:
Regulatory, technological, and market shifts associated with the move toward lower-carbon or more sustainable economic systems.

Social and reputational risks:
Loss of social licence to operate, community opposition, employee activism, litigation, or reputational damage arising from perceived irresponsibility.

Engaging stakeholders is one of the most effective ways to identify risks across all three categories. Communities may raise environmental concerns long before they appear in compliance audits; employees may highlight ethical or cultural issues that do not feature in formal reporting systems; regulators may signal policy shifts that materially affect business models. In each case, the value of engagement lies not merely in listening, but in integrating stakeholder insights into governance, strategy, and reporting.

For educators, stakeholder engagement as a risk management tool provides a practical entry point into sustainability teaching. Students can analyse cases where ignored stakeholder voices led to reputational damage, stranded assets, or legal penalties, and contrast these with cases where early engagement reduced exposure and built trust. Classroom exercises can ask students to map risks to different stakeholder groups, debate materiality, and justify the prioritisation of responses.

The Social Licence to Operate

The social licence to operate (SLO) refers to the ongoing acceptance and approval of an organisation's activities by its stakeholders, particularly communities affected by its operations. Unlike legal licences or regulatory approvals, a social licence is informal, dynamic, and contingent. It is granted implicitly through trust, legitimacy, and perceived fairness, and can be withdrawn when stakeholders believe an organisation has overstepped acceptable social or environmental boundaries.

A SLO is not secured once-off. It must be earned, maintained, and renewed through continuous engagement, transparency, and responsiveness to stakeholder concerns. Organisations may comply fully with the law yet still lose their social licence if stakeholders perceive harm, exclusion, or injustice. In such cases, operations can be disrupted through protests, litigation, delays, reputational damage, or increased regulatory scrutiny.

From a governance and risk perspective, loss of SLO represents a material risk, even when it does not immediately translate into financial penalties. It can lead to project shutdowns, stranded assets, higher cost of capital, or long-term erosion of trust. Conversely, strong stakeholder relationships can enhance resilience, reduce conflict, and support long-term value creation.

For accounting and reporting, the SLO concept underscores why stakeholder engagement cannot be treated as a public relations exercise. It is a risk management mechanism that shapes materiality judgements, informs disclosures, and affects the organisation's ability to operate sustainably over time. Integrated reporting requires organisations to explain not only what decisions were made, but how stakeholder concerns were considered, and how legitimacy is being maintained.

Teaching prompt:
Ask students to identify a case where an organisation retained legal approval but lost its social licence. What risks emerged, which stakeholders were ignored, and how might earlier engagement have altered the outcome?

7.3.1 Risk of Failing to Engage Stakeholders

Weak or absent stakeholder engagement exposes organisations to a range of risks that are often underestimated in traditional risk registers:

Reputational risks:
Erosion of trust among communities, customers, investors, or regulators (Donaldson & Preston, 1995).

Operational risks:
Labour unrest, community protests, supply-chain disruption, or project delays.

Environmental and legal risks:
Compliance breaches, litigation, fines, or loss of access to natural capital.

Ethical risks:
Loss of legitimacy and social licence to operate (Freeman, 1994; Bebbington & Unerman, 2020).

South African experience illustrates these dynamics clearly. Mining companies that neglect community engagement face shutdowns, legal challenges, and sustained reputational harm, while financial institutions that fail to engage meaningfully on responsible lending risk accusations of exploitation and regulatory scrutiny.

7.3.2 Benefits of Effective Stakeholder Engagement

When managed well, stakeholder engagement functions as both an early-warning system and an opportunity mechanism. Effective engagement:

- Identifies emerging issues before they escalate into crises (Mitchell, Agle & Wood, 1997).
- Surfaces hidden costs and non-financial risks missed by traditional analyses (Bebbington & Unerman, 2020).
- Builds legitimacy and trust, reducing the likelihood of conflict and resistance.
- Enhances organisational adaptability in volatile environments, such as climate shocks or regulatory change (Donaldson & Preston, 1995).

Rather than slowing decision-making, engagement can improve decision quality by expanding the information base on which strategic judgements are made.

7.3.3 Implications for the Accounting Profession

For accountants, viewing stakeholder engagement through a risk management lens requires a shift in both mindset and practice. It entails:

- Recognising that financial capital cannot be managed in isolation from social, relational, and natural capitals.
- Embedding stakeholder perspectives into risk identification, capital budgeting, assurance processes, and sustainability disclosures.
- Moving from a compliance mindset (reporting what is required) to a competence-based mindset, where engagement informs strategic judgement and long-term value creation.

For example, when assessing a proposed infrastructure investment, accountants should consider not only projected financial returns, but also community acceptance, environmental impacts, regulatory legitimacy, and long-term stakeholder trust. These factors directly affect risk, resilience, and value over time, even when they are not immediately reflected in financial statements.

Theoretical Foundations of Stakeholder Engagement and Legitimacy

Stakeholder engagement in governance and reporting is underpinned by several complementary theoretical traditions.

Stakeholder theory (Freeman, 1984) holds that organisations depend on multiple stakeholder groups for legitimacy and survival, not shareholders alone. Normative variants emphasise ethical obligations to stakeholders, while instrumental variants link engagement to improved risk management and long-term performance (Donaldson & Preston, 1995).

Legitimacy theory explains why organisations seek alignment with societal norms and expectations, particularly in high-impact or contested contexts. Where legitimacy is eroded, organisations face heightened reputational, regulatory, and operational risk.

Institutional theory (DiMaggio & Powell, 1983) helps explain why stakeholder engagement and sustainability reporting often become standardised. Organisations face coercive pressures (regulation), normative pressures (professional expectations), and mimetic pressures (imitation of peers), which can result in symbolic compliance rather than substantive engagement.

Together, these theories explain why governance frameworks such as King V and the <IR> Framework emphasise stakeholder inclusivity, transparency, and accountability. For educators, the relevance is not to teach theory explicitly, but to help students recognise when engagement and disclosure reflect genuine decision-making, and when they function primarily as legitimacy signals.

7.4 Stakeholder Engagement as a Pedagogical Tool

When students are asked to reason from the perspective of multiple stakeholders, they confront the limits of technical certainty and experience sustainability as a lived governance challenge rather than a theoretical construct.

Stakeholder engagement provides an intuitive entry point for sustainability teaching. Students quickly grasp the idea that organisations interact with a range of stakeholders who hold competing interests, expectations, and levels of influence. What begins as a practical exercise in mapping and prioritising stakeholders can open up deeper discussions about governance, ethics, and long-term value creation.

For educators, stakeholder engagement is effective because it:

Promotes systems thinking:
Students see that business decisions are embedded within networks of relationships, not isolated transactions.

Develops ethical reasoning:
Mapping stakeholders forces students to ask who gains, who loses, and whether outcomes are justified.

Surfaces risk and uncertainty:
Engagement highlights blind spots and helps students appreciate the complexity of decision-making.

Builds transversal competencies:
Activities strengthen relational acumen, communication, and decision-making — competencies explicitly identified in the SAICA *CA of the Future* framework.

Used alongside value creation and trade-off analysis, stakeholder engagement reinforces that sustainability is not about memorising frameworks but about practising judgement, negotiation, and accountability.

It is important to emphasise that teaching stakeholder engagement does not require educators to conduct real-world consultations or design complex engagement exercises. In an educational context, stakeholder engagement can be understood more broadly as structured perspective-taking. Any activity that requires students to consider, articulate, or evaluate the viewpoints of stakeholders other than investors or shareholders already contributes meaningfully to sustainability learning. Case discussions, role-based analysis, scenario planning, or reflective questions that ask "how might this be experienced by another stakeholder?" all serve this purpose. The pedagogical goal is not engagement per se, but helping students recognise that value, risk, and accountability are interpreted differently depending on whose perspective is considered.

Stakeholder engagement is most effective as a pedagogical tool when it is approached as a developmental learning process rather than a single activity or technique. In practice, students do not arrive in the classroom ready to exercise mature professional judgement about sustainability dilemmas. They must be guided through a sequence that gradually expands how they see, relate, and reason.

The most defensible learning progression therefore moves from

- cognitive exposure (recognising that sustainability involves competing values and worldviews),
- to relational engagement (learning to listen to and communicate across difference),
- through ethical tension (grappling with moral complexity and integrity under constraint),
- toward professional judgement (evaluating trade-offs and defending decisions),
- before widening into systems insight (understanding interdependencies and unintended consequences), and
- finally power awareness (recognising whose voices are heard, whose are marginalised, and how legitimacy is constructed).

The sub-sections that follow are organised around this progression. Together, they show how stakeholder engagement can be used not to produce agreement or certainty, but to develop the judgement, humility, and accountability required of future accounting professionals.

7.4.1 Grappling with Competing Values and Worldviews

Real-world stakeholder scenarios rarely present clear-cut answers. Instead, they reflect moral pluralism: the coexistence of multiple legitimate but conflicting value systems (Burton et al., 2006). Students encounter situations where environmental sustainability collides with economic development, individual rights clash with collective welfare, or short-term needs are weighed against long-term sustainability goals.

This complexity is not a problem to be eliminated, but a deliberate teaching feature. When students are asked to inhabit roles such as a community leader concerned about job losses, an environmental advocate prioritising ecological limits, or an investor focused on financial returns, they experience firsthand how reasonable actors can arrive at very different conclusions based on distinct value priorities.

Such exercises cultivate tolerance for ambiguity and shift the focus from finding a single "correct" answer to reasoning well under conditions of disagreement. They also create space to introduce contrasting ethical frameworks — including utilitarianism, deontological reasoning, and virtue ethics (Morrell & Dahlmann, 2023), helping students recognise when conflicts arise from divergent moral commitments rather than poor analysis or bad faith.

For educators, this underscores a central insight: stakeholder engagement is not about forcing consensus, but about developing the capacity to navigate contested values with fairness, justification, and ethical clarity; a foundational skill for professional judgement in sustainability contexts.

7.4.2 Developing Empathy and Communication Skills

Stakeholder engagement moves students from abstract awareness of diverse perspectives to a more embodied understanding through role-play and perspective-taking (Bertella, 2025; Brown et al., 2019; Stone et al., 2013). Arguing from the position of a small-scale farmer facing displacement by a mine, a regulator concerned with compliance, or an employee advocating for workplace safety creates a visceral appreciation of how organisational decisions affect real people and communities.

This form of experiential empathy has direct professional relevance. Future accountants and business leaders who can communicate meaningfully with a wide range of stakeholders are better equipped to anticipate resistance, build trust, and navigate conflict. Through such exercises, students develop active listening skills, learn to translate concerns across stakeholder groups, practise mediation, and become more attuned to the narratives stakeholders use to frame risk, legitimacy, and fairness.

These capabilities are not peripheral "soft skills." They are core components of relational acumen and central to maintaining an organisation's social licence to operate. For educators, embedding empathy-building exercises alongside technical content reinforces a critical insight: professional competence in sustainability contexts depends as much on communication, trust, and interpretation as it does on technical accuracy.

7.4.3 Navigating Moral Complexity and Professional Integrity

Ethical practice is rarely straightforward. Unlike classroom cases governed by clear rules or technical standards, real-world stakeholder conflicts require judgement under uncertainty, time pressure, and competing claims. Engagement-based learning helps students recognise that ethical behaviour is often improvisational: it demands moral imagination, courage, and persistence rather than the mechanical application of rules (Ateeq & Alqaidoom, 2025).

Repeated exposure to complex trade-offs supports the development of key ethical capacities:

- Moral imagination: the ability to envision responses that acknowledge and respect multiple, often conflicting, concerns.
- Ethical stamina: the willingness to continue seeking defensible outcomes when simple or popular answers are unavailable.
- Integrity under pressure: the capacity to act consistently with professional values despite competing demands, uncertainty, or personal cost.

Reflecting on these experiences reinforces that ethics is not a static checklist or a compliance exercise, but an ongoing practice of deliberation, learning, and adaptation. For future accountants, the ability to navigate moral complexity with integrity is essential to maintaining professional credibility, sustaining stakeholder trust, and safeguarding long-term organisational legitimacy.

7.4.4 Critical Thinking and Value Judgement Skills

Traditional business education often privileges technical analysis and quantitative optimisation. Stakeholder engagement, by contrast, foregrounds evaluative judgement: the capacity to assess competing claims, weigh trade-offs, and arrive at defensible decisions under conditions of uncertainty and disagreement (Dwyer et al., 2015; Pennycook et al., 2014).

Through stakeholder mapping, debates, role-play, and case analysis, students learn to distinguish between preferences ("what I want") and principles ("what can be justified"). They are required to interrogate which claims carry ethical weight, which reflect narrow self-interest, and how power relations shape whose voices are amplified or marginalised in decision-making.

This process cultivates disciplined habits of critical inquiry, including:

- What evidence supports this claim, and what assumptions underpin it?
- Whose perspectives are included, and whose are excluded or discounted?
- How do short-term gains compare with long-term consequences across stakeholders?

By engaging in such reasoning, students practise not only critical analysis but ethical discernment: the ability to make and defend judgements in situations where no outcome is unambiguously "correct," yet accountability is unavoidable. For the accounting profession, this capability transfers directly to professional tasks such as determining materiality, evaluating the credibility and balance of disclosures, and assessing whether governance decisions are legitimate, proportionate, and defensible to affected stakeholders.

7.4.5 Systems Thinking and Connectivity

Stakeholder engagement naturally cultivates systems thinking by making visible the interconnections between stakeholders, capitals, risks, and strategic decisions (Smith, 2011). As students engage with multiple perspectives, they begin to see how resource allocation affects different groups simultaneously, how social and environmental pressures feed into financial outcomes, and how decisions generate ripple effects beyond organisational or reporting boundaries.

Through stakeholder mapping, value chain analysis, and scenario exploration, students can trace second- and third-order consequences, anticipate unintended outcomes, and recognise how short-term solutions may undermine long-term resilience. This reinforces the core insight of integrated thinking: organisational performance cannot be understood by analysing individual issues in isolation, but only by examining how elements interact across time, systems, and capitals.

For accounting education, these exercises prepare students to evaluate decisions holistically rather than mechanically. They highlight that every decision creates, preserves, or erodes value across multiple domains, and that the legitimacy of reported outcomes depends on whether these interdependencies have been recognised, explained, and responsibly managed. In this way, systems thinking becomes not an abstract ideal, but a practical professional habit aligned with integrated reporting, governance, and sustainable value creation.

7.4.6 Recognising Power, Voice and Legitimacy

A critical dimension of stakeholder engagement is recognising that not all voices are heard equally. Stakeholder processes are shaped by power asymmetries: some groups possess formal authority, financial resources, or institutional access, while others experience marginalisation despite being deeply affected by organisational decisions. Teaching stakeholder engagement without confronting these dynamics risks reproducing the very blind spots sustainability seeks to address.

Engagement activities therefore provide an important opportunity for students to interrogate questions of power and legitimacy. Who defines what counts as a "reasonable" concern? Whose knowledge is treated as credible? Which stakeholders are consulted early, and which are only informed after decisions are effectively made? By examining these questions, students learn that stakeholder engagement is not neutral or procedural, but inherently political and ethical.

This perspective is especially relevant in contexts marked by inequality. Communities with limited economic or legal power may still hold strong moral claims, particularly where decisions affect livelihoods, health, or environmental integrity. Conversely, stakeholders with significant power may advance claims that are legally permissible but ethically questionable. Helping students distinguish power from legitimacy equips them to assess stakeholder demands critically rather than defer reflexively to influence or authority.

For future accountants, this competence is essential. Professional judgement requires the ability to recognise when certain voices are systematically excluded, when engagement processes risk becoming symbolic rather than substantive, and when disclosures obscure rather than illuminate underlying power dynamics. In governance, risk management, and reporting, legitimacy is not secured through volume of disclosure, but through the quality of listening, responsiveness, and justification.

For educators, incorporating power analysis into stakeholder engagement exercises completes the learning arc: students move from recognising diverse perspectives, to engaging relationally, to grappling with ethical tension, exercising judgement, understanding systems, and finally, interrogating whose voices shape outcomes. This prepares graduates not only to participate competently in sustainability-related processes, but to do so with integrity, critical awareness, and respect for the public interest.

Teaching Toolkit: Stakeholder Engagement and Risk in Practice

This toolkit is not meant to be implemented in full. Educators are encouraged to select one activity, one prompt, or one perspective and integrate it into an existing lecture, case, or assessment. Stakeholder engagement does not require formal consultations or complex simulations. Any activity that invites students to reason from perspectives other than shareholders already contributes to sustainability learning.

Before teaching this topic, educators are encouraged to read one recent integrated report in full, noting how value creation, stakeholder engagement, and risk are narrated across sections rather than confined to a single disclosure.

Mapping Stakeholders:

Avoid static textbook lists. Stakeholders should be analysed in context- for example, should directors or even those conducting the engagement be included? Ask students which stakeholders are missing from their own map, and why.

Table 5: Tools to identify and prioritise stakeholders

Tool	Description	Classroom Prompt
Salience Model	Categories stakeholders by power, legitimacy, and urgency.	"Which stakeholders are most salient? How does urgency or legitimacy change priorities?"
Mendelow's Matrix	Plots stakeholders by power and interest	"Plot stakeholder groups in quadrants. Which require active engagement, and which minimal effort?"

Building Pedagogical Copetencies

The table below shows how stakeholder engagement and risk analysis can build Professional Values, Attitudes, and Acumens.

Table 6: Linking stakeholder engagement activities to the development of PVAAs

PVAA Competency	How the Activity Can Help to Develop it	Evidence to Look For
Critical Thinking	Distinguish evidence from opinion; identify power dynamics.	Transparent reasoning; awareness of bias.
Ethical Decision-Making	Weigh competing claims and and justify trade-offs	Explicit justification and ability to defend choices; recognition of harm/benefit balance/uncertainty.
Relational Acumen	Practise negotiation, empathy, and conflict resolution. Translate complex perspectives into plain language accessible by stakeholders	Active listening, stakeholder maps, refined recommendations, concise summaries, and stakeholder-friendly narratives.

Linking Stakeholder Engagement to Risk:

Activities to show how engagement surfaces hidden risks.

- Risk mapping: Categorise issues raised by stakeholders into physical, transition, and reputational/social licence risks.
- Case-based debate: Analyse situations where poor engagement led to reputational or operational crises.
- Scenario planning: Explore how early engagement with a neglected stakeholder could have reduced risk or created opportunity.
- Social Licence exercise: Compare legal vs. social licence. Ask: Which is easier to lose, and why?

Teaching Tips and Prompts

- Stakeholder engagement should be understood as a continuum of communication, ranging from everyday interactions (staff meetings, customer feedback, employee relations) to formal mechanisms (AGMs, consultations, corporate reporting). Accountability relies on communication, and communication precedes disclosure.
- Always start with: "Whose voices are missing?"
- Use role-play to simulate conflicting worldviews.
- Pair mapping with ripple-effect analysis across the six capitals.
- Compare short-, medium-, and long-term risks to highlight shifting salience.
- Encourage reflection: "Who gains, who loses — and is that fair?"
- Focus assessment on reasoning and justification, not "correct" answers.

Why this works (for those who want the theory)

The following table summarises two theoretical perspectives on stakeholder engagement, their implications for capital markets, and how they can be translated into practical classroom activities.

Table 7: Theoretical foundations of stakeholder engagement and their classroom implications

Theory	Core Idea	Role of Capital Markets	Teaching Application
Stakeholder Theory	Organisations have a moral obligation to consider the interests of a broad range of stakeholders, not only shareholders (Kessler, 2013; Rathbone, 2024). Long-term value depends on balancing multiple, sometimes competing, claims.	Investors are recognised as important stakeholders, but as one group among employees, customers, suppliers, communities, regulators, and the natural environment.	Use stakeholder mapping to compare the interests of investors vs. other stakeholder groups. Ask: *Who gains, who loses — and is it justified?*
Legitimacy Theory	Organisations act to align with societal norms and expectations to secure and maintain legitimacy (De Luca & Prather-Kinsey, 2018; Perks et al., 2013).	Capital markets are part of the legitimacy dynamic: investors increasingly require evidence of ESG performance to maintain confidence and provide access to capital.	Role-play exercise: students act as different stakeholders (community, regulator, investor) to test how a company justifies its strategy.

Section 8: Learning Through Conflict, Dialogue and Critical Reflection

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Section 8 at a Glance:

The pedagogical approaches discussed in this section are not new. Dialogical, participatory, and reflective learning are well established in accounting education and in the wider education research literature. What is new is their explicit application to sustainability-related judgement, where uncertainty, disagreement, and ethical tension are unavoidable rather than exceptional.

Sustainability cannot be transmitted as settled knowledge or reduced to technical compliance. It must be encountered through situations that surface competing values, contested evidence, and unresolved trade-offs. For this reason, conflict, dialogue, and critical reflection are not “soft skills” or optional enhancements; they are epistemologically necessary for preparing future CAs(SA) to exercise professional judgement in complex, multi-stakeholder contexts.

This section builds directly on Sections 5–7. Having established sustainability as a contested, normative, and systems-oriented domain, and having shown how value creation and stakeholder engagement expose real governance tensions, Section 8 focuses on how students learn to navigate such complexity. It argues that traditional transmissive approaches, which prioritise certainty and replication, are mismatched to judgement-heavy professional realities.

Purpose and Scope

The purpose of this section is to:

- position dialogical and transformative education as professionally aligned, not pedagogically indulgent;
- demonstrate why learning through discomfort, disagreement, and reflection is essential for sustainability and integrated thinking;
- support educators in reframing their role from answer-giver to facilitator of professional judgement.

The section does not advocate new teaching techniques, nor does it require wholesale curriculum redesign. Instead, it reframes familiar educational practices, discussion, debate, reflection, and case analysis, as core mechanisms for developing judgement, ethical reasoning, and future-readiness.

How to Read This Section

This section should be read as an invitation to reconsider teaching orientation rather than teaching content. Educators are not asked to resolve sustainability debates, nor to guide students toward predetermined conclusions. Rather, they are encouraged to create learning environments in which uncertainty can be explored responsibly, conflict can be held productively, and judgement can be practised with integrity.

Read alongside Section 9, this section provides the pedagogical foundation for embedding sustainability and integrated thinking across accounting education, not as an additional topic, but as a way of reasoning, engaging, and leading in a changing world.

8.1 Why Dialogical Education matters for Sustainability?

Sustainability cannot be transmitted as settled knowledge; it must be encountered through engagement with complexity, contestation, and uncertainty. As demonstrated in Sections 5–7, sustainability challenges are characterised by competing values, unavoidable trade-offs, and diverse stakeholder interpretations. In such contexts, learning cannot rely on the passive absorption of content alone. Students must instead develop the capacity to deliberate, justify, and revise judgements in the face of ambiguity. Dialogical education provides the pedagogical conditions under which this kind of learning becomes possible.

This section is grounded in traditions of dialogical and transformative education (Freire, 1970; Mezirow, 1997), which reject the view of learning as the transmission of correct answers from expert to novice. Freire's critique of the "banking model" of education highlights the limitations of approaches that treat students as passive recipients of knowledge. In contrast, dialogical education understands learning as a co-constructed process in which meaning emerges through questioning, dialogue, and engagement with difference. For sustainability education, this orientation is not optional. Where problems are contested and solutions provisional, students must be given opportunities to explore perspectives, test assumptions, and articulate their own reasoned positions.

Transformative learning builds on this dialogical foundation by emphasising the role of disorienting dilemmas and critical reflection in reshaping understanding (Mezirow, 1997). Learners grow not by being instructed what to think, but by encountering situations that disrupt prior assumptions and require reflective sense-making. In sustainability education, these dilemmas often arise naturally: tensions between economic growth and ecological limits, shareholder returns and stakeholder justice, or short-term performance and long-term resilience. Engaging with such tensions enables students to recognise that professional judgement is formed through reflection and dialogue rather than rule application alone.

For future CAs, this approach aligns closely with professional expectations. The profession does not require certainty in all circumstances, but it does require defensible judgement under uncertainty. Dialogical learning environments mirror this reality by encouraging students to reason in public, listen to competing viewpoints, and justify decisions in relation to evidence, values, and context. Dialogue, in this sense, is not a "soft skill", but an epistemological necessity for learning to think professionally about sustainability.

For educators, adopting a dialogical stance involves a shift in role rather than a loss of authority. It means moving from being the primary source of answers to being a facilitator of inquiry, helping students surface assumptions, explore alternatives, and reflect on implications. This requires comfort with uncertainty and a willingness to allow learning to unfold through conversation rather than closure. For students, it demands openness, intellectual humility, and the courage to engage with disagreement. Together, these conditions create learning environments in which sustainability can be approached not as a body of facts to be mastered, but as a field of professional judgement to be practised.

8.2 Sustainability Learning as Judgement-based Learning

Sustainability learning in accounting education is best understood not as the acquisition of new technical content, but as the development of professional judgement. As the profession evolves, CA(SA) are increasingly required to make decisions that extend beyond technical correctness to include ethical reasoning, stakeholder consequences, long-term impacts, and legitimacy (Sharma & Stewart, 2021; Wahyudi et al., 2023). This shift does not diminish the importance of technical competence. Rather, it elevates judgement as the integrative capability through which technical knowledge is applied in complex, real-world contexts.

In this sense, sustainability and integrated thinking should be approached as pedagogical orientations, not discrete subject areas. Integrated thinking provides a systems-based lens that draws attention to interdependencies between financial, social, environmental, human, and intellectual capitals, as well as the trade-offs inherent in long-term value creation. Sustainability learning therefore becomes less about recall of frameworks or standards and more about how students reason through dilemmas, justify decisions, and evaluate consequences across time horizons and stakeholder groups.

This framing aligns directly with the CA of the Future Competency Framework, which foregrounds professional judgement, ethical behaviour, relational acumen, and decision-making under uncertainty. These competencies cannot be developed through content transmission alone. They require learning environments in which students repeatedly practise evaluating incomplete information, balancing competing claims, and defending conclusions in relation to evidence, values, and context. Sustainability provides a natural vehicle for this kind of learning precisely because it is contested, value-laden, and characterised by uncertainty.

The emphasis on judgement is also consistent with established professional judgement literature, which recognises that accounting decisions are rarely mechanical applications of rules. Instead, they involve interpretation, evaluation, and discretion, particularly in areas such as materiality, risk assessment, impairment, assurance, and governance. Sustainability-related issues amplify these demands by introducing longer time horizons, non-financial impacts, and stakeholder considerations that cannot be resolved through technical calculation alone.

From a pedagogical perspective, this orientation aligns closely with research on feedback literacy and evaluative judgement (Carless & Boud, 2018). Evaluative judgement refers to the capability to make decisions about quality, value, and appropriateness, both in one's own work and in the work of others. Sustainability learning environments that involve debate, reflection, peer dialogue, and justification of trade-offs create precisely the conditions under which evaluative judgement develops. Students learn not only what decisions are made, but why they are defensible, for whom, and over what time horizon.

Importantly, this approach avoids positioning sustainability as an "extra" burden in already crowded curricula. The goal is not to add new topics, modules, or assessment items, but to re-orient existing teaching and assessment. Financial reporting, auditing, taxation, governance, and strategy already require judgement; sustainability reframes these judgements by foregrounding interdependence, impact, and long-term consequences. In doing so, it strengthens rather than dilutes core disciplinary learning.

For educators, this means teaching through sustainability rather than merely about sustainability. It involves designing learning activities that surface ambiguity, require justification, and invite reflection, rather than privileging certainty and procedural compliance. For students, it means learning that professional competence is demonstrated not by having the "right answer", but by the ability to reason transparently, weigh evidence, acknowledge trade-offs, and accept accountability for decisions made under uncertainty.

8.3 Learning Through Productive Discomfort

Sustainability challenges are inherently contested, value-laden, and uncertain. They cannot be resolved through technical compliance or formulaic reasoning alone. For accounting education, this has a critical implication: learning must move beyond comfort, certainty, and premature closure. Conflict, disagreement, and disorientation are not pedagogical failures, but necessary conditions for developing professional judgement in complex sustainability contexts.

This section positions productive discomfort as an umbrella concept for learning through conflict, disorienting dilemmas, and transformation. Discomfort becomes productive when it is deliberately designed, professionally framed, and carefully facilitated to support reflection, dialogue, and judgement, rather than emotional disclosure or personal therapy. The goal is professional transformation, not personal confession.

Across Sections 6 and 7, students encounter unavoidable tensions: including trade-offs between capitals, competing stakeholder claims, timing mismatches, and governance dilemmas. These tensions generate epistemic friction, moments where existing assumptions no longer provide adequate guidance. Learning through productive discomfort enables students to remain engaged in these moments long enough to interrogate assumptions, test reasoning, and develop defensible professional positions.

8.3.1 Transformative Learning in Sustainability Education

Transformative Learning (TL) provides a robust theoretical foundation for understanding why discomfort is essential in sustainability education. Rather than treating students as passive recipients of knowledge, TL positions them as active meaning-makers who must critically examine and, where necessary, revise their underlying assumptions (Mezirow, 1997). Saravanamuthu (2015) argues that infusing sustainability into accounting education requires precisely this shift in facilitation: from transmission of content to co-construction of understanding.

Mezirow defines a frame of reference as the constellation of assumptions, values, expectations, and beliefs through which individuals interpret experience. These frames are shaped by social, cultural, economic, educational, and professional conditioning. Transformative learning occurs when learners become aware of these frames, subject them to critical scrutiny, and reconstruct them through reflection and dialogue (Cranton, 2000).

This approach is particularly suited to sustainability education, where deeply embedded assumptions, such as shareholder primacy, unlimited growth, or the neutrality of accounting information, must be questioned rather than taken for granted. Key features of transformative learning relevant to accounting education include:

- Disorienting dilemmas that unsettle established assumptions
- Critical reflection on the validity and consequences of prior beliefs
- Dialogical engagement to test interpretations against alternative perspectives
- Recognition of social norms and power structures shaping judgement
- Perspective transformation, enabling more integrative and responsible reasoning

Importantly, transformative learning in this context is not about changing students' personal identities or values for their own sake. It is about equipping future professionals to exercise judgement in environments characterised by ambiguity, contestation, and ethical complexity.

8.3.2 Learning Through Conflict and Disagreement

Conflict in sustainability education should be understood as epistemic friction, the productive tension that arises when competing interpretations, values, or priorities collide. In accounting classrooms, such conflict often emerges around familiar fault lines: financial performance versus environmental limits, shareholder returns versus stakeholder wellbeing, or short-term profitability versus long-term resilience.

When carefully facilitated, disagreement forces students to confront the limits of technical certainty. It exposes the normative dimensions of accounting decisions and makes visible the value judgements embedded in seemingly objective calculations. This prepares students for professional realities where consensus is rare, evidence is incomplete, and decisions must still be made.

Premature consensus-seeking undermines this learning. When educators rush students toward agreement or resolution, they short-circuit the reflective process and reinforce the illusion that sustainability dilemmas have neat answers. By contrast, holding open disagreement allows students to practise articulating positions, responding to critique, and refining reasoning under pressure. These are core professional capabilities for Chartered Accountants operating in governance, assurance, and strategic roles.

Conflict, in this sense, is not a failure of classroom management. It is a pedagogical asset that mirrors the contested environments in which sustainability decisions are made.

8.3.3 Disorienting Dilemmas as Pedagogical Assets

Disorienting dilemmas are central mechanisms of transformative learning. They are experiences that disrupt habitual ways of thinking and compel learners to reassess their frames of reference (Mezirow, 1997). In sustainability education, such dilemmas are not incidental; they can be intentionally designed.

Accounting provides fertile ground for structured disorientation. Cases that surface conflicts between value creation and value erosion, stakeholder inclusivity and fiduciary duty, or financial materiality and social impact force students to confront contradictions embedded in professional practice. These dilemmas link directly back to Sections 6 and 7, where students encounter trade-offs, stakeholder tensions, and governance constraints that resist optimisation.

The educator's role is not to resolve these dilemmas, but to hold the space in which students can reflect, dialogue, and explore alternative interpretations. When supported by structured reflection and facilitated discussion, disorienting dilemmas shift learning from compliance-driven reasoning to integrated, ethical judgement.

Through repeated exposure to such dilemmas, students learn that sustainability is not about choosing the "right" framework, but about navigating uncertainty with transparency, justification, and accountability. This capacity is foundational to professional competence in contemporary accounting practice.

8.4 Learning Through Dialogue and Critical Reflection

Dialogue and critical reflection are the mechanisms through which productive discomfort is transformed into professional judgement. Where conflict exposes uncertainty and disorienting dilemmas unsettle assumptions, dialogue and reflection enable sense-making, justification, and accountability. Together, they support learning that is not about winning arguments or reaching consensus, but about reasoning well under conditions of ambiguity.

In sustainability education, these processes are essential because decisions cannot be reduced to technical optimisation. They require interpretation, explanation, and the ability to justify choices to diverse audiences. Dialogue and reflection therefore mirror the professional realities of accounting practice, where judgement must be articulated, defended, and made transparent.

8.4.1 Dialogue as Sense-making, not Debate

Dialogical education treats learning as a process of collective sense-making rather than persuasion or debate. Unlike adversarial argumentation, dialogue prioritises listening, reframing, and testing assumptions in the presence of difference. The purpose is not to convince others of a single position, but to surface underlying values, assumptions, and interpretations that shape judgement.

For accounting students, this distinction is critical. Professional contexts rarely reward rhetorical dominance; instead, they require the ability to engage constructively with competing perspectives, particularly in multi-stakeholder environments. Dialogue trains students to ask better questions:

- What assumptions underpin this position?
- What evidence is being prioritised or excluded?
- How might this decision be interpreted by different stakeholders?

In the South African context, dialogue also carries deeper significance. It resonates with ubuntu and decolonial traditions that emphasise relationality, shared humanity, and the dignity of plural voices (Terblanche, 2019). These traditions reinforce that legitimacy is built through engagement, not imposition.

In the classroom, dialogical activities such as facilitated discussions, role-based deliberations, and stakeholder simulations allow students to practise articulating positions, listening actively, and revising reasoning in response to challenge. Educators play a crucial facilitative role by holding open spaces for disagreement without prematurely resolving tension. This prepares students for professional environments where sustainability decisions are negotiated rather than dictated.

8.4.2 Critical Reflection as Professional Accountability

Critical reflection is the process through which dialogue and experience are translated into defensible professional judgement. It is not introspection for its own sake, but a disciplined practice of examining reasoning, assumptions, and consequences. Schön's (1983) distinction between reflection-in-action and reflection-on-action is particularly relevant: professionals must be able to think critically both while making decisions and when explaining them afterwards.

In accounting practice, reflection underpins accountability. Whether determining materiality, assessing risk, or explaining trade-offs in integrated reports, professionals are expected to justify not only what decisions were made, but why. This expectation aligns directly with sustainability education, where uncertainty and disagreement are unavoidable.

Reflection supports students in developing the capacity to:

- Explain how evidence was weighed and prioritised
- Acknowledge uncertainty and limitations in analysis

- Justify trade-offs across financial, social, and environmental considerations
- Anticipate how decisions may be scrutinised by different stakeholders

This emphasis shifts assessment away from “getting the right answer” toward demonstrating sound judgement. Asking students to explain their reasoning, defend materiality assessments, or reflect on alternative interpretations mirrors real-world professional accountability more closely than technical recall.
Over time, such practices cultivate what Twyford et al. (2024), describe as a sustainability mindset: the ability to pause, question assumptions, and act with foresight and responsibility. For future CAs(SA), this mindset is not optional. It is fundamental to maintaining credibility, trust, and legitimacy in a profession increasingly called upon to explain decisions in the public interest.

8.5 Why Traditional Approaches are Insufficient

The challenge facing accounting education is not a lack of commitment or effort by educators, but a growing mismatch between how students are taught and assessed, and the nature of the professional judgements they are expected to make in sustainability-related contexts.

Sustainability decisions are characterised by uncertainty, competing values, incomplete evidence, and multi-stakeholder claims. Yet much of accounting education still relies on pedagogical and assessment approaches designed for stable problems with determinate answers. This mismatch is not ideological; it is epistemic. It reflects a misalignment between judgement-heavy professional realities and certainty-seeking educational practices.

The SAICA CA of the Future Competency Framework explicitly calls for graduates who are ethically grounded, adaptive, reflective, and capable of exercising professional judgement in complex contexts. These outcomes cannot be reliably achieved through transmissive, content-heavy models alone. While technical mastery remains essential, it is no longer sufficient.

8.5.1 Sustainability is Not a New Add-On Topic

A persistent misconception in accounting education is the assumption that sustainability can be treated like previous curriculum expansions, an additional topic, standard, or elective area to be “covered” once core technical content has been delivered. This logic mirrors how new accounting standards, sector-specific requirements, or regulatory updates have historically been incorporated into curricula: by adding content without fundamentally altering underlying pedagogical orientation.

Sustainability does not fit this model.

Unlike a new reporting standard or specialist domain, sustainability is not a discrete body of technical knowledge. It is a governance lens that reshapes how existing accounting concepts are interpreted, applied, and justified. Questions of sustainability permeate financial reporting, auditing, taxation, risk management, governance, and strategy because they concern how value is created, for whom, at what cost, and over what time horizon.

Treating sustainability as an add-on risks obscuring its true nature. It frames sustainability as optional, peripheral, or specialist, rather than as integral to professional judgement and accountability. This framing also reinforces the false belief that sustainability can be “covered” without revisiting assumptions about materiality, risk, stakeholder engagement, trade-offs, and long-term value creation — precisely the concepts already embedded in accounting curricula and competency frameworks.

In this sense, sustainability is best understood not as new content to be added, but as good governance made visible. It requires educators and students to revisit familiar topics with different questions in mind: not only Is this technically correct?, but also Is it decision-useful, legitimate, and sustainable in context?
Failure to recognise this distinction contributes directly to the pedagogical mismatches discussed below.

8.5.2 Limits of compliance and optimisation

Traditional accounting education has been shaped by a compliance logic: correct application of standards, optimisation of outcomes, and replication of accepted solutions. This logic works well for bounded technical tasks, but it breaks down in sustainability contexts, where no single “correct” answer exists.

Sustainability challenges require students to justify choices, explain trade-offs, and defend decisions that affect different stakeholders in unequal ways. Teaching approaches that prioritise optimisation and rule-following risk reinforcing the assumption that professional responsibility ends with compliance. In contrast, sustainability reasoning requires students to ask whether technically compliant outcomes are also ethically defensible, socially legitimate, and sustainable over time.

8.5.3 The illusion of certainty in sustainability problems

A third mismatch lies in the implicit promise of certainty embedded in many curricula and assessments. Students are often rewarded for precision, completeness, and confidence — qualities that are difficult to sustain when dealing with climate risk, social inequality, or long-term ecological uncertainty.

As Wiek et al. (2011) note, sustainability competence involves navigating ambiguity rather than eliminating it. Teaching approaches that frame uncertainty as a failure to be corrected, rather than a condition to be managed, leave students ill-prepared for professional contexts where evidence is partial, contested, or evolving.

Dialogical and transformative approaches address this gap by legitimising uncertainty as part of professional reasoning. They encourage students to articulate assumptions, acknowledge limits of knowledge, and explain how judgements were reached, even when outcomes remain provisional.

8.5.4 Implications for professional identity

These mismatches have consequences beyond pedagogy; they shape students' emerging professional identities. If curricula and assessments continue to reward technical accuracy above reflective reasoning, students quickly learn that replication, not judgement, is what truly matters. This constitutes a powerful hidden curriculum (Gray, 2013).

As Bebbington and Thomson (2013) and Coulson and Thomson (2006) argue, dialogical approaches in accounting education make visible the contested values that underpin professional decisions and broaden accountability beyond narrow technical correctness. Aligning pedagogy with these approaches helps ensure that competencies such as scepticism, ethical awareness, and professional judgement are experienced as lived practices rather than abstract aspirations.

From an assessment perspective, the Assessment of Professional Competence (APC) provides a critical test case. The APC is explicitly designed to assess integrated judgement, ethical reasoning, and responses to complex, uncertain, multi-stakeholder scenarios. In principle, it aligns closely with dialogical and transformative learning. Where undergraduate teaching remains dominated by certainty-seeking assessments, students experience a sharp discontinuity between how they were trained and how they are ultimately evaluated.

The implication is clear: preparing students for sustainability-related professional judgement does not require abandoning technical rigour. It requires recalibrating pedagogical and assessment practices so that they reflect the realities of contemporary professional life. Where teaching, learning, and assessment remain misaligned, even well-intentioned sustainability initiatives risk being reduced to compliance exercises rather than catalysts for meaningful professional competence.

8.6 Citizenship, Leadership, and Future-Readiness

Sustainability education is ultimately about professional identity, not pedagogy alone. Conflict, conversation, and critical reflection, embedded within a transformative learning orientation, do more than deepen understanding of sustainability concepts; they shape how future accountants understand their role as institutional actors within society.

Accounting graduates do not operate as neutral technicians. They participate in governance systems, influence organisational behaviour, and contribute to the allocation of resources and risks that affect communities, markets, and ecosystems. In this sense, sustainability is not an external ethical add-on, but a civic–professional responsibility rooted in the public interest mandate of the profession.

Dialogical and reflective approaches prepare graduates who can act responsibly in this role by developing three interrelated capacities:

- Active citizenship: the ability to engage thoughtfully and responsibly in professional, organisational, and public decision-making, recognising plural values and democratic accountability.

- Ethical stewardship: a commitment to integrity, transparency, and the long-term consequences of professional judgement, particularly where power, uncertainty, and competing stakeholder claims intersect.

- Adaptive leadership: the capacity to navigate ambiguity, anticipate systemic risks, and contribute constructively to institutional change in volatile and evolving contexts.

These orientations align with traditions of Global Citizenship Education (GCE) and Democratic Citizenship Education (DCE), which emphasise justice, sustainability, and lifelong learning as core societal competencies (Terblanche, 2019). They also align directly with SAICA's CA of the Future competency framework, which foregrounds ethical reasoning, problem-solving, collaboration, communication, and professional judgement as pervasive capabilities.

Crucially, these attributes cannot be developed through content transmission alone. They emerge through pedagogies that allow students to practise judgement, justify decisions, engage with difference, and reflect on the consequences of professional action. In this way, sustainability education contributes not only to technical competence, but to the formation of accountants who can sustain the legitimacy, relevance, and public trust of the profession in an increasingly complex world.

8.7 From Professional Supremacy to Systemic Stewardship

A further, often unspoken barrier to sustainability-oriented accounting education lies in professional identity. Within many accounting programmes, there is an implicit narrative of professional supremacy: the idea that the CA qualification represents the pinnacle of intellectual rigour, difficulty, and decision-making authority within the university and the broader economy. While pride in professional standards is legitimate, this narrative can unintentionally reinforce insularity and undermine the very forms of collaboration that contemporary governance demands.

Sustainability challenges do not respect disciplinary boundaries. Climate risk, inequality, technological disruption, and social legitimacy are not problems that accounting expertise alone can solve. They require contributions from environmental scientists, engineers, lawyers, sociologists, data scientists, public health experts, community leaders, and policymakers. In this context, the role of the Chartered Accountant is not to dominate decision-making, but to contribute specialised judgement within a broader system of governance and accountability.

From a systems perspective, no profession operates at the "top" of the system. Each profession occupies a node with particular strengths, blind spots, and dependencies. Accounting brings discipline, structure, scepticism, measurement, and assurance. Other disciplines bring contextual knowledge, scientific insight, lived experience, and ethical critique. Sustainable governance emerges not from hierarchy, but from interdependence.

For educators, this has pedagogical implications. When students are taught, implicitly or explicitly, that accounting expertise is superior to other forms of knowledge, they may struggle later to engage productively with experts outside their field, dismiss stakeholder concerns as "non-technical", or overestimate the authority of financial metrics in complex decision contexts. This mindset is increasingly misaligned with professional reality.

Reframing accounting education through a systems lens allows a more accurate and resilient professional identity to emerge: one in which future CAs(SA) see themselves as integrators, translators, and stewards within complex governance systems, rather than as isolated experts with final authority. This does not weaken the profession. On the contrary, it strengthens its legitimacy by aligning professional confidence with epistemic humility.

Teaching sustainability through dialogue, stakeholder engagement, and interdisciplinary awareness therefore does more than build ethical sensitivity. It prepares graduates to operate credibly in environments where no single profession has all the answers, and where responsible decision-making depends on recognising when to lead, when to collaborate, and when to defer to expertise beyond one's own.

8.8 Implications for Educators

If sustainability and integrated thinking are to function as the golden thread of accounting education, then educators become critical agents of change. This does not require abandoning technical rigour or adopting radically new teaching methods. Rather, it requires reframing existing content, interactions, and assessments so that students practise judgement, ethical reasoning, and accountability alongside technical competence.

In this context, the role of the accounting educator expands beyond content transmission to encompass three interrelated functions:

- Facilitator: creating learning environments where knowledge is co-constructed through dialogue, peer engagement, and structured disagreement, rather than delivered as fixed answers.
- Mentor: supporting students as they confront ambiguity, uncertainty, and ethical tension, and scaffolding their capacity for critical reflection and professional growth.
- Provocateur: intentionally surfacing assumptions, challenging dominant paradigms, and prompting students to interrogate both organisational practices and their own positionality.

These roles align with the principles of ubuntu — shared humanity, dignity, and relationality — and with decolonial approaches that recognise diverse knowledge systems and lived experience (Terblanche, 2019). They also require educators to reflect critically on their own authority, biases, and power, and to model the professional humility and openness expected of future CAs(SA).

Importantly, dialogical and transformative approaches demand clear pedagogical guardrails. The educator's task is not to prescribe particular sustainability positions or moral conclusions, but to create inclusive and intellectually rigorous spaces where plural perspectives can be examined critically. Students should leave with the capacity to form defensible professional opinions, justified with evidence, attentive to context, and open to revision, rather than reproducing the views of their lecturers.

In this way, accounting education shifts from teaching about sustainability to teaching through sustainability. The emphasis moves from compliance to judgement, from replication to reflection, and from technical accuracy alone to ethical citizenship and leadership. Section 9 builds directly on this foundation by translating these pedagogical orientations into practical teaching and assessment strategies that can be implemented incrementally across accounting modules, without requiring wholesale curriculum redesign.

Teaching Toolkit: From Answer-Giver to Judgement-Facilitator

This toolkit supports educators in reflecting on their teaching stance, use of authority, and comfort with uncertainty when engaging with sustainability, integrated thinking, and contested professional issues. It does not prescribe techniques or require new content. Instead, it invites educators to examine how their existing practice either enables or constrains dialogical, judgement-based learning. The toolkit may be used individually, or as a basis for discussion within departments or teaching teams.

Reframing the Educator's Role

Dialogical and transformative teaching does not require educators to become sustainability advocates, moral arbiters, or encyclopaedias of rapidly evolving knowledge. Rather, it involves a shift in orientation: from positioning oneself as the primary source of certainty to acting as a facilitator of professional judgement in contexts where certainty is unavailable.

In sustainability education, authority lies not in having the "right answers", but in modelling how defensible judgements are formed, justified, challenged, and revised. The questions below are designed to prompt reflection on teaching practice, assessment design, and classroom dynamics

Authority and Knowledge

- Where in my teaching do I feel the strongest pressure to appear certain or in control?
- How do I typically respond when students question assumptions embedded in standards, governance practices, or dominant business narratives?

Discomfort and Conflict

- How comfortable am I with disagreement or unresolved tension in the classroom?
- Do I tend to resolve conflict quickly, or allow it to remain open long enough for learning to occur?

Judgement versus Correctness

- What do my assessments currently reward more: technical accuracy or quality of reasoning?
- Where could students be given greater opportunity to explain why a judgement is defensible, even if it is imperfect?

Voice, Power, and Perspective

- Whose perspectives are most often centred in my examples, cases, and discussions?
- Which stakeholder voices are implicitly marginalised, treated as secondary, or framed as "out of scope"?

Uncertainty

- Where does genuine uncertainty already exist in my subject area, but remain unnamed?
- How might explicitly acknowledging uncertainty strengthen professional learning rather than undermine it?

Professional Identity and Systems Awareness

Sustainability challenges highlight that no single profession has epistemic supremacy. CAs(SA) are not positioned above other disciplines, but operate as part of a broader governance system that depends on collaboration with engineers, environmental scientists, lawyers, economists, sociologists, and public institutions.

Reflect on the following:

- How is the role of the CA(SA) implicitly framed in my teaching: as final decision-maker, technical authority, or as one contributor within a wider governance ecosystem?
- Where might my teaching unintentionally signal professional superiority rather than professional responsibility?
- Which other disciplines at my institution engage directly with sustainability challenges, and how might I explicitly acknowledge their expertise when discussing accounting-related decisions?

This reframing reinforces systems thinking, professional humility, and accountability as core dimensions of contemporary accounting practice.

Permission to Teach Without All the Answers

Educators are not expected to:

- resolve sustainability debates that society itself has not settled;
- provide definitive answers to ethical or governance dilemmas;
- agree with one another on sustainability priorities or interpretations.

Educators are expected to:

- make reasoning visible;
- encourage students to justify judgements with evidence and argument;
- create learning spaces where competing perspectives can be examined responsibly.

Modelling professional humility — including the limits of one's own knowledge — is not a weakness. It is an authentic representation of modern professional practice.

Low-Stakes Starting Points

Small shifts can have significant impact:

- Add one prompt to an existing case: "Which perspectives or forms of expertise are missing from this analysis?"
- Explicitly name uncertainty in class discussions and model how professionals reason despite it.
- Allow students to justify why certain impacts cannot be quantified, or why external expertise would be required to make a responsible decision.

Reminder: Sustainability education does not require educators to master every domain. It requires the confidence to acknowledge limits, the humility to collaborate, and the courage to model professional judgement rather than professional certainty.

Preparing for the Next Step

This reflective stance forms the foundation for practical implementation. Once educators are comfortable facilitating uncertainty, disagreement, and justification, sustainability can be embedded naturally into existing learning activities and assessments.

Section 9 builds directly on this toolkit, translating reflective orientation into concrete teaching and assessment strategies that can be adopted incrementally, without redesigning modules or adding new content.

Section 9: Practical Teaching Strategies for Developing Sustainability Capability

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Section 9 at a Glance:

The teaching strategies presented in this section are not new to accounting education. Case-based learning, simulations, reflective writing, group work, and professional judgement tasks are already widely used across accounting curricula. What changes in the context of sustainability is not the method, but the purpose. These approaches are deliberately reframed to cultivate judgement under uncertainty, ethical reasoning, systems thinking, and the ability to justify decisions in complex, multi-stakeholder contexts.

Rather than introducing additional content or specialist sustainability modules, this section demonstrates how familiar teaching practices can be repurposed to develop sustainability capability. The emphasis is on creating learning conditions that surface assumptions, expose trade-offs, and require students to explain and defend their reasoning. In this way, sustainability becomes embedded within existing technical teaching, governance discussions, and assessment practices, rather than positioned as an add-on topic.

Purpose and Scope:

This section provides practical guidance on how accounting educators can embed sustainability capability into everyday teaching, assessment, and feedback practices. It focuses on active and experiential learning, transformative assessment design, and the integration of digital and AI literacy, all aligned with the development of professional judgement and PVAAs.

How to Read the Section:

Section 9 builds directly on the pedagogical foundations established in Section 8. While Section 8 explains why dialogical, reflective, and judgement-based learning is essential for sustainability education, this section shifts the emphasis to how those principles can be enacted in routine teaching practice. The intention is not to repeat theory, but to translate pedagogical commitments into concrete design choices that align learning activities, assessments, and feedback with the realities of sustainability-related decision-making.

Together, Sections 8 and 9 move from pedagogical orientation to pedagogical implementation. Readers may engage with the section sequentially or dip into specific subsections and toolkits relevant to their teaching context, class size, or institutional constraints.

9.1 Why Active and Experiential Learning Matters for Sustainability

Sustainability capability cannot be developed through passive transmission alone. Unlike technical standards or procedural rules, sustainability-related judgements are formed in contexts of uncertainty, contested values, and incomplete information. Students cannot learn how to navigate these conditions by memorising frameworks or reproducing predefined answers. They must encounter complexity, practise deliberation, and justify decisions in situations where trade-offs are unavoidable and outcomes are uncertain.

As demonstrated in Sections 5 to 8, sustainability challenges resemble wicked problems rather than technical puzzles. They involve multiple stakeholders, competing priorities, and long-term consequences that cannot be optimised simultaneously. In such contexts, professional competence lies not in knowing the correct answer, but in the ability to reason responsibly, articulate assumptions, weigh evidence, and defend judgements in the public interest. These capacities are developed through experience, reflection, and dialogue, not through content exposure alone.

Active and experiential learning approaches are therefore not pedagogical preferences, but epistemological necessities for sustainability education. They create the conditions under which students can practise judgement rather than rehearse compliance. By engaging students in realistic scenarios, contested cases, simulations, and reflective tasks, educators allow them to experience the kinds of uncertainty, disagreement, and ethical tension that characterise real-world sustainability decisions (Kolb, 1984; Mezirow, 1997; Wiek et al., 2011).

This is particularly relevant for accounting education. Many of the profession's most critical judgements, materiality assessments, risk evaluations, assurance decisions, and governance recommendations are already experiential in nature. They require interpretation, scepticism, and justification rather than mechanical rule application. Sustainability extends these existing demands by foregrounding longer time horizons, broader stakeholder impacts, and systemic interdependencies. Teaching sustainability therefore does not require abandoning established accounting pedagogies, but reorienting them toward judgement-based learning outcomes.

Research in professional education consistently shows that students develop evaluative judgement when they are required to make decisions, explain reasoning, receive feedback, and reflect on consequences (Carless & Boud, 2018). Sustainability learning amplifies this need. Students must learn not only to assess whether a decision complies with a standard, but whether it is defensible in light of ethical considerations, stakeholder expectations, and long-term value creation. These forms of judgement cannot be acquired through passive lectures alone.

Active and experiential learning also align closely with the CA of the Future Competency Framework. Pervasive skills such as ethical reasoning, problem-solving, relational acumen, communication, and professional judgement are not transmissible knowledge outcomes. They are capabilities that emerge through practice. When students are asked to engage with sustainability cases actively, to debate trade-offs, to consider alternative stakeholder perspectives, and to justify decisions under uncertainty, these competencies are developed in authentic and integrated ways.

Importantly, adopting active and experiential approaches does not imply adding new content, increasing workload, or redesigning entire modules. In most accounting programmes, students already engage with cases, scenarios, group work, and professional tasks. The shift required is one of emphasis and framing. Instead of using these activities primarily to reinforce technical correctness, they can be used to surface uncertainty, interrogate assumptions, and practise sustainability-oriented judgement.

In this sense, active and experiential learning is not an innovation layered onto accounting education. It is the means through which sustainability becomes learnable. Without opportunities to experience complexity, grapple with disagreement, and reflect critically on outcomes, sustainability risks being reduced to another compliance topic or reporting exercise. With such opportunities, it becomes a lived professional practice grounded in judgement, accountability, and ethical responsibility.

Section 9 therefore focuses on practical teaching strategies that use familiar pedagogical tools in more intentional ways. The aim is not to prescribe new techniques, but to show how existing learning activities can be leveraged to develop sustainability capability across accounting disciplines, incrementally and without disrupting curricular coherence.

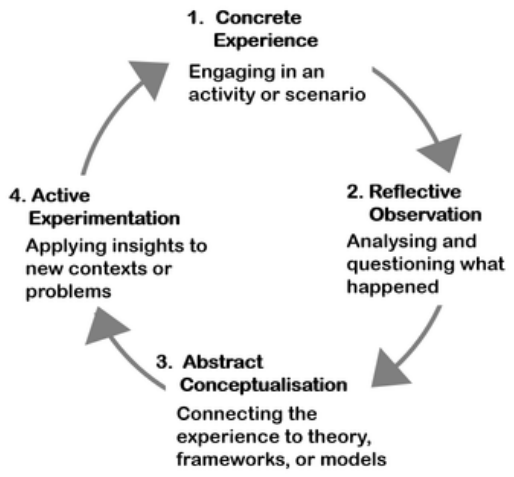
9.2 What "Active and Experiential" Means in Accounting Education

Active and experiential learning is not new to accounting education. It is already embedded in many of the ways accounting is taught and assessed, including case analysis, professional judgement questions, audit scenarios, risk assessments, simulations, group projects, and written advisory memos. What changes in a sustainability context is not the method, but the purpose and emphasis of these activities.

In traditional usage, experiential elements in accounting education are often designed to reinforce technical competence or correct application of standards. Students are asked to apply rules to scenarios, identify errors, or arrive at a defensible technical position. These activities are valuable and remain essential. However, when sustainability and integrated thinking are foregrounded, the same activities can be reframed to develop judgement under uncertainty, ethical reasoning, and long-term value awareness.

From this perspective, active and experiential learning in accounting involves asking students not only how a decision complies with standards, but whether it is defensible in light of stakeholder impacts, trade-offs, and future consequences. For example:

- Case studies become spaces to examine competing stakeholder claims, not only financial outcomes.
- Professional memos require justification of assumptions, uncertainty, and limitations, not only conclusions.
- Audit and assurance tasks surface judgement calls about materiality, risk, and reliability in non-financial information.
- Scenario analysis highlights long-term impacts and unintended consequences rather than short-term optimisation.



(Adapted from Kolb, 1984)

Figure 12: Kolb's Experiential Learning Cycle

A useful way of understanding this shift is through Kolb's experiential learning cycle (1984), which frames learning as an iterative process, as shown in figure 12. In accounting education, this cycle is already familiar. Students engage with scenarios, reflect on outcomes, link decisions to frameworks, and apply insights to new problems. Sustainability learning deepens this process by making uncertainty, values, and systems interdependence explicit rather than implicit.

Active and experiential learning therefore supports integrated thinking by encouraging students to connect financial, social, human, and natural considerations in a single decision context. It also aligns closely with the CA of the Future competency framework, particularly in relation to professional judgement, ethical behaviour, communication, and relational acumen. These competencies cannot be developed through recall-based assessment alone. They require practice in making and justifying decisions where reasonable people may disagree.

Importantly, adopting an active and experiential orientation does not require lecturers to introduce new techniques, redesign modules, or sacrifice technical rigour. Most accounting programmes already contain suitable activities. The shift lies in how these activities are framed, what questions are asked, and what is rewarded in assessment. When students are required to explain their reasoning, acknowledge uncertainty, and consider broader impacts, existing teaching practices become powerful vehicles for sustainability capability.

The teaching toolkit that follows illustrates how familiar accounting activities can be reframed to support experiential sustainability learning. The emphasis is not on novelty, but on intentionality. By making judgement, reflection, and accountability visible, educators help students experience sustainability as a core feature of professional practice rather than an additional topic to be covered.

Teaching Toolkit: Designing Learning for Judgement, Not Recall

This toolkit plays a different role from the activity-focused toolkits that appear later in this section. Its purpose is not to introduce additional teaching techniques, but to help educators reframe how existing activities are designed, scaffolded, and assessed. The strategies that follow in Section 9 should be read through this lens: sustainability capability is developed not by adding new content, but by shifting the emphasis from recall to judgement, from certainty to justification, and from optimisation to responsible decision-making.

The distinction below is not between "old" and "new" teaching, but between different learning purposes. When the goal is professional judgement under uncertainty, traditional transmission-focused approaches are insufficient on their own. Table 8 contrasts teaching approaches based on their dominant learning purpose, not their overall quality or legitimacy. Traditional approaches remain essential for introducing and consolidating foundational concepts and standards. Active and experiential approaches become critical when the learning goal shifts from knowledge acquisition to professional judgement under uncertainty, as is the case in sustainability-related contexts.

Table 8: Active and Experiential Learning vs Traditional Teaching

Aspect	Traditional Teaching	Active & Experiential Learning
Role of Lecturer	Expert delivering content	Facilitator guiding learning through activities, reflection, and application
Role of Students	Primarily structured reception of disciplinary knowledge	Active participant doing, questioning, applying, and reflecting
Learning Focus	Emphasis on understanding and applying established concepts, standards, and rules	Developing professional judgement, ethical reasoning, transversal skills, and professional identity in contexts of uncertainty
Context	Classroom examples, often simplified	Authentic, complex dilemmas that mirror professional practice
Learning Process	Linear: Listen → Study → Recall	Iterative: Experience → Reflect → Connect → Apply → Re-evaluate
Assessment	Focus on recall and right answers	Emphasis on reflection, decision-making, and ability to justify trade-offs
Outcome	Technical knowledge	Integrated technical, ethical, and professional competence

For accounting educators, this distinction should feel familiar rather than radical. Case analysis, audit judgement, professional memos, risk assessment, and scenario evaluation already draw on active and experiential learning principles. Sustainability learning does not introduce a new pedagogy; rather, it extends these existing practices by foregrounding uncertainty, values, trade-offs, and systems interdependence.

This toolkit builds directly on Section 8's argument that sustainability learning requires dialogue, discomfort, and reflection. The remainder of Section 9 illustrates how this orientation can be enacted through familiar accounting tasks, without redesigning modules or adding new topics.

9.3 Purposefully Embedding Transformative Learning into Your Module

Transformative learning does not occur by accident. It requires intentional design choices about what students are expected to become, not only what they are expected to know. Educators may choose to design an entire module around transformative principles, or they may embed transformative elements into selected lessons, projects, or assessments. In both cases, the critical requirement is that these choices are purposeful rather than incidental, and grounded in constructive alignment between learning outcomes, teaching activities, and assessment (Biggs, 1996; Biggs & Tang, 2011).

In practice, this means starting with the end in mind. Educators first identify the professional competencies, forms of judgement, and orientations they want students to develop, and then design learning activities and assessments that deliberately cultivate those outcomes. When sustainability is the focus, this often involves shifting attention from technical correctness alone to justification, trade-offs, and accountability under conditions of uncertainty.

9.3.1 Why Transformative Learning Matters in Accounting Education

The role of accountants is evolving in response to global and local pressures for sustainability integration, ESG accountability, and transparent governance. International developments such as the Sustainable Development Goals, the Paris Climate Agreement, and the adoption of the IFRS Sustainability Disclosure Standards (S1 and S2) signal growing expectations for forward-looking, decision-useful sustainability information. These expectations increasingly shape mainstream accounting, assurance, and governance practice, rather than being confined to specialist sustainability roles.

In South Africa, this evolution carries particular significance through the growing expectation that CA's play a more active role in the public sector. Municipalities and public entities face complex challenges relating to service delivery, infrastructure investment, climate resilience, and long-term financial sustainability. These challenges demand integrated decision-making that connects financial stewardship with governance quality, resource constraints, and social outcomes. Recognising this reality, the CA of the Future Competency Framework explicitly includes public sector and sustainability competencies, reflecting the profession's responsibility to contribute meaningfully to accountable and resilient public institutions.

For accounting educators, the implication is not that students must master an ever-expanding set of sustainability standards and frameworks. The sustainability reporting landscape is evolving rapidly, and specific requirements will continue to change. The more enduring task of accounting education is therefore to equip students with the principles, skills, and mindsets needed to interpret, apply, and exercise judgement when engaging with new frameworks as they emerge. Integrated thinking enables students to connect financial, social, and environmental dimensions across the six capitals, while sustainability thinking develops their capacity to anticipate long-term consequences, recognise systemic interdependencies, and evaluate trade-offs. These capabilities cannot be cultivated through technical instruction alone. They require structured opportunities for reflection, dialogue, and judgement in situations where answers are not predetermined (Biggs, 1996; Taylor, 2007).

9.3.2 Transformative Learning in Practice

Purposefully embedding transformative learning involves creating structured opportunities for students to question assumptions, engage with ambiguity, and connect learning to professional identity. This is most effective when learning is progressively scaffolded:

1. Foundation: introductory tasks focused on core concepts, such as quizzes on the six capitals or key sustainability frameworks.
2. Application: analytical tasks, for example comparing sustainability disclosures across municipalities or organisations.
3. Transition: structured reflection through journals, guided dialogue, or peer discussion that surfaces assumptions and value judgements.
4. Independence: integrative tasks such as projects or essays that link sustainability challenges to professional responsibility and identity.

This progression reflects well-established principles of constructive alignment, educational scaffolding, and experiential learning (Biggs, 1996; Biggs & Tang, 2011; Kolb, 1984; Mezirow, 1997). Authentic contexts provide the grounding for these activities. Municipal reports, corporate reports, and disclosures, and sustainability controversies allow students to work with real-world complexity rather than simplified examples. Perspective-taking can be introduced through role play, simulations, or stakeholder mapping, followed by systematic reflection using models such as Gibbs' reflective cycle or Rolfe's "What? So what? Now what?" framework. Problem-Based Learning further deepens the experience by presenting dilemmas with no single correct solution, such as balancing short-term service delivery against long-term climate adaptation.

9.3.3 Why this Matters

When transformative learning is embedded intentionally, whether across an entire module or within selected components, students encounter structured opportunities to rethink how accounting knowledge is used in practice. By grappling with trade-offs, reflecting on assumptions, and linking learning to professional identity, they develop adaptability, ethical grounding, and judgement under uncertainty. These outcomes align directly with the CA of the Future Competency Framework and support the development of accountants who are equipped to act responsibly within complex governance systems.

Teaching Toolkit: Embedding Transformative Learning

This toolkit illustrates how transformative learning can be embedded incrementally through familiar accounting activities, rather than introduced as a separate pedagogical approach.

Table 9: Practical strategies for embedding transformative learning in accounting education

Design Focus	Practical Application in Class
Scaffolding Complexity	Move from recall (quizzes) → application (disclosure analysis) → reflection (journals/dialogue) → independence (integrative projects / critical essays, simulations, or advisory reports requiring students to justify judgements under uncertainty).
Authentic Contexts	Use municipal reports, corporate disclosures, or sustainability controversies as real-world material (including audit findings, assurance reports, or governance failures).
Perspective-taking	Run role plays, simulations, or stakeholder mapping exercises.
Structured Reflection	Use simple reflective models (e.g., Gibbs' cycle, Rolfe's "What? So what? Now what?") to help students move from description to analysis and action.
Problem-based Learning (PBL)	Present dilemmas without single solutions (e.g., short-term service delivery vs. long-term climate resilience). PBL tasks push students to research, debate, and justify their decisions under uncertainty.

Why use Reflection Frameworks?

The Gibbs and Rolfe reflection frameworks are not intended as personal introspection tools, nor as exercises in emotional disclosure. Rather, they provide structured mechanisms for making professional reasoning visible, explicit, and assessable.

In accounting education, reflection serves a disciplinary purpose. It helps students articulate how judgements were formed, which assumptions were relied upon, how trade-offs were weighed, and what alternative courses of action were considered. Used in this way, reflection supports evaluative judgement, accountability, and professional learning under uncertainty.

Gibb's Reflective Cycle

Gibbs' model (1988) structures reflection into six stages, guiding students to move beyond description and towards deeper analysis.

Table 10: Gibb's Reflective Cycle

Stage	Prompt
Description	What happened?
Feelings	What were you thinking and feeling?
Evaluation	What was good or bad about the experience?
Analysis	What sense can you make of the situation?
Conclusion	What else could you have done?
Action Plan	If this happened again, what would you do?

How to use it in accounting education:

Ask students to reflect on their role in a group sustainability project using Gibbs' prompts. This encourages them to unpack not only what they did, but why it mattered and how they would act differently in the future.

Rolfe's "What? So what? Now what?" Framework

Rolfe et al. (2001) propose a simple but powerful structure for reflection that helps students move quickly from description to action.

Table 11: Rolfe's "What? So What? Now What?" Reflective Framework

Stage	Prompt
What?	Describe the event, task, or issue.
So what?	Analyse its significance, implications, or lessons learned.
Now what?	Identify next steps, improvements or applications in future practice

How to use it in accounting education:

When students evaluate an integrated report, prompt them with What? (what did the report disclose), So what? (why does this matter for stakeholders or sustainability), and Now what? (what improvements would they recommend).

Problem-Based Learning (PBL)

PBL is a student-centred pedagogy where learners work in groups to investigate and solve complex, real-world problems that do not have a single correct answer (Barrows & Tamblyn, 1980). The process develops critical thinking, collaboration, and self-directed learning.

Core Features of PBL:

- **Open-ended problems:** tasks are complex, ambiguous, and resist "one right solution."
- **Collaborative inquiry:** students work in groups to research, debate, and test perspectives.
- **Facilitation role:** the educator acts as a guide, supporting reflection and synthesis rather than delivering solutions.
- **Reflection:** students evaluate what they have learned, how they approached the problem, and what could be improved.

How to use it in accounting education:

Pose dilemmas that mirror professional practice, such as:

- Should a municipality prioritise short-term service delivery or long-term climate adaptation?
- How should a listed company balance shareholder dividends with urgent investment in renewable energy?
- When facing an ESG controversy, how should a board weigh financial performance against reputational risk?

These scenarios force students to grapple with uncertainty, weigh competing interests, and practise integrated thinking. Such tasks mirror the ambiguity and contested judgement characteristic of professional accounting practice, rather than examination-style problem solving.

9.4 Practical Methods for Accounting Education

Active and experiential learning can be embedded in accounting education through a range of practical methods, each with its own strengths and constraints. The choice of approach depends on factors such as class size, available resources, and institutional support. For example, fieldwork or live stakeholder engagement may be well suited to postgraduate or small-group settings, while digital simulations, role plays, and curated case materials are often more feasible in large undergraduate cohorts.

Crucially, the effectiveness of these methods lies not in their format, but in the learning conditions they create. In sustainability contexts, these learning conditions deliberately create a liminal space in which students work between established technical knowledge and emerging professional judgement. This space is designed to support the development of reasoning, justification, stakeholder engagement, and decision-making in contexts where there are no simple or predetermined answers.

To support sustainability capability and professional judgement, methods should ensure that students are:

1. Exposed to authentic, complex sustainability dilemmas that reflect real governance and reporting challenges.

2. Supported through structured reflection on decisions, assumptions, and outcomes.

3. Encouraged to connect learning explicitly to professional standards, frameworks, and competencies.

4. Equipped to use digital tools to analyse information and produce professional outputs such as dashboards, briefing papers, or board-level reports.

When designed with these conditions in mind, classroom methods do more than increase engagement. They actively shape the hidden curriculum: the implicit messages students receive about what it means to be a professional, how authority is exercised, and whether judgement or compliance is ultimately valued. In doing so, they embed the development of the PVAAs, digital acumen, and sustainability capability directly into the learning process. The subsections that follow outline practical methods commonly used in accounting education, with guidance on implementation and illustrative examples.

9.4.1 Sustainability Simulations

What it is:

Sustainability simulations immerse students in decision-making scenarios where financial, environmental, and social dimensions intersect. Learners must grapple with trade-offs across the six capitals and confront the unintended consequences of their choices, reflecting the integrated nature of real-world governance and value creation.

While simulations may appear similar to case studies or project-based learning, they create a distinct learning experience. Case studies typically ask students to analyse decisions made by others, often with the benefit of hindsight. Projects usually focus on producing a defined output, such as a report or presentation, over an extended period. Simulations, by contrast, place students inside a dynamic decision environment where their own choices shape outcomes as they unfold. Uncertainty cannot be eliminated, trade-offs must be managed rather than solved, and consequences are experienced rather than merely described.

This immediacy makes simulations particularly powerful for sustainability education. As discussed in Section 8, learning through conflict, dialogue, and critical reflection requires more than intellectual analysis; it requires situations that disrupt assumptions and demand judgement under pressure. Simulations create these conditions by fostering a degree of emotional and cognitive investment in the outcomes, even when the scenario itself is fictitious. Students care about the consequences of their decisions, which intensifies reflection, sharpens accountability, and supports deeper perspective transformation.

In this way, simulations mirror professional practice more closely than retrospective analysis alone. They require students to anticipate second-order effects, respond to stakeholder pressures, justify decisions without certainty, and reflect on both outcomes and reasoning. These are precisely the judgement-based conditions under which sustainability, governance, and integrated thinking must be exercised in contemporary accounting practice.

How to implement:

Simulations can take a variety of forms. Digital tools such as En-ROADS, developed by Climate Interactive, allow students to experiment with policy levers such as carbon taxes, energy transitions, or demand reduction strategies. Classroom-based simulations may assign students to roles such as executives, regulators, community representatives, or civil society organisations negotiating sustainability strategies.

Regardless of format, structured debriefing is essential. Students should be guided to reflect critically on the consequences of their decisions, how trade-offs were negotiated, which stakeholder perspectives shaped outcomes, and what unintended effects emerged during the simulation. Reflection should encourage students to evaluate alternative courses of action, justify their reasoning, and consider how different assumptions, priorities, and time horizons influence perceptions of legitimacy, responsibility, and value creation. Where appropriate, recognised sustainability and governance frameworks may be used as interpretive lenses rather than prescriptive solutions. Reflection and justification, rather than optimal outcomes, should remain the primary learning focus.

Example:

Students simulate a board or management meeting debating a net-zero transition strategy. They assess financial implications, regulatory exposure, reputational risks, and stakeholder pressures before producing professional outputs such as strategy memoranda, briefing notes, or dashboard-style summaries.

Why it matters:

Sustainability simulations cultivate systems thinking, ethical judgement, and anticipatory competence by requiring students to reason through uncertainty and competing priorities (Wiek et al., 2011). Because students must justify trade-offs and communicate their reasoning, simulations also reinforce transversal competencies, digital acumen, and PVAAs central to the CA of the Future Competency Framework.

9.4.2 Role Plays

What it is:

Role plays place students in structured professional dilemmas where they must reason from the perspective of different stakeholders. These activities are not about performance or theatrical skill, but about perspective-taking, judgement, and decision-making in contested contexts. Students are required to inhabit roles such as financial directors, auditors, regulators, community representatives, or civil society actors, and to engage with competing claims in ways that mirror real governance processes.

As Brookfield (2017) argues, role play strengthens critical thinking by requiring learners to articulate, defend, and challenge multiple viewpoints. In sustainability contexts, role plays are particularly effective because they surface normative tensions and value conflicts that cannot be resolved through technical analysis alone. They therefore support the development of interpersonal, ethical, and normative competencies that are central to sustainability capability (Wiek et al., 2011), and directly reinforce the stakeholder reasoning discussed in Section 7 and the dialogical learning principles outlined in Section 8.

How to implement:

Effective role plays require careful design rather than elaborate performance. Scenarios should define clear roles, objectives, and constraints, and be grounded in authentic accounting and governance contexts. Each role should have access to different information, priorities, or risks, reflecting real-world asymmetries.

Role plays can be implemented in a variety of formats, including short written briefs, structured in-class negotiations, or hybrid approaches combining preparation and live dialogue. Assessment criteria should focus on the quality of reasoning rather than persuasion alone, emphasising clarity of communication, ethical justification, responsiveness to stakeholder concerns, and the ability to balance competing interests.

Debriefing and reflection are essential. Students should be guided to reflect on how stakeholder perspectives influenced decision-making, how trade-offs were negotiated, and how different forms of value creation and legitimacy were prioritised throughout the process. Reflection should also encourage students to consider whether engaging with alternative perspectives challenged or reshaped their own assumptions, priorities, or understanding of responsible business conduct. In this way, role play becomes not only an exercise in communication and negotiation, but also an opportunity for deeper professional and ethical reflection.

Example:

Students prepare briefing notes for a stakeholder engagement meeting related to a mining company's water-use licence. Assigned roles include the financial director, sustainability officer, local farmer, and NGO representative. During the exercise, students must articulate their position, respond to competing concerns, and propose viable compromises.

Success is evaluated not only on the strength of individual arguments, but on the ability to recognise interdependencies, engage constructively with opposing views, and propose solutions that are economically viable, ethically defensible, and socially legitimate.

Why it matters:

Role plays create safe but realistic environments in which students can practise negotiation, ethical judgement, and relational acumen. By requiring learners to reason from positions other than their own, they foster empathy, accountability, and awareness of power and legitimacy in decision-making.

For accounting education, this directly supports the development of professional judgement in multi-stakeholder environments. Graduates who have practised these skills are better prepared to manage competing stakeholder claims, justify decisions under uncertainty, and contribute responsibly to governance processes, all of which are central expectations of sustainability practice and the CA of the Future Competency Framework.

9.4.3 Stakeholder Mapping

What it is:

Stakeholder mapping is a visual and analytical tool that helps students identify, classify, and evaluate the interests, influence, and legitimacy of stakeholders in relation to organisational or societal challenges. It supports the development of systems thinking and perspective-taking, both of which are core sustainability competencies (Wiek et al., 2011).

In teaching contexts, stakeholder mapping provides a structured way for students to move beyond abstract lists of stakeholders and to engage with the relational and power-based dynamics that shape governance, risk, and value creation. While Section 7 explores stakeholder engagement theory and governance implications in depth, this subsection focuses on how mapping can be used as a practical classroom method.

How to implement:

Stakeholder mapping can be implemented using low- or high-tech approaches, depending on class size and resources. Simple tools such as paper-based diagrams, whiteboards, or spreadsheets work well, while digital templates can support group collaboration in larger cohorts.

Common frameworks include power–interest grids, stakeholder salience models, and influence–impact matrices. These frameworks provide structure while still allowing professional judgement. Mapping exercises can be embedded within sustainability case studies, disclosure analysis, or group projects where students must consider trade-offs across the six capitals.

To deepen learning, students should be asked not only to position stakeholders, but also to justify their classifications, reflect on whose voices are marginalised, and consider how stakeholder salience may shift over time or in response to events.

Example:

In an accounting ethics or governance module, students map stakeholders affected by a company's water pollution incident. Stakeholders include regulators, investors, employees, local communities, suppliers, and environmental NGOs. Through the mapping exercise, students identify conflicting interests, asymmetries of power, and tensions between short-term financial considerations and long-term social and environmental impacts.

The exercise can be extended by asking students to evaluate how these stakeholder dynamics should influence risk disclosures, materiality assessments, or strategic responses in an integrated report.

Why it matters:

Stakeholder mapping encourages students to visualise competing claims, interrogate power and legitimacy, and anticipate areas of conflict before they escalate. It makes abstract concepts such as stakeholder inclusivity, materiality, and social licence to operate tangible and assessable.

Because mapping scales easily and requires minimal resources, it is well suited to both small and large classes. When combined with reflection and justification, it strengthens professional judgement and enhances students' ability to produce decision-useful disclosures and governance narratives. In this way, stakeholder mapping directly supports the development of sustainability capability and relational acumen expected of the CA of the Future.

9.4.4 Fieldwork (and Scalable Alternatives)

What it is:

Fieldwork exposes students to the contextual, social, and institutional conditions in which sustainability decisions are made. Unlike simulations or role plays, which require students to act and decide, fieldwork emphasises observation, interpretation, and sense-making. Students encounter the messiness of real-world practice, including incomplete information, competing narratives, and constraints that are not always visible in formal reports or classroom cases (UNESCO, 2017).

In sustainability education, the value of fieldwork lies not in producing solutions, but in helping students recognise the limits of accounting information and the partial nature of any single perspective.

How to implement:

In small-group or postgraduate settings, fieldwork may include site visits, structured interviews, or guided observations of organisational or community contexts. Students can be asked to document what they observe, identify tensions between stated strategy and lived practice, and reflect on how different stakeholders experience sustainability-related decisions.

In large classes, similar outcomes can be achieved through virtual tours, documentary-style case packs, or data-rich video scenarios. These can be paired with structured prompts that guide students to observe context, identify constraints, and consider what information is missing or contested. Assessment should focus on professional outputs such as briefing notes, governance reflections, or interpretive analyses rather than on producing definitive answers.

Example:

Students examine the sustainability practices of a renewable energy project. In a small cohort, this may involve a site visit and stakeholder interviews. In a large class, the same case is explored through video material, public disclosures, and media coverage. Students are asked to analyse how financial performance, environmental impact, and community relationships are balanced, and to reflect on what aspects of sustainability are difficult to capture through formal reporting alone.

Why it matters:

Fieldwork, whether physical or virtual, develops students' capacity to engage with uncertainty, ambiguity, and context. It cultivates epistemic humility by revealing what accounting can illuminate and what it cannot. Students learn that responsible decision-making often requires collaboration with other forms of expertise and engagement beyond financial data.

By foregrounding observation before judgement, fieldwork complements simulations and role plays and strengthens students' ability to exercise professional judgement in complex, multi-stakeholder environments. Scalable alternatives ensure that these benefits are accessible even in resource-constrained settings, reinforcing inclusive development of sustainability capability in line with the CA of the Future Competency Framework.

Although both fieldwork and simulations are forms of active and experiential learning, they create different learning conditions and develop distinct dimensions of professional judgement. Fieldwork emphasises observation, interpretation, and sense-making in real or realistic contexts characterised by ambiguity and incomplete information. Simulations, by contrast, require students to act within structured decision environments, make explicit trade-offs, and experience the consequences of their choices. As summarised in Table 12, these approaches are complementary rather than interchangeable. Used together, they mirror professional practice by combining contextual understanding with judgement under pressure.

Table 12: Fieldwork and Simulations Compared

Dimension	Fieldwork	Simulations
Primary pedagogical focus	Interpretation and sense-making of real or realistic contexts	Decision-making within a structured scenario
Student position	Observer and analyst of existing practices and constraints	Active participant responsible for choices and outcomes
Nature of uncertainty	Unstructured and emergent; incomplete data, contested narratives, unclear boundaries	Designed and bounded; uncertainty embedded within a known decision environment
Relationship to reality	Direct or closely mediated engagement with real-world contexts	Modelled representation of reality to explore consequences safely
Emotional engagement	Develops empathy and contextual awareness	Often generates stronger emotional investment through responsibility for outcomes
Sustainability competencies emphasised	Systems awareness; stakeholder sensitivity; epistemic humility	Trade-off reasoning; ethical judgement; anticipatory competence
Typical outputs	Reflective analyses; briefing notes; observational reports	Strategy memos; dashboards; board submissions
Scalability	More resource-intensive; often requires virtual or mediated alternatives in large cohorts	Highly scalable through digital or classroom-based formats
Pedagogical role	Helps students understand why sustainability challenges are complex	Helps students practise how to act within that complexity

9.4.5 Real-World Case Analysis and Engagement

What it is:

Real-world case engagement requires students to analyse live or recent sustainability challenges faced by organisations, regulators, or communities. Unlike textbook cases, these situations are open-ended, multi-dimensional, and often characterised by incomplete information and contested interpretations. Students must work with ambiguity rather than search for a single “correct” answer. This mirrors the realities of professional accounting practice and develops anticipatory and strategic competencies central to sustainability capability (Wiek et al., 2011).

How to implement:

Cases can be sourced through partnerships with companies, municipalities, or civil society organisations, or by adapting current integrated reports, sustainability disclosures, or media-reported controversies. The focus should be on authentic materials rather than simplified narratives. Learning activities should require students to interpret disclosures, assess stakeholder claims, evaluate trade-offs, and justify recommendations.

Deliverables should reflect professional practice, such as board papers, dashboards, briefing notes, assurance memos, or stakeholder communications. Structured scaffolding, including guiding questions, marking rubrics, and short reflective tasks, helps students navigate uncertainty, surface assumptions, and connect analysis back to relevant frameworks and competencies.

Example:

Students analyse the stakeholder engagement and risk disclosures of a JSE-listed company's integrated report and propose improvements to enhance connectivity, clarity, and decision usefulness. Alternatively, students engage with a municipal sustainability challenge, such as waste management or water security, and develop recommendations that balance financial feasibility, environmental risk, and social equity.

Why it matters:

Real-world case engagement situates sustainability learning firmly within professional contexts. It requires students to evaluate evidence, balance competing stakeholder perspectives, and propose defensible, actionable improvements. By aligning learning activities with authentic professional outputs, this method simultaneously develops technical competence, PVAAs, and digital capability, reinforcing the integrated nature of sustainability practice in accounting.

9.4.6 Integrating Methods: Designing Coherent Learning Pathways

While each of the methods outlined above can be used independently, their greatest pedagogical value lies in how they are combined and sequenced. Sustainability capability is not developed through a single activity, but through repeated exposure to complexity, reflection on judgement, and opportunities to apply learning in progressively more demanding contexts.

Different methods cultivate different dimensions of professional learning. Simulations place students inside decision environments where trade-offs must be made and consequences experienced, often generating emotional engagement and urgency. Role plays foreground perspective-taking, communication, and negotiation, helping students grapple with legitimacy and competing claims. Stakeholder mapping supports analytical clarity by making power, influence, and interdependence visible. Fieldwork and its scalable alternatives expose students to contextual complexity and the limits of accounting information, while real-world case engagement anchors learning in authentic disclosures, governance failures, and institutional constraints.

Used together, these methods mirror professional accounting practice more closely than any single approach. In practice, accountants move repeatedly between observing real-world contexts, analysing information, engaging with stakeholders, exercising judgement under pressure, and communicating defensible decisions. A coherent learning design therefore benefits from blending methods that emphasise different forms of reasoning, evidence, and accountability.

Importantly, these approaches are not confined to small classes or specialist sustainability modules. With careful design and the use of digital tools, simulations, mapping exercises, and case-based work can be implemented successfully in large undergraduate cohorts. The critical design decision is not class size, but whether activities create space for uncertainty, justification, and reflection, rather than rewarding replication of predefined answers.

These approaches are not intended to be confined to a single "sustainability module" or treated as specialist pedagogy. Sustainability capability develops cumulatively, through repeated exposure to judgement, uncertainty, and accountability across the accounting curriculum. Every module already engages with decisions, risk, materiality, and professional responsibility; active and experiential methods simply make these dimensions explicit.

Embedding such approaches across financial reporting, auditing, taxation, management accounting, governance, and strategy positions sustainability as a professional lens rather than an added topic. In practice, this often requires small reframing choices rather than redesign, for example asking students to justify trade-offs, reflect on stakeholder implications, or explain the basis of professional judgement.

For educators, this means shifting attention from selecting "innovative techniques" to designing learning pathways that progressively deepen judgement. Early activities may focus on exposure and sense-making, while later tasks require synthesis, evaluation, and defence of professional decisions. Across all methods, alignment with assessment remains crucial: students quickly learn what matters from what is rewarded. If assessments privilege explanation, justification, and accountability, active and experiential methods become powerful vehicles for sustainability learning rather than isolated classroom exercises.

The following toolkit supports educators in selecting and adapting methods to their specific teaching context, highlighting how active and experiential approaches can be introduced incrementally, aligned with existing curricula, and scaled without sacrificing rigour.

Teaching Toolkit: Practical Methods for Active and Experiential Learning

The purpose of this toolkit is not to prescribe a preferred teaching method or to suggest that certain approaches are only suitable for particular contexts. Rather, it provides orientation and signposting for educators who are deciding where to start, given their class size, institutional constraints, and learning priorities.

The distinctions in Table 13 should therefore be read as indicative rather than absolute. With thoughtful design, scaffolding, and the strategic use of digital tools, most of the methods listed can be adapted for a wide range of learning outcomes and cohort sizes. For example, simulations and role plays, often assumed to work only in small classes, can be implemented effectively in large undergraduate cohorts through structured group work, online platforms, polling tools, shared documents, or asynchronous discussion forums. Similarly, stakeholder mapping and real-world case analysis can be scaled by using common datasets, shared scenarios, or templated outputs.

What matters most is not the format of the activity, but the learning conditions it creates. Effective active and experiential learning tasks are those that:

- expose students to authentic, complex professional dilemmas;
- require them to make and justify judgements under uncertainty;
- encourage reflection on trade-offs, assumptions, and stakeholder perspectives; and
- link explicitly back to professional standards, governance principles, and competency frameworks.

Educators are therefore encouraged to treat the tables below as a starting point for informed choice, not a constraint. Small adjustments in framing, prompts, assessment criteria, or technology use can allow the same method to serve different pedagogical purposes, from developing ethical reasoning to practising materiality judgements or strengthening professional communication.

Table 13: Choosing Active and Experiential Methods for your Context

Method	Best suited for	Typical cohort size	Primary learning exphasis
Sustainability Simulations	Integrated judgement, trade-offs, systems thinking	Medium to large	Decision-making under uncertainty
Role Plays	Ethical reasoning, stakeholder communication	Small to medium	Relational acumen and empathy
Stakeholder Mapping	Materiality, governance, prioritisation	Any	Critical thinking and justification
Fieldwork (and Alternatives)	Contextualisation awareness, professional identity	Small groups	Reflection and applied judgement
Real-World Case Analysis and Engagement	Disclosure quality, assurance, governance	Any	Professional reasoning and accountability

While Table 13 supports educators in selecting active and experiential methods that align with their teaching context and learning priorities, Table 15 shifts the focus to implementation. It illustrates how each method can be enacted within accounting education using familiar tasks, artefacts, and professional-style outputs.

The examples are intentionally grounded in existing accounting practices, such as case analysis, simulations, stakeholder briefings, and disclosure review, to emphasise that sustainability capability can be developed without redesigning modules or introducing entirely new activities. Educators are encouraged to adapt these examples to their own context, assessment structures, and cohort size.
All example outputs are intentionally framed as professional artefacts (e.g. memos, dashboards, briefing notes) to reinforce judgement, accountability, and workplace relevance.

Table 14: Classroom methods for embedding sustainability and transversal competencies

Method	How to Apply in Accounting Education	Teaching Cue / Example Output
Sustainability Simulations	Use digital tools (e.g., **En-ROADS**) or classroom role-based simulations; always include a structured debrief linking to SDGs, IFRS S1/S2, and the <IR> Framework.	Boardroom simulation on a net-zero strategy; outputs include memos, dashboards, or strategy slides.
Role Plays	Assign stakeholder perspectives (CFO, auditor, NGO, regulator). Format can be written briefs, dialogue, or debate. Emphasise communication, ethical reasoning, and empathy.	Stakeholder briefing notes for a mining water-use licence.
Stakeholder Mapping	Apply frameworks such as power–interest grids, salience models, or influence–impact matrices. Works with paper or digital tools.	Students map stakeholders in a pollution case and propose engagement strategies.
Fieldwork (and Alternatives)	Partner with companies/NGOs for site visits; if impractical, use curated video tours, virtual field trips, or simulations. Link tasks to professional outputs.	Reflective essays, dashboards, or briefing papers based on renewable energy site analysis.
Real-World Case Analysis and Engagement	Use live or recent sustainability cases (from companies, municipalities, or NGOs). Assign professional-style deliverables. Scaffold with prompts and reflection.	Waste management strategy for a municipality, or improving disclosures in a JSE integrated report.

9.5 Purposefully Designing Assessments for Transformative Learning

Assessment is where the hidden curriculum of accounting education becomes most visible. While curricula and teaching activities may signal the importance of sustainability, ethics, and integrated thinking, it is assessment that ultimately communicates what truly counts. Students quickly learn whether they are being rewarded for technical replication or for the quality of their reasoning, judgement, and professional accountability. In this sense, assessment does not merely measure learning. It actively shapes what students learn to value.

Sustainability capability cannot be assessed through correctness alone. Sustainability-related decisions are characterised by uncertainty, trade-offs, contested values, and incomplete information. There is rarely a single correct answer. Instead, professional competence lies in the ability to justify decisions, explain assumptions, weigh competing claims, and communicate defensible judgements to diverse stakeholders. Assessments that privilege certainty, optimisation, or compliance risk undermining the very capabilities that sustainability and integrated thinking require.

Purposefully designed assessment therefore shifts the focus from arriving at the right answer to making thinking visible. It rewards how students reason, not only what they conclude. It foregrounds ethical judgement, systems awareness, and actionability alongside technical accuracy. When aligned with learning outcomes and teaching approaches, assessment becomes a powerful mechanism for transformative learning. It invites students to practise the kinds of judgement, reflection, and accountability that define professional accounting practice in sustainability contexts.

The sections that follow outline assessment approaches that support this shift. Together, they demonstrate how assessment can be used not only to evaluate learning, but to cultivate the sustainability capability, professional judgement, and transversal competencies expected of the CA of the Future.

This section distinguishes between two complementary dimensions of assessment design. Sections 9.5.1 to 9.5.3 focus on assessment philosophies: how assessment signals what is valued, how judgement is evaluated, and how reasoning is made visible. Sections 9.5.4 to 9.5.6 then translate these principles into assessment mechanisms that can be implemented in practice, including peer assessment, reflection journals, and group logs. Together, they show how sustainability capability can be assessed rigorously without reducing learning to technical correctness.

9.5.1 Designing for Transformative Assessment

What it is:

Transformative assessment moves beyond testing definitions, lists, or technical compliance. In sustainability contexts, assessment must be designed to evaluate how students reason, justify decisions, and exercise professional judgement under uncertainty, rather than whether they can optimise an outcome or reproduce a prescribed answer.

Grounded in constructive alignment (Biggs, 1996; Biggs & Tang, 2011), transformative assessment aligns learning outcomes, teaching activities, and assessment tasks around judgement-based capabilities. These include ethical reasoning, systems thinking, accountability, and the ability to explain and defend decisions in contexts where trade-offs are unavoidable.

To support this, assessment tasks can be designed to progress through three broad stages, culminating in critical reflection where professional identity formation occurs (Taylor, 2007):

Stage 1: Recall and orientation

Students demonstrate that they can recognise which frameworks, concepts, or governance instruments are relevant in a given context, and understand their purpose and scope.

Examples include:

- Identifying which reporting or governance frameworks are appropriate for analysing value creation, stakeholder engagement, or risk.

- Recognising when sustainability considerations are relevant to financial decisions, governance disclosures, or assurance judgements.
- Demonstrating awareness of the institutional context, such as corporate, municipal, or public sector accountability requirements.

Stage 2: Application and analysis

Students contextualise this knowledge by applying it to real or realistic disclosures, cases, or scenarios.

Examples include:

- Analysing how an organisation explains value creation across multiple capitals.
- Comparing how different entities communicate sustainability-related risks or trade-offs.
- Evaluating whether disclosures meaningfully inform decision-making or merely satisfy formal requirements.

Stage 3: Critical reflection

Students interrogate assumptions, weigh trade-offs, and reflect on their role as future professionals operating in the public interest. At this stage, the emphasis shifts decisively from correctness to accountability. Students are assessed on the quality of their reasoning, the transparency of their assumptions, and their ability to justify judgements rather than defend optimal outcomes.

Examples include:

- Reflecting on how sustainability challenges traditional profit-centred decision-making.
- Critiquing whether disclosures enhance accountability or risk obscuring underlying impacts.
- Articulating how professional judgement should be exercised when information is incomplete, contested, or uncertain.

How to implement:

Assessments should be scaffolded progressively (Wood et al., 1976; Lantolf et al., 2015), moving from low-stakes orientation tasks toward integrative assessments that require independent judgement.

1. Early tasks might include short scenario-based questions that ask students to identify relevant considerations or frameworks.
2. Mid-level tasks can involve applied case analyses supported by guiding prompts.
3. Transition activities such as reflective journals, structured peer dialogue, or interim submissions help students surface assumptions and refine reasoning.
4. Final assessments may take the form of integrative essays, reports, simulations, or projects that require students to justify decisions holistically.

A range of assessment tools can be used to support this progression, provided they are aligned with judgement-based learning outcomes. These may include developmental rubrics, peer evalutation, critical reflection, group process logs, and professionally oriented digital outputs. Each tool serves a different purpose in making reasoning visible, supporting accountability, and scaffolding students' movement from technical application to reflective judgement. Importantly, the choice and design of assessment tools signal to students whether sustainability is treated as a compliance exercise or as a domain of professional judgement.

The sections that follow (9.5.2–9.5.6) discuss these tools in more detail, with guidance on how they can be used to assess sustainability capability without reducing learning to compliance or formulaic answers.

Example:

In a longer-form project, assessment can be scaffolded across the semester:

Scenario-based orientation task (10%) → Applied case analysis (20%) → Reflective component (20%) → Integrative project or essay (50%)

Students might begin by identifying the governance and accountability considerations relevant to a sustainability-related decision. They then analyse how these considerations are addressed in practice, reflect on the limitations of available information, and ultimately produce a reasoned professional judgement on how accountability should be exercised.

Why it matters:

By designing assessment around recognition, application, and reflection, educators signal that professional competence lies not in optimisation or certainty, but in defensible judgement and accountability. This approach aligns directly with the CA of the Future Competency Framework, which emphasises ethical behaviour, integrated thinking, and decision-making under uncertainty.

Purposefully aligned and scaffolded assessment prepares graduates who are not only technically proficient, but capable of reasoning responsibly, explaining their judgements, and acting with integrity in complex sustainability contexts.

9.5.2 Making Thinking Visible

What it is:

The central challenge in assessing sustainability capability is not the design of novel assessment tasks, but the ability to evaluate the quality of professional reasoning. Judgement, reflection, and ethical deliberation are often invisible unless assessments are intentionally designed to surface them (Mezirow, 1997). In sustainability contexts, where uncertainty, trade-offs, and competing stakeholder claims are unavoidable, the outcome alone is rarely sufficient evidence of competence. What matters is how conclusions were reached.

Making thinking visible means designing assessment outputs that require students to explain, justify, and defend their reasoning. This shifts assessment away from correctness alone toward professional accountability: students must demonstrate how evidence was weighed, assumptions interrogated, and trade-offs evaluated in arriving at a defensible position.

How to implement:

Several practical strategies help surface student reasoning without sacrificing rigour. Assessment rubrics should distinguish clearly between surface-level description ("what happened") and deeper evaluation ("why it mattered, what alternatives were considered, and what trade-offs were involved"). Guided prompts based on established reflection models, such as Gibbs' Reflective Cycle (1988) or Rolfe's "What? So what? Now what?" framework (Rolfe et al., 2001), provide structured mechanisms for students to articulate their thinking in a disciplined way.

Written reflections, e-portfolios, and learning journals capture reasoning over time rather than at a single point, allowing educators to assess development in judgement and insight. Peer dialogue and peer assessment further externalise thinking by requiring students to articulate and defend their positions to others. Feedback loops, whether through written comments, audio feedback, or facilitated debriefs, play a critical role in signalling when responses remain descriptive and guiding students toward deeper analysis.

Where appropriate, students should also be required to link their reasoning explicitly to professional concepts such as materiality, risk assessment, governance responsibilities, and stakeholder impact. This ensures that reflection remains anchored in accounting practice rather than drifting into personal introspection.

Why it matters:

In professional accounting practice, conclusions are rarely accepted without explanation. Materiality judgements, risk evaluations, impairment decisions, going concern assessments, and integrated reporting narratives all depend on transparent justification. The credibility of accounting work lies not in the answer itself, but in the reasoning that supports it.

Making thinking visible in assessment mirrors this professional reality. It reinforces that sustainability capability is demonstrated through the ability to justify decisions under uncertainty, explain trade-offs, and communicate reasoning to diverse stakeholders. By rewarding explanation and justification rather than replication, educators ensure that assessment aligns with the CA of the Future Competency Framework, which emphasises professional judgement, ethical reasoning, and accountability in the public interest.

9.5.3 Rubrics that Reward Ethical Reasoning, Sustainability Insight and Actionability

What it is:

Rubrics are not neutral grading instruments. They communicate what a programme values and, in doing so, shape the hidden curriculum of assessment. In sustainability education, rubrics must therefore move beyond rewarding technical correctness alone and explicitly recognise the quality of professional judgement exercised under conditions of uncertainty.

Using a Knowledge–Skills–Attributes (KSA) logic, effective sustainability rubrics assess not only whether students know relevant frameworks, but how they use that knowledge to reason ethically, interpret context, and propose defensible actions. This distinction is critical. Sustainability challenges rarely have a single correct answer; what matters is whether conclusions are justified, context-sensitive, and responsibly framed.

How to implement:

Rubrics should be designed with developmental descriptors (for example, novice → competent → advanced) that make progression in judgement visible (Tractenberg, FitzGerald & Collmann, 2016). At higher performance levels, criteria should explicitly reward:

- **Ethical reasoning:** the ability to recognise competing values, justify trade-offs, and articulate why certain outcomes are prioritised over others.
- **Sustainability insight:** evidence of systems thinking, awareness of interdependencies across capitals, and anticipation of unintended consequences (Wiek et al., 2011).
- **Actionability:** the extent to which recommendations are feasible, stakeholder-sensitive, and aligned with governance and accountability structures.

Descriptors should be concrete rather than generic. For example, instead of stating that a student "identifies stakeholder impacts," a rubric might specify that the student "recognises uneven or disproportionate impacts on affected communities and explains how these influence governance decisions" (Gulikers & Oonk, 2019). Similarly, actionability can be assessed by asking whether recommendations could realistically be implemented by directors or management within regulatory, resource, and institutional constraints.

Importantly, rubrics should differentiate clearly between technical accuracy and professional judgement. A technically correct analysis that ignores ethical implications, long-term consequences, or stakeholder legitimacy should not receive the same recognition as a well-reasoned, contextually grounded response.

Why it matters:

In sustainability contexts, decisions are judged not only by outcomes but by the reasoning that led to them. Boards, regulators, and stakeholders expect professionals to explain how risks were assessed, why certain trade-offs were accepted, and how decisions serve the public interest.

Rubrics that reward ethical reasoning, sustainability insight, and actionability make these expectations explicit to students. They reinforce that professional competence is demonstrated through justification, accountability, and judgement rather than optimisation or rule-following alone. In doing so, they align assessment with the CA of the Future Competency Framework, integrating technical expertise with professional values, relational acumen, and responsible leadership.

9.5.4 Peer Evaluation of Contribution and Collaboration

What it is:

Peer evaluation of contribution focuses on evaluating processes and behaviours within collaborative work, rather than grading the academic quality of outputs. Students assess one another's contribution, reliability, engagement, and collaboration in group contexts, while responsibility for assessing the academic standard of the work itself remains firmly with the educator.

This distinction is important. Peer assessment typically refers to students grading or scoring one another's academic outputs, which can raise concerns about reliability, bias, and academic authority if not tightly controlled. In contrast, peer evaluation supports accountability and professional learning without transferring assessment responsibility away from the lecturer (Boud & Falchikov, 2007).

How to implement:

Effective peer evaluation requires explicit scaffolding. Students should be taught why they are evaluating peers, how to do so responsibly, and how evaluation criteria relate to professional expectations rather than personal preferences. Structured rubrics help make this clear by focusing on observable behaviours and contributions, such as reliability, quality of engagement, responsiveness to feedback, and contribution to integrated thinking.

Peer evaluations can be aggregated into a Peer Contribution Index (PCI) or similar mechanism to moderate individual marks within group assessments. This should be complemented by lecturer oversight through group logs, reflective statements, or moderation rules to identify anomalies or potential bias. Importantly, peer evaluation should be paired with self-reflection, requiring students to reflect on their own contribution and learning in light of the feedback they give and receive.

Example:

In a sustainability group project, students complete a peer evaluation rubric assessing each team member's reliability, quality of contribution, and engagement with sustainability trade-offs. Alongside this, each student submits a short reflective statement explaining how their own contribution supported or constrained the group's integrated thinking and decision-making. The academic quality of the group output is graded by the lecturer; peer evaluation is used only to adjust individual contributions fairly.

Why it matters:

When implemented carefully, peer evaluation strengthens accountability, fairness, and evaluative judgement. It mirrors professional practice, where accountants must assess collaboration, reliability, and ethical conduct as part of governance and assurance processes. It also helps surface invisible labour and discourages free-riding in group work.

Treating peer evaluation as a developmental process rather than a grading shortcut is critical. If poorly designed or framed as peer assessment, it risks becoming a blunt instrument that undermines trust and learning. When used well, however, peer evaluation develops relational acumen, reflective capacity, and professional responsibility, directly supporting the PVAA competencies embedded in the CA of the Future Competency Framework.

9.4.5 Critical Reflection

What it is:

Critical reflection is a structured process through which students make professional reasoning explicit by interrogating assumptions, evaluating trade-offs, and linking experience to judgement and future action (Mezirow, 1997). While reflection journals are a common vehicle, critical reflection is not tied to a specific format. It can be embedded in open-ended quiz questions, reflective sections within assignments, post-simulation debriefs, peer evaluation commentary, or exam questions that require justification of decisions.

The defining feature is not the medium, but the purpose: to require students to explain why decisions were made, how competing considerations were weighed, and what professional responsibilities were recognised. In sustainability contexts, critical reflection is essential because decisions are rarely value-neutral and often involve uncertainty, incomplete information, and contested stakeholder claims.

How to implement:

Reflections should be carefully scaffolded rather than left open-ended. Models such as Gibbs' Reflective Cycle (1988) or Rolfe's "What? So what? Now what?" framework (2001) provide clear structures that guide students beyond description toward analysis and judgement. Rubrics should be aligned to KSAs by assessing, for example, the identification and use of relevant frameworks (knowledge), evaluation of trade-offs and consequences (skills), and articulation of future professional action or learning (abilities).

To maintain rigour, students should be required to reference evidence such as outputs from simulations, group work, peer feedback, or case analyses. Regular, low-stakes entries are generally more effective than single summative reflections, as they support iterative learning and deeper sense-making over time.

Example:

Following a simulation on organisational net-zero commitments, students submit reflective entries identifying the reporting or governance frameworks they applied (knowledge), analysing the trade-offs they encountered (skills), and explaining how they would approach similar decisions differently in future professional contexts (abilities).

Why it matters:

Critical reflection allow educators to assess the quality of reasoning behind decisions, not merely the decisions themselves. When structured and evidence-based, they foster deeper learning, strengthen evaluative judgement, and support the integration of sustainability capability, PVAA development, and digital acumen in line with the CA of the Future Competency Framework.

9.5.6 Group Logs

What it is:

Group logs are structured records of teamwork processes that make collaboration, project management, and relational acumen visible and assessable. They shift group work away from informal task-splitting toward accountable collective practice. In sustainability and governance contexts, collaborative learning is particularly important because it creates the dialogical conditions necessary for students to encounter alternative perspectives, negotiate competing priorities, and engage with differing value positions in ways that mirror real organisational decision-making. Without such mechanisms, group assessments risk rewarding outcomes while obscuring how those outcomes were produced. More fundamentally, group work risks becoming little more than individual work combined under a shared cover page, rather than a genuinely collaborative process of reasoning, discussion, and judgement formation.

How to implement:

Group logs should be simple, structured, and routine. Common formats include weekly Did–Doing–Blocked–Next Step logs, task trackers linked to milestones, or brief reflective entries documenting decisions, challenges, and adjustments. Logs should capture not only task allocation, but also communication practices, conflict resolution, and responsiveness to emerging issues.

To strengthen fairness and validity, group logs should be reviewed alongside peer evaluation of contribution and, where appropriate, short individual reflections. Weighting can remain low, typically 5–10 percent, but their signalling value is significant. They reinforce that collaboration, accountability, and adaptability are integral to professional competence, not optional extras.

Example:

In a sustainability simulation project, teams submit weekly group logs recording attendance, progress against milestones, emerging challenges, and how responsibilities were renegotiated. The logs are submitted with the final report and used to contextualise peer evaluations and moderate individual marks where necessary.

Why it matters:

Group logs turn teamwork into an assessable process rather than an assumed outcome. They discourage free-riding, surface coordination challenges, and reinforce professional behaviours such as planning, transparency, and responsiveness. By making collaboration visible, group logs support the development of PVAAs, particularly accountability, adaptability, and relational acumen, in line with expectations for future CAs(SA).

Teaching Toolkit: Assessment for Transformative Learning

This toolkit supports educators in designing assessment that develops and evidences sustainability capability, professional judgement, and ethical responsibility. It does not propose new assessment types. Instead, it reframes familiar assessment mechanisms through a transformative lens: assessment as a structured opportunity for reasoning, reflection, and accountability, rather than correctness alone.

The tools outlined below are complementary, not interchangeable. Used together, they make students' thinking visible, support fairness in collaborative work, and align assessment with the judgement-based realities of contemporary accounting practice. When used in isolation or instrumentally, they risk reproducing compliance-driven assessment and reinforcing a hidden curriculum that privileges optimisation over responsibility.

Table 15: Assessment mechanisms supporting transformative learning

Assessment Mechanisms	How to Apply in Accounting Education	Teaching Cue / Example Output
Critical Reflection	Evidence-based reflection embedded in or alongside assessments.	Reflection on trade-offs in a simulation.
Peer Evaluation of Contribution and Collaboration	Structured evaluation of teamwork, aggregated into moderated PCI.	Peer ratings with reflective justification
Group Logs	Ongoing documentation of collaboration, decisions, and accountability	Weekly project management logs submitted with final project

Using Peer Contribution Indices (PCIs) Responsibly:

Peer Contribution Indices (PCIs) can enhance fairness in group assessment, but only when used as moderated judgement tools, not automated scoring devices.

Before implementing PCIs, educators should clarify:

- Purpose: Is the PCI supporting accountability and reflection, or simply redistributing marks?
- Evidence base: Are ratings grounded in observable behaviours, supported by group logs or examples?
- Moderation: Does the lecturer retain professional judgement, or are scores applied mechanically?
- Student learning: Are students required to reflect on their own contribution and interpret peer feedback?

When taught explicitly and triangulated with reflection and logs, PCIs develop evaluative judgement and fairness. Used uncritically, they risk replacing professional judgement with numerical compliance. Used reflectively and in combination with qualitative evidence, however, PCIs can support the development of evaluative judgement and fairness.

Transformative scaffolding: sequencing assessment for professional judgement

Transformative assessment does not rely on a single task or instrument, but on how assessment opportunities are sequenced and interpreted over time. It emerges through purposeful sequencing that moves students from certainty to uncertainty, and from compliance to judgement. Scaffolding ensures that students are not asked to exercise professional judgement before they have been given opportunities to practise recognition, application, and reflection.

In sustainability contexts, this progression is particularly important because standards evolve, trade-offs are contested, and legitimate outcomes may differ. Scaffolding therefore supports fairness while still demanding accountability for reasoning.

In practice, this often involves a progression from:

- early tasks that reward identification of relevant frameworks and issues;
- mid-level tasks that require application, comparison, and justification; and
- integrative tasks that foreground reflection, professional positioning, and actionability.

The mechanisms in the table below can be combined in different ways across this progression, depending on module level, cohort size, and learning outcomes.

Making Reasoning Visible Across Assessment Mechanisms

Transformative assessment depends on surfacing reasoning, not just evaluating outputs. This requires intentional design choices that prompt explanation, justification, and reflection.

The following mechanisms work best when triangulated:

- Critical reflection (journals, embedded prompts, e-portfolio entries) captures how students interpret experience, weigh trade-offs, and revise assumptions.
- Peer evaluation of contribution makes collaboration and judgement visible within group work.
- Group logs document processes, accountability, and adaptability over time.

Together, these tools counter the risk of rewarding polished outputs that obscure shallow reasoning or uneven contribution.

Applying the KSA-Aligned Rubrics for Sustainability Capability

Rubrics are central to assessment for transformative learning because they communicate what counts as professional competence. In sustainability contexts, this requires moving beyond technical accuracy to reward ethical reasoning, sustainability insight, and actionability. Developmental descriptors (novice → proficient → advanced) reinforce learning as progression rather than performance. They also help students understand how professional judgement deepens over time.

Table 16: Example rubric criteria for assessing reasoning, sustainability insight, and actionability

Criterion (linked to KSA)	Novice	Proficient	Advanced
Ethical reasoning (Skill)	Identifies an ethical issue with limited justification.	Analyses trade-offs and supports choices with professional standards.	Anticipates competing obligations, justifies decisions with multiple frameworks, and reflects on implications.
Sustainability insight (Knowledge + Skill)	Identifies sustainability impacts in general terms	Links impacts to frameworks (e.g., <IR>, SDGs).	Demonstrates systems thinking: anticipates ripple effects, trade-offs, and intergenerational effects.
Actionability (Ability)	Proposes broad recommendations with limited feasibility	Suggests feasible actions aligned to context and resources.	Designs staged strategies anticipating barriers, stakeholder roles, and long-term outcomes.

9.6 Embedding PVAA Growth into Feedback and Curriculum Cycles

What it is:

A central ambition of the *CA of the Future* Competency Framework, is to ensure that future CA's develop not only technical expertise but also the PVAAs that define professional identity. Embedding the PVAAs into teaching, assessment, and feedback practices ensures that qualities such as ethical reasoning, resilience, scepticism, and responsible decision-making become integral to professional formation, rather than remaining aspirational or implicit. In sustainability contexts, where judgement, trade-offs, and uncertainty are unavoidable, assessment as learning becomes especially critical.

This requires a shift in how assessment and feedback are conceptualised. Instead of treating assessment purely as *of learning* (summative judgement), modules must also use assessment *for learning* (guiding improvement) and *as learning* (developing feedback literacy, students' ability to interpret, evaluate, and act on feedback) (Carless & Boud, 2018).

How to implement:
In practice, embedding PVAA growth requires alignment across curriculum design, assessment, and feedback practices.

- **Curriculum integration:** Align PVAAs with outcomes across the curriculum; embed sustainability and governance into technical content via case studies and scenarios so students practise ethical reasoning and integrated thinking as part of problem-solving, rather than as a separate or downstream consideration (de Villiers et al., 2014; Jackling & De Lange, 2009).

- **Assessment design:** Use rubrics that recognise attributes such as scepticism, ethical reasoning, resilience, and stakeholder awareness alongside technical accuracy. Situate assessments in authentic contexts such as municipal service delivery or renewable energy financing (Gray, 2010).

- **Feedback as growth:** Ensure feedback highlights where PVAAs were demonstrated or neglected. Debriefs can show how strong technical responses were underpinned by professional values (Adams, 2017; Gray, 2010).

- **Student reflection and ownership:** Use journals, e-portfolios, and feedback loops to help students track PVAA growth over time and articulate how values shaped their decisions, judgements, and responses to feedback (de Villiers et al., 2014).

- **The feedback–curriculum loop:** Treat PVAA development as iterative. Feed insights from feedback, reflections, and learning analytics back into curriculum design to keep PVAA development dynamic and responsive. This reinforces that PVAA development is a shared responsibility between students, educators, and the curriculum itself.

Example:

Students analyse the water-risk disclosures of two municipalities. The rubric includes criteria for professional scepticism and stakeholder awareness. After submission, the lecturer runs a debrief showing how ethical reasoning improved the analysis. Students then write a short e-portfolio reflection linking this feedback to their professional growth. Later, they revisit the portfolio to demonstrate how their ethical reasoning and integrated thinking improved across tasks.

Why it matters:

In practice, embedding PVAA growth into assessment and feedback cycles transforms feedback from a backward-looking judgement into a forward-looking developmental tool. This shift reinforces that technical knowledge, professional values, and ethical reasoning are inseparable dimensions of professional competence.

Embedding PVAAs into feedback and curriculum cycles also ensures that sustainability is not treated as an "add-on" but as central to professional formation. It builds feedback literacy, helping students to act on and learn from critique. In this way, assessment becomes not just a measure of competence but a process of identity development, preparing future CAs to integrate technical expertise with values and acumen, excercise ethical leadership, and contribute to sustainable governance.

Teaching Toolkit: Embedding PVAA Growth into Feedback and Curriculum Cycles

This toolkit focuses on the longitudinal development of PVAAs through assessment, feedback, and curriculum design. Rather than treating PVAAs as discrete outcomes assessed once-off, it positions them as capabilities that emerge progressively through repeated cycles of practice, feedback, and reflection across modules and years of study.

The following toolkit provides practical strategies and examples for integrating PVAA development into assessment, feedback, and curriculum design. It shows how feedback literacy, reflective practice, and authentic contexts can be used to align technical learning with professional values and sustainability competencies.

Table 17: Strategies for embedding PVAA development in curriculum and feedback cycles

Focus Area	How to Apply in Accounting Education	Teaching Cue / Example Output
Curriculum Integration	Embed PVAAs into technical cases and scenarios.	Scenario-based tasks linking IFRS to ethical dilemmas.
Assessment Design	Use rubrics that reward scepticism, ethics, resilience, stakeholder awareness.	Marking criteria include PVAA descriptors alongside technical accuracy.
Feedback Practices	Highlight values/attitudes in debriefs and feedback.	Group debrief showing how ethics informed strong responses.
Student Reflection	Require reflective journals or e-portfolios tracking PVAA growth.	E-portfolio entries linking feedback to professional identity.
Iterative Curriculum Loop	Feed insights from reflection and analytics back into module design.	Lecturer redesigns tasks to emphasise resilience and scepticism after student reflections flag gaps.

PVAA development as a cumulative learning process:

PVAA development cannot be achieved through isolated assessments or single “ethics” tasks. Attributes such as professional scepticism, ethical reasoning, resilience, and accountability are formed gradually through cumulative exposure to complex situations, structured feedback, and opportunities to act on that feedback.

Embedding PVAAs into feedback and curriculum cycles therefore requires intentional repetition and reinforcement. Students need to encounter similar professional challenges across different contexts, receive feedback on how their values and judgement were expressed, and then be expected to demonstrate growth in subsequent tasks.

This cumulative approach also addresses a common limitation of sustainability education: the tendency to treat values as abstract or declarative. By revisiting PVAAs across modules, educators signal that professional values are not optional dispositions, but capabilities that must be practised, evidenced, and refined over time.

Making PVAA growth explicit through feedback and curriculum cycles helps ensure that sustainability is embedded as part of professional identity formation, rather than treated as an additional content area.

Reflective prompts for educators:

- Where in my module do students receive explicit feedback on professional values, not only technical accuracy?
- How often are students required to act on feedback related to ethics, judgement, or stakeholder awareness in subsequent tasks?
- Do my assessments reinforce PVAA development as cumulative, or do they treat each task as standalone?
- How visible are PVAAs in my rubrics, debriefs, and classroom conversations?

Feedback Literacy:

Feedback literacy refers to students’ ability to understand, interpret, and act on feedback in ways that improve their learning (Carless & Boud, 2018). Embedding feedback literacy makes assessment as learning possible by transforming feedback from judgement into a developmental tool.

In sustainability-related tasks, feedback literacy is especially critical because there is rarely a single correct answer. Students must learn to interpret critique not as a signal of failure, but as guidance on how their reasoning, assumptions, and justifications can be strengthened. Developing this capacity supports professional resilience and prepares graduates to engage constructively with scrutiny from peers, regulators, and stakeholders.

Core Dimensions (Carless & Boud, 2018)

- **Appreciating feedback:** Recognising that feedback is about improvement, not only grades.
- **Making judgements:** Evaluating the quality of their own and others’ work against standards.
- **Managing affect:** Handling the emotions that accompany receiving critical feedback.
- **Taking action:** Applying insights from feedback to improve future work.

How to use it in accounting education:

- Scaffold opportunities for students to use feedback (e.g., draft–redraft cycles, peer reviews, reflective follow-ups).
- Highlight where PVAAs (e.g., scepticism, adaptability, ethical reasoning) were demonstrated, and guide students to strengthen these in future work.
- Position feedback as dialogic: a conversation that develops both technical and professional identity.

9.7 Embedding Digital and AI Literacy in Sustainability Education

Digital acumen and AI literacy are no longer optional in accounting education. They are central to preparing graduates for professional practice in a context where sustainability challenges are increasingly mediated through technology. Future CAs must be able to interrogate ESG data, visualise insights, and use emerging tools responsibly while safeguarding professional scepticism, ethical judgement, and public trust.

For educators, this means recognising that authentic, real-world learning requires purposeful integration of digital and AI tools. Sustainability challenges such as climate risk, carbon accounting, and ESG assurance increasingly rely on data platforms, analytics, and, in some cases, generative AI. If students are not exposed to these tools and their limitations during their studies, they may struggle to apply frameworks in practice or to critically evaluate technology-mediated outputs.

Embedding digital and AI literacy supports students to:

- develop transversal competencies such as problem-solving, integrated thinking, and ethical reasoning;
- engage with authentic sustainability dilemmas using professional tools;
- balance innovation with scepticism, avoiding shallow or biased use of technology; and
- strengthen Professional Values, Attitudes, and Acumen (PVAAs) in line with the CA of the Future Competency Framework.

The subsections that follow outline two complementary pillars:

- Digital acumen: developing confidence in data handling, analysis, and communication; and
- AI literacy: cultivating responsible use of artificial intelligence while recognising risks such as bias, hallucination, and greenwashing.

9.7.1 Developing Digital Acumen

What it is:

Digital acumen refers to the ability to understand, use, and critically evaluate digital tools in professional practice. For accountants, this extends beyond spreadsheet proficiency to include data analytics, modelling, dashboards, and visualisation. Crucially, digital acumen is not only about technical skill, but about knowing when, why, and how to apply digital tools to support integrated judgement and decision-making.

How to implement:

Digital acumen can be developed by embedding tools directly into learning and assessment:

- Require students to analyse ESG datasets using platforms such as Excel, Power BI, or similar tools.
- Emphasise data storytelling by asking students to translate analysis into dashboards, infographics, or board-style briefings.
- Scaffold progression across programmes, from basic data cleaning and analysis in early modules to scenario modelling or sensitivity analysis in later years.
- Anchor activities in sustainability dilemmas such as modelling climate risk, forecasting renewable energy costs, or mapping stakeholder impacts.

Example:

Students receive a dataset on municipal water usage and financial performance. They clean and analyse the data in Excel and produce a short dashboard for a simulated board meeting. The dashboard highlights risks and trade-offs between financial and environmental outcomes and links the analysis to relevant sustainability frameworks.

Why it matters:

Developing digital acumen ensures that students are not passive consumers of technology but active professionals who can interrogate, interpret, and communicate digital evidence. This capability is essential for credible sustainability reporting and decision-making, reinforcing transversal competencies and professional values within the CA of the Future Competency Framework.

9.7.2 Developing AI Literacy

What it is:

AI literacy is the ability to understand, evaluate, and use artificial intelligence tools responsibly in professional and educational contexts (UNESCO, 2023). For accountants, this involves recognising both opportunities, such as efficiency, analysis, and insight generation, and risks, including hallucinations, bias, plagiarism, and greenwashing. AI literacy is therefore less about speed or convenience and more about reinforcing professional scepticism, ethical awareness, and accountability.

How to implement:

AI literacy can be developed through structured and transparent use:

- Design critique tasks where students compare AI-generated summaries with original disclosures, identifying inaccuracies or bias.
- Require explicit AI use declarations and reflective commentary on value added and limitations.
- Introduce AI-enabled sustainability tools, such as carbon accounting or climate risk platforms, to explore scenario analysis and forecasting.
- Use generative AI selectively to prompt reflection or thematic analysis, while requiring evidence-based validation against authoritative sources.
- Align AI activities with institutional policies and the SAICA Code of Professional Conduct, explicitly addressing confidentiality and academic integrity.
- Apply structured frameworks, such as the Artificial Intelligence Assessment Scale (Perkins et al., 2024; Furze et al., 2024), to clarify acceptable levels of AI use.

Example:

Students use a generative AI tool to summarise an integrated report. They must identify inaccuracies or bias in the output, revise the summary to align with principles of balance and connectivity, and reflect on the ethical risks and benefits of AI use in sustainability reporting.

Why it matters:

Embedding AI literacy ensures that graduates develop both technological confidence and ethical scepticism. Students learn not only how to use AI tools, but how to interrogate and constrain them. This balance is essential for accountants tasked with providing credible sustainability insights while upholding the public interest.

9.7.3 Warning Against Shallow AI-Driven Greenwashing

What it is:

While generative AI can support critical and integrative thinking, uncritical use poses significant risks. AI outputs may reflect biased data, omit marginalised perspectives, or present sustainability narratives that conflict with principles of balance and transparency central to integrated reporting. Used carelessly, AI can reinforce, rather than mitigate, greenwashing.

How to implement:

Educators should explicitly teach scepticism and transparency:

- Emphasise that AI outputs are contingent on data quality and framing.
- Require students to retain prompts, drafts, and revisions, and to document how AI tools were used.
- Ensure compliance with institutional AI policies and professional conduct requirements.
- Use structured scales, such as the Artificial Intelligence Assessment Scale, to clarify expectations around acceptable AI contribution and human judgement.

Example:

Students use AI to analyse a company's climate disclosures. The AI output emphasises carbon efficiency but overlooks community water impacts. Students must critique the imbalance, revise the narrative for fairness, and reflect on how AI-driven summaries can obscure material sustainability trade-offs.

Why it matters:

Shallow or uncritical AI use risks reproducing selective disclosure, biased framing, and greenwashing. By teaching students to interrogate AI outputs and apply ethical judgement, educators help ensure that technological innovation strengthens, rather than undermines, transparency, accountability, and public trust in sustainability reporting.

Together, digital acumen and AI literacy reinforce assessment as learning by making reasoning, judgement, and professional responsibility visible in technology-mediated contexts.

9.7.4 Judgement, Accountability, and the Limits of Automation

While digital tools and AI can enhance analysis and efficiency, they do not replace professional judgement. Sustainability decisions are inherently normative, context-dependent, and value-laden. They involve trade-offs between competing stakeholder claims, uncertainty about future impacts, and ethical considerations that cannot be optimised algorithmically.

For accounting students, this distinction is critical. Digital outputs may appear authoritative, precise, or objective, yet professional accountability always rests with the human decision-maker. Over-reliance on automated tools risks displacing responsibility, weakening scepticism, and obscuring the moral dimensions of sustainability-related judgements.

Embedding digital and AI literacy therefore requires educators to foreground limits as well as capabilities. Students should be taught to ask not only what does the tool show? but also what does it exclude, simplify, or normalise? This includes recognising whose interests are prioritised in data models, which assumptions are embedded in algorithms, and how uncertainty is framed or concealed.

Explicitly teaching the boundaries of automation reinforces a core professional message: technology supports judgement, but does not absolve responsibility. This aligns directly with the CA of the Future Competency Framework's emphasis on ethical leadership, scepticism, and accountability in complex decision environments.

Teaching Toolkit: Embedding Digital and AI Literacy

This toolkit operationalises the principles discussed in Section 9.7 by translating digital and AI literacy into observable learning activities, assessment evidence, and teaching practices.This toolkit provides practical resources to help lecturers embed digital acumen and AI literacy into sustainability-focused accounting education. It consolidates classroom applications, rubric excerpts, and teaching cues for easy reference.

Table 18: Building Digital Acumen and AI Literacy in the Classroom

Competency	Professional Relevance	Example Classroom Activity	Evidence to Look For
Digital Acumen	Ability to interrogate and present ESG/financial data; essential for <IR>, IFRS S1/S2 compliance	Students analyse a municipal water/financial dataset in Excel, then create a board-level dashboard showing risks and trade-offs	Cleaned dataset with justified assumptions and limitations explained
Data Storytelling	Communicating complex ESG insights clearly and persuasively	Students design stakeholder dashboards or infographics to explain sustainability risks	Visuals are accurate, balanced, and stakeholder-appropriate
AI Critique	Professional scepticism applied to generative AI outputs	Students compare AI-generated summaries of integrated reports with originals, flagging omissions or bias	Annotated critique, revisions, reflection notes
Responsible AI Use	Ethical integrity, transparency, and compliance with institutional/SAICA codes	Students keep AI use logs (prompts, drafts, declarations) submitted with assessments	Transparent declaration, evidence of student vs. AI contribution
Anti-greenwashing vigilance	Ensuring balance and fairness in sustainability narratives	Students identify imbalances in AI-generated outputs (e.g., carbon focus vs. ignored water risk)	Revised outputs showing improved balance and connectivity

Example Rubric Excerpts:
The following rubric excerpts provide practical criteria for evaluating how students develop digital acumen and AI literacy. They show how knowledge, skills, and abilities can be scaffolded from novice to advanced levels, making professional reasoning and ethical application visible in assessment.

Table 19: Rubric excerpt for assessing digital acumen in sustainability-focused accounting tasks

Criterion (linked to KSA)	Novice	Proficient	Advanced
Data Handling (Knowledge)	Performs basic tasks in Excel but struggles with structure/cleaning	Cleans, organises, and analyses datasets with some guidance	Efficiently manages complex ESG/financial datasets using formulas, queries, or modelling
Analysis & Interpretation (Skill)	Produces descriptive outputs with little insight	Draws conclusions, identifies trends or patterns	Integrates multiple datasets, applies advanced tools (e.g., Power BI) to generate actionable insights
Communication & Visualisation (Skill / Ability)	Presents raw tables with little explanation	Produces clear charts or dashboards with narrative support	Designs compelling visual narratives tailored to stakeholder needs
Responsible Application (Ability)	Uses digital tools mechanically without reflection	Selects appropriate tools, applies with moderate reflection	Demonstrates discernment, justifies choices, aligns use with ethical/professional standards

Table 20: Rubric excerpt for assessing AI literacy in accounting education

Criterion (linked to KSA)	Novice	Proficient	Advanced
Functional understanding (Knowledge)	Uses AI outputs uncritically; limited awareness of capabilities/limits	Identifies strengths and weaknesses of AI tools	Demonstrates nuanced understanding; selects tools appropriately
Critical evaluation (Skill)	Accepts AI outputs at face value	Identifies inaccuracies or bias, corrects some errors	Systematically validates AI outputs against sources; highlights omissions and risks
Ethical awareness (Skill/Ability)	Little awareness of plagiarism/confidentiality risks	Provides basic declaration of AI use	Transparently documents AI use, reflects on risks, proposes safeguards
Responsible application (Ability)	Relies on AI without oversight	Uses AI selectively with some reflection	Integrates AI outputs critically with professional reasoning, ensuring human accountability

Teaching Tips:

- Always pair digital/AI activities with reflection prompts, e.g., What assumptions underlie this dashboard? How balanced is this AI output?
- Require students to declare AI use (prompts, drafts, edits) to build habits of transparency and accountability.
- Link outputs explicitly to professional frameworks (<IR>, IFRS S1/S2, King V) to ensure technical rigour.
- Use progressive scaffolding: start with descriptive data analysis, move to dashboards, then critique AI outputs, and finally require integrative reflection on professional identity.
- Guard against shallow “tech for tech’s sake” — emphasise that digital tools are valuable only when applied critically, ethically, and contextually.

Guarding Against AI-Driven Greenwashing

AI tools can be useful for summarising disclosures, spotting themes, or modelling ESG data — but uncritical use risks reinforcing greenwashing. Teaching students to interrogate AI outputs prepares them to use technology responsibly while protecting the integrity of sustainability disclosures.

Teaching Prompts:
Ask students to:

- Critique an AI-generated summary of an integrated report.
- Identify what is missing or unbalanced.
- Revise the output for fairness and connectivity.
- Reflect: How could shallow AI use reinforce greenwashing rather than accountability?

Part 3: Practical Application: Case Study and Discipline-Specific Resources

Purpose of Part 3:

Part 3 provides illustrative examples of how sustainability, governance, and ethical considerations may surface within different accounting disciplines through the Easton Minerals Limited (EML) case study. The purpose is not to prescribe curriculum content, assessment design, or learning outcomes, but to demonstrate how existing technical topics can be extended or contextualised to foreground professional judgement, governance trade-offs, and long-term value creation.

The examples are intentionally framed as prompts, scenarios, and discussion anchors rather than model answers or standardised questions. They are designed to support academic judgement and institutional flexibility, allowing educators to adapt, simplify, or selectively integrate material in ways that align with their module level, time constraints, and disciplinary focus.

This section assumes familiarity with the CA of the Future Competency Framework and the conceptual foundations outlined in Parts 1 and 2 of this guidance. It is not intended as an entry point to sustainability integration, but as an applied illustration of how sustainability-related issues may surface within core accounting content across disciplines.

Readers are encouraged to engage with Parts 1 and 2 before using this section, particularly where sustainability integration may feel unfamiliar or complex. Educators who are less familiar with sustainability-related disclosure may also find it helpful to review one or two recent integrated reports to contextualise the types of issues, trade-offs, and governance considerations reflected in the examples.

Note on the use of Rubrics:

SAICA supports the use of rubrics as one possible mechanism for promoting transparent, developmental, and professionally aligned assessment practices. Rubrics may take many forms depending on institutional context, disciplinary approach, assessment design, and intended learning outcomes.

The rubric illustrations included in this guidance are therefore not intended to be prescriptive, exhaustive, or to supersede existing SAICA guidance relating to the IAC assessment. Rather, they are provided as developmental examples intended to support accounting educators in making PVAAs, professional judgement, integrated thinking, and disciplinary reasoning more visible within teaching, learning, and assessment practices.

Their purpose is not to standardise assessment design, but to assist educators in communicating expectations, supporting developmental feedback, and illustrating how existing teaching activities, examples, and assessments may be expanded or reframed to incorporate sustainability-related governance, ethical reasoning, and long-term value creation considerations.

Section 10: Illustrative Discipline-Specific Applications of the Easton Minerals Case Study

Using the Easton Minerals Case Study:

This section illustrates how the Easton Minerals Limited (EML) case study may be used across different accounting disciplines to surface sustainability, governance, ethical, and value creation considerations relevant to each domain. The case is intended as an authentic contextual resource rather than a prescribed teaching package or set of model assessments. Its purpose is to provide educators with practical illustrations of how sustainability-related thinking may be incorporated into existing accounting teaching, learning, and assessment contexts.

The section is organised into discipline-specific sub-sections aligned to major accounting domains. Examples distinguish between novice, proficient, and advanced levels of engagement, reflecting increasing integration, professional judgement, and contextual awareness rather than technical complexity alone. These levels are intended to support reflection on curriculum design and pedagogical possibilities, not to prescribe standardised teaching approaches.

The examples demonstrate how governance dilemmas, ethical tensions, stakeholder considerations, and sustainability-related trade-offs may emerge across different stages of EML's value chain and from different accounting perspectives. Integrated reports are therefore used not as standalone reporting artefacts, but as integrated organisational narratives through which governance, performance, accountability, risk, and value creation can be explored in relation to one another.

Importantly, this section deliberately avoids providing model assessments or "perfect" assessment solutions. The intention is not for educators to treat sustainability as an additional topic that can simply be inserted into the curriculum through the replication of an ideal assessment, case study, or isolated teaching intervention while the remainder of the programme continues unchanged. Rather, the examples provided in this section are intended to encourage reflection on how sustainability-related thinking may be meaningfully incorporated into existing assessments, class examples, discussions, and disciplinary contexts across the curriculum.

This section is therefore best used as a contextual overlay on existing curriculum content, enabling sustainability and governance considerations to be explored through accounting, rather than in addition to it.

How to use this section

This section is designed to be used flexibly. With the exception of the Public-Sector Interface sub-section, educators are not expected to engage with every discipline or every proficiency level within a sub-section.

Suggested approaches include:

- selecting one or two illustrative prompts to enrich an existing lecture or tutorial;
- using scenarios as discussion starters to surface governance, ethical, or sustainability tensions within familiar technical topics;
- adapting examples for projects, reflections, or case-based assessments, rather than closed-book tests;
- drawing selectively on integrated reporting disclosures to contextualise real-world trade-offs, public accountability, and long-term value creation.

The novice, proficient, and advanced distinctions are intended to support alignment with module level and learning outcomes, not to prescribe progression pathways. Educators should apply professional judgement in determining depth, emphasis, and assessment weighting appropriate for their own disciplinary and curriculum context.

Navigation Guide:

The clustering and disciplinary sub-sections presented in this section reflect ta logical integration framework rather than the specific module structures used at individual institutions. Accounting educators are therefore encourage to adapt and apply the illustrative examples in ways that align with their own curricula and programme design. Digital acumen considerations are integrated across all disciplinary sub-sections to reflect the transversal role of digital capoability in sustainability-oriented accounting practice.

Illustrative Case Study: Easton Minerals Limited Contributors: Ian Short | Milan van Wyk | Anria van Zyl	117
Cluster A: Strategic governance, risk, and ethical judgement Focuses on how organisational direction is set, risks are managed, and ethical judgement is exercised in complex sustainability contexts.	
10.1 Strategy and Enterprise Risk Management Contributors: Lise Botha | Jacqui Kew | Tsatsawane Nkwinika Digital Acumen considerations: Anria van Zyl	137
10.2 Ethics and Professional Responsibility Contributors: Theresa Visser | Judith Terblanche | Janine Christian Digital Acumen considerations: Anria van Zyl	148
Cluster B: Operational value creation and internal measurement Examines how strategic objectives are translated into operational decisions, cost structures, and performance management.	
10.3 Costing and Management Accounting Contributors: Sonette Smith, Richard Rapozo Digital Acumen considerations: Anria van Zyl	160
Cluster C: External reporting, redistribution, and accountability Explores how value creation is measured, reported, and redistributed through corporate reporting, taxation, and public-sector interfaces.	
10.4 Taxation Contributors: Jane Ndlovu | Magda Turner | Michelle van Heerden | Dimakatso Mabotja Digital Acumen considerations: Anria van Zyl	170
10.5 Public-Sector Interface Contributors: Ewayne le Roux | Shelly Herbert	189
10.6 Financial and Corporate Reporting Contributors: Suzette Snyders | Danice Pretorius | Vanessa Gregory | Milan van Wyk Digital Acumen considerations: Anria van Zyl	201
Cluster D: Capital markets and assurance Addresses assurance over reported information and the role of finance in funding long-term value creation and transition.	
10.7 Auditing and Assurance Contributors: Lise Botha | Senzo Ndlangamandla | Yvette Lange Digital Acumen considerations: Anria van Zyl	214
10.8 Finance Contributors: Gary Swartz | Ian Short Digital Acumen considerations: Anria van Zyl	231

Illustrative Case Study:

Easton Minerals Limited (EML)

This case study was prepared with the use of Artificial Intelligence (ChatGTP). All data and details are fictional and created for educational purposes.

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1. Introduction and Overview

The following information was compiled from Easton Minerals Limited's (EML) publicly available integrated report, corporate website, and management commentary.

Easton Minerals Limited (EML) is a publicly listed South African mining company headquartered in Johannesburg, with operations across the Northern Cape. While the company and data presented in this case are fictional, the context reflects South Africa's regulatory, governance, and environmental realities. The company's operations span exploration, extraction, processing, logistics, and rehabilitation activities.

Students are invited to evaluate EML's financial performance, strategic options, and sustainability commitments in the context of shifting global demand, infrastructure constraints, community expectations, and evolving regulatory pressures. The case highlights how governance, ethical decision-making, and integrated thinking shape business choices and long-term value creation across the mining value chain.

EML positions itself as a responsible mining company that contributes to national development through employment, infrastructure investment, and export revenue. At the same time, it faces mounting scrutiny from investors, regulators, and civil society regarding its environmental footprint, stakeholder engagement practices, and readiness for a low-carbon future. The inf

2. About Easton Minerals Limited

Easton Minerals Limited (EML) strives to make a meaningful difference in the lives of those impacted by its operations. The company mines the materials that make modern life possible, with a stated commitment to operating more safely, efficiently, and responsibly. EML is a leading supplier of high-quality iron ore to the global steel industry, focusing on creating and sharing value for a broad range of stakeholders across the value chain.

Iron ore is a critical input to economic development and industrialisation. As the primary component of steel, it underpins the construction of buildings and infrastructure, the manufacture of vehicles, and a wide range of household and industrial products. Despite challenges in its operating environment and volatility in global commodity markets, EML's strategic focus on value over volume continues to guide decision-making and to shape its approach to long-term, sustainable growth.

Despite challenges in our operating environment and volatility in global markets, EML's strategy of value over volume continues to guide decision-making and to shape the company's approach to sustainable growth.

Mission: To responsibly mine, process, and deliver high-quality iron ore that supports industrial growth while creating shared value for our stakeholders, our communities, and South Africa's broader developmental goals.

Vision: To be South Africa's most trusted and innovative iron-ore producer - recognised for operational excellence, responsible resource stewardship, and a clear contribution to a just, low-carbon economy.

Our Values: We believe that long-term success depends on the integrity of our people, the quality of our assets, and disciplined financial management

The EML Pillars:

EML's mission, vision, and values reflect this strategic positioning and emphasise responsible resource stewardship, operational excellence, ethical conduct, and disciplined financial management. These commitments are articulated through a set of core pillars that highlight integrity, collaboration, safety, innovation, and sustainability as central to the company's approach to value creation.

Founded in 1952 and listed on the Johannesburg Stock Exchange in 1973, EML operates two open-pit iron ore mines in the Northern Cape:

1. **Kavala Mine**, commissioned in 1958; and
2. **Ithaka Mine**, commissioned in 2012.

Ithaka produces a high-grade lump ore, with iron content exceeding 65 percent Fe, which attracts premium pricing from steelmakers seeking higher-quality, lower-emission inputs. However, the company has struggled to consistently maintain the price premiums historically associated with ore quality due to logistical constraints, rising production costs, and the carbon intensity of South Africa's mining and transport infrastructure.

Kavala's older ore body requires extensive beneficiation to sustain output, increasing its exposure to electricity and water availability risks. Exports account for approximately 90 percent of total production, with shipments directed primarily to Asian and European markets through Saldanha Bay and Port Elizabeth. The company's head office is based in Johannesburg.

Workforce

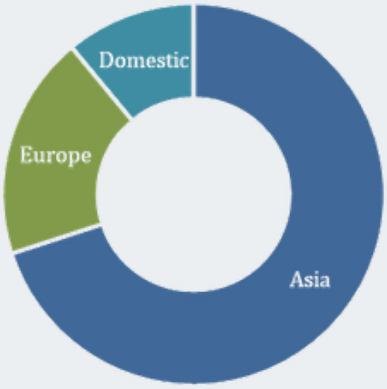
Labour relations are a key operational focus in South Africa's unionised mining environment, where production reliability depends on constructive engagement between management and organised labour.

EML invests in skills development, health and safety, and local enterprise support as part of its Social and Labour Plan commitments. Despite these initiatives, the company continues to face challenges in recruiting and retaining skilled technical personnel, particularly artisans, engineers, and environmental specialists.

South African mining legislation requires that employees assigned to underground or other high-risk operations meet specified literacy and competency standards. This regulatory context has increased EML's focus on adult education and training programmes. The company partners with local TVET colleges to strengthen literacy, numeracy, and technical skills, with the aim of improving safety performance and enhancing long-term employability within the region.

Markets and Customers

Only 10 percent of EML's sales are domestic, with the remaining 90 percent exported. Asia accounts for approximately 70 percent of total sales, primarily to China, Japan, and South Korea, while Europe represents about 20 percent of exports.



Global steelmakers are increasingly shifting toward higher-grade iron ores that reduce furnace energy consumption, lower carbon emissions, or enable direct reduced iron (DRI) production routes. While EML's ore quality remains competitive, the carbon intensity of South African mining operations and the associated logistics footprint increasingly influence customer preferences and realised pricing.

The company's largest single customer accounts for approximately 21 percent of total revenue. Customer and credit concentration risks are mitigated through diversified offtake agreements and robust credit control processes.

Pricing and Product Mix

Sales are referenced to global iron ore indices, with realised prices adjusted for product quality. Lump ore continues to attract a premium relative to fines, while ores with low silica and alumina content secure higher realised prices.

Verified lower-emission cargoes are emerging internationally as a distinct premium product class. This trend presents competitiveness challenges for EML, given South Africa's energy mix and the carbon intensity and reliability constraints of domestic mining and transport infrastructure.

The company's foreign currency exposure, primarily to the ZAR/USD exchange rate, remains material due to the export-oriented nature of its operations. EML employs a range of hedging instruments to manage exchange-rate volatility and support earnings stability.

3. Industry Overview

Global Market Dynamics

Iron ore is a foundational input to global steel production, supporting infrastructure development, transport systems, manufacturing, and the energy transition. Global demand is led by Asia, while supply is highly concentrated in Australia and Brazil. Geopolitical and macroeconomic factors continue to shape market dynamics, with China's industrial cycle exerting a significant influence on global prices.

Policy developments are increasingly affecting trade patterns and pricing signals. In particular, the European Union's Carbon Border Adjustment Mechanism (CBAM) is expected to raise the carbon performance threshold for certain imports over time. While CBAM is not currently applicable to iron ore, it signals a broader shift toward carbon-sensitive trade regimes, which may create relative advantages for higher-grade ores and lower-emission supply chains in the medium to long term.

Domestic Dynamics in South Africa

The mining sector contributes an estimated 12 percent of South Africa's gross domestic product and approximately 40 percent of export revenues. Despite its economic significance, sectoral growth is constrained by persistent logistical bottlenecks, particularly capacity limitations at Transnet Freight Rail and congestion at key export ports, including Port Elizabeth and Richards Bay.

South Africa's coal-dependent national energy mix has resulted in rising electricity tariffs and intermittent load-shedding, increasing both operating costs and production risks for mining companies. Water scarcity in the Northern Cape further intensifies competition between mining operations, agriculture, and local communities, reinforcing the importance of responsible resource management and long-term planning.

Policy debates affecting the sector include proposals for super-profit levies, stronger incentives for domestic beneficiation, and increasingly stringent environmental compliance expectations within the context of South Africa's evolving Just Energy Transition framework.

Emerging Issues and Policy Environment

Several structural and policy trends continue to shape South Africa's mining sector and its long-term sustainability:

- Energy transition and carbon pricing: The implementation of the Carbon Tax Act (2019) and South Africa's Just Energy Transition Investment Plan has increased the cost of carbon-intensive operations, while also expanding access to renewable energy incentives and green finance instruments. Mining companies face growing expectations to disclose climate-related risks and opportunities in line with IFRS S1 and S2 and related climate disclosure frameworks.

- Infrastructure and public-sector coordination: Rail and port inefficiencies, particularly within Transnet Freight Rail and major export terminals, constrain capacity and expose the need for improved public-private coordination. Regulatory alignment across the Department of Mineral Resources and Energy, National Treasury, and the Department of Forestry, Fisheries and the Environment increasingly influences investment timelines and ESG performance oversight.

- Governance and ethical conduct: Persistent industry risks include corruption in procurement processes, political patronage in licence allocation, and inconsistent enforcement of environmental and safety regulations. The King V Report reinforces expectations of ethical and effective leadership, transparency, and legitimate stakeholder engagement.

- Labour, skills, and employment transition: Technological automation and digitalisation offer productivity gains but raise social risks related to job displacement and reskilling. The Mining Charter (2018) and Social and Labour Plan requirements place obligations on companies to invest in training, adult education, and enterprise development to support workforce resilience and community stability.

- Community expectations and social licence: Increased scrutiny from host communities and civil-society organisations has led to more frequent protests related to land use, benefit sharing, and mine rehabilitation commitments. Maintaining a social licence to operate requires credible community engagement, transparent benefit-sharing mechanisms, and effective grievance-management processes.

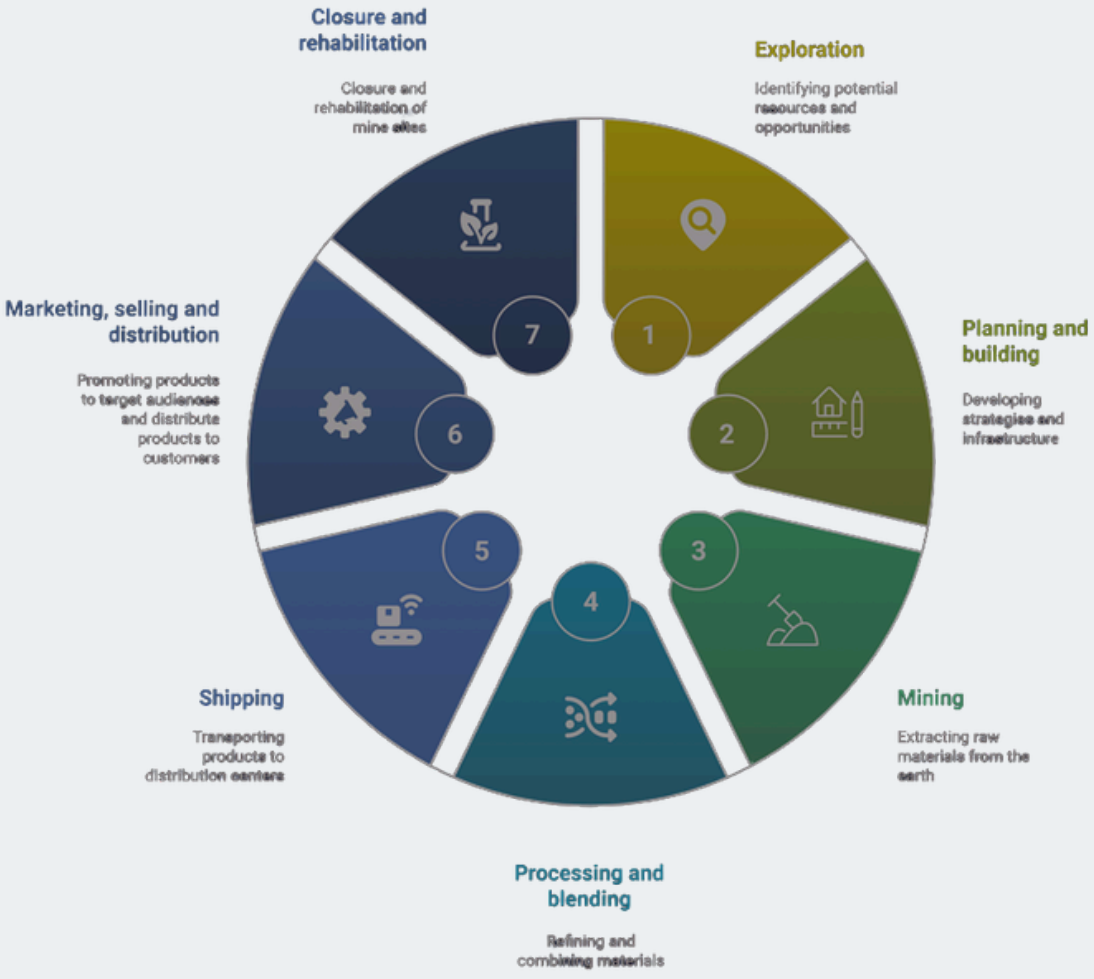
- Fiscal and taxation pressures: The sector contributes significantly through mining royalties, corporate income tax, and carbon levies. Ongoing policy debates around super-profit taxation and the expansion of carbon-credit trading mechanisms could materially affect profitability and capital allocation decisions in the medium term.

Together, these factors create a complex risk and opportunity landscape for companies such as EML, shaping strategic priorities, governance focus, and approaches to sustainable value creation.

4. The Value Chain Process and Business Model

EML's value creation process spans the full mining life cycle, from exploration through to mine closure and rehabilitation. The company's value chain comprises seven interrelated stages: exploration; planning and building; mining; processing and blending; shipping; marketing, selling, and distribution; and mine closure and rehabilitation. Together, these activities underpin EML's operational performance, risk profile, and long-term approach to sustainable value creation.

The value chain illustrated below outlines how EML's activities are structured to support value creation over the full mining life cycle. While presented sequentially, the stages are interdependent and influenced by shared constraints, operational trade-offs, and external conditions. Decisions taken at each stage have implications for performance, risk, and sustainability outcomes across the business. The value chain therefore provides a framework for understanding how EML integrates operational, financial, and non-financial considerations in pursuit of long-term value.



4.1. Exploration

Exploration activities focus on identifying economically viable iron ore deposits through geological targeting techniques, including remote sensing, geophysical surveys, and field mapping. Potential mineral anomalies are verified through reverse-circulation and diamond core drilling to confirm ore grade, thickness, and continuity.

Before mining can commence, environmental and social impact assessments (ESIAs) and public consultations are undertaken as part of the regulatory approval process in terms of the Minerals and Petroleum Resources Development Act (MPRDA). Mining rights are typically granted for periods of up to 30 years and are subject to ongoing compliance requirements, including local employment and procurement obligations, rehabilitation guarantees, and community development commitments.

Resources and reserves are reported in accordance with industry-standard classification and reporting practices. As at June 2025, EML declares total proved and probable reserves of approximately 1.2 billion tonnes across its two operations:

- **Kavala Mine** (commissioned 1958): approximately 0.4 billion tonnes remaining, with an estimated remaining life-of-mine of eight years at current production rates.
- **Ithaka Mine** (commissioned 2012): approximately 0.8 billion tonnes, supporting an estimated remaining life-of-mine of 20 years.

Resources is the measured, indicated, and inferred concentrations of mining ore with reasonable prospects for eventual extraction.

Reserves are proven and probable ore, which is the economically mineable portions of measured(indicated) resources and supported by mine plans.

The combined average saleable product grade is approximately 64 percent Fe. Ithaka produces a higher-grade lump product, while Kavala relies more heavily on beneficiation processes to sustain product quality and throughput.

4.2 Planning and Building

Mining projects progress through defined stage-gates, from conceptual studies to pre-feasibility (PFS) and definitive feasibility studies (DFS). Each stage involves detailed assessment of project economics, including net present value, internal rate of return, and payback periods, alongside evaluation of key risk factors such as commodity price volatility, foreign exchange exposure, logistics capacity, and water and energy availability.

Environmental, social, and governance considerations are integrated into project planning, including licence conditions, stakeholder engagement outcomes, and community consent processes. Capital expenditure for greenfield developments can exceed R15 billion, reflecting the scale of investment required to establish pits, mining fleets, crushing and beneficiation facilities, tailings storage infrastructure, workshops, and supporting utilities.

These investments are largely irreversible once committed and are therefore treated as sunk costs. The cost of capital is significantly influenced by logistics reliability and ESG performance. Rehabilitation liabilities are recognised from project inception as asset-retirement obligations.

4.3 Mining

Mine planning establishes pit designs, push-back sequences, and ore and waste schedules with the objective of optimising production and maximising net present value. Drill-and-blast methods are used to fragment ore and waste rock, which is then transported by shovel-truck fleets to primary crushing facilities. In-pit crushing and conveying systems are under evaluation as potential efficiency improvements.

Grade control is achieved through blast-hole sampling and the use of portable analysers, enabling selective mining and effective stockpile management. Key operational risks include geotechnical slope instability, equipment collisions, dust and noise exposure, and production disruptions arising from extreme weather events or power supply instability.

4.4 Processing and Blending

Primary and secondary crushing and screening processes separate iron ore into lump and fines based on particle size. Lump ore comprises larger fragments that can be fed directly into blast furnaces, while fines require additional downstream processing, such as sintering or pelletising, prior to steelmaking.

Ultra-High Dense Media Separation (UHDMS) plant upgrades are applied to lower-grade ore to improve iron content by separating waste material using a magnetite slurry medium. To promote sustainability, closed-loop water circuits, incorporating thickeners and tailings dams, are used to minimise freshwater withdrawals, reduce reagent consumption, and limit magnetite losses, which are closely monitored as part of operational control.

Final product specifications focus on iron content, silica and alumina levels, moisture, and particle size distribution. Low silica and alumina content is particularly important, as these impurities increase energy consumption and emissions during steelmaking. Ores with higher iron content and lower impurity levels therefore tend to attract premium pricing in global markets, particularly where customers seek to reduce their carbon intensity. Blending is used to ensure that each shipment meets contractual quality requirements and customer specifications.

4.5 Shipping

EML relies primarily on rail infrastructure to transport iron ore from mine sites to export terminals at Saldanha Bay and Port Elizabeth, using Transnet-type bulk rail networks. Freight reliability represents a key operational constraint, and safety stock is maintained at both mine and port locations to mitigate delivery risks associated with rail disruptions and port congestion.

4.6 Marketing, Selling, and Distribution

Exports account for more than 90 percent of total production. Major customer markets include Asia, particularly China, Japan, and South Korea, which together represent approximately 70 percent of sales, and Europe, which accounts for approximately 20 percent. Domestic sales comprise the remaining 10 percent.

Sales contracts are typically referenced to global iron ore indices, with pricing adjusted for product quality. Lump ore continues to attract a premium relative to fines, while low silica and alumina content supports higher realised prices. The company's foreign currency exposure, primarily to the ZAR/USD exchange rate, is material and is managed through the use of hedging instruments.

Customers are increasingly requesting cargo-level emissions disclosures, and lower-emission supply chains are emerging internationally as a differentiated product class.

4.7 Mine Closure and Rehabilitation

Progressive rehabilitation activities reshape waste rock dumps, re-vegetate disturbed areas using indigenous species, and monitor the integrity of water and tailings infrastructure. Financial provisioning for rehabilitation is reviewed and audited annually to ensure alignment with licence conditions and the requirements of the MPRDA.

In accordance with the Mining Charter and Social and Labour Plan guidelines, EML is responsible for reskilling and redeploying affected employees and supporting local economic transition as operations wind down. Closure and downscaling plans aim to reduce the socio-economic impacts associated with job losses and declining economic activity in host communities.

5. Material Matters and Opportunities

In identifying and prioritising material matters, EML applies its enterprise risk-management (ERM) framework to integrate strategic, operational, financial, and sustainability-related risks and opportunities. Materiality is assessed using a double materiality perspective, considering both the potential financial effects of risks and opportunities on the company's ability to create value, and the significant impacts of EML's activities on the economy, environment, and society. These matters reflect issues that could substantively influence value creation over the short, medium, and long term.

Risks and opportunities are assessed using a likelihood and impact matrix and are aligned to EML's strategic objectives and capitals framework. This approach supports consistent prioritisation and oversight across the organisation and informs both risk mitigation and opportunity identification.

Oversight of the risk and materiality assessment process is provided by the Board, with detailed review delegated to the Audit and Risk Committee. Management is responsible for maintaining the risk register and monitoring emerging risks, while the Strategy and Investment Committee oversees opportunities linked to innovation, decarbonisation, and long-term value creation. Material matters are reviewed periodically to ensure continued relevance as the operating environment evolves.

Material Matters

1	**Energy Transition and Carbon Competitiveness**	Global decarbonisation policies, including investor-driven net-zero commitments and the anticipated expansion of carbon-related trade measures such as the European Union's Carbon Border Adjustment Mechanism, increase pressure on South African producers. To remain competitive in premium export markets, EML must improve energy efficiency and explore renewable energy partnerships.
2	**Infrastructure Reliability and Logistics Constrainst**	Persistent rail and port inefficiencies constrain export volumes and erode operating margins. Addressing these challenges requires close coordination with Transnet, private-sector logistics partners, and government stakeholders to improve capacity, reliability, and resilience.
3	**Community Trust and Social Licence to Operate**	Employment expectations, local procurement practices, and land use remain highly sensitive issues in the Northern Cape. Sustained community development initiatives and transparent stakeholder engagement are critical to maintaining EML's social licence to operate.
4	**Water Security and Resource Stewardship**	Competing water demands from agriculture and local communities pose both operational and reputational risks. EML's closed-loop water systems and catchment management initiatives are key mitigation measures supporting responsible resource stewardship.
5	**Governance, Ethics, and Transformation**	Compliance with the Mining Charter, progress on transformation objectives, and transparent reporting practices underpin EML's legitimacy and investor confidence. Effective governance and ethical conduct remain central to long-term sustainability.

Emerging issues, including digital transformation, the use of artificial intelligence in mining operations, and cyber resilience, are monitored through the enterprise risk management process as part of EML's ongoing risk horizon scanning.

6. Stakeholder Engagement Overview

Stakeholder engagement is central to EML's governance and enterprise risk-management approach. The company identifies and maps key stakeholder groups based on their relative influence and the extent to which they are impacted by EML's activities. Engagement is conducted through a range of formal and informal platforms aimed at building trust, maintaining legitimacy, and supporting informed decision-making.

Key engagement mechanisms include:

- Quarterly community forums chaired by the Sustainability Office;
- Annual investor and analyst briefings that integrate financial and sustainability disclosures;
- Collective bargaining structures and safety committees with recognised labour unions; and
- Public grievance mechanisms aligned with the principles of King V and relevant international standards, including those of the International Finance Corporation.

Insights and feedback obtained through these engagement processes inform the identification and prioritisation of material matters and contribute directly to the annual review of the company's risk register.

7. Key Risks

EML's enterprise risk-management (ERM) process integrates strategic, operational, financial, and sustainability considerations across the organisation. Risks are identified through cross-functional management workshops, external stakeholder engagement, and ongoing environmental scanning. Identified risks are assessed using a likelihood and impact matrix and prioritised for Board oversight.

Each material risk is assigned to a responsible executive and monitored on a quarterly basis by the Audit and Risk Committee. The ERM framework is aligned with King V Principle 8 and ISO 31000, embedding risk awareness into EML's strategy formulation, capital allocation decisions, and value-creation model.

Emerging risks are monitored through scenario-planning exercises that consider longer-term developments related to climate change, technology adoption, regulatory change, and geopolitical dynamics. Opportunities associated with innovation, decarbonisation, and operational improvement are evaluated alongside risks to support balanced decision-making and organisational resilience.

The key risks outlined below reflect the principal material matters identified through EML's materiality assessment and represent how those matters manifest across the company's operations and external environment.

Category	Risk Description	Impact	Likelihood	Primary Stakeholders Affected	Mitigation and Management Actions
Sustainability and Climate	Rising emissions intensity and high water use amid tightening decarbonisation and ESG expectations increase regulatory, market-access, and reputational pressure.	High	High	Regulators, investors, communities, customers	Develop renewable-energy power purchase agreements; implement closed-loop water systems; strengthen biodiversity offset programmes; report climate-related risks and performance using TCFD-aligned metrics.
Operational and Infrastructure	Rail and port bottlenecks constrain export volumes and delivery reliability, eroding margins and limiting growth.	High	High	Transnet, logistics partners, government, customers	Engage in public-private partnership initiatives; maintain on-site and port stockpiles; optimise logistics scheduling; advocate for infrastructure reform.
Health and Safety	Serious injuries or fatalities arising from heavy equipment operation, fatigue, or non-compliance with safety protocols.	High	Medium	Employees, contractors, unions, regulators	Enforce critical control verification; invest in automation and fatigue-monitoring systems; expand safety leadership training.
Compliance and Governance	ESG-linked licence renewal risk and evolving Mining Charter obligations increase compliance complexity and scrutiny.	High	Medium	DMRE, communities, investors	Strengthen internal audit and compliance systems; enhance transparency through public reporting; maintain proactive stakeholder consultation.
Financial	Commodity price and exchange-rate volatility affect revenue stability, cash flows, and capital allocation decisions.	High	High	Shareholders, financiers, employees	Diversify customer base; apply disciplined capital-expenditure gating; use foreign exchange and commodity hedging instruments.
Community and Social Licence to Operate	Land disputes, protests, or mistrust arising from unmet community expectations disrupt operations and damage legitimacy.	High	Medium	Host communities, municipalities, NGOs	Implement Social and Labour Plan commitments; fund community trust mechanisms; co-design local procurement and skills-development programmes.
Stakeholder and Reputation	Inadequate stakeholder engagement or poor disclosure undermines trust, legitimacy, and investor confidence.	Medium	Medium	All stakeholders	Establish structured stakeholder mapping; publish grievance outcomes; hold quarterly community forums; integrate stakeholder feedback into risk reviews.
Digital and Cybersecurity	Cyber threats disrupt operations or compromise data integrity and regulatory compliance.	Medium	Medium	Employees, Suppliers, Regulators	Enhance cybersecurity controls and training; conduct regular penetration testing; ensure compliance with data-privacy requirements, including POPIA.
Ethics and Cultute	Misconduct, bribery, or conflicts of interest undermine organisational integrity and governance effectiveness.	High	Low	Employees, Regulators, Investors	Enforce anti-bribery and corruption policies; provide ethics training; maintain independent whistle-blowing channels overseen by the Audit and Risk Committee.

8. Strategic Objectives

EML's strategy is centred on long-term value creation and organisational resilience within a rapidly evolving operating environment. The company's strategic objectives are designed to respond directly to its material matters, balancing financial performance with responsible resource stewardship, stakeholder trust, and strong governance.

Together, these strategic objectives guide capital allocation, operational priorities, and performance management across the business.

Strategic Pillars:

1. High-Grade Product Leadership

Sustain and enhance the quality of EML's ore portfolio through continuous improvement and selective blending practices, maintaining competitiveness in global markets despite logistics constraints and increasing carbon-related pressures.

2. Operational and Beneficiation Excellence

Extend the economic life of the Kavala Mine through Ultra-High Dense Media Separation upgrades, energy-efficient beneficiation processes, and waste recovery initiatives that reduce environmental impact and improve operating margins.

3. Community Partnership and Shared Value

Allocate a minimum of 3 percent of after-tax profits to the Easton Community Trust, supporting local enterprise development, education, and reskilling initiatives aligned with Social and Labour Plan commitments and regional development priorities.

4. Decarbonisation and Energy Transition

Achieve a 30 percent reduction in Scope 1 and Scope 2 greenhouse gas emissions by 2030, and net reductions across Scopes 1, 2, and 3 by 2040, through renewable energy power purchase agreements, progressive electrification of mining fleets, and ongoing process optimisation.

5. Governance, Diversity, and Ethical Leadership

Strengthen governance oversight through diverse and skilled Board and committee structures, transparent sustainability and ESG reporting, and continued adherence to the King V principles of ethical and effective leadership.

6. Digital Innovation and Stakeholder Insight

Leverage automation, data analytics, and digital engagement platforms to improve operational efficiency, enhance safety performance, and support timely, transparent engagement with employees, investors, and host communities.

9. Strategic Roadmap: Short-, Medium-, and Long-Term Initiatives

EML's strategic roadmap outlines the phased implementation of its strategy as the company transitions from a traditional mining business toward a more resilient, low-carbon, and stakeholder-responsive operating model. The roadmap aligns with EML's six strategic objectives and addresses priorities across the short, medium, and long term, spanning financial, operational, social, and environmental dimensions of value creation.

Each initiative is embedded within the enterprise risk-management framework and aligned with the company's material matters. Short-term initiatives focus on stabilisation, mitigation, and compliance; medium-term initiatives emphasise integration and innovation; and long-term initiatives support structural transformation, resilience, and long-term legacy outcomes.

9.1 Short-Term Priorities (1-3 years)

Objective:
Stabilise operations, improve cost efficiency, and meet foundational ESG expectations.

Key initiatives include:

- **Clean Haul Programme, Phase 1:** Replace 20 diesel haul trucks with hybrid-electric models, with a total investment of approximately R2.4 billion, including freight and import duties.
  - Funding mix: 40 percent green loan from the Development Bank of Southern Africa; 60 percent internally generated cash.
  - Financial treatment: Estimated useful life of 10 years; residual value of R200 million; recognition of asset-retirement obligations for decommissioning costs.
  - Expected benefits: Approximately 25 percent reduction in Scope 1 emissions; 20 percent reduction in fuel and maintenance costs; eligibility for an estimated R50 million per annum carbon-credit incentive for five years under the national carbon tax offset mechanism.
  - Accounting and tax considerations: Review of depreciation policies; recognition of carbon credits; assessment of eligibility for Section 12L incentives; impairment assessment of replaced diesel fleet assets.

- **Carbon Tax Compliance:** Assess exposure under South Africa's Carbon Tax Act No. 15 of 2019, currently levied at R159 per tonne of CO_2e, and introduce internal carbon pricing to inform capital investment decisions.

- **Energy Efficiency:** Conduct site-level energy audits and install 10 MW of embedded solar generation at the Ithaka Mine under a 20-year power purchase agreement.

- **Governance Strengthening:** Integrate IFRS S1 and S2-aligned disclosure controls into the financial reporting cycle under the oversight of the Audit and Risk Committee.

- **Community Employment and Skills Development:** Launch a 500-learner apprenticeship and adult literacy programme in partnership with TVET colleges, supporting Social and Labour Plan commitments and local workforce development.

9.2 Medium-Term Priorities (3-7 years)

Objective:
Integrate sustainability into the core business model and align with national and global policy frameworks.

Key initiatives include:

- **Sustainable Development Goals Alignment:** Embed SDG 8 (Decent Work and Economic Growth) and SDG 12 (Responsible Consumption and Production) into corporate scorecards and management key performance indicators, including targets for safety performance, water recycling, and local procurement.
- **Responsible Resource Use:** Expand closed-loop water systems at both mines, targeting 80 percent recycled water usage by 2028.
- **Beneficiation Innovation:** Commission a pilot direct reduced iron-grade pelletisation plant, with estimated capital expenditure of R1.8 billion and a planned start-up in 2027, aimed at reducing carbon-intensive logistics and producing higher-value export products.
- **Social Impact Investment:** Scale contributions to the Easton Community Trust to a minimum of 3 percent of after-tax profits, funding enterprise development, agricultural partnerships, and digital skills programmes.
- **Transparent Reporting and Assurance:** Transition to ISSB-aligned sustainability reporting and obtain third-party limited assurance over selected environmental key performance indicators by 2028.

9.3 Long-Term Priorities (7-20 years)

Objective:
Position EML for net-zero readiness and establish a lasting regional economic legacy.

Key initiatives include:

- **Decarbonisation Pathway (2030–2040):** Ahieve a net 30 percent reduction in Scope 1 and Scope 2 emissions by 2030 and implement a full Scope 1, 2, and 3 emissions reduction pathway by 2040 through renewable energy power purchase agreements, progressive fleet electrification, and green hydrogen integration.
- **Mine Closure and Transition Planning:** Implement progressive rehabilitation at the Kavala Mine and establish a Community Transition Fund to support reskilling and alternative livelihoods, in line with the Mining Charter and Social and Labour Plan requirements under the MPRDA.
- **Circular Economy and Innovation:** Expand metals recycling and mine waste repurposing initiatives and pursue partnerships focused on low-carbon steel value chains.
- **Digital Transformation:** Deploy real-time ESG performance dashboards and artificial intelligence-enabled predictive maintenance systems across operations.
- **Regional Collaboration:** Participate in public-private climate adaptation, infrastructure-sharing, and regional development initiatives across the Northern Cape.

10. Extract from Governance Report

10.1 The Board of Directors

The Board of Easton Minerals Limited (EML) is accountable for setting the company's strategic direction, overseeing ethical and effective leadership, and ensuring compliance with the Companies Act, the King V Report on Corporate Governance, and the Mining Charter (2018).

The Board operates as a unitary structure and comprises a majority of independent non-executive directors. Its composition reflects an appropriate balance of skills, experience, diversity, and independence to support robust oversight and informed decision-making.

Current Board Composition:

Prof. Zanele Dlamini (Chairperson, Independent Non-Executive Director)
Over 30 years' experience in law, governance, and academia; former Dean of Law; Chair of the Nominations and Governance Committee.

Sipho Mthembu (Chief Executive Officer)
25 years' experience in mining engineering; member of the Safety, Health, and Sustainable Development Committee.

Dr. Maria Alvarez CA(SA) (Chief Financial Officer)
20 years' experience in mining finance and IFRS; Chair of the Audit and Risk Committee.

Naledi Radebe (Chief Sustainability Officer)
18 years' experience in renewable energy, biodiversity, and community development programmes; member of the Safety, Health, and Sustainable Development Committee.

Peter Chen (Non-Executive Director)
28 years' experience in Asian commodity markets; member of the Strategy and Investment Committee.

Amara Patel (Independent Non-Executive Director)
30 years' experience in occupational health and safety leadership; member of the Safety, Health, and Sustainable Development Committee.

Jonas Andersen (Independent Non-Executive Director)
32 years' experience in investment management and ESG finance; Chair of the Remuneration Committee.

Thabo Khoza (Executive Director: Operations)
22 years' experience in metallurgical and beneficiation operations; member of the Strategy and Investment Committee.

10.2 Governance an Transformation Highlights

- Independence: Five of the eight directors (63 percent) are independent non-executive directors, exceeding King V's minimum expectations for balanced and objective oversight.

- Diversity: The Board comprises approximately 50 percent female representation and 60 percent historically disadvantaged South Africans, aligned with the transformation objectives of the Mining Charter.

- Board Committees: Audit and Risk; Remuneration; Strategy and Investment; Safety, Health, and Sustainable Development; and Nominations and Governance. Each committee is chaired by an independent non-executive director.

- Succession and Ethics Oversight: The Board conducts annual performance, independence, and effectiveness evaluations and has adopted an ethics and anti-corruption framework aligned with King V Principles 1 to 3.

10.3 Governance Outcomes

The Board is committed to the principles of ethical and effective leadership, accountability, and transparency as articulated in King V. Its governance approach is designed to deliver the following governance outcomes:

1. **An ethical culture:**
   Reinforced through a formal Code of Conduct, regular conflict-of-interest declarations, and anti-bribery and corruption training.

2. **Good performance:**
   Supported through clear delegation of authority, performance-linked remuneration structures, and integrated reporting on strategic, financial, and sustainability outcomes.

3. **Effective control:**
   Maintained through internal audit oversight, combined assurance arrangements, and regular risk-based reviews conducted by the Audit and Risk Committee.

4. **Legitimacy:**
   Strengthened through proactive stakeholder engagement and compliance with transformation, social, and labour obligations under the Mining Charter (2018) and the MPRDA.

10.4 Risk Governance

EML's risk management framework is aligned with the principles of ISO 31000 and is overseen by the Audit and Risk Committee. Risks are identified and managed through an enterprise risk-management process that integrates operational, financial, ESG, and strategic considerations. Material risks include logistics reliability, energy security, water scarcity, regulatory change, and community relations.

The risk register is reviewed quarterly, and mitigation actions are linked to key performance indicators disclosed in the company's integrated report to support effective monitoring and accountability.

10.5 Combined Assurance

EML applies a combined assurance approach to support the integrity of its governance, risk management, and reporting processes. The combined assurance framework is coordinated by management and overseen by the Audit and Risk Committee, with assurance activities aligned to the company's principal risks and material matters.

At present, management provides first-line assurance over operational, financial, and sustainability-related controls, supported by internal audit and the statutory external auditor. Independent assurance is obtained over financial reporting and selected compliance and sustainability metrics through specialist external providers. The Board uses combined assurance outputs to assess the adequacy and effectiveness of controls, risk mitigation actions, and disclosures.

As EML advances its sustainability reporting and transitions toward ISSB-aligned disclosures, the company plans to progressively enhance its combined assurance model. This includes expanding the scope and maturity of assurance over sustainability-related information, strengthening coordination across assurance providers, and improving the integration of assurance insights into strategic decision-making over future reporting cycles.

11. Extracts from Financial Statements

The following extracts present selected consolidated financial information for Easton Minerals Limited (EML) for the financial years ended June 2025 and June 2024. The information is presented in summary form for illustrative purposes.

The extracts below are presented for illustrative purposes and do not represent a complete set of financial statements prepared in accordance with IFRS.

11.1 Consolidated Statement of Profit or Loss (ZAR million)

	2025	2024
Revenue	**22,800**	17,900
Cost of sales	**(12,900)**	410
Gross Profit	**9,900**	**19,710**
Distribution costs	**(2,000)**	2,250
Administrative expenses	**(1,750)**	4,800
Operating Profit	**6,150**	**6,000**
Finance costs	**(600)**	(650)
Finance income	**120**	100
Profit Before Tax	**5,670**	**5,450**
Tax expense	**(1,700)**	(1,640)
Profit After Tax	**3,970**	**3,810**
Earning per share (ZAR)	7.94	7.62

11.2 Consolidated Statement of Financial Position (ZAR million)

	2025	2024
Assets		
Property, plant and equipment	**18,500**	17,900
Right-of-use assets	**1,200**	1,400
Deferred tax assets	**450**	410
Non-Current Assets	**20,150**	**19,710**
Inventory	**2,100**	2,250
Trade and other receivables	**3,800**	3,600
Cash and cash equivalents	**5,200**	4,800
Current Assets	**11,100**	**10,650**
Total Assets	**31,250**	**30,360**
Equity and Liabilities		
Share capital	**5,000**	5,000
Retained earning	**12,500**	11,800
Sustainability reserve	**1,000**	800
Total Equity	**18,500**	**17,600**
Long-term borrowings	**6,000**	6,200
Provisions (rehabilitation)	**2,000**	2,100
Non-Current Liabilities	**8,200**	**8,300**
Trade payables	**2,600**	2,700
Short-term borrowings	**1,500**	1,300
Current tax payable	**450**	460
Current Liabilities	**4,550**	**4,460**
Total Equity and Liabilities	**31,250**	**30,360**

12. Public-Sector Interface and Reporting Alignment

Although Easton Minerals Limited (EML) operates as a private-sector company, its activities are closely interlinked with South Africa's public-sector governance, regulatory, and reporting systems. Information reported by mining companies such as EML contributes directly to national statistics, environmental inventories, fiscal accounts, and sustainability indicators.

This interface underscores the importance of accurate, consistent, and transparent corporate reporting in supporting public accountability and evidence-based policymaking. Corporate disclosures therefore play a critical role not only in informing investors and stakeholders, but also in enabling credible public-sector reporting and oversight.

12.1 Public-Sector Context

Mining entities are required to submit information to multiple government departments and regulatory agencies, each operating under distinct legislative and policy mandates. Key public-sector interfaces include:

- Department of Mineral Resources and Energy (DMRE): Monitoring compliance with the Mining Charter and Social and Labour Plan obligations.
- Department of Forestry, Fisheries and the Environment (DFFE): Administration of environmental authorisations and management of the national greenhouse gas emissions inventory.
- National Treasury and the South African Revenue Service (SARS): Collection of mining royalties, carbon tax revenues, and administration of energy-efficiency incentives, including those under Section 12L.
- Statistics South Africa and The Presidency: Integration of mining-related data into national Sustainable Development Goal indicators and development planning metrics.

In practice, data reported by mining companies contributes to South Africa's broader sustainability, climate, and fiscal reporting ecosystem, notwithstanding ongoing coordination challenges across public-sector institutions. Public-sector professionals therefore rely on the credibility and consistency of corporate disclosures to produce transparent and decision-useful government reports.

12.2 Public-Sector Reporting Matrix

The table below summarises the key interfaces between EML's corporate reporting processes and South Africa's public-sector reporting and oversight systems. It illustrates how data generated through financial, sustainability, and operational reporting is transmitted to different government departments in accordance with their legislative mandates. While the underlying information is often prepared for corporate reporting and compliance purposes, it is subsequently aggregated and repurposed within national fiscal, environmental, and development reporting frameworks. The matrix highlights the extent to which the quality, consistency, and assurance of corporate disclosures influence the credibility of public-sector reporting outputs.

Department / Agency	Legislative / Policy Basis	Key Data Reported by EML	Reporting Frequency / Format	Public-Sector Use
DMRE (Mining Charter Transformation and SLP Reporting)	Mining Charter (2018); MPRDA Social and Labour Plan Regulations; Broad-Based Black Economic Empowerment Act (2003)	Black ownership 31 percent (15 percent community trust, 10 percent employee share scheme, 6 percent strategic partner); BEE Level 4 contributor; Board representation 50 percent HDSA and 50 percent female; skills development spend R48 million (3.5 percent of payroll); local procurement 56 percent black-owned and 18 percent women-owned suppliers; community development spend R65 million via Easton Community Trust	Annual Mining Charter scorecard and SLP progress report submitted to the DMRE	Aggregated into national transformation, employment equity, skills development, and community investment statistics; informs DMRE and DTIC monitoring
DFFE	National Greenhouse Gas Inventory Regulations; National Environmental Management Act (NEMA)	Scope 1 emissions 550,000 tonnes CO_2e; Scope 2 emissions 320,000 tonnes CO_2e; Scope 3 emissions 1.8 million tonnes CO_2e; water withdrawal and recycling ratios	Annual environmental return	National emissions inventory compilation and water-resource planning
National Treasury / SARS	Carbon Tax Act (2019); Mineral and Petroleum Resources Royalty Act (2008)	Carbon tax liability R65 million; Section 12L energy-efficiency rebate R12 million; mining royalties R230 million	Quarterly statutory returns	Consolidated fiscal revenue reporting and climate-finance analysis
DFFE / DMRE Joint Committee	Financial Provisioning Regulations	Rehabilitation financial provision R900 million; hectares rehabilitated	Annual audited certificate	Estimation of national mine-closure and rehabilitation liabilities
Statistics South Africa / The Presidency	National SDG framework (SDG 8 and SDG 12)	Direct employment 1,800 employees; contractors 2,400; local spend ratio 55 percent	Annual integrated reporting data	National SDG progress monitoring and reporting

Section 10.1: Strategy and Enterprise Risk Management

10.1.1 Purpose and Context

In accounting education, strategic decision-making, enterprise risk management, and sustainability intersect in shaping how organisations create and protect value over the short, medium, and long term. The SAICA CA of the Future Competency Framework (2025) reflects this intersection by emphasising integrated thinking, ethical leadership, and the consideration of both financial and non-financial capitals within the value creation process.

Within the strategic and risk-management domain, integrated thinking enables Chartered Accountants to evaluate how organisational strategy responds to environmental, social, and governance (ESG) factors, while enterprise risk management provides a structured mechanism for identifying, assessing, and managing uncertainty. This extends beyond traditional financial risks to include climate-related, regulatory, reputational, and stakeholder risks that can materially affect organisational resilience and legitimacy.

Stakeholder engagement plays a critical role in this context by informing risk identification, shaping strategic priorities, and reinforcing accountability and trust. Together, strategic analysis, risk governance, and stakeholder engagement support responsible decision-making and ethical value creation, positioning accounting education as a foundation for sustainable business leadership in an increasingly complex operating environment.

Technical Competency Areas:

Note on technical competency alignment:
For the purposes of this guidance, this sub-section assumes that the following technical competency areas, as outlined in the SAICA CA of the Future Competency Framework (2025), are addressed within the disciplinary context illustrated in this sub-section. These assumptions recognise that programme structures and module allocations vary across institutions, and that the same competencies may be developed within different modules or learning streams. The competency areas identified below are therefore illustrative in nature and are not intended to be exhaustive or prescriptive.

The technical competency areas relevant for this sub-section are:

A. Strategy and governance to create sustainable value (A1 - A3)
B. Stewardship and capitals: business processes and risk management (specifically B3)
D. Reporting on value creation (specifically D1.3)

10.1.2 Case Study Application: Integrating PVAAs, Technical Competencies and KSA application

Application notes:
This table links each stage of Easton Minerals Limited's value chain to selected technical competency areas, Professional Values, Attitudes and Acumen (PVAAs), and the expected progression of learning from Knowledge to Skills and Abilities (KSA). The depth of engagement is signalled through three indicative levels (Novice, Proficient, and Advanced) which are intended to guide the design of learning activities, assessment tasks, and grading expectations. These levels do not simplify or fragment the underlying case study material; rather, they support calibrated engagement with authentic professional complexity.

Each issue, dilemma, or opportunity should be considered through a governance and ethical decision-making lens, examining how leadership choices, accountability structures, stakeholder responsibilities, and organisational values shape the organisation's response. The overarching aim is to cultivate a sustainability mindset, encouraging integrated, responsible, and long-term thinking in future accounting professionals.

The table is designed to surface authentic teaching opportunities while allowing academic discretion regarding:
- *the calibration of questions, prompts, and evaluative criteria to the level of the student;*
- *the depth and mode of engagement (for example, tutorial discussion, formative activity, assignment, or simulation);*
- *the weighting and assessment format applied; and*
- *the phrasing of questions, prompts, or marking guides in line with local academic and institutional policy.*

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mission, Vision, Values, and Strategic Pillars and Objectives	Long-term value creation and sustainability form part of EML's organisational strategy, which is framed within a sustainability- and stakeholder-inclusive approach. Alignment between the mission, vision, values, and strategic pillars is critical to embedding sustainability and integrated thinking across operational processes and decision-making.	Strategy to create sustainable value (A2 & A3)	Business ethics, Corporate citizenship, Integrated thinking, Integrative thinking, Business acumen	Critique the organisation's mission, vision and organisational values to determine whether they: (1) Reflect and support sustainable principles; (2) Encourages stakeholder engagement and inclusivity (3) Demonstrate strategic alignment between the stated intent (vision, mission, values, and/or strategic pillars) and operational objectives (strategic objectives). 4) Analyse how internal and external environmental factors strategic-level decisions, including: communities, employees, government, funders, and the environment.	**N**	Define enterprise risk management (ERM) in the context of value creation, stakeholder needs, and sustainability. Explain concepts such as strategic intent, strategic alignment, and how these are reflected in an organisation's mission and vision statements.	Prepare a simple risk register to identify and evaluate strategic risks. As part of impact and likelihood assessment consider both financial and impact materiality	Recognise the difference between decision-making based on financial impact only, compared to balancing the financial and non-financial impact of the organisation's strategic decisions.
					P	Explain how organisational strategy incorporates governance practices, ethical behaviour, and stakeholder engagement to support sustainable value creation. Compare ERM frameworks (e.g. COSO ERM and ISA 315 concepts) and discuss their relevance to sustainability-related risks.	Discuss the conflict between EML's strategic objective for decarbonisation and energy transition and the realistic resource limitations and South Africa's existing coal-dependent national energy mix.	Develop appropriate strategic objectives that considers and reflects EML's strategic intent, and pressure from global decarbonisation policies within the South African context. Evaluate EML's risk management processes and governance and recommend improvements aligned to the requirements of Kinv IV and ISA31000 frameworks.
					A	Evaluate each strategic objective to assess alignment with EML's mission and values, with specific reference to value creation for stakeholders, responsible resource stewardship, and contribution to a low-carbon economy.	Design a vision and mission statement and/or strategic objectives that reflect the organisation's commitment to sustainable practices.	Critique the existing mission, vision and organisational values to identify areas for improvement to alignment with a sustainability orientated and stakeholder inclusive approach. Critique the existing risk register (likelihood-impact matrix) and consider if it appropriately reflects the organisation's strategic objectives. Determine the reasonability of risk evaluation and mitigating actions.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration	Environmental approvals, licence applications, and community consultation. Typical risks include biodiversity loss, ecological harm, and stakeholder resistance. Opportunities arise through early community partnerships and trust-building.	Governance & Ethics; Risk Management	Ethical Behaviour; Professional Scepticisml Relational Acumen	Identify potential environmental, social, and stakeholder risks and opportunities linked to EML's exploration activities. Consider how these risks shape the feasibility and long-term value creation of proposed exploration projects. Discuss possible governance, benefit-sharing, and ethical impacts.	**N**	Define governance and explain how licensing, environmental approvals, and stakeholder consultation function within exploration decision-making.	Identify key stakeholder groups and potential outcomes (positive and negative) of EML's exploration activities.	Recognise that sustainability value requires weighing financial gains against social and environmental costs.
					P	Explain common governance risks (e.g., bribery, non-compliance, ecological impact) and how they can lead to both financial and reputational consequences.	Map legitimate stakeholder needs and evaluate cost–benefit trade-offs that incorporate ethical and environmental considerations.	Apply professional judgement to balance ethical outcomes with strategic objectives
					A	Evaluate how transparent decision-making and stakeholder engagement contribute to long-term value creation, even where short-term costs increase and impact ROI.	Formulate recommendations showing how governance actions (for example, transparent consultation processes) create sustainable strategic advantage.	Justify governance decisions using integrated reasoning that considers ethics, risk, and long-term ROI.
Planning & Building	Land-use conflicts, poor environmental planning, unsafe housing for workers, risks of water contamination, procurement corruption, lack of community consultation, and carbon-intensive construction methods are issues. Opportunities include: Developing green infrastructure, supporting local suppliers, and implementing transparent procurement systems.	Governance; Risk Management; Ethics; External Reporting / Management Accounting	Relational Acumen; Decision-usefulness; Business Acumen	Identify sustainability risks associated with EML's planning and construction activities.	**N**	Identify risks associated with construction activities, such as carbon emissions, land disturbance, and community displacement.	Describe how poor governance or inadequate controls can increase environmental and safety risks.	Recognise when construction decisions may generate social conflict or long-term environmental harm.
				Analyse how governance weaknesses, environmental constraints, and infrastructure decisions may affect operational performance, safety, and community legitimacy. Recommend improvements.	**P**	Explain how planning decisions influence social licence to operate and operational sustainability.	Analyse trade-offs between capital cost, sustainability outcomes, and stakeholder expectations. Integrate ethical considerations into recommendations.	Evaluate how short-term cost savings may undermine governance quality and long-term value.
				Evaluate EML's construction governance framework, including procurement practices, regulatory compliance, safety-by-design, and environmental control systems. Develop a sustainability-integrated strategy that demonstrates long-term value creation across financial, social, and environmental dimensions.	**A**	Critically interpret sustainability and governance standards. Demonstrate an understanding of the interdependence between capital inputs (natural, social, and financial) and long-term value creation.	Design integrated construction governance policies; evaluate procurement tenders using sustainability and risk criteria; and incorporate carbon measurement, social impact assessment, and risk analytics into planning and investment decisions.	Justify a governance strategy that balances return on investment, social licence to operate, climate-related risk, and ethical obligations. Provide holistic recommendations that reflect integrated thinking and professional judgement in complex, real-world contexts.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mining	Health & safety hazards; hazardous waste and tailings risk; worker exploitation; community conflict; water usage and contamination; dust and air pollution; human rights concerns; opportunities for safer technology adoption, transparency, local employment, and emissions reduction.	Ethics / Risk Management / Internal Control / Sustainability & Integrated Thinking / External Reporting	Ethical Behaviour & Professionalism; Analytical Acumen; Relational Acumen; Decision-usefulness; Citizenship	Identify environmental, safety, and ethical risks in EML's mining operations and explain how they affect long-term value.	**N**	Describe common mining risks (e.g., injuries, water pollution, emissions) and understand that governance safeguards (e.g., safety controls, reporting) promote trust and accountability.	Identify affected stakeholders (workers, communities, regulators) and outline expected consequences of unsafe or unethical mining activities.	Recognize when mining decisions may harm worker welfare, community relations, or compliance obligations.
				Analyse EML's mining activities using governance frameworks. Consider tailing management, health and safety metrics, and regulatory compliance. Recommend ethically defensible improvements.	**P**	Explain how mining safety failures and environmental mismanagement affect financial performance, reputational risk, and regulatory sanctions.	Apply risk matrices; interpret safety data; evaluate mining controls; integrate financial, ethical, and operational reasoning	Exercise judgement when evaluating trade-offs between operational efficiency and sustainability obligations; anticipate systemic impacts such as community resistance or regulatory penalties.
				Evaluate EML's mining governance system from an integrated thinking perspective. Propose a redesigned operational model that enhances ethical conduct, climate performance, and long-term value creation.	**A**	Critically analyses mining governance, including transparency, climate impacts, human rights, and assurance of sustainability information.	Integrate qualitative and quantitative indicators (safety metrics, emissions data, community sentiment analysis). Design improved governance controls, including digital monitoring or ESG assurance processes.	Demonstrate leadership-level judgement by modelling ethical decision-making, balancing short-term production targets with long-term sustainability and stakeholder legitimacy.
Processing and Blending	Leakage of closed-loop water systems, and impact on surrounding communities water supply. Consider the risk of water and air pollution due to byproducts of separation processes released into the environment. Balance of stakeholder interest: community safety vs meeting client contractual quality requirements	B3 business processes and risk management Business ethics; Corporate citizenship	Business ethics; Corporate citizenship	Identify and assess environmental and governance related risks regarding the processing and blending operations. Consider the impact and likelihood of these risks and evaluate it against the organisational risk management policy and plan. Specifically consider each risk rating against the organisational risk appetite and tolerance levels. Discuss ethical considerations of management when considering making decisions that will have an impact on various stakeholders with conflicting interests. As an example: ensuring community safety against environmental pollution due to the processing and blending process could be in direct opposition to the organisation's contractual responsibilities on product quality requirements.	**N**	Define enterprise-wide risk management as opposed to risk management - to acknowledge incorporation of broad range (including governance, sustainability and ethical issues) of internal and external sources of risk.	Evaluate differences between the implementation of an appropriate risk management framework (COSO vs ISO31000)	Propose and justify a suitable risk management framework most appropriate to EML's operations and strategic intent and that reflects a stakeholder centred approach.
					P	Define risk management concepts such as risk maturity, risk appetite, risk tolerance	Evaluate EML's risk maturity level and make recommendations for improving risk maturity	Assess whether the organisation's current risk appetite and tolerance align with its sustainability objectives. Prepare a concise stakeholder information brief explaining key processing and blending risks, alongside the associated sustainability benefits for affected stakeholder groups.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Processing and Blending (Continued)					**A**	Explain how EML monitors its risk environment to identify emerging sustainability-related risks, with particular reference to environmental risks arising from processing and blending operations.	Perform stakeholder mapping to assess the impacts of processing and blending practices on affected stakeholder groups (for example, water-system leakage). Prepare and evaluate a risk matrix to identify and prioritise the most significant operational and sustainability risks.	Contrast the processing and blending requirements at the Kavala and Ithaka mines, evaluating trade-offs between financial costs and benefits and the environmental and community impacts of operations at each site.
Marketing & Sales	1.The company may feel pressure to market themselves as "green" without fully implementing sustainable practices, risking reputational damage. 2. As global buyers are increasingly demanding responsibly sourced minerals, certification (e.g., ISO 14001, Responsible Mining Initiative) can improve access to new markets. 3.Being active in and promoting recycling and reuse of minerals can position companies as leaders in sustainable resource management	Ethics; Risk Management; Internal Control; Sustainability & Integrated Reporting	Ethical behaviour; Professional scepticism; Analytical acumen; Citizenship	Identify the strategic actions that EML should take to reduce reputational risk and explain how these actions would improve stakeholder trust	**N**	Define greenwashing and explain why it creates reputational risk - What is greenwashing and why is it considered a strategic risk for mining companies?	Identify simple corrective actions i.e., list two actions that would make the company's sustainability claims more credible	Identify which stakeholder group (investors, regulators, communities) is most likely to lose trust and why.
				Debate how the mine could balance shareholder expectations for profitability with investments in sustainability initiatives benefiting other stakeholders. Indicate the various areas of tension as well as areas of opportunity.	**P**	Understand the strategic alignment between sustainability practices and corporate reputation by explaining how implementing environmental audits supports long-term strategy	Develop a short risk mitigation plan that includes transparency measures and stakeholder engagement and outline the steps to reduce reputational risk and improve trust	Evaluate trade-offs between marketing pressure and operational changes and discuss whether it would be best to delay or scrap the marketing campaign or invest in quick sustainability wins, that will allow for a better marketing story. Justify your choice.
				Discuss how mines can be active participants in the circular economy and consider the difficulties facing mines in South Africa with respect to this participation.	**A**	Show an understanding of the ESG strategy and its link to corporate governance by explaining how ESG integration affects long-term financial performance	Design a stakeholder engagement strategy for a EML that is facing reputational risk due to greenwashing. The multi-stakeholder consultation plan must include measurable outcomes	Critically evaluate a real-world mining company's ESG strategy and recommend improvements to reduce reputational risk. Identify potential greenwashing indicators (e.g., vague claims, lack of measurable targets). Assess alignment with recognised frameworks (GRI, SASB, TCFD). Recommend three strategic actions that would strengthen authenticity and stakeholder trust, justifying each recommendation with evidence

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Shipping & Distribution	Impact of freight rail on carbon emissions, including reliance on electricity generated from coal. Risk of diesel-powered transport if rail capacity is constrained. Operational risks include safety stock storage at mine and port, with potential air and water pollution impacts. Opportunities include modal optimisation, emissions reduction, and improved logistics efficiency.	Business processes; Management accounting; Financial management; Integrated and non-financial reporting	Business ethics; Professional judgement; Integrative thinking; Decision-making	Evaluate EML's shipping and distribution methods (rail and port storage) in terms of their environmental impact, financial implications, and stakeholder expectations. Identify trade-offs between operational efficiency, emissions reduction, and profitability, and assess how these trade-offs influence strategic decision-making.	**N**	Describe the concept of greenhouse-gas emissions and distinguish between Scope 1, 2, and 3 emissions within the context of EML's shipping and distribution activities.	Identify specific stakeholders, policy frameworks, and laws governing EML's shipping activities, such as port authorities, Transnet Rail, customs regulations, climate commitments, carbon tax legislation, and King V.	Recognise that transport and storage decisions influence both operational efficiency and stakeholder expectations.
					P	Explain how shipping methods affect product pricing, customer requirements, risk exposure, and EML's strategic objectives, including emissions reduction and environmental performance	Assess EML's overall carbon footprint across Scopes 1, 2, and 3 related to shipping operations. Evaluate the emissions impact relative to strategic targets (for example, net emissions objectives) and propose alternative transport or storage configurations.	Evaluate competing stakeholder expectations regarding carbon emissions, cost efficiency, and profitability, recognising inherent trade-offs in logistics decision-making.
					A	Evaluate and discuss the trade-offs between environmental impact, carbon emissions, and profitability within shipping and distribution processes.	Evaluate Scope 3 emissions associated with rail and port logistics and propose alternative transport, storage, or safety-stock strategies that improve sustainability performance.	Develop a risk-mitigation plan that balances environmental impact, carbon exposure, operational risk, and the financial implications of bulk product transport and storage decisions.
Mine Closure & Rehabilitation	**(1) Economic Transition and Post-Mining Diversification** Companies are required to plan for post-mining economic diversification to support host communities during and after mine closure. Failure to enable alternative livelihoods increases dependency, social instability, and long-term regional decline.	Governance; Risk Management; Sustainability and Integrated Reporting; Strategic Management	Business acumen; Ethical behaviour; Citizenship; Professional judgement	Consider the balance of power between stakeholders involved in post-mining economic diversification discussions during the mine-closure phase. Identify key stakeholder groups and explain how differences in influence and dependency may shape outcomes.	**N**	Describe what is meant by stakeholder power and identify factors that give certain stakeholders greater influence in mine-closure decision-making (for example, legal authority, economic dependency, access to information, or political leverage).	Create a stakeholder map for an EML mine transitioning from mining to tourism, illustrating stakeholder power and interest using an appropriate matrix.	Discuss which stakeholders are likely to hold greater power during closure discussions, whose interests are most likely to be prioritised, and how EML's intentional sustainability strategy could influence the balance of power among stakeholders.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mine Closure & Rehabilitation (continued)	**(2) Environmental Risks and Long-Term Liabilities** Acid mine drainage, water contamination, and land degradation pose significant long-term ecological risks. Rehabilitation costs are substantial, and inadequate closure planning may result in regulatory non-compliance, litigation, and reputational damage. **(3) Social Risks and Social Licence** Sudden job losses and the collapse of local economic activity increase poverty and inequality. Companies risk losing their social licence to operate if closure planning does not incorporate skills development, reskilling, and sustainable livelihood pathways for affected communities. **(4) Governance, Compliance, and Accountability Risks** Increasing regulatory scrutiny and public accountability require transparent, well-governed closure plans aligned with evolving environmental, social, and labour standards. Weak governance during closure undermines legitimacy and long-term trust.			Evaluate the risk-mitigation strategies required to address acid mine drainage, water contamination, and land degradation during mine closure and rehabilitation. Assess whether these risks primarily affect investor returns or impose greater long-term impacts on other stakeholders, such as communities and the environment.	**P**	Explain mechanisms of stakeholder collaboration, such as participatory planning and negotiation, and analyse how power asymmetries influence closure outcomes. Describe how government policy and regulation may rebalance power among stakeholders.	Design a stakeholder engagement plan that addresses power imbalances by proposing practical mechanisms to include marginalised community voices in post-mining diversification discussions.	Evaluate trade-offs between competing stakeholder interests in a closure scenario where EML proposes an industrial park while local communities prefer agricultural development. Propose a compromise strategy that balances economic viability, social outcomes, and long-term sustainability.
				Critically examine the concept of a "social licence to operate" and assess whether this licence extends beyond active mining into mine closure and rehabilitation. Evaluate how social licence considerations influence closure practices in South Africa and internationally, and how they affect long-term legitimacy and value creation.	**A**	Critically evaluate theoretical and governance frameworks relevant to post-mining transitions (for example, multi-stakeholder governance models and resource-based theory) and apply them to assess alternative approaches to mine closure and regional economic diversification.	Apply advanced facilitation and negotiation principles to analyse interactions between stakeholders with competing interests, such as mining companies, local government, and community representatives, and evaluate how different mediation approaches influence outcomes.	Design an innovative and equitable post-mining diversification strategy for an EML mine that balances economic viability, social outcomes, environmental rehabilitation, and long-term regional resilience. Justify the proposed solution with reference to governance legitimacy, stakeholder inclusion, and sustainable value creation.

10.1.3 Assessment and Grading Guidance (KSA-Aligned and Developmental)

Application notes:
Assessment within this subsection is intended to support developmental professional judgement aligned to the SAICA CA of the Future Competency Framework, rather than checklist-based evaluation.

Student performance should be evaluated with reference to both the level of study and the quality of achievement within that level. Assessment should therefore focus on how effectively students identify, interpret, and reason through sustainability, governance, and ethical considerations within realistic business contexts, rather than on the reproduction of technical content alone.

Evidence of learning is expected to demonstrate how knowledge, skills, and professional judgement are integrated to support balanced, ethically grounded, and financially informed decision-making. Judgements about performance should reflect coherence of reasoning, appropriateness of application, and alignment with the expected learning outcomes for the relevant stage of study.

Importantly, achievement levels are developmental rather than hierarchical. A Novice learner operating at first-year level can, and should, be capable of achieving high academic distinction when demonstrating full mastery of the learning outcomes appropriate to that level.

The table below provides indicative developmental descriptors across the Knowledge, Skill, and Ability (KSA) dimensions of the CA of the Future Competency Framework (2025). These descriptors are intended to support consistent, transparent grading judgements while allowing flexibility in assessment design, weighting, and institutional marking practices.

They are illustrative rather than prescriptive, and should be applied with due regard to local curriculum structures, assessment policies, and professional judgement.

Dimension	**Novice (Foundational Mastery – e.g. 1st Year students)**	**Proficient (Applied Mastery – 2nd / 3rd Year)**	**Advanced (Integrative Mastery – PGDA / Capstone)**
Knowledge (Conceptual)	• Identifies basic sustainability and governance concepts (e.g. ethical risk, stakeholder needs, value creation). • Understands that actions can have positive and negative outcomes. • Recognises links between ethical conduct, trust, and long-term outcomes.	• Explains how sustainability, strategy, and governance interact across the business. • Describes cause-and-effect relationships (e.g. how stakeholder confidence influences financial performance). • Uses relevant frameworks such as King V and integrated-thinking models.	• Critically interprets sustainability information and governance structures. • Evaluates trade-offs between capitals, outcomes, and financial returns. • Applies integrated thinking to predict long-term consequences of decisions.
Skill (Application)	• Identifies key stakeholders, ethical risks, and expected outcomes. • Performs simple cost–benefit tasks that include non-financial impacts. • Communicates findings clearly using plain business language.	• Applies analytical tools (e.g. stakeholder mapping, risk matrices, basic ROI or scenario analysis). • Integrates ethical and financial perspectives into recommendations. • Prepares concise written or visual reports showing balanced reasoning.	• Designs or critiques integrated solutions that align governance, risk, and performance. • Uses data and digital tools (e.g. dashboards, visualisations) to support evidence-based arguments. • Communicates persuasively with decision-makers or stakeholders.
Ability (Transfer and judgement / problem solving/ integration	• Demonstrates emerging ethical awareness and accountability. • Recognises when decisions may undermine trust or sustainability.	• Exercises sound professional judgement in moderately complex contexts. • Balances business goals with legitimate stakeholder expectations. • Reflects on how personal and professional values influence decisions.	• Exercises sound professional judgement in complex, ambiguous contexts. • Balances business performance with ethical responsibilities and stakeholder legitimacy. • Shows leadership in integrating financial, environmental, and social outcomes. • Provides well-reasoned recommendations that demonstrate integrity, systems awareness, and alignment with King V ethical-leadership principles.

10.1.4 Developmental Rubric with Interpretive Notes

Application notes:
The following rubric provides illustrative grading anchors for evaluating sustainability- and governance-related learning outcomes within the disciplinary context. The descriptors are designed to support consistent and transparent academic judgement across Novice, Proficient, and Advanced levels of learning, aligned to the CA of the Future Competency Framework's Knowledge, Skill, and Ability (KSA) dimensions.

The descriptors should be interpreted relative to the expected level of study, recognising that performance quality is assessed within, rather than across, levels. Progression reflects increasing integration, professional judgement, and contextual awareness, rather than merely greater technical complexity or volume of content.

The rubric is intended to guide academic judgement rather than prescribe marking schemes. Educators retain discretion over task design, assessment weighting, and the application of institutional grading policies, while using the descriptors to support coherent, defensible, and developmentally aligned assessment decisions.

Novice (Foundational Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Shows fragmented understanding of basic concepts (sustainability, ethics, governance). Cannot explain links to business context.	Demonstrates partial understanding; uses terminology inconsistently; minimal awareness of frameworks.	Accurately defines key terms; explains how sustainability and ethics relate to governance and value creation.	Applies correct concepts confidently and begins to draw simple connections between ethical, financial, and strategic ideas.	Demonstrates comprehensive understanding; integrates examples logically and uses frameworks (e.g., King V, <IR>) correctly and insightfully.
Skill (Application)	Unable to apply concepts to examples or identify basic stakeholders or risks.	Attempts to apply frameworks but responses are superficial or inaccurate.	Accurately identifies stakeholders and basic risks; can perform a simple cost–benefit reflection or ethical evaluation.	Analyses realistic scenarios with some integration of financial and ethical reasoning; communicates clearly and logically.	Demonstrates confident, independent application of concepts; produces well-reasoned, coherent responses with clear evidence of integrated thinking.
Ability (Transfer and judgement / problem solving/ integration	Lacks ethical awareness; cannot identify consequences of actions.	Recognises issues but responses are generic or emotionally driven rather than reasoned.	Demonstrates emerging ethical awareness; proposes reasonable responses when guided.	Shows balanced judgement; anticipates outcomes and trade-offs; justifies reasoning with reference to governance principles.	Demonstrates mature judgement; articulates responsible, well-reasoned decisions showing awareness of both short- and long-term impacts.

Proficient (Intermediate / Applied Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Fails to connect sustainability, risk, and governance concepts; shows limited evidence of understanding relevant frameworks.	Shows uneven or mechanical knowledge; repeats theory without contextual application.	Demonstrates clear understanding of how sustainability and governance interact across the business model.	Integrates relevant frameworks (e.g., King V, <IR>) coherently; recognises interdependencies between capitals and value creation.	Demonstrates sophisticated understanding with original insight or well-supported critique of frameworks or practices.
Skill (Application)	Struggles to analyse or interpret case information; responses remain largely descriptive.	Attempts analysis but lacks structure, depth, or justified reasoning.	Applies frameworks appropriately to analyse stakeholder issues, risks, and trade-offs; provides logically supported recommendations	Produces balanced analyses integrating ethical, financial, and strategic considerations; communicates persuasively and clearly.	Demonstrates high-level analytical competence; uses data, evidence, or digital tools effectively to support integrated reasoning.
Ability (Transfer and judgement / problem solving/ integration	Makes unsupported claims or simplistic moral statements; lacks professional awareness.	Demonstrates limited independent judgement; cannot clearly explain the rationale for decisions.	Exercises sound judgement in moderately complex situations; balances ethical, business, and stakeholder perspectives.	Demonstrates professional maturity; anticipates broader consequences and shows confidence in decision-making.	Displays leadership qualities and advanced ethical reasoning; justifies decisions with clarity, coherence, and professional integrity.

Advanced (Integrative Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Fails to demonstrate integrated understanding of sustainability reporting, governance, and assurance concepts.	Demonstrates partial understanding; applies relevant frameworks inconsistently or superficially.	Shows integrated understanding of advanced governance and sustainability frameworks; explains clearly how they interrelate.	Critically analyses and synthesises theory and practice across frameworks; identifies emerging trends, tensions, or limitations.	Produces original, well-substantiated insight demonstrating mastery of professional, regulatory, and academic perspectives.
Skill (Application)	Limited ability to analyse unstructured problems or propose realistic, defensible solutions.	Applies analytical tools mechanically with limited interpretation or integration.	Analyses complex data or governance challenges; develops viable, evidence-based recommendations.	Integrates quantitative and qualitative data; designs or critiques sustainability disclosures and assurance approaches.	Demonstrates mastery in designing innovative, practical, and ethical responses; applies advanced digital and analytical tools with confidence and precision.
Ability (Transfer and judgement / problem solving/ integration	Lacks professional judgement; shows limited awareness of ethical, systemic, or stakeholder consequences.	Recognises ethical issues but struggles to prioritise, justify, or integrate responses coherently.	Demonstrates sound professional judgement; weighs trade-offs effectively in complex decision contexts.	Exhibits leadership-level reasoning; anticipates broader stakeholder and systemic impacts of decisions.	Demonstrates expert-level judgement; models professional integrity, accountability, and ethical leadership consistent with King V and CA of the Future principles.

10.1.5 Digital Acumen Considerations

Application notes:
In this subsection, digital acumen refers to the ability to use, interpret, evaluate, and govern digital data, analytics, and systems in ways that support strategic oversight, risk management, and ethical decision-making. Digital capability is embedded within strategic and risk reasoning rather than assessed as a standalone technical skill. Expectations reflect how digital information informs governance judgement, stakeholder communication, and long-term value creation.

Particular attention should be paid to how digital tools may unintentionally exclude certain stakeholder perspectives, undervalue non-financial capitals, or prioritise short-term financial outcomes over long-term sustainability and social legitimacy.

Digital Acumen Dimension	Novice	Proficient	Advanced
Digital & AI-Assisted Stakeholder Analysis	Uses provided stakeholder information or simple digital summaries to identify key stakeholder groups and interests. Recognises that digital and AI-generated outputs may be incomplete or inaccurate.	Uses digital tools or AI-assisted techniques to synthesise stakeholder needs, expectations, and concerns; validates outputs against case facts and identifies obvious omissions or inconsistencies.	Critically evaluates AI-assisted stakeholder analysis; identifies bias, omissions, hallucinations, or power imbalances; triangulates information from multiple sources and refines insights using professional judgement.
Risk Identification & Heat-Map Visualisation	Uses pre-prepared risk matrices or templates to categorise risks by likelihood and impact.	Creates digital risk heat maps or dashboards linking strategic, ESG, and operational risks; explains prioritisation choices.	Designs and critiques risk visualisations; integrates scenario sensitivity, interdependencies, and long-term sustainability impacts into risk prioritisation.
Scenario Analysis & Strategic Decision Support	Describes strategic risks using static information with limited scenario thinking.	Uses digital models or AI-assisted prompts to explore alternative strategic or risk scenarios; compares short- and medium-term implications.	Evaluates multiple scenarios critically; challenges assumptions embedded in digital outputs; incorporates uncertainty, trade-offs, and systemic effects.
Digital Communication & Disclosure Design	Uses basic charts or tables to communicate risk or strategy information.	Develops clear infographics or visual summaries to communicate risks, strategy, and mitigation actions to stakeholders.	Designs integrated, stakeholder-specific disclosures that balance transparency, materiality, and strategic sensitivity; evaluates communication effectiveness
Governance, Ethics & Professional Oversight of Digital Tools	Recognises that digital and AI-enabled tools support strategic and risk-management processes and may influence decision-making.	Explains governance and ethical considerations when using digital or AI tools, including data quality, transparency, and the risk of bias that may privilege certain stakeholders or outcomes over others.	Explains governance and ethical considerations when using digital or AI tools, including data quality, transparency, and the risk of bias that may privilege certain stakeholders or outcomes over others.

Illustrative Teaching and Assessment Activities

Possible examples include:

- Using a generative AI tool to identify potential stakeholder groups from a sustainability case study, followed by a critical evaluation of omitted stakeholders, bias, and unsupported assumptions.
- Developing a stakeholder materiality matrix using survey data, interview summaries, or publicly available sustainability disclosures.
- Creating digital risk heat maps that integrate strategic, operational, environmental, and social risks.
- Using AI-assisted scenario generation to explore alternative strategic responses to climate, regulatory, or stakeholder risks, followed by critical evaluation of the outputs.
- Comparing human-generated and AI-generated stakeholder analyses and reflecting on differences in inclusivity, materiality, and ethical considerations.
- Designing board-level dashboards or strategic risk summaries that communicate complex sustainability issues to different stakeholder groups.
- Evaluating the governance implications of using AI-assisted tools in strategic planning and enterprise risk management.

Section 10.2: Ethics and Professional Responsibility

10.2.1 Purpose and Context

In Ethics, sustainability shapes how future CA(SA)'s understand and enact their professional mandate. The SAICA CA of the Future Competency Framework (2025) positions CAs as ethically responsible leaders who apply integrated thinking by connecting strategy, governance, risk, performance, and the multiple capitals to support sustainable value creation over the short, medium, and long term.

Within accounting education, the Ethics discipline develops professional values and attitudes, including personal, business, and professional ethics, as well as citizenship. It also strengthens enabling competencies such as ethical decision-making, professional judgement, and business acumen. Together, these competencies enable students to recognise stakeholder impacts, balance short-term financial outcomes with longer-term social and environmental consequences, and protect the public interest in line with King V principles and the SAICA Code of Professional Conduct.

By embedding sustainability and integrated thinking within Ethics, the role of the accountant extends beyond compliance to actively shaping organisational strategy, governance, and reporting. Ethical reasoning informs how trade-offs are evaluated, how power and accountability are exercised, and how decisions contribute to fair, transparent, and responsible outcomes across the organisation's value-creation process. Ethics therefore underpins ethical leadership, social legitimacy, and environmentally and socially sustainable value creation.

Technical Competency Areas:

Note on technical competency alignment:
For the purposes of this guidance, this sub-section assumes that the following technical competency areas, as outlined in the SAICA CA of the Future Competency Framework (2025), are addressed within the disciplinary context illustrated in this sub-section. These assumptions recognise that programme structures and module allocations vary across institutions, and that the same competencies may be developed within different modules or learning streams. The competency areas identified below are therefore illustrative in nature and are not intended to be exhaustive or prescriptive.

Ethics is pervasive and intersects with all six technical competency areas of the CA of the Future framework:

- A. Strategy and governance to create sustainable value (A1–A5)
- B. Stewardship of capitals: business processes and risk management (B1–B3)
- C. Decision-making to increase, decrease, or transform capitals (C1–C8)
- D. Reporting on value creation (D1)
- E. Tax governance and compliance (E1–E2)
- F. Assurance and related services (F1–F5)

Ethical considerations are therefore relevant across all modules and disciplinary areas and should be viewed as foundational to the qualification. An entrepreneurial mindset, sustainability mindset, and responsible accountability in decision-making are inseparable from ethical reasoning and integrated thinking.

Ethical Lenses for Sustainability-Oriented Judgement:

Note on Ethical Lenses:
The ethical lenses outlined above are provided for illustrative purposes to support structured ethical reasoning in sustainability-oriented accounting contexts. They are not intended to be exhaustive or prescriptive. Institutions and educators may draw on additional ethical frameworks, philosophical traditions, cultural perspectives, or professional guidance that are appropriate to their disciplinary focus, institutional context, or student cohort. The overarching aim is to equip students with the capacity to recognise ethical dilemmas, evaluate competing stakeholder interests, and exercise professional judgement in a principled, transparent, and context-sensitive manner.

Ethical analysis within sustainability contexts may draw on multiple philosophical frameworks, including:

(1) Ethics Triangle:

- Duty-based (Deontological): Adherence to professional codes, laws, and governance principles (e.g., SAICA Code of Professional Conduct, King V).
- Consequential (Utilitarian): Evaluation of outcomes for stakeholders and long-term value creation across capitals.
- Virtue Ethics: Emphasis on integrity, fairness, courage, and ethical leadership.

(2) Contextual Ethical Perspectives:

- Ubuntu Philosophy:
  - "I am because we are", prioritising community well-being, inclusivity, and shared responsibility.
  - Encouraging restorative approaches to ethical dilemmas, reconciliation, and social justice, particularly relevant in the South African context.

(3) Professional Ethical Standards:

- SAICA Code of Professional Conduct – Part B (Chartered Accountant in Business):
  - Upholding integrity, objectivity, professional competence and due care, confidentiality, and professional behaviour.
  - Resisting pressure to misrepresent financial or sustainability-related information.
  - Applying the conceptual framework by identifying threats, evaluating their significance, and implementing appropriate safeguards.

10.2.2 Case Study Application: Integrating PVAAs, Technical Competencies and KSA application

Application notes:
This table links each stage of Easton Minerals Limited's value chain to selected technical competency areas, Professional Values, Attitudes and Acumen (PVAAs), and the expected progression of learning from Knowledge to Skills and Abilities (KSA). The depth of engagement is signalled through three indicative levels (Novice, Proficient, and Advanced) which are intended to guide the design of learning activities, assessment tasks, and grading expectations. These levels do not simplify or fragment the underlying case study material; rather, they support calibrated engagement with authentic professional complexity.

Each issue, dilemma, or opportunity should be considered through a governance and ethical decision-making lens, examining how leadership choices, accountability structures, stakeholder responsibilities, and organisational values shape the organisation's response. The overarching aim is to cultivate a sustainability mindset, encouraging integrated, responsible, and long-term thinking in future accounting professionals.

The table is designed to surface authentic teaching opportunities while allowing academic discretion regarding:
- *the calibration of questions, prompts, and evaluative criteria to the level of the student;*
- *the depth and mode of engagement (for example, tutorial discussion, formative activity, assignment, or simulation);*
- *the weighting and assessment format applied; and*
- *the phrasing of questions, prompts, or marking guides in line with local academic and institutional policy.*

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration	Environmental approvals and licensing risks; early-stage community consultation and consent; bribery or facilitation payments to obtain permits; misrepresentation of environmental or social impacts; marginalisation of affected communities; erosion of trust if engagement is inadequate. While compliance is mandatory, early-stage exploration also presents opportunities to build trust, co-create benefits with communities, and embed responsible environmental practices from the outset.	Governance model (A1) Business strategy and business model (A2) Risk management and control (B3) Reporting on value creation (D1)	Ethics, values and attitudes (I1-I3) Corporate citizenship (II2–II3) Relational acumen (X1-X3) Decision-making acumen (Y1-Y3)	Identify key environmental and stakeholder risks arising from EML's exploration activities and assess how these risks influence long-term value creation. Propose appropriate governance responses (e.g. board oversight, policies, stakeholder engagement) that balance cost, benefit, and ethical impact in line with King V and the <IR> Framework.	**N**	Define what "ethical governance" means in the context of mineral exploration, including King V principles (ethical leadership, accountability, fairness) and stakeholder inclusivity.	Identify key stakeholder groups affected by exploration plans (e.g. local communities, regulators, investors) and list potential positive and negative outcomes for each.	Recognise that sustainable value creation requires weighing financial gains from new deposits against social and environmental costs, rather than focusing only on short-term profit.
					P	Explain common exploration-stage governance risks (e.g. bribery, non-compliance, ecological damage) and how they can lead to both financial and reputational consequences.	Map stakeholder needs and expectations in a short exploration scenario and perform a simple cost–benefit reflection that incorporates financial, environmental, and ethical considerations.	Apply professional judgement to balance ethical outcomes with strategic and economic goals when deciding whether and how exploration should proceed.
					A	Evaluate how transparent decision-making, early community engagement, and robust internal controls at the exploration stage can create long-term value that outweighs short-term cost or ROI concerns.	Formulate recommendations for the board or a relevant committee showing how specific governance actions (e.g. transparent procurement, independent impact assessments, ongoing consultation) can protect value while supporting ROI and trust.	Justify a governance or policy response using integrated reasoning across ethics, risk, multi-capital value creation, and long-term return on investment, with reference to comparable early-stage projects across sectors.
Planning & Building	Capital-intensive project approvals (e.g. ESIA, SLPs, financing, land access) involve significant environmental, social, and governance risks. Poor planning can result in community opposition, delays, cost overruns, stranded assets, or long-term reputational damage. Conversely, inclusive planning, transparent procurement, and early stakeholder engagement create opportunities to embed sustainability, reduce risk, and strengthen legitimacy from project inception.	Strategy and governance to create sustainable value (A1–A4) Business strategy and business model (A2–A3) Risk management and control (B1–B3) Decision-making impacting capitals (C1–C3) Reporting on value creation (D1)	Ethics, values and attitudes(I1-I3) Corporate citizenship (II2–II3) Decision-making acumen (Y1–Y4)	The board is asked to approve a R15bn greenfield project. The financial model shows a strong NPV, but ESIA feedback highlights water stress, community opposition, and significant closure liabilities. Using King V and the <IR>Framework, identify how ethical governance, stakeholder engagement, and risk oversight should influence the approval decision and long-term value outcomes.	**N**	Define ethical governance in capital investment decisions, including principles of accountability, fairness, and responsible oversight.	Identify ethically sensitive assumptions in a simplified project appraisal (e.g. discount rate, closure cost estimates, timing of community investment). Highlight where governance processes (board approval, committee review) should slow down or challenge a "financially attractive" but ethically questionable project.	Recognise similar governance tensions in other sectors (e.g. infrastructure, energy) where short-term financial gains conflict with social licence and environmental limits.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Planning & Building (continued)					**P**	Explain how integrated thinking links capital allocation, ESG risk, and long-term value creation in planning decisions.	Critically review a scenario where management "smooths" closure and rehabilitation estimates to protect NPV, and outline the ethical and reporting implications. Critically evaluate a project's alignment with sustainability objectives by assessing trade-offs between cost, risk, community impact, and environmental constraints.	Balance project profitability, regulatory compliance, and community expectations when recommending whether or how a project should proceed.
					A	Evaluate how governance quality, ethical leadership, and stakeholder inclusivity influence project viability and resilience over the asset life cycle.	Design or critique an integrated project-governance approach that incorporates ESG risk, financial analysis, assurance mechanisms, and stakeholder engagement processes.	Defend a governance response in a simulated board discussion, justifying how your recommendation upholds the public interest, respects affected stakeholders, and still supports a viable business case.
Mining	Safety risks (slope failures, equipment collisions, dust and noise exposure), labour relations, pressure to meet production targets during load-shedding and extreme weather, and ethical challenges linked to automation. Dilemmas include under-reporting incidents, tolerating unsafe shortcuts to "hit tonnage", and excluding workers' voices from safety decisions. Poor practices undermine trust, human capital, and the social licence to operate; responsible leadership and transparent reporting strengthen long-term value.	Business systems and processes (B2) Risk management and control (B3) Performance measurement for internal users (C1) Performance management systems (C6) Reporting on value creation (D1 – H&S, social and human capital)	Ethics (I1–I3) Citizenship (II1–II2); Relational acumen (X1–X5)	A near-miss incident at Kavala exposes weaknesses in critical-control checks. Production is under pressure and supervisors are reluctant to stop work. As a CA trainee serving on the mine's risk committee, decide how the incident should be reported, how performance measures should change, and how management should communicate with workers and the board, using an ethical-reasoning process.	**N**	Describe EML's main mining-stage risks (safety, geotechnical, health, load-shedding) and explain why ethical culture and accurate incident reporting form part of professional ethics and corporate citizenship.	Identify behaviours in a short vignette (e.g. ignoring PPE rules, hiding a near-miss) that breach the Code of Professional Conduct and King V expectations; classify consequences for workers, management, regulators, and investors.	Recognise similar ethical patterns in other operational contexts (factories, logistics depots, construction sites) where safety is traded off against output.
					P	Explain how performance targets, incentives, and production pressure can create ethical tensions and perverse outcomes in mining operations; outline key legal and regulatory duties for health and safety and why these extend beyond compliance.	Apply professional scepticism when management assurances conflict with incident data; assess whether escalation beyond line management is ethically required.	Balance loyalty to management with the duty to protect workers and the public interest when deciding how and where to raise concerns.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mining (continued)					**A**	Evaluate how board-level oversight (e.g. Safety, Health & Sustainable Development Committee; Audit & Risk Committee) should respond to recurring incidents and safety-culture weaknesses.	Develop a concise board brief integrating risk data, ethics considerations, and stakeholder expectations; propose changes to culture, systems, incentives, and assurance.	Justify a governance response that may reduce short-term output but significantly strengthens long-term legitimacy, trust, and licence to operate, and transfer this reasoning to another EML risk (e.g. water scarcity or community protests).
Processing and Blending	Water use and scarcity, tailings-dam integrity, energy intensity, and pollution risks create significant environmental and social exposure. Ethical dilemmas arise where warning signs (e.g. tailings instability, excessive water losses) are downplayed, or where minimum compliance is prioritised over responsible stewardship. At the same time, closed-loop water systems, energy efficiency, and beneficiation innovations offer opportunities to reduce risk, improve resource efficiency, and enhance long-term value creation.	Business systems and processes (B1) Risk management and control (B3) Performance measurement for internal users (C1) Reporting on value creation (D1 – natural capital, environmental KPIs)	Business and professional ethics (truthful reporting, responsible stewardship) (I2-I3) Corporate citizenship (stewardship of natural resources) (II3)	Closed-loop water systems at EML reduce freshwater withdrawals but require high operating and capital costs. The plant manager wants to delay upgrades to meet short-term margin targets, even though community water stress is rising. Using the Code of Professional Conduct, King V and the capitals model, advise how a CA(SA) should respond to this tension and how the issue should be reported in the integrated report."	**N**	Describe key environmental risks in processing and blending (water use, tailings stability, emissions) and explain why they affect multiple capitals and stakeholder trust. Explain why selective disclosure or "green gloss" on environmental performance conflicts with professional ethics	Identify omissions, bias, or under-reporting in a short extract of environmental performance data (e.g. missing context on tailings, water, or energy).	Recognise similar patterns of environmental under-reporting in other industries (manufacturing, chemicals, agriculture
					P	Explain how environmental "hotspots" in processing require integration of environmental measures with financial results, referencing IFRS S1/S2 and JSE/ISSB guidance.	Prepare a short environmental KPI dashboard or narrative disclosure that improves transparency around tailings, water use, and energy intensity. Re-draft a processing-stage disclosure to provide more balanced, transparent information on tailings, water, and energy.	Weigh reputational damage and stakeholder trust implications of full transparency against the ethical duty to report environmental impacts accurately.
					A	Evaluate how ethical culture and governance quality in processing operations reduce long-term environmental liabilities and support a just energy and water transition.	Design a high-level assurance or internal-control plan for key environmental metrics, linking responsibilities, escalation paths, and oversight by the Audit & Risk Committee.	Defend a position that prioritises ethical, balanced disclosure and proactive mitigation, even where this may expose short-term weaknesses in performance, and apply this reasoning to emerging sustainability metrics as standards evolve.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Sales and Marketing	Pressure to secure long-term offtake contracts; temptation to overstate "low-carbon" claims; selective or ambiguous sustainability disclosures; and aggressive messaging that obscures trade-offs. Risks include greenwashing, declining customer trust, regulatory scrutiny, and reputational damage. Conversely, disciplined, transparent sustainability communication can differentiate products, support pricing premiums, and strengthen legitimacy with customers and investors.	Performance measurement for internal users (C1) Performance management systems (C6) Decision-making impacting capitals (C5) Reporting on value creation (D1)	Business and professional ethics (I2-I3) Corporate citizenship (II3) Relational acumen (X1–X3)	Some competitors market their iron ore as "green" with limited evidence. EML is under pressure to match these claims to retain key customers. Using King V and the <IR> Framework, evaluate how EML should position its sustainability claims in sales and marketing materials and how these claims should be supported and governed in the integrated report.	N	Describe what is meant by "greenwashing" and explain why misleading sustainability claims undermine trust and value creation.	Identify misleading claims in a short marketing extract and suggest more accurate alternative disclosures (e.g. clarifying emissions boundaries or assurance status).	Recognise greenwashing risks in other sectors (banking, consumer goods, energy) and relate them to professional conduct obligations.
					P	Explain why consistent, transparent sustainability reporting across marketing, pricing, and capital allocation is critical for decision-useful information.	Draft a balanced sales or marketing disclosure that aligns product claims with verified data (e.g. emissions intensity, assurance level, Scope boundaries).	Weigh short-term sales advantages against long-term reputational and legal risks when assessing sustainability marketing strategies.
					A	Evaluate the role of ethical marketing and disclosure in building trust with global customers and regulators (e.g. CBAM, trade rules).	Develop recommendations to the board on aligning sales incentives, pricing strategies, and sustainability disclosures with strategy, performance metrics, and governance oversight.	Justify a disciplined, evidence-based communication strategy that resists pressure to exaggerate sustainability performance and transfer this approach to other sensitive disclosures (e.g. human rights or community impacts).
Shipping & Distribution	Rail and port bottlenecks; carbon-intensive logistics; safety risks; and reliance on public-sector partners (Transnet-type rail). Ethical risks include facilitation payments, preferential access to scarce capacity, misrepresentation of service-level risks, and weak disclosure of logistics-related emissions. Opportunities include improved transparency, resilient supply-chain planning, and credible Scope 3 disclosures.	Risk management and control (B3) Performance measurement and operational KPIs (C1) Financing decisions (e.g. PPPs, logistics investments) (C2) Reporting on value creation (D1)	Business and professional ethics (I2-I3) Citizenship (II1–II2) Relational acumen (X1–X4)	Rail capacity constraints mean some shipments will be delayed. A senior logistics manager suggests paying a 'facilitation fee' to secure extra slots and asks you not to disclose the delays. As a CA(SA), apply an ethics-reasoning process and King V to decide how you respond, what should be disclosed, and how logistics risk should be reflected in EML's integrated report.	N	Describe EML's shipping model and key logistics risks (rail reliability, port congestion, carbon intensity). Explain why facilitation payments and non-disclosure of material logistics risks breach the Code of Professional Conduct.	Identify red flags for bribery, conflicts of interest, and misrepresentation in short logistics scenarios. Classify which stakeholders are affected by freight failures (customers, communities, shareholders).	Recognise similar corruption and transparency risks in other public–private logistics or infrastructure contexts.
					P	Explain how logistics risk links to risk governance. Summarise when logistics constraints and emissions become material for external reporting.	Draft a short ethics memo advising against informal payments and proposing alternative actions (e.g. transparent escalation, revised contracts). Identify where logistics-related risks should be disclosed in integrated report sections.	Balance commercial pressure to "keep customers happy" with the duty not to mislead customers about delivery risk or route-related emissions. Apply the same judgement to supply-chain partners (e.g. trucking contractors).

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Shipping & Distribution (continued)					**A**	Evaluate how governance structures (board committees, combined assurance) should monitor logistics and supply-chain risk, including corruption exposure. Link resilient logistics strategy to long-term value creation and legitimacy.	Propose integrated KPIs and narrative disclosures that transparently reflect logistics constraints, emissions, and mitigation actions. Develop recommendations to strengthen anti-corruption controls, supplier due diligence, and stakeholder communication.	Justify to senior management and the board why short-term volume sacrifices may be necessary to maintain ethical standards and regulatory compliance. Transfer this reasoning to other public-sector interfaces (e.g. tax, environmental reporting, public data submissions).
Mine Closure & Rehabilitation	Adequate financial provisioning, progressive rehabilitation, long-term environmental monitoring, and socio-economic transition for workers and communities as mines close. Ethical dilemmas arise when management under-provisions for closure, delays rehabilitation to boost short-term earnings or dividends, or neglects reskilling, redeployment, and local economic transition commitments.	Strategy and governance (A1-A3) Risk management and control (B3) Investment decisions (C3) Financially troubled business decisions (C7) Reporting on value creation (D1) Laws and regulations (MPRDA, Mining Charter, financial provisioning requirements) (E2)	Ethics (I1-I3) Citizenship (II1-II3) Lifelong learning and adaptability (reskilling, future-oriented thinking) (III1-III2)	Kavala Mine has eight years of life remaining. Some executives argue for reducing rehabilitation provisions to free up cash for dividends and a new project. Using ethics, citizenship, and decision-making competencies in the CA of the Future Framework, advise the Audit & Risk Committee on whether this is acceptable. How should EML balance investor expectations, legal obligations, and community impacts in its planning, disclosure, and reporting?	**N**	Describe what mine closure and rehabilitation involve at EML (reshaping dumps, re-vegetation, water and tailings monitoring, reskilling obligations). Explain how closure provisions appear in the financial statements and why they are ethically significant.	Identify ethical issues in a short extract of board minutes where closure provisions are framed mainly as a “cost drag”. Match closure-related responsibilities to relevant King V principles and citizenship outcomes (decent work, environmental stewardship; SDGs 8 and 12).	Recognise similar long-tail responsibility issues in other industries (e.g. power stations, waste facilities, heavy manufacturing).
					P	Explain how under-provisioning for rehabilitation can mislead users of financial statements and breach professional ethics. Summarise key regulatory expectations for mine closure, social and labour plans, and financial provisioning.	Analyse a simplified balance sheet and income statement to assess whether closure provisions appear reasonable in light of qualitative information. Draft a short integrated-report disclosure explaining EML’s closure strategy, community transition plans, and associated risks.	Balance pressure for short-term distributions (dividends, bonuses) against the duty to leave communities and ecosystems in a workable state. Apply an ethics-reasoning process to decide when a CA(SA) should challenge or escalate concerns about inadequate closure planning.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mine Closure & Rehabilitation (continued)					**A**	Evaluate the governance mechanisms EML uses (board oversight, financial provisioning regulation, internal and external assurance) to ensure responsible mine closure. Connect closure and rehabilitation decisions to long-term legitimacy and the concept of a "social licence to operate".	Formulate integrated recommendations to the board that link ethics, community expectations, and long-term financial resilience in closure decisions. Propose how tools such as a Community Transition Fund or impact reporting could demonstrate responsible closure.	Defend a closure approach that may reduce short-term returns but better serves the public interest and the profession's social mandate. Transfer this long-term ethics perspective to other end-of-life decisions (e.g. decommissioning fleets, retiring plants, exiting countries).

Illustrative Ethical Lenses Mapping

The table below provides an example of how different ethical lenses may be foregrounded at various stages of an organisation's value chain. It demonstrates how professional ethics (as articulated in the SAICA Code of Professional Conduct), ethical reasoning frameworks (such as the Ethics Triangle), and contextually grounded philosophies (such as Ubuntu) can be applied in complementary ways when analysing sustainability-related dilemmas.

The mapping is illustrative rather than exhaustive or prescriptive. It is not intended to suggest that only these ethical lenses are relevant at each stage, nor that ethical reasoning should be limited to the examples shown. Institutions, lecturers, and students may draw on additional ethical frameworks, cultural perspectives, or disciplinary approaches as appropriate to their context.

The purpose of this mapping is to support ethical sense-making and reflective judgement, helping learners recognise that sustainability challenges often require the integration of multiple ethical perspectives rather than reliance on a single rule-based approach.

Stage	Ethics Triangle	Ubuntu Principle	SAICA Code Part B Focus
Exploration	Duty: Comply with laws; Consequence: Weigh trust vs cost; Virtue: Transparency	Engage communities early	Integrity in reporting impacts
Planning and Building	Duty: Follow governance; Consequence: Balance ROI vs ESG; Virtue: Courage	Inclusive decision-making	Professional competence in ESG
Mining	Duty: Enforce safety; Consequence: Avoid harm; Virtue: Accountability	Collective responsibility	Integrity in incident reporting
Processing & Blending	Duty: Truthful disclosure; Consequence: Consider long-term liabilities; Virtue: Stewardship	Shared water stewardship	Professional behavior in reporting
Marketing & Sales	Duty: Avoid greenwashing; Consequence: Balance pressure with truthfulness; Virtue: Honesty	Transparent claims	Professional behavior in marketing
Shipping & Distribution	Duty: Reject facilitation payments; Consequence: Avoid corruption; Virtue: Fairness	Ethical collaboration	Objectivity in risk disclosure
Mine Closure & Rehabilitation	Duty: Fulfill obligations; Consequence: Protect communities; Virtue: Accountability	Support just transition	Integrity in financial provisioning

10.2.3 Assessment and Grading Guidance (KSA-Aligned and Developmental)

Application notes:
Assessment within this subsection is intended to support developmental professional judgement aligned to the SAICA CA of the Future Competency Framework, rather than checklist-based evaluation.
Student performance should be evaluated with reference to both the level of study and the quality of achievement within that level. Assessment should therefore focus on how effectively students identify, interpret, and reason through sustainability, governance, and ethical considerations within realistic business contexts, rather than on the reproduction of technical content alone.
Evidence of learning is expected to demonstrate how knowledge, skills, and professional judgement are integrated to support balanced, ethically grounded, and financially informed decision-making. Judgements about performance should reflect coherence of reasoning, appropriateness of application, and alignment with the expected learning outcomes for the relevant stage of study.
Importantly, achievement levels are developmental rather than hierarchical. A Novice learner operating at first-year level can, and should, be capable of achieving high academic distinction when demonstrating full mastery of the learning outcomes appropriate to that level.
The table below provides indicative developmental descriptors across the Knowledge, Skill, and Ability (KSA) dimensions of the CA of the Future Competency Framework (2025). These descriptors are intended to support consistent, transparent grading judgements while allowing flexibility in assessment design, weighting, and institutional marking practices.
They are illustrative rather than prescriptive, and should be applied with due regard to local curriculum structures, assessment policies, and professional judgement.

Dimension	Novice (Foundational Mastery – e.g. 1st Year students)	Proficient (Applied Mastery – 2nd / 3rd Year)	Advanced (Integrative Mastery – PGDA / Capstone)
Knowledge (Conceptual)	• Identifies basic sustainability and governance concepts (e.g., ethical risk, stakeholder need, value creation). • Understands that actions have both positive and negative outcomes. • Recognises links between ethical conduct, trust, and long-term success.	• Explains how sustainability, strategy, and governance interact across the business model. • Describes cause-and-effect relationships (e.g., how stakeholder confidence influences financial performance). • Uses relevant frameworks such as King V and the <IR> value-creation model.	• Critically interprets sustainability information and governance structures. • Evaluates trade-offs between capitals, outcomes, and financial return. • Applies integrated thinking to predict long-term consequences of decisions.
Skill (Application)	• Identifies key stakeholders, ethical risks, and expected outcomes. • Performs simple cost–benefit reflections that include non-financial impacts. • Communicates findings clearly using plain business language.	• Applies analytical tools (stakeholder mapping, risk matrices, basic ROI or scenario analysis). • Integrates ethical and financial perspectives in recommendations. • Prepares concise written or visual reports showing balanced reasoning.	• Designs or critiques integrated solutions that align governance, risk, and performance. • Uses data and digital tools (dashboards, visualisations) to support evidence-based arguments. • Communicates persuasively to decision-makers or stakeholders.
Ability (Transfer and judgement / problem solving/ integration	• Demonstrates emerging ethical awareness and sense of accountability. • Recognises when a decision may harm trust or sustainability.	• Exercises sound judgement in moderately complex contexts. • Balances business goals with legitimate stakeholder expectations. • Reflects on how personal and professional values influence actions.	• Shows leadership and independence in weighing ethical, environmental, and financial outcomes. • Provides reasoned recommendations that demonstrate professional integrity and systemic awareness. • Models responsible decision-making aligned with King V's ethical-leadership principles.

10.2.4 Developmental Rubric with Interpretive Notes

Application notes:
The following rubric provides illustrative grading anchors for evaluating sustainability- and governance-related learning outcomes within the disciplinary context. The descriptors are designed to support consistent and transparent academic judgement across Novice, Proficient, and Advanced levels of learning, aligned to the CA of the Future Competency Framework's Knowledge, Skill, and Ability (KSA) dimensions.

The descriptors should be interpreted relative to the expected level of study, recognising that performance quality is assessed within, rather than across, levels. Progression reflects increasing integration, professional judgement, and contextual awareness, rather than merely greater technical complexity or volume of content.

The rubric is intended to guide academic judgement rather than prescribe marking schemes. Educators retain discretion over task design, assessment weighting, and the application of institutional grading policies, while using the descriptors to support coherent, defensible, and developmentally aligned assessment decisions.

In ethics- and sustainability-oriented assessments, multiple defensible responses may exist. Marking should therefore prioritise the quality of ethical reasoning, use of evidence, stakeholder awareness, and alignment with professional standards over the selection of a single "correct" outcome. Where students justify decisions differently, assessors should evaluate whether conclusions are coherent, ethically grounded, and consistent with the CA of the Future Competency Framework, King V principles, and the public-interest mandate of the profession.

Novice (Foundational Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Shows fragmented understanding of basic sustainability, ethics, and governance concepts; cannot explain relevance to a business context.	Demonstrates partial understanding; uses terminology inconsistently and shows limited awareness of relevant frameworks.	Accurately defines key terms; explains how sustainability and ethics relate to governance and value creation.	Applies concepts confidently and begins to draw simple connections between ethical, financial, and strategic considerations.	Demonstrates comprehensive understanding; integrates examples logically and uses relevant frameworks (e.g. King V, <IR>) correctly and insightfully.
Skill (Application)	Unable to apply concepts to examples or identify basic stakeholders or risks.	Attempts to apply frameworks, but responses are superficial, descriptive, or inaccurate.	Accurately identifies stakeholders and basic risks; can perform simple cost–benefit reflection or ethical evaluation.	Analyses realistic scenarios with some integration of financial and ethical reasoning; communicates clearly and logically.	Demonstrates confident, independent application of concepts; produces coherent, well-reasoned responses showing early integrated thinking.
Ability (Transfer and judgement / problem solving/ integration)	Lacks ethical awareness; cannot identify consequences of actions.	Recognises ethical issues, but responses are generic or emotionally driven rather than reasoned.	Demonstrates emerging ethical awareness; proposes reasonable responses when guided.	Shows balanced judgement; anticipates outcomes and trade-offs; justifies reasoning with reference to governance principles.	Demonstrates mature ethical awareness; articulates responsible, well-reasoned decisions showing awareness of both short- and long-term impacts.

Proficient (Intermediate / Applied Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Fails to connect sustainability, risk, and governance concepts; little evidence of framework understanding.	Shows uneven or mechanical knowledge; repeats theory without contextualisation.	Demonstrates clear understanding of how sustainability and governance interact across the business model.	Integrates frameworks (e.g. King V, and <IR>) coherently; recognises interdependencies between capitals and value creation	Demonstrates sophisticated understanding with original insight or well-supported critique of frameworks or practices.
Skill (Application)	Struggles to analyse or interpret case information; responses largely descriptive.	Attempts analysis but lacks structure, justification, or depth	Applies frameworks appropriately to analyse stakeholder issues, risks, and trade-offs; provides logical recommendations.	Produces balanced analyses showing ethical, financial, and strategic integration; communicates persuasively.	Demonstrates high-level analytical competence; uses data, evidence, or digital tools effectively to support integrated reasoning
Ability (Transfer and judgement / problem solving/ integration	Makes unsupported claims or simplistic moral statements; lacks professional awareness.	Demonstrates limited independent thought; struggles to explain rationale for decisions.	Exercises sound ethical reasoning in moderately complex contexts; balances ethical, business, and stakeholder perspectives.	Demonstrates professional maturity; anticipates broader consequences and shows confidence in decision-making.	Displays leadership qualities and advanced ethical reasoning; justifies decisions with clarity, coherence, and professionalism.

Advanced (Integrative Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Fails to demonstrate integrated understanding of sustainability reporting, governance, and assurance.	Demonstrates partial understanding; applies frameworks inconsistently.	Shows integrated understanding of advanced governance and sustainability frameworks; explains how they interrelate.	Critically analyses and synthesises theory and practice across frameworks; identifies emerging trends or limitations.	Produces original, well-substantiated insight showing mastery of professional and academic perspectives.
Skill (Application)	Limited ability to analyse unstructured problems or propose realistic solutions.	Applies tools mechanically with little interpretation or synthesis.	Analyses complex data or governance challenges; provides viable, evidence-based recommendations.	Integrates quantitative and qualitative data; designs or critiques sustainability disclosures or assurance plans.	Demonstrates mastery in designing innovative, practical, and ethical responses; applies digital and analytical acumen confidently.
Ability (Transfer and judgement / problem solving/ integration	Lacks professional judgement; unaware of ethical or systemic consequences.	Recognises ethical issues but struggles to prioritise or justify actions.	Demonstrates sound professional judgement; weighs trade-offs effectively in complex contexts.	Exhibits leadership-level reasoning; anticipates stakeholder and systemic impacts.	Demonstrates expert-level professional judgement; models integrity, accountability, and ethical leadership consistent with King V and CA(SA) expectations.

10.2.5 Digital Acumen Considerations

Application notes:

Within Ethics and Professional Responsibility, digital acumen focuses on how future CAs(SA) use digital tools, data, and analytics responsibly to support ethical decision-making, stakeholder inclusivity, transparency, and public interest outcomes.

Digital capability in this context is not assessed as technical proficiency alone, but as the ethical and professional use of digital information to:

- *identify and mitigate bias,*
- *amplify marginalised stakeholder voices,*
- *interpret stakeholder feedback fairly, and*
- *support accountable, transparent governance decisions.*

Digital acumen should therefore be assessed through integrated ethical reasoning tasks, rather than as a standalone technical requirement.

Digital Acumen Dimension	Novice	Proficient	Advanced
Stakeholder Engagement Analysis	Uses basic digital tools (e.g. surveys, meeting summaries, or AI-generated summaries) to identify stakeholder groups and summarise feedback. Recognises that digitally generated outputs may be incomplete or inaccurate.	Analyses stakeholder engagement data using structured methods (e.g. categorisation, thematic analysis, or AI-assisted synthesis) to identify ethical concerns, conflicts, and stakeholder expectations; validates outputs against available evidence and stakeholder perspectives.	Designs and evaluates digitally enabled stakeholder engagement processes; critically evaluates AI-assisted stakeholder analysis for bias, omissions, hallucinations, and power imbalances; integrates insights across multiple stakeholder groups to inform ethical governance decisions.
Bias Awareness and Mitigation	Recognises that digital data, AI-generated outputs, and engagement tools may exclude, misrepresent, or under-represent certain stakeholders.	Identifies sources of bias in stakeholder data and AI-generated outputs (e.g. digital access, language, training data, framing effects, power asymmetry, or incomplete datasets); applies corrective techniques such as triangulation and alternative stakeholder perspectives.	Critically evaluates systemic bias within digital and AI-enabled processes; designs approaches to improve inclusivity, fairness, transparency, and representation of marginalised stakeholder groups; evaluates the ethical implications of algorithmic bias and automated decision-making.
Ethical Use of Digital Evidence and AI-Generated Information	Uses digital information and evidence to identify basic ethical concerns or stakeholder impacts. Recognises that AI-generated outputs may contain inaccuracies, omissions, unsupported claims, or misleading conclusions.	Evaluates digital information and AI-generated outputs to identify ethical concerns, stakeholder impacts, and potential sources of bias or misinformation. Validates information against appropriate evidence and alternative sources.	Critically evaluates digital evidence and AI-generated outputs; identifies omissions, bias, framing effects, hallucinations, and ethical implications. Applies professional judgement to determine the reliability, appropriateness, and ethical consequences of information used in decision-making.
Inclusive Communication, Transparency and Explainability	Communicates stakeholder information using appropriate digital formats and demonstrates awareness of the importance of transparency, inclusivity, and clear communication.	Develops clear and transparent communications that explain key stakeholder issues, assumptions, limitations, and potential impacts of digital or AI-assisted analyses. Appropriately discloses the use of digital and AI-enabled tools where relevant.	Designs and evaluates communication approaches that promote inclusivity, transparency, accountability, and stakeholder trust. Critically assesses whether digital and AI-assisted outputs are explainable, appropriately disclosed, and accessible to diverse stakeholder groups.
Professional Responsibility in Digital Contexts	Demonstrates awareness of professional responsibilities when using digital tools, digital information, and AI-enabled technologies. Recognises that accountability for decisions remains with the human decision-maker.	Applies ethical and professional principles when using digital and AI-enabled tools; evaluates risks relating to privacy, confidentiality, misinformation, inappropriate reliance on technology, and stakeholder harm. Exercises professional scepticism when interpreting digital and AI-generated outputs.	Critically evaluates the responsible use of digital and AI-enabled technologies in professional contexts; balances innovation with professional scepticism, public-interest responsibilities, and ethical accountability. Defends appropriate governance, oversight, and accountability mechanisms for AI-assisted decision-making.

Illustrative Teaching and Assessment Activities

Possible examples include:

- Using a generative AI tool to identify and summarise stakeholder concerns arising from an ethical or sustainability-related dilemma, followed by a critical evaluation of omissions, bias, and unsupported assumptions.
- Comparing human-generated and AI-generated analyses of an ethical dilemma and reflecting on differences in stakeholder consideration, transparency, and professional judgement.
- Analysing stakeholder engagement data collected through surveys, interviews, or digital platforms to identify ethical concerns, under-represented stakeholder groups, and potential sources of bias.
- Evaluating the ethical implications of algorithmic decision-making in areas such as recruitment, lending, procurement, environmental monitoring, or customer profiling.
- Critiquing AI-generated sustainability disclosures, governance statements, or stakeholder communications and identifying potential greenwashing, selective disclosure, bias, or misleading narratives.
- Assessing whether digital or AI-assisted recommendations are sufficiently transparent, explainable, and appropriate for different stakeholder groups.
- Developing governance principles or organisational guidelines for the responsible use of AI-enabled technologies, including considerations relating to accountability, transparency, confidentiality, fairness, and professional scepticism.

Section 10.3: Costing and Management Accounting

10.3.1 Purpose and Context

Integrated thinking, as articulated in the SAICA CA of the Future Competency Framework (2025), requires accountants to connect strategy, governance, performance, and prospects with the six capitals (financial, manufactured, intellectual, human, social and relationship, and natural) in order to create sustainable value over the short, medium, and long term. Sustainability is framed not as an isolated environmental concern, but as the deliberate integration of environmental, social, equity, health, and economic considerations within organisational decision-making.

Within costing and management accounting, these principles are operationalised through the measurement, analysis, and interpretation of information that reveals trade-offs, surfaces hidden costs, and supports responsible decision-making. Management accounting provides the tools through which sustainability considerations are translated into operational and strategic choices, allowing organisations to evaluate how resource use, cost structures, and performance targets influence long-term value creation.

In this context, costing and management accounting play a critical role in enabling organisations to:

- identify and measure the full costs and benefits of activities across the value chain, including environmental and social externalities;
- support informed trade-offs between short-term financial performance and longer-term sustainability outcomes; and
- align operational decisions and performance measures with organisational strategy, governance priorities, and stakeholder expectations.

Costing techniques such as life-cycle costing, activity-based costing, target costing, and environmental management accounting make visible the broader implications of business decisions that are often obscured by traditional financial metrics. These tools enable future Chartered Accountants to move beyond narrow cost optimisation and to engage with questions of resource stewardship, resilience, and ethical responsibility.

By embedding sustainability and integrated thinking within costing and management accounting, the accountant's role extends beyond cost control to enabling holistic performance management. Management accounting becomes a key mechanism through which integrated thinking is translated into practice, supporting transparent, balanced, and ethically informed decision-making that reflects the organisation's overall value-creation story across financial, social, and environmental dimensions.

Technical Competency Areas:

Note on technical competency alignment:
For the purposes of this guidance, this sub-section assumes that the following technical competency areas, as outlined in the SAICA CA of the Future Competency Framework (2025), are addressed within the disciplinary context illustrated in this sub-section. These assumptions recognise that programme structures and module allocations vary across institutions, and that the same competencies may be developed within different modules or learning streams. The competency areas identified below are therefore illustrative in nature and are not intended to be exhaustive or prescriptive.

Given that sustainability-related decision-making is often embedded implicitly within costing and management accounting competencies, the assumed technical competency areas are outlined in greater detail below to illustrate where and how integrated thinking is operationalised.

The assumed technical competency areas relevant to this section are:

C1 – Performance measurement for management and other internal users of financial information.

- Role of costing: Equips management with relevant information for pricing, capacity utilisation, budgeting, variance analysis, and internal cost allocation/transfer pricing. Techniques include target costing, ABC/ABM, life-cycle costing, and value engineering - aimed at aligning operational decisions with strategy and stakeholder value.
- Sustainability hook: C1.3(d) explicitly requires adapting costing methods to promote sustainability in the value creation process (e.g., embedding environmental costs, end-of-life costs, or social impacts into product/service cost structures).
- Integrated thinking: C1.4 adds sensitivity/scenario analyses and qualitative factors, ensuring costs are interpreted in the context of risk, uncertainty and strategic objectives.

C3.1 – Capital investment appraisal

- Role of costing: Underpins capital budgeting (NPV, IRR, payback, real options) by identifying and modelling project cash flows, opportunity costs and risk.
- Sustainability hook: Investment appraisals must evaluate sustainability factors and other qualitative considerations (externalities, stakeholder effects, long-term impacts on the capitals) alongside financial metrics.
- Integrated thinking: Sensitivity, scenario and decision-tree analyses connect financial viability with strategic fit and stakeholder value creation over time.

C6.2 – Performance evaluation

- Role of costing: Informs integrated performance analysis—linking costs, delivery of products/services and KPIs to diagnose variances and improve outcomes. Methods include ratio analysis, balanced scorecard, KPI evaluation and data analytics.
- Sustainability hook: C6.2(c) requires using an integrated performance management system based on the six capitals, so financial results are read together with non-financial outcomes (e.g., human capital health, natural capital impacts).
- Integrated thinking: Results are interpreted within the organisation's external and internal environment (competitive, economic, social, political, culture/incentives), reinforcing ethical, responsible decision-making.

So, what's the role of costing in enabling responsible, ethical, sustainable value creation?

Within accounting education, students learn to design and apply costing systems that

(1) surface relevant cost and capacity data,

(2) incorporate sustainability and qualitative effects into decisions, and

(3) evaluate performance holistically

→ all through an integrated thinking lens aimed at producing responsible leaders who behave ethically and create sustainable value for diverse stakeholders.

10.3.2 Case Study Application: Integrating PVAAs, Technical Competencies and KSA application

Discipline-specific focus:

This adaptation links the Easton Minerals Limited value chain to selected technical competency areas within Section C (Decision-Making) of the SAICA CA of the Future Competency Framework, with a particular focus on:

- C1 – Performance measurement for management and other internal users,
- C3.1 – Capital investment appraisal, and
- C6.2 – Performance evaluation.

The application is designed to move students beyond calculation and mechanical technique (Knowledge and Skill) toward integrated thinking and ethical judgement (Ability). Students are required to evaluate trade-offs between short-term cost efficiency and long-term value preservation across the six capitals, recognising that management accounting decisions materially shape sustainability outcomes.

Teaching philosophy for Costing and Management Accounting:

In this discipline, governance is understood not merely as compliance, but as the ethical management of resources. Costing and management accounting tools are used to make visible the consequences of business decisions that are often obscured by narrow financial metrics.

Techniques such as standard costing, activity-based costing (ABC), cost–volume–profit (CVP) analysis, life-cycle costing, and capital budgeting are applied to reveal both financial and non-financial costs, including impacts on natural capital, social licence, human capital, and long-term organisational resilience. The purpose is to demonstrate that decisions which appear "cheap" or efficient in the short term may carry significant long-term costs, such as environmental rehabilitation liabilities, carbon taxation exposure, reputational damage, or loss of stakeholder trust.

Through this lens, costing becomes a mechanism for ethical sense-making and responsible decision-making, rather than a neutral optimisation exercise.

Application notes:
This table links each stage of Easton Minerals Limited's value chain to selected technical competency areas, Professional Values, Attitudes and Acumen (PVAAs), and the expected progression of learning from Knowledge to Skills and Abilities (KSA). The depth of engagement is signalled through three indicative levels (Novice, Proficient, and Advanced) which are intended to guide the design of learning activities, assessment tasks, and grading expectations. These levels do not simplify or fragment the underlying case study material; rather, they support calibrated engagement with authentic professional complexity.

Each issue, dilemma, or opportunity should be considered through a governance and ethical decision-making lens, examining how leadership choices, accountability structures, stakeholder responsibilities, and organisational values shape the organisation's response. The overarching aim is to cultivate a sustainability mindset, encouraging integrated, responsible, and long-term thinking in future accounting professionals.

The table is designed to surface authentic teaching opportunities while allowing academic discretion regarding:
- *the calibration of questions, prompts, and evaluative criteria to the level of the student;*
- *the depth and mode of engagement (for example, tutorial discussion, formative activity, assignment, or simulation);*
- *the weighting and assessment format applied; and*
- *the phrasing of questions, prompts, or marking guides in line with local academic and institutional policy.*

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Planning & Building	Lifecycle costing of new processing plants, hybrid-electric fleets, and beneficiation upgrades. Underestimation of carbon-tax exposure or future regulatory changes. Ethical dilemma: choosing cheaper, carbon-intensive options versus sustainable long-term investments. Incorporating rehabilitation obligations into capex budgets. Governance pressure to ensure transparent project evaluation (King V: fairness, accountability, responsible stewardship).	Investment Decisions: Appraise major capital expenditure using appropriate techniques (NPV, IRR, Payback). (C3.1) Planning, Budgeting & Forecasting (C1.2) Decision-Making & Scenario Analysis (C1.4	Critical Thinking Professional Scepticism (challenging assumptions) Ethical judgement in long-term trade-offs Stakeholder and relational acumen in community and labour impacts.	Using the Clean Haul Phase 1 fleet upgrade, identify all sustainability-related cost drivers that should be included in the capex evaluation. Prepare a scenario analysis comparing financial and sustainability outcomes (e.g., diesel price shocks, carbon tax escalation, renewable-energy assumptions). Discuss how governance principles should inform the final investment decision.	**N**	Understands basic capital budgeting concepts and recognises sustainability as a legitimate cost driver (carbon tax, energy use, rehabilitation).	Identifies relevant cost categories (capex, opex, carbon tax, incentives).	Recognises ethical implications of ignoring environmental obligations (e.g., under-provisioning rehabilitation).
					P	Describes how carbon pricing, logistics constraints, and energy efficiency impact NPV and IRR.	Performs scenario-based financial comparisons, including carbon-tax costs and green incentives	Balances short-term cost savings with long-term environmental and governance impacts.
					A	Explains integrated thinking across multiple capitals (financial, natural, social).	Designs a comprehensive life-cycle cost model that incorporates uncertainty, environmental costs, and regulatory risk	Recommends governance-aligned strategic choices with clear justification using King V and <IR> principles.
Mining	High diesel and electricity consumption → increased carbon emissions and cost volatility. Ethical trade-off: cost reductions vs. worker safety in mechanised operations. Dust, noise, and ecological disturbance lead to externalities not reflected in traditional costing. Inefficient haul routes create unnecessary carbon-tax exposure. Opportunity to use data analytics for energy benchmarking and emissions-cost optimisation.	Costing & Cost Management (C1.1) Performance Measurement (C6.2)	Professional Scepticism Ethical Behaviour Problem-Solving	Analyse EML's diesel and electricity usage per ton mined. Identify which components of mining costs translate into carbon-tax exposure. Propose costing metrics that support a reduction in energy intensity and emissions per tonne, while maintaining ethical and safe operations.	**N**	Recognises major mining cost items (diesel, electricity, maintenance).	Performs simple energy/tonne calculations.	Understands that reducing cost must not compromise safety or ethics.
					P	Explains links between energy efficiency, carbon-tax cost, and ESG targets.	Conducts a variance analysis incorporating energy intensity and carbon costs.	Evaluates alternative mining methods (automated trucks, route optimisation), considering both cost and sustainability impact.
					A	Understands how ESG performance indicators integrate into mining KPIs.	Builds dashboards combining cost data, emissions, and operational efficiency.	Formulates strategic recommendations that align mining operations with decarbonisation and long-term value creation.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Processing and Blending	UHDMS beneficiation plant energy intensity and water recycling requirements. Magnetite loss and tailings management externalities. Product quality decisions influencing customer emissions (and price premiums). Ethical transparency in reporting energy and water consumption. Opportunity: lower-emission, higher-grade ore increases competitiveness	Cost Measurement (C1.3) Performance Measurement (C6.2) Decision Analysis (C1.4)	Decision-Usefulness Ethical Behaviour Systems Thinking	Using EML's UHDMS process, develop a cost allocation model that incorporates energy and water consumption. Evaluate how beneficiation choices affect product carbon intensity and long-term market competitiveness.	**N**	Understands beneficiation cost components and quality-cost relationships.	Identifies cost pools (crushing, screening, magnetite medium, water).	Recognises ethical risks of misrepresenting product quality or emissions.
					P	Explains environmental cost drivers, including process water management (closed-loop water circuits), magnetite loss, and tailings-related environmental impacts.	Allocates costs using ABC for each processing activity.	Performs cost–quality trade-off analysis reflecting sustainability impacts.
					A	Demonstrates integrated understanding of product carbon intensity and revenue implications.	Builds decision models incorporating energy savings, higher-grade yields, and carbon-price scenarios.	Advises on beneficiation investments that enhance long-term value and sustainability.
Marketing & Sales	Carbon intensity affecting realised price in European and Asian markets. Ethical duty to provide accurate emissions disclosures. Opportunity: premium pricing for lower-emission ore and transparent reporting. Risk of reputational damage if sustainability claims are inaccurate.	Profitability & Performance Measures (C1.1, C6.2) Scenario & Margin Analysis (C1.4)	Professional Scepticism Communication Ethical Behaviour	Using market data and EML's product specifications, prepare a contribution margin analysis comparing high-emission and lower-emission ore. Explain how sustainability performance affects realised price and long-term market access.	**N**	Understands basic pricing and contribution concepts.	Identifies how carbon intensity affects pricing adjustments.	Recognises ethical risks associated with inaccurate emissions reporting.
					P	Explains global demand for low-emission ores and CBAM impacts.	Prepares margin analyses incorporating carbon-adjusted prices.	Advises on pricing decisions grounded in both financial and ethical considerations.
					A	Understands nuanced interactions between sustainability strategy, market structure, and price realisation.	Models profitability under various carbon-price and logistics scenarios.	Advises on long-term commercial strategies aligned with stakeholder expectations and integrated thinking.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Shipping & Distribution	Rail bottlenecks increase demurrage, rehandling, and emissions per tonne shipped. Ethical transparency in reporting logistics inefficiencies and port delays. Opportunity: improved scheduling and digital logistics systems reduce cost and carbon footprint. Customer demand for cargo-level emissions data.	Planning & Forecasting (C1.2) Performance Measurement (C6.2)	Communication Critical Thinking Ethical Behaviour	Prepare a logistics cost analysis for EML that incorporates carbon emissions per tonne shipped. Explain how improved logistics coordination could reduce both cost and emissions, strengthening EML's sustainability positioning.	**N**	Understands logistics cost components (rail, port charges, demurrage).	Calculates emissions per tonne using simple factors.	Recognises that logistics efficiency contributes to sustainability.
					P	Explains links between logistical delays, emissions, and cost volatility.	Performs scenario analysis assessing the cost effects of rail disruptions.	Balances financial and environmental considerations when suggesting logistics improvements.
					A	Understands integrated supply-chain optimisation incorporating ESG.	Develops shipment models integrating carbon taxes, reliability, and real-time cost data.	Recommends governance-aligned PPP and scheduling strategies to enhance long-term logistics resilience.
Mine Closure & Rehabilitation	Ethical and governance risk of under-provisioning rehabilitation liabilities. Long-term community-transition costs and skills-development obligations. Environmental stewardship (water contamination, biodiversity). Opportunity to apply circular-economy principles and community co-design.	Budgeting & Long-Term Planning (C1.2) Life-Cycle Costing (C1.1) & Scenario Analysis (C1.4)	Ethical Behaviour Accountability Long-Term Thinking	Prepare a life-cycle cost estimate for closure of the Kavala mine, including environmental rehabilitation, community-transition costs, and long-term monitoring. Explain why underestimating closure costs is both an ethical and governance failure.	**N**	Understands basic closure-cost categories and regulatory requirements.	Identifies cost drivers (earthworks, tailings, decommissioning).	Recognises ethical consequences of under-provisioning.
					P	Explains discounting and rehabilitation provisioning under IFRS.	Prepares multi-year closure budgets including social-transition obligations.	Balances financial and stakeholder expectations responsibly.
					A	Integrates multi-capital considerations into closure strategies.	Builds long-term closure models incorporating sustainability risks and uncertainties.	Recommends governance-aligned closure plans that promote regional economic resilience and long-term environmental recovery.

10.3.3 Assessment and Grading Guidance (KSA-Aligned and Developmental)

Application notes:

Assessment within this subsection is intended to support developmental professional judgement aligned to the SAICA CA of the Future Competency Framework, rather than checklist-based evaluation.

Student performance should be evaluated with reference to both the level of study and the quality of achievement within that level. Assessment should therefore focus on how effectively students identify, interpret, and reason through sustainability, governance, and ethical considerations within realistic business contexts, rather than on the reproduction of technical content alone.

Evidence of learning is expected to demonstrate how knowledge, skills, and professional judgement are integrated to support balanced, ethically grounded, and financially informed decision-making. Judgements about performance should reflect coherence of reasoning, appropriateness of application, and alignment with the expected learning outcomes for the relevant stage of study.

Importantly, achievement levels are developmental rather than hierarchical. A Novice learner operating at first-year level can, and should, be capable of achieving high academic distinction when demonstrating full mastery of the learning outcomes appropriate to that level.

The table below provides indicative developmental descriptors across the Knowledge, Skill, and Ability (KSA) dimensions of the CA of the Future Competency Framework (2025). These descriptors are intended to support consistent, transparent grading judgements while allowing flexibility in assessment design, weighting, and institutional marking practices.

They are illustrative rather than prescriptive, and should be applied with due regard to local curriculum structures, assessment policies, and professional judgement.

Dimension	**Novice (Foundational Mastery – e.g. 1st Year students)**	**Proficient (Applied Mastery – 2nd / 3rd Year)**	**Advanced (Integrative Mastery – PGDA / Capstone)**
Knowledge (Conceptual)	• Identifies basic sustainability and governance concepts (e.g., ethical risk, stakeholder need, value creation). • Understands that actions have both positive and negative outcomes. • Recognises links between ethical conduct, trust, and long-term success.	• Explains how sustainability, strategy, and governance interact across the business model. • Describes cause-and-effect relationships (e.g., how stakeholder confidence influences financial performance). • Uses relevant frameworks such as King V and the <IR> value-creation model.	• Critically interprets sustainability information and governance structures. • Evaluates trade-offs between capitals, outcomes, and financial return. • Applies integrated thinking to predict long-term consequences of decisions.
Skill (Application)	• Identifies key stakeholders, ethical risks, and expected outcomes. • Performs simple cost–benefit reflections that include non-financial impacts. • Communicates findings clearly using plain business language.	• Applies analytical tools (stakeholder mapping, risk matrices, basic ROI or scenario analysis). • Integrates ethical and financial perspectives in recommendations. • Prepares concise written or visual reports showing balanced reasoning.	• Designs or critiques integrated solutions that align governance, risk, and performance. • Uses data and digital tools (dashboards, visualisations) to support evidence-based arguments. • Communicates persuasively to decision-makers or stakeholders.
Ability (Transfer and judgement / problem solving/ integration	• Demonstrates emerging ethical awareness and sense of accountability. • Recognises when a decision may harm trust or sustainability.	• Exercises sound judgement in moderately complex contexts. • Balances business goals with legitimate stakeholder expectations. • Reflects on how personal and professional values influence actions.	• Shows leadership and independence in weighing ethical, environmental, and financial outcomes. • Provides reasoned recommendations that demonstrate professional integrity and systemic awareness. • Models responsible decision-making aligned with King V's ethical-leadership principles.

10.3.4 Developmental Rubric with Interpretive Notes

Application notes:
The following rubric provides illustrative grading anchors for evaluating sustainability- and governance-related learning outcomes within the disciplinary context. The descriptors are designed to support consistent and transparent academic judgement across Novice, Proficient, and Advanced levels of learning, aligned to the CA of the Future Competency Framework's Knowledge, Skill, and Ability (KSA) dimensions.

The descriptors should be interpreted relative to the expected level of study, recognising that performance quality is assessed within, rather than across, levels. Progression reflects increasing integration, professional judgement, and contextual awareness, rather than merely greater technical complexity or volume of content.

The rubric is intended to guide academic judgement rather than prescribe marking schemes. Educators retain discretion over task design, assessment weighting, and the application of institutional grading policies, while using the descriptors to support coherent, defensible, and developmentally aligned assessment decisions.

Novice (Foundational Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Shows fragmented understanding of basic concepts (sustainability, ethics, governance). Cannot explain links to business context.	Demonstrates partial understanding; uses terminology inconsistently; minimal awareness of frameworks.	Accurately defines key terms; explains how sustainability and ethics relate to governance and value creation.	Applies correct concepts confidently and begins to draw simple connections between ethical, financial, and strategic ideas.	Demonstrates comprehensive understanding; integrates examples logically and uses frameworks (e.g., King V, <IR>) correctly and insightfully.
Skill (Application)	Unable to apply concepts to examples or identify basic stakeholders or risks.	Attempts to apply frameworks but responses are superficial or inaccurate.	Accurately identifies stakeholders and basic risks; can perform a simple cost–benefit reflection or ethical evaluation.	Analyses realistic scenarios with some integration of financial and ethical reasoning; communicates clearly and logically.	Demonstrates confident, independent application of concepts; produces well-reasoned, coherent responses with clear evidence of integrated thinking.
Ability (Transfer and judgement / problem solving/ integration	Lacks ethical awareness; cannot identify consequences of actions.	Recognises issues but responses are generic or emotionally driven rather than reasoned.	Demonstrates emerging ethical awareness; proposes reasonable responses when guided.	Shows balanced judgement; anticipates outcomes and trade-offs; justifies reasoning with reference to governance principles.	Demonstrates mature judgement; articulates responsible, well-reasoned decisions showing awareness of both short- and long-term impacts.

Proficient (Intermediate / Applied Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Fails to connect sustainability, risk, and governance concepts; little evidence of understanding frameworks.	Shows uneven or mechanical knowledge; repeats theory without context.	Demonstrates clear understanding of how sustainability and governance interact across the business model.	Integrates frameworks (King V, <IR>) coherently; recognises interdependencies between capitals and value creation.	Demonstrates sophisticated understanding with original insights or well-supported critique of frameworks or practice.
Skill (Application)	Struggles to analyse or interpret case information; responses largely descriptive.	Attempts analysis but lacks structure or justified reasoning.	Applies frameworks appropriately to analyse stakeholder issues, risk, or ROI trade-offs; provides logical recommendations.	Produces balanced analyses showing ethical, financial, and strategic integration; communicates persuasively.	Demonstrates high-level analytical competence; uses data, evidence, or digital tools effectively to support integrated reasoning.
Ability (Transfer and judgement / problem solving/ integration	Makes unsupported claims or simplistic moral statements; lacks professional awareness.	Demonstrates limited independent thought; cannot explain rationale for decisions.	Exercises sound judgement in moderately complex situations; balances ethical, business, and stakeholder perspectives.	Demonstrates professional maturity; anticipates broader consequences; shows confidence in decision-making.	Displays leadership qualities and advanced ethical reasoning; justifies decisions with clarity and professionalism

Advanced (Integrative Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Fails to demonstrate integrated understanding of sustainability reporting, governance, and assurance.	Demonstrates partial understanding; applies frameworks inconsistently.	Shows integrated understanding of advanced governance and sustainability frameworks; can explain how they interrelate.	Critically analyses and synthesises theory and practice across frameworks; identifies emerging trends or limitations.	Produces original, well-substantiated insight showing mastery of professional and academic perspectives.
Skill (Application)	Limited ability to analyse unstructured problems or propose realistic solutions.	Applies tools mechanically with little interpretation.	Analyses complex data or governance challenges; provides viable, evidence-based recommendations.	Integrates quantitative and qualitative data; designs or critiques sustainability disclosures or assurance plans.	Demonstrates mastery in designing innovative, practical, and ethical responses; applies digital and analytical acumen confidently.
Ability (Transfer and judgement / problem solving/ integration	Lacks professional judgement; unaware of ethical or systemic consequences.	Recognises ethical issues but struggles to prioritise or justify actions.	Demonstrates sound professional judgement; weighs trade-offs effectively.	Exhibits leadership-level reasoning; anticipates stakeholder and systemic impacts.	Demonstrates expert-level insight; models professional integrity, accountability, and ethical leadership consistent with King V principles.

10.3.5 Digital Acumen Considerations

Application notes:
Within costing and management accounting, digital acumen refers to the responsible and effective use of data, analytics, modelling, and visualisation to support decision-useful information, ethical resource allocation, and integrated performance management. Digital capability in this discipline is not limited to technical proficiency, but encompasses how information is structured, interpreted, and communicated to enable sustainable value creation.

Digital tools are increasingly embedded in routine management accounting practice, and are applied to both financial and non-financial information. Students should therefore be exposed to the normalised use of analytics and digital reporting in budgeting, forecasting, performance evaluation, and governance decision-making.

Digital Acumen Dimension	Novice	Proficient	Advanced
Data Preparation and Structuring	Uses provided datasets (financial and basic non-financial) when guided; understands the need for consistent units, definitions, and data quality.	Prepares and cleans datasets integrating cost, volume, energy, water, emissions, or other sustainability-related information; defines assumptions, boundaries, and data sources appropriately.	Designs data structures that integrate multi-capital information; critically evaluates data limitations, completeness, bias, and the suitability of data used in digital and AI-enabled analyses.
Analytics and Modelling	Applies basic calculations and simple variance or trend analysis using spreadsheets or similar tools.	Builds cost models, budgets, forecasts, or scenario analyses incorporating sustainability variables (e.g. energy price, carbon tax, water use); uses digital and AI-enabled tools appropriately while validating outputs against available evidence.	Designs integrated models linking financial performance with environmental and social drivers; performs sensitivity and scenario analysis under uncertainty; critically evaluates assumptions embedded in digital and AI-generated recommendations.
KPI Design and Performance Measurement	Interprets existing KPIs and dashboards when guided.	Develops KPIs that combine financial and non-financial measures (e.g. cost per tonne, energy intensity, emissions per unit) to support performance evaluation and decision-making.	Critically evaluates whether KPIs and performance measures incentivise appropriate behaviour; redesigns metrics to support sustainable value creation and identifies potential distortions arising from automated reporting or algorithmic optimisation.
Visualisation and Communication	Presents results using basic tables, charts, or visual summaries.	Designs dashboards or visual summaries to communicate cost, performance, and sustainability trade-offs to management; explains assumptions and limitations clearly.	Develops decision-focused dashboards that support governance oversight; tailors visualisations to different stakeholders and decision contexts; evaluates whether digital and AI-assisted outputs are transparent, explainable, and decision-useful.
Decision Usefulness and Ethical Application	Recognises that data informs decisions but may be incomplete.	Uses digital outputs to support balanced decisions, acknowledging trade-offs and uncertainty.	Exercises professional judgement over how digital information and AI-generated outputs are used; challenges unsupported recommendations, avoids false precision, and promotes ethical, transparent, and accountable decision-making.

Illustrative Teaching and Assessment Activities

Possible examples include:

- Using spreadsheet, dashboard, or AI-enabled tools to analyse sustainability-related cost drivers and identify opportunities for operational improvement.
- Comparing human-generated and AI-generated forecasts, budgets, or scenario analyses and evaluating the assumptions, limitations, and reliability of each approach.
- Developing dashboards that integrate financial, operational, environmental, and social performance indicators to support management decision-making.
- Using AI-assisted scenario generation to explore alternative strategic, operational, or sustainability outcomes and critically evaluating the resulting recommendations.
- Analysing large datasets to identify trends, anomalies, inefficiencies, or emerging sustainability risks relevant to management decision-making.
- Critiquing AI-generated management reports, recommendations, or performance analyses and identifying unsupported assumptions, bias, omissions, or misleading conclusions.
- Designing key performance indicators (KPIs) and performance measurement systems that support sustainable value creation and responsible organisational behaviour.

Section 10.4: Taxation

10.4.1 Purpose and Context

In accounting education, taxation plays a central role in shaping how future Chartered Accountants understand governance, accountability, and sustainable value creation. Tax is not merely a technical compliance function; it is a core mechanism through which organisations interact with the state, contribute to public goods, and demonstrate ethical leadership and social responsibility. Through these mechanisms, tax decisions directly affect financial capital and, indirectly, social and relationship capital, human capital, and natural capital by supporting essential infrastructure, education and skills development, healthcare systems (including workforce health), and environmental rehabilitation. Decisions relating to tax strategy, compliance, and disclosure therefore sit squarely within the domains of governance, risk management, and professional judgement.

The SAICA CA of the Future Competency Framework (2025) positions taxation as an enabling discipline that requires integrated thinking across financial performance, stakeholder interests, regulatory environments, and long-term value creation. Tax decisions influence, and are influenced by, an organisation's strategy, capital allocation, risk appetite, and reputation. In sustainability-oriented contexts, these decisions extend beyond short-term optimisation to include considerations such as intergenerational equity, environmental stewardship, social licence to operate, and trust in public institutions.

Within the mining sector, the governance dimension of taxation is particularly pronounced. Mining entities operate under extensive fiscal, environmental, and social frameworks, and their tax contributions form a significant part of national revenue, community development funding, and environmental rehabilitation mechanisms. Choices around tax planning, incentives, carbon taxes, royalties, and rehabilitation provisions therefore carry ethical and societal implications alongside financial consequences. Poorly governed tax practices can undermine legitimacy and stakeholder trust, while responsible tax behaviour supports long-term resilience and public value creation.

In this context, taxation education provides a critical platform for developing professional values, attitudes, and acumen. Students are required to recognise the ethical dimensions of tax decisions, apply professional scepticism, and balance competing stakeholder interests in line with the public-interest mandate of the profession. By embedding sustainability and integrated thinking within taxation, accounting education reinforces the role of the CA as a responsible steward of resources, a contributor to effective governance, and a guardian of transparent and ethical decision-making across the organisation's value-creation process.

Technical Competency Areas:

Note on technical competency alignment:
For the purposes of this guidance, this sub-section assumes that the following technical competency areas, as outlined in the SAICA CA of the Future Competency Framework (2025), are addressed within the disciplinary context illustrated in this sub-section. These assumptions recognise that programme structures and module allocations vary across institutions, and that the same competencies may be developed within different modules or learning streams. The competency areas identified below are therefore illustrative in nature and are not intended to be exhaustive or prescriptive.

Within the Tax discipline, sustainability and governance considerations arise primarily through the ethical design, application, and disclosure of tax decisions that affect multiple stakeholders, including the state, employees, communities, investors, and future generations. Tax competencies therefore intersect strongly with governance, risk management, professional judgement, and public-interest responsibilities, rather than being confined to mechanical calculation or statutory compliance.

Taxation supports sustainable value creation by:

- enabling the provision of public goods and services (such as infrastructure, education, healthcare, and environmental rehabilitation);
- influencing organisational behaviour through incentives, penalties, and pricing signals (for example, carbon taxes and energy-efficiency allowances); and
- shaping trust, legitimacy, and social licence through transparent, responsible tax practices.

Accordingly, the technical competency areas identified below are framed not only in terms of technical correctness, but also in terms of ethical judgement, governance oversight, stakeholder impact, and long-term value preservation.

A5 – Tax Strategy, Risk and Morality

A5.1 Tax strategy:

Tax strategy is central to sustainability and governance because it reflects how an organisation positions itself within its social contract with the state and broader society. In a sustainability context, tax strategy extends beyond legal minimisation to include transparency, reputational risk, long-term solvency, and the responsible use of incentives that support the transition to low-carbon and socially inclusive business models. Strategic choices around business structures, incentives, and location of value creation have implications for environmental accountability, community trust, and long-term legitimacy.

A5.2 Tax risk management:

Tax risk management contributes to sustainable value creation by identifying and managing not only financial exposure, but also governance, reputational, and social licence risks arising from aggressive tax positions, non-compliance, or misalignment with the spirit of the law. In resource-intensive industries, tax risk is closely linked to environmental and climate-related obligations, requiring integrated judgement across tax, legal, technical, and sustainability domains.

A5.3 Tax morality:

Tax morality frames taxation as an ethical and civic responsibility rather than a mere cost. In the mining context, this reflects the principle that mineral resources are held in trust for society, and that taxes and royalties are mechanisms through which value is returned to citizens. This competency reinforces ethical leadership, fairness, and intergenerational responsibility, particularly where tax decisions affect infrastructure, education, healthcare, and environmental rehabilitation.

B3 – Risk Management and Control

B3.1 Risk management systems and processes:

Tax-related risks intersect with broader enterprise risk management through their impact on financial viability, regulatory compliance, reputation, and stakeholder trust. From a sustainability perspective, effective risk systems integrate tax risks with physical climate risks, transition risks (such as carbon pricing), and social risks, ensuring that short-term financial gains do not undermine long-term value creation across the six capitals.

C2 – Financing Decisions

C2.3 Decisions related to distribution of profits:

Decisions about dividends, share buybacks, and profit retention have ethical and sustainability implications where they affect an organisation's ability to meet future obligations, including environmental rehabilitation, mine closure, and community transition. This competency highlights the need to balance shareholder returns with solvency, liquidity, and intergenerational equity, reinforcing fiduciary responsibility and responsible capital stewardship.

C3 – Investment Decisions

C3.1 Capital investment appraisal:

Capital investment decisions shape the long-term environmental and social footprint of the organisation. In a sustainability context, tax considerations influence project viability through incentives, allowances, and future tax exposures. Integrated appraisal requires incorporating non-financial factors such as environmental externalities, climate transition risk, and stakeholder impacts alongside traditional financial metrics.

C8 – Tax Law Implications for Decision-Making

C8.1 Tax implications of strategic and operational decisions

Tax law informs how organisations structure investments, financing arrangements, remuneration, and transformation initiatives. In sustainability-oriented decision-making, this competency supports responsible structuring that aligns with governance principles, environmental objectives, and social transformation goals, while avoiding arrangements that undermine transparency or public trust.

E1 – Tax Governance

E1.1–E1.4 Tax governance, interpretation, and compliance:

Tax governance underpins ethical conduct and accountability by ensuring that tax positions are defensible, transparent, and supported by appropriate data and controls. In a sustainability context, tax governance requires the integration of financial and non-financial information, awareness of environmental and sector-specific taxes, and engagement with regulators and other stakeholders as part of responsible corporate citizenship.

E2 – Laws and Regulations

E2.1 Compliance with laws and regulations:

Sustainable tax practice requires an understanding of how tax legislation interacts with environmental, mining, and corporate law. This competency reinforces the importance of legal compliance as a foundation for ethical behaviour, highlighting when specialist input is required and how regulatory non-compliance can undermine both financial performance and social licence to operate.

Transferable skills emphasis

Importantly, engagement with tax legislation and tax case law develops transferable legal reasoning skills. The ability to interpret statutes, evaluate judicial decisions, identify legislative intent, and apply principles to unfamiliar fact patterns equips students to engage responsibly with other regulatory frameworks (for example, environmental law, governance codes, and sustainability-related regulation). In this way, tax education supports broader professional competence in navigating complex, evolving legal environments rather than isolated rule compliance.

Role of Tax in Sustainable Value Creation:

Together, these technical competency areas position tax as a governance mechanism that enables responsible decision-making, ethical conduct, and sustainable value creation. Rather than treating tax as a narrow compliance function, this guidance frames tax as integral to integrated thinking, shaping how organisations balance financial performance with environmental stewardship, social responsibility, and long-term legitimacy.

The SAICA CA of the Future Competency Framework (2025) envisions a Chartered Accountant who is not merely a technical expert, but a multi-dimensional value creator. The framework explicitly requires the integration of Ethics (I), Citizenship (II), and Strategic and Decision-Making Acumen (Y) alongside technical proficiency. In this context, tax decisions are recognised as inherently value-laden choices that influence multiple capitals and stakeholder outcomes.

Future CAs must therefore possess the decision-making acumen to recognise that every tax decision carries a footprint, financial, social, environmental, and reputational. Tax education must move students beyond the mechanical application of legislative provisions toward the strategic exercise of professional judgement, highlighting:

1. Responsible value creation: Moving beyond aggressive tax avoidance towards contributing a fair and transparent share in the jurisdictions where value is created.

2. Ethical leadership: Recognising that legally permissible arrangements may still undermine the ethical principles of the profession, public trust, or social licence to operate.

3. Sustainable strategy: Using tax incentives responsibly to finance transitions such as decarbonisation, while understanding the obligation to disclose material incentives and their implications for stakeholders

In this way, sustainability in taxation is not introduced as an additional reporting requirement, but as a lens through which tax strategy, risk management, investment decisions, and disclosures are evaluated. The tax professional's role extends beyond compliance to actively shaping strategic choices that balance financial efficiency with environmental protection, social justice, and long-term value creation.
This guidance aims to surface these authentic teaching opportunities, reinforcing that in taxation, sustainability influences how decisions are made, how data is interpreted, and how value is communicated — consistent with the profession's public-interest mandate.

10.4.2 Case Study Application: Integrating PVAAs, Technical Competencies and KSA application

Application notes:
This table links each stage of Easton Minerals Limited's value chain to selected technical competency areas, Professional Values, Attitudes and Acumen (PVAAs), and the expected progression of learning from Knowledge to Skills and Abilities (KSA). The depth of engagement is signalled through three indicative levels (Novice, Proficient, and Advanced) which are intended to guide the design of learning activities, assessment tasks, and grading expectations. These levels do not simplify or fragment the underlying case study material; rather, they support calibrated engagement with authentic professional complexity.

Each issue, dilemma, or opportunity should be considered through a governance and ethical decision-making lens, examining how leadership choices, accountability structures, stakeholder responsibilities, and organisational values shape the organisation's response. The overarching aim is to cultivate a sustainability mindset, encouraging integrated, responsible, and long-term thinking in future accounting professionals.

The table is designed to surface authentic teaching opportunities while allowing academic discretion regarding:
- *the calibration of questions, prompts, and evaluative criteria to the level of the student;*
- *the depth and mode of engagement (for example, tutorial discussion, formative activity, assignment, or simulation);*
- *the weighting and assessment format applied; and*
- *the phrasing of questions, prompts, or marking guides in line with local academic and institutional policy.*

The examples provided are illustrative rather than exhaustive and are intended to prompt disciplinary judgement, not prescribe curriculum coverage or assessment scope.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration	This phase involves geological surveying and early efforts to secure a social licence to operate, often in remote areas with weak governance. Key sustainability risks include bribery through so-called "facilitation payments" to obtain land access or accelerate permits, as well as environmental disturbance during prospecting. From a tax perspective, such payments may be improperly disguised as deductible expenses, creating serious ethical, compliance, and legitimacy risks. Additional judgement is required in determining the deductibility of prospecting expenditure and early community benefit commitments, balancing short-term tax efficiency against ethical conduct and stakeholder trust. Transparent treatment and reporting of exploration-related costs and commitments present an opportunity to strengthen governance, legitimacy, and long-term stakeholder confidence.	Tax Strategy (A5) Tax Law implications (C8) Tax Governance and Oversight (E1) Compliance with Laws and Regulations (E2)	Business Ethics (I2) Ethical Reasoning (Y6) Professional Scepticism (Y5) Business External Environment (Z2) Analytical and Critical Thinking (Y1) Data Knowledge and Strategy (W2)	Analyse tax-related sustainability issues, dilemmas, and opportunities arising during Easton Minerals' exploration activities. Consider how environmental obligations, early community commitments, and governance risks influence responsible tax decisions and long-term value creation. Recommend an appropriate governance response that demonstrates ethical judgement, professional scepticism, and transparency in tax treatment. Illustrative task format: *Role-play or written professional response in which students act as a tax professional responding to a high-risk transaction or request during the exploration phase, requiring them to balance commercial pressure with ethical, legal, and governance responsibilities.*	**N**	• Identify basic tax concepts relevant to exploration activities, including exploration expenditure, licensing, and rehabilitation obligations. • Recognise that transparency, ethical conduct, and legal compliance influence sustainability outcomes and long-term value creation. • Identify the existence of different types of taxes within the South African tax landscape that may affect mining activities. • Recognise that sector-specific tax considerations apply to mining and exploration activities. • Understand that certain payments are prohibited from deduction and that tax law distinguishes between different categories of exploration-related expenditure.	• Identify key stakeholders affected by exploration-stage tax decisions. • Provide a simple explanation of how exploration-related spending may influence long-term value creation. • Identify high-risk or non-compliant transactions (for example, suspicious payments or vague invoices) in basic tax scenarios. • Perform simple calculations to illustrate the impact of non-deductible expenditure on taxable income. • Flag potential tax compliance concerns in a structured response or basic tax computation.	• Demonstrate emerging ethical awareness by recognising when tax positions may undermine organisational legitimacy or stakeholder trust. • Exercise basic professional judgement by identifying practices that conflict with ethical and legal expectations. • Transfer this recognition to similar, simplified scenarios involving questionable business expenses. • Appreciate the reputational and trust implications of tax non-compliance for organisations operating in sensitive social and environmental contexts.
					P	• Explain how anti-corruption frameworks interact with tax law to prohibit the deduction of unlawful or unethical payments. • Distinguish between legitimate business expenditure and payments that constitute bribery or other prohibited conduct.	• Analyse supporting documentation to distinguish between legitimate consulting services and payments that may conceal unethical or unlawful conduct. Draft a structured professional communication (for example, a tax or risk memo) highlighting tax,	• Exercise professional judgement to determine whether a tax or governance risk is sufficiently significant to warrant escalation to senior management or an appropriate oversight body. • Evaluate whether a payment constitutes an unlawful or unethical transaction that should

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration (Continued)					**P**	governance, and ethical concerns associated with a proposed transaction. • Understand how governance failures at the exploration stage translate into tax, reputational, and sustainability risks. • Recognise the role of ethical reasoning and professional scepticism in applying tax rules to ambiguous or high-risk transactions.	• Apply professional scepticism when evaluating vague or incomplete invoices, particularly in high-risk environments. • Integrate tax compliance considerations with broader governance and sustainability implications in their analysis.	be treated as non-deductible, even where commercial pressure or operational urgency exists. • Anticipate the regulatory, financial, and reputational consequences of incorrect tax treatment, including penalties, interest, and loss of stakeholder trust. • Apply the same reasoning to other "grey-area" expenditures (for example, gifts, hospitality, facilitation fees, or entertainment) across different industries and organisational contexts. • Demonstrate an understanding that failure to comply with tax and governance requirements undermines organisational legitimacy and long-term sustainability, not merely short-term financial outcomes.
					A	• Critically evaluate the adequacy of organisational governance structures and internal controls related to vendor onboarding, approval processes, and payments during high-risk operational phases such as exploration. environments.	• Design and justify a tax and governance control framework that proactively prevents unethical or unlawful transactions, including clear approval thresholds, segregation of duties, documentation standards, and escalation mechanisms.	• Exercise strategic judgement when advising senior leadership or the board on high-stakes ethical dilemmas, weighing short-term operational or financial pressures against long-term reputational, legal, and sustainability risks. • Defend governance decisions that may constrain immediate growth or employment outcomes in

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration (Continued)						• Analyse how control weaknesses, incentive structures, and organisational culture interact to create ethical and compliance risks in complex, uncertain	• Facilitate or simulate challenging professional conversations with operational leaders, demonstrating the ability to communicate risk, ethics, and governance concerns clearly and persuasively under pressure.	order to protect organisational legitimacy, social licence to operate, and public trust. • Transfer this governance- and ethics-based reasoning to other strategic contexts involving uncertainty, regulatory risk, and competing stakeholder interests.
Planning & Building	• Infrastructure and financing decisions in this phase lock in the mine's long-term carbon footprint, cost structure, and social impacts. Key sustainability risks include carbon-intensive energy choices, tax-driven financing structures that undermine the host country's tax base, and delayed recognition of rehabilitation and closure obligations. • Tax strategy can either amplify these risks through short-term optimisation or support sustainable value creation by incentivising renewable energy, energy efficiency, and responsible capital investment. • Dilemmas arise where tax efficiency conflicts with environmentally preferable technologies, accelerated allowances distort long-term decision-making, or financing structures erode social licence and trust.	Tax Strategy (A5, specifically Tax Risk Management A5.2 and Tax Morality and Responsible Tax Behaviour A5.3) Tax Law implications (C8) Tax Governance and Oversight (E1) Compliance with Laws and Regulations (E2)	Professional Citizenship (II2) Corporate Citizenship (II3) Relationship Building Skills (X4) Integrative Thinking (Y2) Business Internal Environment (Z1) New Developments (W5 Understand the technical nature to ensure correct tax classification)	Evaluate alternative capital investment options for Easton Minerals during the planning and building phase, considering tax incentives, carbon exposure, and long-term sustainability impacts. Explain how tax strategy can either reinforce or undermine ethical governance, social licence, and sustainable value creation when infrastructure decisions lock in long-term environmental and financial consequences.	**N**	• Identify basic tax concepts relevant to major capital investments, energy choices, and rehabilitation obligations. • Recognise that planning and building decisions have long-term sustainability, governance, and value-creation implications. • Identify the existence of key environmental and employment-related taxes and incentives relevant to capital projects (for example carbon-related taxes, energy-efficiency incentives, and employer levies), without requiring detailed technical mastery. • Understand that renewable energy assets may qualify for preferential tax treatment compared to fossil-fuel alternatives.	• Identify key stakeholders affected by capital investment and tax decisions, including regulators, communities, employees, and investors. • Provide a simple explanation of how capital planning decisions influence long-term financial performance and environmental outcomes. • Identify where tax considerations arise in a planning decision and flag them as potential risks requiring further analysis. • Perform a basic comparative calculation illustrating the tax allowance impact of alternative asset choices (for example renewable versus diesel-based energy).	• Demonstrate emerging judgement by recognising that short-term tax efficiency may conflict with long-term legitimacy and responsible practice. • Recognise when tax issues are complex or specialist in nature and recommend referral to appropriate tax or technical experts. • Identify that sustainability-aligned investments often receive more favourable tax treatment than carbon-intensive alternatives. • Transfer this understanding to a simple, unfamiliar scenario by applying a stated allowance rate or incentive in principle.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Planning & Building (continued)	• Opportunities include using sustainability-linked incentives to support decarbonisation, integrating rehabilitation obligations into investment appraisal, and aligning asset design and funding with long-term value creation across the capitals.				**P**	• Explain how tax treatment differs for various forms of social and sustainability-related expenditure, including community contributions, skills development initiatives, and capital investments. • Understand how timing differences in tax allowances (for example accelerated versus phased deductions) affect cash flows, investment decisions, and long-term sustainability outcomes. • Recognise that tax incentives interact with broader governance objectives, including ethical conduct, responsible resource allocation, and public accountability.	• Identify and apply appropriate tax treatments to alternative investment or social initiatives, testing whether qualifying criteria are met and recognising interactions with other taxes where relevant. • Analyse the trade-offs between competing objectives, such as maximising tax deductions versus reducing long-term environmental and carbon-related exposure. • Model the financial impact of alternative tax treatments over time (for example through multi-period cash-flow or tax-shield analysis). • Articulate governance responsibilities relating to ethical tax behaviour and compliance within capital planning decisions.	• Apply professional judgement to recommend tax-efficient yet responsible courses of action, balancing financial performance with sustainability and governance considerations. • Evaluate whether tax incentives can realistically be utilised given the entity's projected taxable income and risk profile. • Reconcile conflicts between short-term tax optimisation and long-term value preservation, advising management accordingly. • Transfer this reasoning to other organisational contexts or sectors, recognising that sustainability-linked tax incentives are not industry-specific.
					A	• Critically evaluate how tax treatment of employee-related benefits and incentives interacts with workforce sustainability, equity, and long-term human capital outcomes. • Synthesize tax incentives, financing structures, and funding instruments into an integrated capital strategy that balances	• Design and critique integrated tax and financing structures, assessing risks such as excessive leverage, misaligned incentives, or erosion of the tax base. • Evaluate alternative interpretations and timing judgements within tax legislation and assess their ethical, governance, and reputational implications.	• Apply advanced professional judgement to advise the board on capital planning decisions under uncertainty, explicitly weighing financial efficiency against long-term sustainability and legitimacy. • Anticipate and communicate the risks of policy or legislative change to strategic investment decisions and funding models.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Planning & Building (continued)						cost of capital, risk, and sustainability objectives. • Understand how tax functions as a policy instrument and how shifts in fiscal policy may influence future investment and sustainability decisions.	• Assess the robustness of proposed tax strategies under uncertainty, including changes in legislation, incentives, or enforcement priorities.	• Transfer the principle of tax as a sustainability and policy lever to emerging contexts, using informed judgement to anticipate future incentive structures and regulatory trends.
Mining	Mining has direct and irreversible impacts on communities, the environment, and national resources. Key sustainability issues include community displacement and relocation, carbon-intensive operations, environmental degradation, and the fair compensation of the state for the extraction of finite minerals. Tax functions as a governance mechanism in this phase through royalties (payment for resource depletion), carbon taxes (linking emissions to cost), and labour-related taxes that support worker protection and social stability. Dilemmas arise where pressure to minimise operational and carbon-tax costs conflicts with emission reduction, community obligations, and ethical conduct, or where uncertainty exists over the deductibility of social and environmental expenditure.	Tax Strategy (A5, specifically Tax Risk Management A5.2 and Tax Morality and Responsible Tax Behaviour A5.3) Tax Law implications (C8) Tax Governance and Oversight (E1) Compliance with Laws and Regulations (E2)	Business Ethics (I2) Corporate Citizenship (II3) Analytical thinking (Y1) Judgement and Decision Making (Y4) Relationship Building Skills (X4) Business Internal Environment (Z1) Business External Environment (Z2) Data Knowledge and Strategy (W2)	Analyse the tax-related sustainability issues, dilemmas, and opportunities arising during Easton Minerals' mining operations. Consider how carbon-tax exposure, royalties, VAT, health and safety expenditure, and contractor arrangements influence responsible tax decision-making, ethical conduct, and long-term value creation. Illustrative assessment scenario: *Using a recent mining-related tax judgment as context, evaluate whether significant community relocation costs incurred to enable continued mining operations should be treated as deductible operational expenditure or capital in nature. In your response, consider governance obligations, social licence to operate, and the implications for sustainable value creation.* Indicative task format: *Debate, case analysis, or board-style advisory note.* *The emphasis should be on applying tax principles and professional judgement to realistic sustainability dilemmas, rather than on technical calculations alone.*	**N**	• Identify basic tax concepts relevant to mining operations, including operational deductions, indirect taxes, and environmental levies. • Recognise the link between mining activities, environmental and social impacts, and tax consequences. • Identify that mining assets and expenditure are subject to specialised tax treatment distinct from other industries. • Recognise typical categories of mining-related capital expenditure (for example, shaft sinking, equipment, and expenditure incurred under a mining right).	• Identify key stakeholders affected by mining-stage tax decisions, including regulators, employees, communities, and suppliers. • Provide a simple explanation of how operational tax decisions influence sustainability and long-term value. • Perform basic calculations relating to mining capital expenditure balances when provided with structured data. • Identify clearly non-deductible operational items in a given scenario.	• Recognise when operational tax positions may raise ethical concerns or undermine stakeholder trust. • Demonstrate appropriate professional judgement by recognising when mining tax issues require specialist advice. • Differentiate between voluntary social contributions and legally required mining obligations when considering tax treatment.
					P	• Explain key principles affecting mining-related trading stock and operational expenditure. • Identify tax considerations associated with alternative asset	• Apply relevant principles to determine the appropriate tax treatment of mining outputs and operational arrangements. • Analyse alternative asset acquisition options and compare	• Apply professional judgement to evaluate competing tax positions in operational mining scenarios. • Assess the risk of alternative interpretations by tax authorities in relation to

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mining (continued)	Opportunities include using carbon-pricing signals and incentives to drive cleaner operations, strengthening tax governance in procurement and contractor management, and transparently demonstrating how operational taxes and royalties support long-term value creation and social licence to operate.		New Developments (W5)			acquisition strategies (for example, purchase versus lease). • Understand the separation between mining and non-mining income streams for tax purposes.	tax and cost implications. • Prepare a structured computation distinguishing mining income from other income to support appropriate tax treatment.	mining-related expenditure. • Transfer these principles to analogous situations in other capital-intensive industries.
					A	• Critically evaluate how statutory definitions interact with judicial interpretation in mining-related tax matters. • Understand how governance, reputation, and stakeholder perceptions influence tax risk in extractive industries.	• Design or critique operational and contractual arrangements to manage tax, governance, and sustainability risks coherently. • Evaluate the implications of alternative structuring choices on tax outcomes, stakeholder legitimacy, and long-term value.	• Advise senior decision-makers on complex trade-offs between tax efficiency, ethical conduct, and ESG considerations. • Exercise advanced professional judgement when balancing fiduciary duties with social legitimacy and public trust. • Apply integrated thinking to recommend solutions that support sustainable value creation across financial, social, and natural capitals.
Processing and Blending	Processing and blending create economic value through beneficiation but significantly increase energy, water, and emissions intensity. Decisions in this phase affect local job creation, carbon-tax exposure, water stewardship, and waste management. Tax policy incentivises beneficiation and efficiency through differentiated royalty rates and energy-	Tax Strategy (A5) Tax Law implications (C8) Tax Governance and Oversight (E1) Compliance with Laws and Regulations (E2)	Self-development (II1) Integrative Thinking (Y2) Professional Skepticism (Y5) Ethical reasoning (Y6) Communication Skills (X1) Business Internal Environment (Z1)	Analyse the tax-related sustainability issues arising from Easton Minerals' processing and blending activities. Consider how asset classification, energy intensity, and research and development decisions influence carbon-tax exposure, operational efficiency, and long-term value creation. Evaluate how tax incentives for beneficiation and energy efficiency interact with environmental responsibilities and governance expectations, and recommend a defensible approach to classification, measurement, and disclosure.	**N**	• Identify the relationship between energy intensity and carbon-tax exposure. • Recognise that research and development expenditure may have specific tax implications. • Distinguish between mining operations and processes of manufacture based on whether a significant change in form or nature occurs. • Recall that energy-efficiency incentives	• Explain how a processing upgrade affects at least three capitals (financial, manufactured, natural). • Classify common assets used in mining and processing activities. • Perform a basic capital-allowance calculation for manufacturing equipment.	• Recognise that short-term operational choices can create long-term tax, environmental, and governance risks. • Apply judgement to explain why beneficiation attracts preferential tax treatment. • Transfer basic allowance principles to other manufacturing contexts.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Processing and Blending (continued)	efficiency allowances, while environmental levies and carbon taxes penalise inefficient or high-emission processing choices. The core tension lies in balancing industrial value addition with grid constraints, environmental impacts, and long-term sustainability.		Innovation (Developing new propietary processing methods could unclock lower tax rate Z3) Data Knowledge and Strategy (W2) Data Analytics (W3 - use regression analysis to prove savings against baseline)	Indicative format: *Technical simulation, case-based memo, or data-enabled tutorial task. Tasks may incorporate operational or energy-usage data to support classification, efficiency assessment, or decision justification.*		are linked to verified reductions in energy use. • Competencies: Z1 (External environment), W1 (Foundational data awareness)		
					P	• Explain how tax treatment differs for trading stock, operational expenditure, and capital assets in processing activities. • Understand that energy-efficiency incentives are based on a counterfactual "baseline" rather than simple year-on-year comparisons.	• Apply relevant tax provisions to case-study facts to determine correct treatment. • Analyse operational energy data to identify anomalies that distort efficiency claims. • Reconcile asset and incentive claims to prevent double counting or inconsistent treatment.	• Communicate a justified recommendation to management based on technical analysis and sustainability considerations. • Apply professional judgement to determine the operational boundary at which material becomes a product rather than ore, recognising the tax and governance implications.
					A	• Critically evaluate the ethical and governance implications of using tax incentives to fund process innovation that may increase environmental pressures. • Synthesize a value-chain perspective showing how beneficiation affects royalties, energy exposure, and long-term national value creation.	• Evaluate long-term financial benefits of incentives alongside potential environmental and social costs. • Design robust measurement and verification approaches to support energy-efficiency claims. • Defend a contested asset classification using legal principles, operational evidence, and integrated reasoning.	• Justify a strategic tax approach that accelerates genuine environmental investment beyond minimum compliance. • Evaluate the risk of greenwashing by distinguishing between real efficiency gains and data manipulation. • Transfer incentive-based reasoning to emerging policy contexts (for example, future hydrogen or water-efficiency incentives).

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		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Marketing & Sales	Marketing & Sales raise significant governance and economic-justice risks. A key issue is profit shifting through related-party sales, where minerals are sold at below-market prices to offshore marketing hubs, eroding the tax base of the country of extraction. Transfer pricing rules require these transactions to reflect arm's-length value and real economic substance, failing which companies face tax adjustments, regulatory scrutiny, and reputational damage. Transparency over sales pricing, foreign exchange effects, and tax payments is therefore critical to maintaining social licence and public trust. Emerging disclosure initiatives, including country-by-country reporting, create opportunities to strengthen accountability and demonstrate fair contribution to host economies.	Tax Strategy (A5) Tax Law implications (C8) Tax Governance and Oversight (E1) Compliance with Laws and Regulations (E2)	Personal Ethics (I1) Professional Ethics (I3) Corporate Citizenship (II3) Communication Skills (X1) Leadership Skills (X2) Self-Management (X6) Integrative Thinking (Y2) Judgement and Decision-Making (Y4) Ethical Reasoning (Y6) Business Internal Environment (Z1) Business External Environment (Z2) Data Analytics (W3)	Easton Minerals Limited sells iron ore from its South African mining operations to a related marketing subsidiary ("EML Marketing") located in a low-tax jurisdiction. The ore is sold to the marketing entity at a price materially below the final price realised from third-party customers. Revenue authorities challenge whether the pricing reflects genuine value creation or constitutes profit shifting. As the Group Tax Director, assess whether the transfer price applied between the iron-ore mine and the marketing subsidiary reflects an arm's-length outcome. Evaluate whether the offshore entity performs sufficient value-adding functions (for example, marketing, logistics coordination, customer credit risk management) to justify the margin retained offshore. Where substance is lacking, recommend an appropriate governance response and explain the potential tax, reputational, and social-licence consequences. Assessment Focus: • *Identification of transfer-pricing and profit-shifting risks in extractive industries* • *Application of the arm's-length principle and ethical reasoning* • *Consideration of secondary consequences (additional tax, penalties, transparency expectations, and legitimacy)* • *Quality of professional judgement, stakeholder awareness, and clarity of communication*	**N**	• Define key concepts such as connected persons and arm's-length transactions. • Recognise the purpose of transfer pricing documentation (for example, local and master files).	• Adjust taxable income in a basic computation to reflect a transfer pricing adjustment. • Identify where value is created versus where profits are reported in a simplified value-chain diagram.	• Demonstrate emerging ethical awareness by recognising that shifting profits to low-tax jurisdictions is a significant governance and compliance risk, not merely "tax efficiency".
					P	• Explain the interaction between income tax and indirect taxes in cross-border sales. • Distinguish between capital and revenue expenditure in marketing and sales activities. • Explain functional analysis (functions performed, assets used, risks assumed) and why profit follows risk and decision-making.	• Apply relevant tax principles to the facts of the case study, testing whether arm's-length conditions are met. • Perform basic benchmarking to determine appropriate margins for a tested party. • Calculate the tax consequences of pricing adjustments, including secondary effects.	• Integrate multiple taxes to explain the overall tax impact of transfer pricing decisions. • Apply professional judgement to assess substance over form (for example, whether a marketing hub performs real economic functions). • Transfer this reasoning to transparency mechanisms such as country-by-country reporting thresholds.
					A	• Synthesise tax strategy, reputational risk, and stakeholder expectations in evaluating offshore structures. • Critically assess marketing-hub models in light of evolving global tax norms and transparency expectations.	• Defend or challenge transfer pricing policies in simulated dispute-resolution or regulatory engagements. • Evaluate the sustainability of group pricing strategies under heightened disclosure and public scrutiny.	• Exercise professional judgement to recommend dismantling or redesigning structures where governance, legitimacy, and compliance risks outweigh financial benefits. • Anticipate future regulatory focus areas and apply transfer-pricing principles to new contexts (for example, intellectual property or digital services).

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		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Shipping & Distribution	Shipping and distribution create significant Scope 3 emissions and place pressure on public infrastructure, particularly where road transport and diesel use dominate. Poorly governed logistics decisions can shift environmental and social costs onto society through increased emissions, road damage, and accident risk, while emerging border measures effectively introduce a carbon cost on exports produced with high emissions intensity. Sustainability dilemmas arise where short-term cost efficiencies, such as road transport, fuel refunds, or favourable VAT treatments, conflict with fair infrastructure contribution, emissions reduction, and long-term market access. Conversely, opportunities exist to strengthen competitiveness and social legitimacy by aligning logistics choices, tax treatment, and supply-chain decarbonisation with responsible, transparent practice.	Tax Strategy (A5) Tax Law implications (C8) Tax Governance and Oversight (E1) Compliance with Laws and Regulations (E2)	Business Ethics (I2) Personal Citizenship (II1) Integrative Thinking (Y2) Professional Scepticism (Y5) Business External Environment (Z2) Innovation (Z3) Data Knowledge & Strategy (W2) Data Analytics (W3)	Analyse the tax-related sustainability issues arising from Easton Minerals' shipping and distribution activities, with particular reference to logistics emissions, infrastructure use, and cross-border carbon exposure. Evaluate how VAT treatment, fuel usage, and emerging carbon-border measures influence responsible decision-making, cost structures, and long-term market access. Illustrative application: *Students consider logistics data indicating mixed on-road and off-road fuel usage, as well as a proposed long-term export contract into a jurisdiction subject to carbon-border measures. They assess the implications for tax compliance, pricing strategy, and competitiveness, and recommend governance responses that balance short-term efficiency with sustainability and reputational risk.*	**N**	• Identify VAT implications of imports, exports, and logistics activities. • Distinguish between primary production and secondary transport for VAT and fuel refund purposes. • Recognise that export activities may trigger customs, excise, or border-related taxes. • Explain the basic mechanism of carbon border measures (for example, CBAM). • Identify that hedging instruments may have income tax implications.	• Classify vehicles and activities as eligible or non-eligible for fuel refunds. • Calculate a basic diesel refund using given tariff rates and fuel usage data. • Identify that shipping penalties and logistics inefficiencies have cost and tax consequences.	• Recognise foreign carbon taxes as a financial and compliance risk. • Apply judgement to identify when issues are specialist in nature and require escalation. • Recognise that incorrect refund claims may constitute serious compliance breaches. • Transfer the "user-pay" principle to other infrastructure-related taxes.
					P	• Explain relevant income tax and VAT provisions affecting logistics and distribution. • Analyse tax risks associated with hedging and income volatility. • Explain key compliance distinctions (for example, "wet vs dry" fuel contracting).	• Apply tax provisions to case facts and test compliance requirements. • Audit supporting documentation (for example, logbooks, GPS data) for completeness and reliability. • Reconcile fuel usage records with VAT returns and general ledger balances.	• Integrate income tax and VAT implications into a coherent analysis. • Exercise judgement where digital and manual data sources conflict. • Transfer these principles to other primary production sectors with similar rules.
					A	• Critically evaluate logistics and supply chain design from a tax and sustainability perspective. • Analyse strategic implications of carbon pricing across jurisdictions.	• Design systems to track emissions and logistics data for carbon-border compliance. • Model pricing and contract outcomes incorporating carbon costs and incentives.	• Advise on strategic trade-offs between investment in greener logistics and long-term tax exposure. • Apply insights to anticipate future policy shifts and assess competitiveness under tightening climate regulation.

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		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mine Closure & Rehabilitation	Mine closure embodies the "polluter pays" principle, requiring mining companies to fund environmental restoration and manage community transition once operations cease. Tax mechanisms, particularly ring-fenced rehabilitation funding, incentivise early provision for closure costs while penalising misuse, protecting the public from inheriting unfunded environmental liabilities. Closure also presents social sustainability risks where communities remain economically dependent on mining activity. Tax treatment of rehabilitation, reskilling, and transition expenditure shapes whether firms prioritise short-term cost minimisation or invest in a responsible legacy. Transparent tax governance and reporting provide an opportunity to demonstrate ethical leadership, safeguard intergenerational equity, and maintain long-term legitimacy.	Tax Strategy (A5) Specifically: Tax risk management (A5.2) and T ax orality and Responsible Tax Behaviour (A5.3) Tax Law implications (C8) Tax Governance and Oversight (E1) Compliance with Laws and Regulations (E2)	Personal ethics (I1) Leadership Skills (X2) Self-management (X6) Integrative Thinking (Y2) Judgement and decision making (Y4) Business External Environment (Z2)	Easton Minerals is two years from closure. Management proposes withdrawing funds from the rehabilitation trust to support a final shareholder distribution. Advise the Board on the tax and governance implications of using ring-fenced rehabilitation funds for non-rehabilitation purposes. Recommend alternative tax-compliant approaches to managing closure costs that support ethical conduct, community transition, and long-term value creation.	**N**	• Identify that tax incentives may apply to qualifying environmental and rehabilitation expenditure within the South African tax landscape. • Recognise the relationship between mine closure obligations, environmental responsibility, and tax consequences. • Define the purpose of a section 37A rehabilitation trust and its sole object of funding environmental rehabilitation. • Identify the consequence of misuse of rehabilitation funds (taxable inclusion).	• Identify key stakeholders affected by closure-related tax decisions, including regulators, employees, and local communities. • Provide a simple explanation of how closure-related tax decisions influence long-term sustainability and value creation. • Distinguish between rehabilitation provisions recognised for accounting purposes and rehabilitation payments recognised for tax purposes. • Perform a basic calculation of an allowable rehabilitation trust contribution using a provided formula.	• Demonstrate emerging ethical awareness by recognising when closure-related tax decisions may undermine legitimacy or stakeholder trust. • Exercise judgement by recognising when matters are specialist in nature and require referral to tax or environmental experts. • Apply the "Polluter Pays" principle, recognising that rehabilitation funds are held for environmental restoration rather than corporate use.
					P	• Explain the investment restrictions applicable to rehabilitation trusts, including prohibitions on investing in related-party or operating-company assets. • Understand the governance rationale for conservative, liquid investment strategies aligned with long-term closure obligations.	• Compute the tax consequences of a premature or non-qualifying withdrawal from a rehabilitation trust. • Reconcile rehabilitation trust balances to independently assessed closure and rehabilitation liabilities (for example, actuarial or specialist estimates). • Analyse mismatches between funded rehabilitation assets and expected closure costs.	• Exercise judgement in assessing the adequacy of rehabilitation funding relative to long-term environmental obligations. • Identify situations where under-funding creates sustainability, solvency, and governance risk. • Transfer principles relating to the deductibility of mandatory social and closure expenditure (for example, retrenchment and community transition costs) to comparable contexts, informed by relevant case law.

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		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mine Closure & Rehabilitation (continued					**A**	• Critically evaluate the interaction between environmental financial provision requirements under NEMA and the Income Tax Act, including areas of misalignment between regulatory and tax treatment. • Understand the implications of these regulatory overlaps for long-term closure planning and governance.	• Design and evaluate post-closure transition strategies (for example, repurposing mining sites for renewable energy or alternative economic use) and assess the tax implications of conversion and remediation costs. • Lead and structure Board-level discussions on protecting rehabilitation trust assets from inappropriate use, acquisition, or diversion. • Integrate environmental, social, and financial considerations into post-closure planning models.	• Exercise advanced judgement in balancing fiduciary duties to shareholders with long-term social, environmental, and reputational obligations. • Evaluate “ghost town” risk and intergenerational equity when advising on closure-related expenditure. • Advise on strategies that prioritise sustainable legacy and future social licence, even where these reduce short-term distributable profits.

10.4.3 Assessment and Grading Guidance (KSA-Aligned and Developmental)

Application notes:
Assessment within this subsection is intended to support developmental professional judgement aligned to the SAICA CA of the Future Competency Framework, rather than checklist-based evaluation.

Student performance should be evaluated with reference to both the level of study and the quality of achievement within that level. Assessment should therefore focus on how effectively students identify, interpret, and reason through sustainability, governance, and ethical considerations within realistic business contexts, rather than on the reproduction of technical content alone.

Evidence of learning is expected to demonstrate how knowledge, skills, and professional judgement are integrated to support balanced, ethically grounded, and financially informed decision-making. Judgements about performance should reflect coherence of reasoning, appropriateness of application, and alignment with the expected learning outcomes for the relevant stage of study.
Importantly, achievement levels are developmental rather than hierarchical. A Novice learner operating at first-year level can, and should, be capable of achieving high academic distinction when demonstrating full mastery of the learning outcomes appropriate to that level.

The table below provides indicative developmental descriptors across the Knowledge, Skill, and Ability (KSA) dimensions of the CA of the Future Competency Framework (2025). These descriptors are intended to support consistent, transparent grading judgements while allowing flexibility in assessment design, weighting, and institutional marking practices.
They are illustrative rather than prescriptive, and should be applied with due regard to local curriculum structures, assessment policies, and professional judgement.

Dimension	Novice (Foundational Mastery – e.g. 1st Year students)	Proficient (Applied Mastery – 2nd / 3rd Year)	Advanced (Integrative Mastery – PGDA / Capstone)
Knowledge (Conceptual)	Identifies relevant tax concepts and recognises how sustainability, governance, and tax intersect (e.g., environmental levies, rehabilitation obligations, ethical constraints on deductibility).	Applies basic tax reasoning to structured scenarios, identifies stakeholders, and flags sustainability-related risks requiring further analysis or specialist input.	Demonstrates emerging ethical awareness by recognising when tax positions may undermine trust, legitimacy, or public interest, even if technically permissible.
Skill (Application)	Explains how tax legislation, case law, and governance requirements shape sustainability-related decisions across the value chain.	Analyses scenarios with competing financial, environmental, and social considerations; applies tax rules with appropriate evidence and justification.	Exercises professional judgement by weighing trade-offs, identifying risks of non-compliance or reputational harm, and motivating recommendations aligned with responsible value creation.
Ability (Transfer and judgement / problem solving/ integration	Critically evaluates how tax policy functions as a governance and sustainability tool across long-term business decisions.	Integrates tax, sustainability, and strategic considerations across disciplines; synthesises data, assumptions, and uncertainty to support decision-making.	Demonstrates leadership-level judgement by advising on ethical dilemmas, long-term societal impacts, and system-level risks, balancing fiduciary duty with environmental and social responsibility.

10.4.4 Developmental Rubric with Interpretive Notes

Application notes:

The rubric does not prescribe examinable content or assessment design.

The following rubric provides illustrative grading anchors for evaluating sustainability- and governance-related learning outcomes within the disciplinary context. The descriptors are designed to support consistent and transparent academic judgement across Novice, Proficient, and Advanced levels of learning, aligned to the CA of the Future Competency Framework's Knowledge, Skill, and Ability (KSA) dimensions.

The descriptors should be interpreted relative to the expected level of study, recognising that performance quality is assessed within, rather than across, levels. Progression reflects increasing integration, professional judgement, and contextual awareness, rather than merely greater technical complexity or volume of content.

The rubric is intended to guide academic judgement rather than prescribe marking schemes. Educators retain discretion over task design, assessment weighting, and the application of institutional grading policies, while using the descriptors to support coherent, defensible, and developmentally aligned assessment decisions.

Novice (Foundational Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Demonstrates fragmented or incorrect understanding of basic tax concepts. Limited awareness of sustainability or governance considerations.	Demonstrates fragmented or incorrect understanding of basic tax concepts. Limited awareness of sustainability or governance considerations.	Demonstrates fragmented or incorrect understanding of basic tax concepts. Limited awareness of sustainability or governance considerations.	Explains tax concepts accurately and shows insight into why they matter for responsible business behaviour, beyond rote definition.	Demonstrates strong conceptual mastery at novice level by clearly linking tax rules to ethical responsibility, sustainability outcomes, and long-term consequences.
Skill (Application)	Unable to apply basic tax rules correctly. Frequent errors in classification, calculation, or identification of relevant issues.	Applies tax rules mechanically with partial accuracy. Application lacks confidence or clear linkage between facts and rules.	Correctly applies basic tax provisions to the scenario and performs calculations or classifications with reasonable accuracy.	Applies tax rules confidently and identifies straightforward sustainability or governance implications of the tax treatment.	Applies tax rules accurately and explains how operational decisions affect both tax outcomes and sustainability considerations in an integrated manner.
Ability (Transfer and judgement / problem solving/ integration	Shows little professional judgement. Treats tax as a purely technical exercise with no wider implications.	Recognises that tax decisions may have ethical or sustainability implications but does not clearly explain or evaluate them.	Demonstrates emerging professional judgement by recognising ethical risks or sustainability trade-offs linked to tax decisions.	Provides reasoned commentary on the broader consequences of tax decisions, including stakeholder trust or legitimacy.	Demonstrates mature judgement for novice level by articulating why responsible tax behaviour supports sustainability and long-term value creation.

Proficient (Intermediate / Applied Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Displays gaps in understanding of applied tax concepts or misinterprets relevant legislation.	Understands key tax concepts but explanations lack depth or fail to recognise interactions between tax, sustainability, and governance.	Demonstrates sound understanding of applicable tax legislation and explains its role in sustainability-related business decisions.	Explains tax concepts with insight into regulatory intent, policy trade-offs, and governance objectives.	Demonstrates strong applied knowledge by synthesising tax rules with sustainability frameworks and governance expectations.
Skill (Application)	Applies tax rules inaccurately or inconsistently. Fails to identify key compliance or sustainability risks.	Applies tax provisions correctly in parts but misses important nuances or data dependencies.	Applies tax legislation accurately to realistic scenarios and integrates relevant sustainability considerations.	Applies tax rules to complex scenarios, identifies compliance risks, and evaluates alternative treatments.	Demonstrates high-quality applied skills by integrating tax calculations, sustainability data, and governance constraints into coherent recommendations.
Ability (Transfer and judgement / problem solving/ integration	Displays limited judgement. Decisions are compliance-focused without regard to broader consequences.	Identifies ethical or sustainability issues but analysis is underdeveloped or poorly justified.	Exercises appropriate professional judgement, balancing tax efficiency with compliance and sustainability considerations.	Integrates tax, sustainability, and governance factors to justify decisions and manage risk.	Demonstrates advanced applied judgement by advising on trade-offs, stakeholder impact, and long-term strategic consequences.

Advanced (Integrative Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Demonstrates superficial or fragmented understanding of advanced tax and governance concepts.	Understands advanced concepts but struggles to integrate them into a coherent sustainability or governance perspective.	Demonstrates strong conceptual understanding of complex tax rules and their sustainability and governance implications.	Synthesises tax law, sustainability policy, and governance principles into a coherent conceptual framework.	Demonstrates expert-level conceptual integration, articulating tax as a policy instrument shaping ethical, social, and environmental outcomes.
Skill (Application)	Application lacks structure, accuracy, or professional rigour.	Applies advanced rules with partial success but analysis lacks depth or robustness.	Applies complex tax provisions accurately and evaluates implications across financial, social, and environmental dimensions.	Applies tax rules strategically, testing assumptions, stress-testing scenarios, and identifying governance risks.	Demonstrates professional-level application by producing defensible, integrated tax strategies aligned with sustainability and governance objectives.
Ability (Transfer and judgement / problem solving/ integration	Shows weak professional judgement and limited integration across disciplines.	Recognises competing considerations but struggles to prioritise or justify decisions.	Exercises sound professional judgement, balancing legal compliance, sustainability outcomes, and fiduciary duties.	Integrates ethical reasoning, stakeholder impact, and long-term value creation into decision-making.	Demonstrates capstone-level judgement by advising as a trusted professional, capable of board-level reasoning, ethical leadership, and strategic foresight.

10.4.5 Digital Acumen Considerations

Application notes:
In this subsection, digital acumen refers to the ability to use, interpret, evaluate, and govern digital data, analytics, and systems in ways that support strategic oversight, risk management, and ethical decision-making. Digital capability is embedded within professional judgement rather than assessed as a standalone technical skill. Expectations reflect how digital information informs governance decisions, stakeholder communication, and long-term value creation, particularly in sustainability-sensitive contexts such as taxation, environmental compliance, and social accountability.

Digital Acumen Dimension	Novice	Proficient	Advanced
Use of digital tools	Uses basic digital tools (e.g., spreadsheets, calculators, templates) to perform tax calculations and organise data when guided.	Uses spreadsheets, databases, digital research platforms, or dashboards independently to model tax outcomes, test scenarios, support compliance, and evaluate alternative courses of action.	Designs and oversees integrated digital models linking tax, sustainability, and operational data for strategic decision-making.
Data interpretation & quality awareness	Recognises that tax calculations rely on data and that incorrect or missing data affects outcomes.	Evaluates data completeness, consistency, and reasonableness (e.g., logbooks, energy data, ERP outputs).	Critically interrogates data assumptions, measurement methodologies, and limitations, including non-financial data used for tax incentives, environmental levies, sustainability disclosures, or AI-assisted analyses.
Analytics in decision-making	Uses simple calculations or summaries to support basic tax decisions.	Applies analytical reasoning, scenario modelling, or AI-assisted research to evaluate alternative tax treatments, compliance risks, and sustainability-related tax implications.	Critically evaluates tax planning scenarios, AI-assisted analyses, and regulatory uncertainty; integrates tax, governance, sustainability, and reputational considerations into long-term decision-making.
Governance & ethical use of data	Recognises that manipulating data for tax outcomes may be unethical or non-compliant.	Identifies risks of misrepresentation, over-claiming, or selective data use in tax reporting and sustainability claims.	Exercises ethical leadership by setting data governance standards, resisting greenwashing, validating AI-assisted outputs, and ensuring transparency, accountability, and auditability.
Digital communication	Presents tax calculations or findings clearly using basic digital formats (tables, simple charts).	Communicates complex tax and sustainability insights effectively to non-technical stakeholders using structured digital outputs.	Translates complex digital analyses into board-level insights, narratives, and assurance-ready documentation.
Systems awareness	Understands that tax data originates from multiple systems (e.g., accounting, operations).	Explains how systems interact (ERP, ESG systems, tax reporting tools) and where risks of error or omission arise.	Evaluates system design and data flows to ensure alignment between operational reality, tax reporting, and sustainability disclosures.
Impact on sustainability & inclusion	Recognises that digital tools may not capture all sustainability impacts.	Identifies where digital models may undervalue social or environmental effects.	Actively challenges digitally driven bias toward short-term financial optimisation and advocates for inclusive, long-term perspectives.

Illustrative Teaching and Assessment Activities

Possible examples include:

- Using AI-assisted research tools to identify potential tax implications arising from a business scenario, followed by verification against legislation, SARS guidance, or case law.
- Comparing human-generated and AI-generated interpretations of a tax issue and identifying inaccuracies, omissions, outdated guidance, or unsupported assumptions.
- Analysing tax-related datasets to identify trends, anomalies, compliance risks, or opportunities for improved reporting and governance.
- Developing spreadsheet-based decision-support models that evaluate the financial and tax implications of alternative sustainability initiatives under different regulatory, investment, or incentive scenarios.
- Critiquing AI-generated tax memoranda, technical opinions, or compliance advice and assessing their accuracy, completeness, and appropriateness.
- Developing digital tax compliance or reporting dashboards that communicate key tax risks, obligations, and performance indicators to management.
- Evaluating the ethical and governance implications of technology-enabled tax planning, automated decision-making, and AI-assisted tax advice.

Section 10.5: Public Sector Interface

Curriculum note: Public sector sustainability considerations are intended to inform teaching and learning across disciplines. They are not designed to function as a separate examinable knowledge domain.

10.5.1 Purpose and Context

The public sector interface is included in this guidance to situate sustainability-related decision-making within the broader institutional, regulatory, and societal environment in which organisations operate. In contrast to other subsections in Section 10, public sector engagement is not positioned as a standalone technical competency, but as a foundational contextual lens that supports ethical judgement, governance awareness, and responsible professional conduct.

This public sector interface is cross-cutting in nature and is therefore relevant across all accounting disciplines and modules, rather than being confined to a single technical subject area. Its intent is not to prescribe additional technical content or assessment requirements, but to provide a shared contextual foundation that supports ethical reasoning, governance awareness, and sustainability-informed judgement throughout the curriculum.

Within the CA of the Future Competency Framework, public sector understanding is most closely aligned with citizenship, ethical reasoning, and contextual awareness competencies. It enables future accounting professionals to recognise how public institutions, regulatory bodies, state-owned entities, and fiscal authorities shape the conditions under which private-sector value is created, constrained, and legitimised.

This includes understanding the roles and limitations of government in addressing sustainability challenges, as well as the trade-offs between economic development, environmental protection, and social welfare. Accordingly, this subsection is primarily oriented toward early-stage (foundational) learning outcomes and is intended to inform classroom discussion, case analysis, and selective research-based activities rather than closed-book technical assessment. Public sector sustainability issues are most meaningfully engaged through interpretive and integrative learning encounters that encourage students to examine institutional roles, policy intent, governance capacity, and public-interest considerations alongside private-sector decision-making.

The purpose of this subsection is therefore to:

- provide contextual grounding for sustainability-related judgement across disciplines;
- support integrative thinking about the interaction between business, government, and society;
- surface ethical, fiscal, and governance tensions inherent in sustainability transitions; and
- cultivate an informed, reflective professional mindset that recognises sustainability as a shared societal responsibility rather than a purely corporate or compliance-driven concern.

This approach preserves academic discretion while ensuring that public sector considerations are meaningfully embedded in sustainability education, aligned with the CA of the Future's emphasis on professional judgement, ethical leadership, and long-term value creation in complex, real-world contexts.

Technical Competency Areas:

In accordance with the SAICA CA of the Future Competency Framework, the public-sector content presented in this subsection is addressed at Level 1 (Foundational). At this level, the intent is not to develop technical proficiency in public-sector accounting or public finance management.

Rather, students are expected to:

- understand the public-sector context within which private-sector entities operate;
- recognise how public-sector governance and fiscal systems (including Public Financial Management Act (PFMA) and Municipal Financial Management Act (MFMA) frameworks) shape sustainability outcomes, regulatory capacity, and service delivery;
- appreciate the interdependence between corporate activity and public-sector infrastructure, institutions, and decision-making, particularly in relation to environmental management, social development, and long-term value creation.

Public-sector institutions, particularly municipalities, are responsible for delivering essential public services such as water provision, roads and transport infrastructure, electricity distribution, waste management, air-quality monitoring, and environmental health. The effectiveness of these services directly influences the sustainability performance, operational risk, and social licence to operate of entities.

Students should therefore be exposed to the role of key public-sector planning and budgeting instruments, including the Integrated Development Plan (IDP), Medium-Term Revenue and Expenditure Framework (MTREF), and Service Delivery and Budget Implementation Plan (SDBIP). These instruments shape how public resources are allocated, how infrastructure backlogs are addressed, and how regulatory capacity is exercised at local and national levels.

Engagement with public-sector content at this foundational level supports the development of informed citizenship, governance awareness, and contextual judgement, enabling future Chartered Accountants to better interpret sustainability risks, stakeholder constraints, and policy-driven trade-offs encountered in professional practice.

It should also be recognised that, in many contexts, a substantial portion of sustainability-related data produced by companies is already generated for submission to public-sector institutions, rather than for standalone sustainability or integrated reports. Examples include environmental authorisations, water-use licences, emissions declarations, social and labour plans, safety statistics, and municipal compliance reporting.

At a foundational level, students should therefore appreciate that data accuracy, completeness, and consistency in these regulatory submissions is a governance matter. Weak or unreliable data undermines public-sector planning, regulatory enforcement, and service delivery, and can expose organisations to legal, reputational, and operational risk. This reinforces the importance of trustworthy data management, professional scepticism, and ethical responsibility long before sustainability information is repackaged for external reporting frameworks.

10.5.2 Case Study Application: Integrating PVAAs and Technical Competencies

Understanding why the Public Sector Matters for Sustainability

Sustainability in the mining sector cannot be understood solely through firm-level decisions or private governance mechanisms. Easton Minerals Limited (EML) operates within a broader socio-economic and institutional system in which public-sector capacity, infrastructure, and governance quality materially shape sustainability outcomes. The public sector is therefore not merely a regulator, but a critical enabler, steward, and co-producer of value.

In accordance with the SAICA CA of the Future Competency Framework (2025), public-sector knowledge is positioned at Level 1 (foundational). The emphasis in this section is on understanding context, recognising interfaces, and appreciating systemic interdependencies, rather than on developing technical public-sector accounting expertise.

Understanding the Public Sector’s Role in Stewardship of the Capitals

Public institutions play a central role in protecting, enabling, and maintaining several of the capitals upon which EML depends for value creation:

- Manufactured capital: Municipal and national government are responsible for roads, rail networks, ports, electricity grids, water infrastructure, and waste management systems that underpin mining operations and logistics.
- Human capital: Public health systems, occupational safety regulation, education, and skills development shape workforce availability, productivity, and long-term employability.
- Social and relationship capital: Political stability, regulatory certainty, community governance structures, and trust in public institutions directly affect EML’s social licence to operate.
- Natural capital oversight: Environmental monitoring, air-quality management, water licensing, and rehabilitation enforcement sit largely within the public-sector domain.

- Financial capital through international relationships and trade access: National government engagement in diplomatic and trade negotiations, including tariffs and export market access, influences EML's ability to realise value in global markets.

Although these capitals are largely outside the direct control of the firm, they have a significant impact on operational continuity, cost structures, risk exposure, and long-term sustainability. Accordingly, these dependencies and their effects on EML's ability to create value over the short, medium, and long term should be explicitly considered in the value creation process and discussed within the <IR>. This includes explaining how public-sector capacity, infrastructure, and policy choices enable, constrain, or reshape value creation across the capitals, as well as how associated risks and trade-offs are governed.

Planning, Budgeting, and Service Delivery Interfaces

At municipal level, sustainability outcomes are shaped through public-sector planning and budgeting instruments, including the Integrated Development Plan (IDP), Medium-Term Revenue and Expenditure Framework (MTREF), and Service Delivery and Budget Implementation Plan (SDBIP). These instruments determine how resources are allocated to essential services such as water, electricity, roads, waste management, environmental health, and public safety.

Given EML's high resource intensity and environmental risk profile, its operations directly influence municipal service demands and regulatory obligations across the mining value chain. As a result, EML interacts with the public sector at multiple points, creating governance responsibilities, accountability expectations, and sustainability dilemmas that extend beyond compliance.

Data Integrity, Reporting, and Accountability

A significant proportion of the data generated by mining companies currently exists to meet public-sector reporting and regulatory requirements, rather than solely for formal sustainability reporting. This includes data submitted to environmental authorities, water and energy regulators, municipalities, labour departments, and national treasury.

Students should therefore understand the importance of data accuracy, consistency, and integrity, as unreliable or fragmented data can undermine regulatory trust, distort sustainability decision-making, and weaken governance oversight. These data flows form the backbone of both public accountability and private sustainability disclosures.

Pedagocal Positioning and Assessment Implications

Public-sector knowledge in this subsection is intentionally scoped to foundational understanding. Students are not expected to demonstrate detailed technical mastery of public-sector accounting or legislation in closed-book assessments. Instead, the focus is on:

- recognising relevant public-sector stakeholders,
- understanding how public institutions shape sustainability outcomes, and
- appreciating how private-sector activity relies on public-sector capacity.

A consistent classroom prompt is:
"How does EML interact with the public sector at this stage of the value chain?"

Follow-up questions may probe which sphere of government is involved and which capitals are primarily affected. While closed-book assessments may test basic identification and contextual understanding, deeper exploration is more appropriately addressed through projects, case studies, and research-based assignments.

Public Sector Interface Across the EML Value Chain

Application notes:

he table below illustrates how Easton Minerals Ltd (EML) interacts with public-sector institutions across its mining value chain. Each interface highlights sustainability issues, governance responsibilities, and implications for EML's value creation process and Integrated Reporting disclosures.
Note: Public-sector institutions are stewards of many capitals on which EML depends but does not control. These dependencies must be considered in integrated thinking and transparently communicated in the Integrated Report. Legislative references are included for contextual grounding only. Students are not expected to demonstrate technical knowledge of environmental or public-sector legislation, but rather to recognise how regulatory frameworks shape sustainability dependencies and governance responsibilities.

How This Should Be Used

- *In teaching: As a structured discussion tool to surface sustainability dependencies and governance risks.*
- *In assessment: As a reference framework for project-based analysis, stakeholder mapping, or IR-linked reflection.*
- *In <IR> :As a guide to identifying which public-sector dependencies materially affect EML's ability to create value over the short, medium, and long term.*

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	Public-Sector Interface	Suggested Actions for EML	Integrated Reporting (IR) Relevance	PVAA Alignment
Exploring and Planning	Exploration may disrupt biodiversity, water sources, and informal grazing routes. Municipalities face capacity constraints in processing EIAs, rezoning applications, and land-use approvals. EML's timelines may misalign with the municipal IDP and SDF, creating tension between economic opportunity and long-term municipal sustainability priorities. Communities may experience disturbance before benefits materialise.	DMRE (mineral rights), DFFE (EIA), Municipal Planning Units (IDP, SDF, zoning).	Align exploration plans with municipal IDPs; ensure transparent disclosure of environmental and social impacts.	Natural capital (biodiversity, water); Social capital (community trust); Governance disclosures on stakeholder engagement.	I2 Business ethics: Ensures ethical organisational conduct in early development decisions; II2 Professional citizenship: Demonstrates responsible participation within the broader governance system. II3 Corporate citizenship: Reflects the organisation's responsibility to society and the environment.
Mining Operations	EML requires large volumes of water and electricity in a resource-stressed region. Heavy industrial consumption may reduce the reliability of household and clinic supplies. Groundwater disturbance may create long-term risks not reflected in short-term permits.	DWS (water licences); Eskom / municipal electricity supply.	Ethical allocation of scarce resources; demand management and efficiency initiatives.	Natural capital (water); Manufactured capital (energy infrastructure); Risk disclosures on resource dependency and availability and quality of resources.	I2 Business ethics: Guides ethical resource-use decisions. II3 Corporate citizenship: Recognises company obligations to protect communities and service access. II2 Professional citizenship: Ensures responsible engagement with public institutions.
	Municipal systems suffer from high non-revenue-water losses, load-shedding disruptions, and limited capital budgets.	Local Municipality (water, electricity).	Support mitigation initiatives; collaborate on infrastructure resilience.	Manufactured capital (infrastructure reliability); Social capital (service delivery impacts).	
Processing and Benefication	Smelting generates hazardous waste, tailings, and air emissions. Municipalities often lack calibrated monitoring equipment or a budget to enforce air-quality bylaws. EML may be legally compliant, but it may exceed the practical municipal capacity to manage environmental health risks. Communities suffer dust fallout and respiratory illnesses.	DFFE (e.g. NEMA and Air Quality Act licensing); Municipal Environmental Health Services	Invest in pollution prevention; support local monitoring capacity.	Natural capital (air, land); Governance disclosures on environmental compliance.	I2 Business ethics: Ethical management of environmental risks. I3 Professional ethics: Requires professional judgement in high-impact environmental matters. II3 Corporate citizenship: Supports community health and sustainability.
Marketing and Sales	Export access and tariffs influenced by international diplomacy and trade agreements.	National Government (DTIC, DIRCO)	Monitor geopolitical and trade risks; integrate into strategy.	Financial capital (market access); External environment in value creation process.	Business External Environment (Z2)
Transport and Logistics	Haul trucks may damage roads at a pace faster than municipal MTREF budgets can support. Road failures affect emergency services and school transport.	SANRAL; Provincial Roads Authorities; Municipal Infrastructure Services (e.g. road maintenance under transport and municipal legislation).	Enforce axle-load and maximum mass compliance for road transport to reduce infrastructure damage, safety risks, and externalised public costs.	Manufactured capital (roads); Social capital (public safety); Trade-offs in value creation narrative.	I2 Business ethics: Ensures fairness in the distribution of infrastructure burdens.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	Public-Sector Interface	Suggested Actions for EML	Integrated Reporting (IR) Relevance	PVAA Alignment
Transport and Logistics (continued)	Dust and congestion impact communities. Ethical dilemma: municipalities carry the fiscal burden while EML benefits commercially. *(Transport-related sustainability discussions should foreground how private logistics decisions can externalise costs onto public infrastructure, highlighting axle-load compliance as a core governance responsibility rather than a mere operational detail.)*		Transparent cost-sharing. Potential PPPs. Long-term transport planning.		II3 Corporate citizenship:: Acknowledges shared responsibility for public infrastructure. II2 Professional citizenship: Encourages responsible participation in government systems.
Mine Closure and Rehabilitation	Even compliant closure funds may be insufficient for actual remediation needs. Municipalities inherit risks that outlast EML's presence, affecting IDP and long-term development planning. Poor rehabilitation leads to long-term municipal liabilities, including acid mine drainage, unsafe shafts, unusable land parcels, and contamination of water bodies.	DMRE (closure certificates under MPRDA); DFFE (NEMA Financial Provision Regulations); DWS (water remediation).	Responsible closure planning; alignment with municipal redevelopment strategies. Transparent long-term reporting; engagement beyond licence requirements.	Natural capital (restoration); Social capital (community legacy); Long-term value preservation. Governance (provisions, estimates); Capitals trade-offs over time.	I3 Professional ethics: Requires acting in the public interest for long-term impacts. II3 Corporate citizenship: Ensures the company does not offload environmental liabilities onto society. II2 Professional citizenship: Engages responsibly with public-sector requirements.

Understanding why the Public Sector Matters for Sustainability

The following tables are provided to operationalise the public-sector interface within the sustainability framework and to make explicit how Easton Minerals Limited's (EML's) activities intersect with municipal and national public-sector responsibilities across environmental, infrastructural, and governance domains.

Unlike technical tax or accounting standards, public-sector sustainability considerations are relational and systemic in nature. They arise not from a single statute or reporting requirement, but from the shared use, strain, and stewardship of public resources and services, including water, energy, roads, waste facilities, environmental monitoring systems, and spatial planning processes governed through IDPs, SDBIPs, PFMA, and MFMA frameworks.

These tables therefore serve three purposes:

(1) Clarifying shared accountability:

They illustrate how EML's operational decisions directly influence public-sector performance indicators, particularly where municipalities face capacity constraints. Sustainability outcomes in areas such as water quality, air pollution, waste management, and infrastructure reliability are not solely corporate or governmental responsibilities, but emerge from their interaction.

(2) Supporting governance-focused classroom engagement:

The tables are not intended to be memorised or reproduced in closed-book assessments. Instead, they provide a structured reference for classroom discussion, case-based learning, and project work, enabling students to identify:

- which sphere of government is implicated,
- what sustainability dilemma arises,
- how corporate actions may mitigate or exacerbate public-sector risks, and
- which Professional Values, Attitudes, and Acumen (PVAAs) are engaged.

(3) Linking public-sector dependency to Integrated Reporting:

Many of the capitals on which EML relies are created, maintained, or safeguarded by the public sector, including:

- Manufactured capital (roads, electricity grids, water and sanitation systems),
- Human capital (health, safety, education, community well-being),
- Social and relationship capital (institutional trust, community stability, regulatory legitimacy), and
- Financial capital, through national government's role in trade negotiations, tariffs, export access, and international diplomatic relationships.

Although these capitals fall largely outside the firm's direct control, they have a material impact on EML's ability to create, preserve, or erode value over time. Consequently, their condition, availability, and resilience must be explicitly considered in the value-creation process and discussed within the Integrated Report, particularly when explaining dependencies, risks, trade-offs, and long-term sustainability prospects.

In line with the CA of the Future Competency Framework, public-sector knowledge in this section is positioned primarily at Level 1 (foundational). Students are expected to:

- recognise the role of public institutions as critical stakeholders,
- understand how public-sector capacity constrains or enables corporate sustainability,
- identify public-sector interfaces across the mining value chain, and
- appreciate why data integrity, transparency, and ethical engagement with the public sector are essential to sustainable value creation.

Advanced technical mastery of public-sector accounting, budgeting, or legislation is not expected. Where appropriate, students may be asked to research and reflect on public-sector interactions in projects or discussions, rather than demonstrate recall in examinations.

Environmental Resource Management

The environmental footprint of Easton Minerals Limited (EML) is tightly interwoven with public-sector systems responsible for water security, electricity reliability, waste management, air-quality monitoring, and environmental planning. These responsibilities fall within municipal IDP and SDBIP targets and are overseen through PFMA/MFMA accountability frameworks.

Municipalities often face:

- water-treatment constraints,
- budget limitations,
- infrastructure backlogs,
- limited air-quality monitoring equipment,
- landfill capacity issues,
- insufficient environmental enforcement capacity.

Because of this, EML's sustainability performance directly affects municipal performance indicators (including SDGs 6, 7, 11, 12, and 13).
This creates shared accountability between the company and the public sector.

Focus Area	Potential Sustainability Issues, Dilemmas, or Opportunities	Public-Sector Interface	Suggested Actions for EML	Integrated Reporting (IR) Relevance	PVAA Alignment
Water Management	*EML abstracts large volumes of potable and industrial water from already-stressed municipal and catchment systems.* *Municipal infrastructure experiences high non-revenue water (NRW), frequent pump failures due to load shedding, and insufficient water-treatment capacity.* *If EML's wastewater discharge exceeds municipal treatment limits, downstream communities face contamination risks.* *Dilemma: Industrial water uses vs. household constitutional water rights, where municipal fiscal constraints limit upgrade options.*	DWS (Water Use Licensing under National Water Act); Catchment Management Agencies; Municipal Water Services Authorities (NEMA, NWA obligations)	Joint water-use reporting. Co-investment in treatment and conservation. Ethical resource stewardship.	Natural capital: Water availability and quality Social capital: Community health and trust Manufactured capital: Municipal water infrastructure	I2 Business ethics: Ethical management of a scarce public resource. II3 Corporate citizenship: Treats water as a shared societal resource. II2 Professional citizenship: Engages responsibly with regulators on critical service issues.
Air Quality Management	Dust and emissions (SO_2, NO_x, metals) from EML's beneficiation impact residential areas, schools, and farms. Municipalities must enforce air-quality standards under the Air Quality Act, but often lack the monitoring equipment, laboratory budgets, and skilled staff needed to do so. EML may meet monitored limits while broader harm persists. Dilemma: Compliance ≠ safety in low-capacity municipalities.	DFFE (Air Emission Licensing under NEMA: Air Quality Act); Municipal Air Quality Officers; Provincial Environmental Authorities	Transparent emissions disclosure. Joint monitoring. Pollution prevention beyond compliance.	Natural capital: Air quality Human capital: Public health Social capital: Community legitimacy	I2 Business ethics: Addresses potential harm proactively. I3 Professional ethics: Requires professional judgement to protect public health. II3 Corporate citizenship: Acts in the community's long-term interest.

Focus Area	Potential Sustainability Issues, Dilemmas, or Opportunities	Public-Sector Interface	Suggested Actions for EML	Integrated Reporting (IR) Relevance	PVAA Alignment
Energy Usage	*EML relies heavily on municipal and Eskom electricity supply.* *Industrial consumption competes with residential and essential service consumption (e.g., clinics, water pumps).* *Load shedding disrupts municipal services disproportionately.* *EML's diesel generators stabilise operations but increase CO_2 emissions, undermining national climate targets.* *Dilemma: Production continuity vs public-service reliability and climate commitments.*	Eskom (bulk supply), NERSA (tariffs), Municipal Electricity Distributors, National Treasury (carbon tax).	Efficiency improvements. Renewable energy projects. Transparent carbon reporting; fair tariff structures.	Manufactured capital: Energy systems Natural capital: Climate stability Financial capital: Energy cost and carbon exposure	I2 Business ethics: Supports responsible energy decisions. II3 Corporate citizenship: Recognises effects on community services. II2 Professional citizenship: Supports responsible engagement with energy regulators.
Waste Management	Tailings, slag, chemical waste, and general industrial waste exceed the capacity of municipal landfill sites. Municipalities may lack licenced hazardous waste facilities. Transporting waste long distances increases carbon impact, while local disposal risks soil and groundwater contamination. Dilemma: Environmental protection vs limited municipal enforcement capacity and economic dependence on EML.	DFFE (NEMA: Waste Act); Municipal Waste Management and Landfill Authorities; Provincial Environmental Regulators	Waste minimisation. Lawful hazardous waste disposal. Reporting of waste volumes. Support for municipal landfill planning.	Natural capital: Land and groundwater quality Social capital: Environmental safety Manufactured capital: Waste infrastructure	I2 Business ethics: Ensures waste practices that do not harm society. I3 Professional ethics: Requires professional care in high-risk waste decisions. II3 Corporate citizenship: Acknowledges responsibility for environmental footprint.
Environmental Planning (IDP / SDG Alignment)	*Municipalities must report environmental indicators (air quality, water quality, waste, emissions) in the IDP, SDBIP, and Annual Report processes.* *These indicators are increasingly aligned with the SDG and GRI reporting frameworks.* *EML's environmental footprint materially influences these indicators.* *If EML's reporting is not aligned with municipal SDG metrics, municipal transparency suffers.* *Dilemma: Public-sector sustainability measurement depends on voluntary alignment of private-sector data.*	Municipal IDP Units, Municipal Environmental Services, Provincial SDG Coordination Units, DFFE.	Align corporate reporting to SDG/GRI-aligned municipal indicators. Transparent data sharing. Collaborative indicator development.	Social & relationship capital: Institutional trust Natural capital: Shared environmental outcomes Financial capital: Long-term risk management	I2 Business ethics: Supports honest, transparent reporting. II2 Professional citizenship : Contributes responsibly to public-sector information needs. II3 Corporate citizenship: Strengthens municipal sustainability reporting.

Infrastructure and Shared Responsibility

EML operates within municipal infrastructure systems for roads, electricity distribution, water, sanitation, and waste. These systems are funded through municipal budgets and governed through the MFMA and IDP/MTREF processes. Heavy industrial usage accelerates infrastructure deterioration, requiring joint planning between EML and municipalities.

Municipalities often face:

- ageing roads,
- overburdened electricity transformers,
- limited capital budgets for upgrades,
- competing service-delivery priorities,
- constrained funding for road rehabilitation or landfill expansion.

Public–private collaboration is therefore a sustainability imperative.

Focus Area	Potential Sustainability Issues, Dilemmas, or Opportunities	Public-Sector Interface	Suggested Actions for EML	Integrated Reporting (IR) Relevance	PVAA Alignment
Road & Rail Infrastructure	Heavy haulage vehicles accelerate deterioration of municipal and provincial roads, increasing maintenance costs, safety risks, and congestion for local communities. Overloaded trucks exacerbate road damage and undermine public infrastructure investment. Municipalities face fiscal constraints and must balance infrastructure supporting economic activity against basic service delivery.	SANRAL (national roads), Provincial Roads Departments, Municipal Infrastructure Services.	Compliance with axle-load and vehicle mass regulations. Cost-sharing or user-pay arrangements. Use of rail where feasible. Cost-sharing arrangements. PPP feasibility. Integration of transport impacts in IDP/MTREF.	Manufactured capital dependencies; Social licence to operate; Infrastructure risk disclosure; Trade-offs between cost efficiency and societal impact.	I2 Business ethics: Ensures fairness in the sharing of infrastructure burdens. II3 Corporate citizenship: Recognises shared responsibility for public infrastructure. II2 Professional citizenship: Engages appropriately with government planning processes.
Electricity & Water Utilities	Peak industrial demand by EML places strain on municipal reticulation systems, contributing to outages that disproportionately affect households and essential services. Tariff structures may shift costs to communities. Load shedding disrupts water and sanitation services.	Eskom (bulk supply), DWS (water), Local Municipality (reticulation).	Demand forecasting and efficiency measures. Co-investment in infrastructure upgrades. Transparent reporting of consumption and emissions. Support for renewable and alternative supply options.	Critical dependencies on energy and water; Natural and manufactured capital trade-offs; Climate and resilience risks.	I2 Business ethics: Balances commercial needs with public service access. II3 Corporate citizenship: Helps strengthen public infrastructure. II2 Professional citizenship: Supports effective public-sector partnership.
Closure Infrastructure	Inadequate mine closure leaves municipalities with abandoned roads, shafts, contaminated land, and long-term safety risks. Poor closure planning undermines land-use planning and environmental quality.	DMRE (closure certificates), DWS (post-closure water), Municipal Planning Units, Provincial Treasury.	Transparent closure planning. Rehabilitation aligned to IDP. Adequate financial provision for post-closure obligations.	Long-term outcomes and legacy risks; Natural capital restoration; Social capital and community transition.	I3 Professional ethics: Requires long-term public-interest judgement. II3 Corporate citizenship: Ensures EML does not leave harmful legacies. II2 Professional citizenship: Ensures responsible engagement with regulators.

Ethics and Governance Dimensions

EML operates within a multi-layered public-governance environment. Municipalities, provincial departments, national regulators, and AGSA shape the oversight landscape through compliance monitoring, integrated assurance, and public accountability systems.

The ethical and governance dilemmas arise from:

- information asymmetry between EML and public-sector entities,
- limited municipal enforcement capacity,
- community reliance on EML for employment,
- political and economic pressures on local government,
- tension between compliance and sustainability outcomes,
- long-term public liabilities arising from environmental degradation.

The principles of King Code, PFMA/MFMA accountability, and CA2025 PVAA values guide ethical conduct and alignment with governance in this context.

Focus Area	Potential Sustainability Issues, Dilemmas, or Opportunities	Public-Sector Interface	Suggested Actions for EML	Integrated Reporting (IR) Relevance	PVAA Alignment
Leadership Integrity	EML's leadership must balance profit goals against environmental obligations, community expectations, and public-sector resource constraints. There may be pressure to downplay impacts to avoid regulatory delays. Municipal leaders may be pressured to ease oversight due to local reliance on EML for jobs. Dilemma: Ethical leadership vs short-term commercial incentives in an economically dependent region.	DMRE, DFFE, Municipal Leadership, Company Board.	Ethical leadership; Transparent decision-making; Inclusive stakeholder engagement; Avoidance of regulatory capture.	Governance disclosures on leadership conduct, Tone at the top, Ethical culture, and Eecision-making processes affecting long-term value creation and licence to operate.	I1 Personal ethics: Applied on an individual basis for EML decision-makers. I3 Professional ethics: Ensures ethical judgment in leadership decisions. II2 Professional citizenship: Supports responsible participation in governance systems.
Transparency & Reporting	Municipalities require environmental data from EML to report SDG-aligned indicators in IDPs and Annual Reports. EML may provide compliance-focused reporting that does not fully reflect environmental or social impacts. Dilemma: Whether to disclose only what is legally required or adopt broader public-interest transparency.	AGSA, Treasury, Municipal Oversight Committees, DFFE.	Integrated and transparent reporting aligned with SDGs/GRI. Public-value accountability.	Disclosure of dependencies, risks, and outcomes linked to public-sector capacity; Alignment between corporate reporting and municipal sustainability indicators within the value creation narrative.	I2 Business ethics: Ensures truthful organisational reporting. I3 Professional ethics: Applied on an individual basis for EML decision-makers in preparing disclosures. II2 Professional citizenship: Contributes to public accountability.

Focus Area	Potential Sustainability Issues, Dilemmas, or Opportunities	Public-Sector Interface	Suggested Actions for EML	Integrated Reporting (IR) Relevance	PVAA Alignment
Accountability	Municipalities require environmental data from EML to report SDG-aligned indicators in IDPs and Annual Reports. EML may provide compliance-focused reporting that does not fully reflect environmental or social impacts. Dilemma: Whether to disclose only what is legally required or adopt broader public-interest transparency.	AGSA, DFFE, Municipal Audit Committees, Internal Audit Units.	Strengthening environmental assurance, Effective follow-up of audit findings and ethical responsiveness.	Disclosure of remedial actions, Governance responses to findings, and long-term risk mitigation measures that affect stakeholder trust and future value creation.	I3 Professional ethics: Ensures an appropriate professional response to public-sector oversight. II3 Corporate citizenship: Supports societal accountability through transparent follow-up. I2 Business ethics: Reinforces ethical correction and remediation.

10.5.3 Public Sector Financial Governance Context (PFMA and MFMA)

The Easton Minerals Limited (EML) case illustrates how corporate sustainability challenges are embedded in, and dependent on, public-sector systems responsible for infrastructure provision, environmental governance, budgeting, oversight, and reporting. The effectiveness of EML's sustainability strategy is therefore closely linked to the governance capacity, financial health, and regulatory integrity of the public institutions with which it interacts.

This section is intended to support contextual understanding and integrated reasoning rather than detailed technical assessment. Students should be able to recognise the role of public-sector financial governance frameworks in shaping sustainability outcomes, while detailed application remains appropriate primarily for research-based assignments and classroom discussion.

South Africa's public-sector governance ecosystem is primarily shaped by the Public Finance Management Act (PFMA), the Municipal Finance Management Act (MFMA), and the King Code on Corporate Governance. Together, these frameworks regulate how public resources are planned, allocated, managed, and accounted for, and how private entities such as EML engage with public institutions in ethically responsible and transparent ways.

Public Finance Management Act (PFMA):

The PFMA governs national and provincial departments, constitutional institutions, and public entities such as Eskom, Transnet, DWS, DMRE, and DFFE. It establishes expectations relating to:

- financial management and internal control,
- risk management and ethical conduct,
- performance monitoring and reporting,
- stewardship of environmental and public assets.

For EML, the PFMA shapes interactions with national regulators and state-owned entities, particularly in relation to:

- public–private partnerships (Treasury Regulation 16),
- ethical conduct and fiduciary responsibility (sections 38 and 45),
- reporting, information management, and data integrity (sections 40 and 51).

These provisions influence how EML participates in infrastructure projects, environmental monitoring, and data sharing with public entities, and reinforce transparency and public-value considerations in such engagements.

Municipal Finance Management Act (MFMA):

The MFMA governs financial management within municipalities and municipal entities, requiring:

- transparent and accountable use of public resources,
- integrated planning and budgeting (IDP, MTREF, SDBIP),
- responsible asset and infrastructure management,
- oversight through internal audit and audit committees.

For EML, the MFMA is particularly relevant where operations affect municipal infrastructure and services, including:

- approval of capital projects and infrastructure upgrades (section 19),
- long-term service delivery and bulk-service agreements (section 33),
- public–private partnerships for roads, water, energy, and waste systems (section 120),
- municipal service performance and environmental responsibilities (section 62 and Chapter 8).

Any collaboration between EML and municipal authorities must comply with MFMA requirements to ensure that public assets are protected, service delivery is not compromised, and governance integrity is maintained.

Section 10.6: Financial and Corporate Reporting

10.6.1 Purpose and Context

In Financial Reporting education, sustainability and integrated thinking influence how future Chartered Accountants interpret, prepare and evaluate information presented to stakeholders. The SAICA CA of the Future Competency Framework (2025) emphasises that reporting is not only about technical compliance, but about enabling responsible, ethical and sustainable value creation through transparent and decision-useful information.

Financial reporting is sometimes perceived as retrospective, concerned primarily with historical transactions and year-end compliance. Within a governance framework, however, financial reporting performs a critical accountability function. It translates management's stewardship decisions into recognised, measured and disclosed outcomes that are subject to scrutiny by investors, regulators and other stakeholders. In this way, financial reporting does not sit outside governance; it is one of governance's primary accountability mechanisms.

Sustainability therefore enters financial reporting not as additional content, but as part of the professional judgement that underpins faithful representation and long-term value preservation. Environmental, social and regulatory developments influence judgement-intensive areas such as asset lives, impairment testing, rehabilitation provisions, revenue assumptions, inventory valuation and capital allocation decisions. These judgements are exercised under conditions of uncertainty and evolving regulation, reinforcing that sustainability considerations are not peripheral but integral to professional reasoning.

Importantly, financial reporting does more than recognise sustainability-related risks. It also reveals whether financial resources have been allocated to address those risks. Capital expenditure decisions, provisioning levels, impairment charges, research and development investment, and changes in useful lives provide tangible evidence of whether governance commitments are supported by financial action. Sustainability strategies gain credibility when they translate into measurable financial consequences. Where narrative commitments are not reflected in capital allocation or recognised financial effects, a governance misalignment may arise.

While financial reporting remains focused on financial capital, the assumptions embedded within financial statements are increasingly shaped by the organisation's use of and impact on other capitals, including natural and social capital. Financial statements therefore anchor the credibility of broader corporate and sustainability reporting by ensuring coherence between narrative commitments and financial consequences. They do not capture the full breadth of sustainability performance, but they provide the most disciplined and assured representation of how sustainability considerations affect financial capital.

The disciplined application of financial reporting standards also develops transferable professional competencies. By learning to interpret principles-based standards, evaluate materiality, exercise judgement in measurement, and justify disclosure decisions under uncertainty, students acquire skills that are directly applicable to emerging sustainability and extended reporting standards. The rigour required in applying IFRS provides a methodological foundation for engaging with sustainability disclosure frameworks, ensuring that future Chartered Accountants approach both financial and sustainability reporting with consistency, analytical depth and professional integrity.

Through this lens, financial reporting education equips graduates to exercise professional judgement in complex, uncertain environments; to evaluate whether sustainability commitments are reflected in financial decisions; and to communicate information that supports long-term stakeholder trust and responsible governance.

Technical Competency Areas:

Note on technical competency alignment:For the purposes of this guidance, this sub-section assumes that the following technical competency areas, as outlined in the SAICA CA of the Future Competency Framework (2025), are developed within the disciplinary context illustrated here.

These assumptions acknowledge that programme structures, module allocations and sequencing differ across institutions. The same technical competencies may be cultivated within different modules or learning streams, depending on institutional design and curriculum architecture.

The competency areas identified below are therefore illustrative rather than exhaustive or prescriptive. Their inclusion serves to demonstrate alignment between sustainability-oriented governance thinking and the existing technical expectations of the CA of the Future framework. The intention is not to expand the curriculum, but to show how sustainability considerations can be integrated within established financial reporting competencies through disciplined professional judgement, standard application and disclosure reasoning.

Area 4: Reporting on Value Creation

D1 – Performance Measurement for Users of Extended External Reports

D1.1 Financial Reporting: IFRS

Learning outcome:

- Prepare, analyse and evaluate general purpose financial statements in accordance with IFRS.

Minimum content includes:

- IASB standard-setting process
- Preface to IFRS Standards
- Conceptual Framework for Financial Reporting
- Principles of Examination for the IFRS Accounting Standards syllabus

D1.2 Financial Reporting: Other Frameworks

Learning outcome:

- Identify relevant reporting frameworks other than IFRS.

Examples:

- GRAP
- IFRS for SMEs

D1.3 External Extended Reporting

Learning outcomes include:

- Assess appropriateness of disclosures in extended external reports.
- Display integrated thinking in evaluating value creation in the short, medium and long term.
- Integrate information across different capitals.
- Use the <IR> Framework and connect to SDG disclosure considerations.

Frameworks referenced:

- IFRS
- <IR> Framework
- UN Sustainable Development Goals

10.6.2 Case Study Application: Integrating PVAAs, Technical Competencies and KSA application

Application notes:
his table links each stage of Easton Minerals Limited's value chain to selected technical competency areas, Professional Values, Attitudes and Acumen (PVAAs), and the expected progression of learning from Knowledge to Skills and Abilities (KSA). The depth of engagement is signalled through three indicative levels (Novice, Proficient and Advanced), intended to guide the design of learning activities, assessment tasks and grading expectations. These levels do not simplify or fragment the underlying case study material; rather, they support calibrated engagement with authentic professional complexity.

In the context of Financial Reporting, the case study surfaces areas where sustainability-related risks, capital allocation decisions and governance commitments intersect with recognition, measurement and disclosure judgements. Students are encouraged to evaluate not only technical compliance, but also the coherence between sustainability narratives, financial consequences and stewardship responsibilities.

Each issue, dilemma or opportunity should be considered through a governance and ethical decision-making lens, examining how leadership choices, accountability structures, stakeholder responsibilities and organisational values shape the organisation's response. The overarching aim is to cultivate a sustainability mindset, encouraging integrated, responsible and long-term thinking in future accounting professionals.

The table is designed to surface authentic teaching opportunities while allowing academic discretion regarding:

- *the calibration of questions, prompts, and evaluative criteria to the level of the student;*
- *the depth and mode of engagement (for example, tutorial discussion, formative activity, assignment, or simulation);*
- *the weighting and assessment format applied; and*
- *the phrasing of questions, prompts, or marking guides in line with local academic and institutional policy.*

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration	• Capitalisation of exploration and evaluation expenditure under conditions of significant geological, environmental and regulatory uncertainty (IFRS 6). • Governance tension between growth expectations and prudent capital discipline. • Risk of over-optimistic feasibility assumptions in environmentally sensitive or socially contested regions. • Early-stage environmental disturbance and stakeholder engagement commitments that may create future obligations. • Disclosure of material uncertainty regarding project viability, regulatory approval and social licence to operate.	• Financial reporting in accordance with IFRS • External extended reporting	• Professional judgement • Ethical behaviour • Analytical and critical thinking • Future-orientated thinking	Using Easton Minerals' exploration activities in the Ithaka region: • Evaluate whether exploration expenditure meets the criteria for capitalisation under IFRS 6. • Consider how environmental sensitivity, regulatory uncertainty and stakeholder opposition affect feasibility assumptions. • Assess whether financial statement disclosures appropriately reflect uncertainty and governance oversight.	**N**	• Describes the distinction between capitalised and expensed exploration expenditure. • Recognises uncertainty and feasibility as key considerations in early-stage mining projects.	• Applies basic capitalisation criteria to a simplified exploration scenario. • Identifies potential impairment indicators.	• Demonstrates emerging awareness of the ethical implications of optimistic assumptions in reporting. • Recognises that capital allocation decisions have long-term consequences.
					P	• Explains how exploration uncertainty, environmental sensitivity and regulatory approval influence accounting treatment and disclosure. • Identifies how sustainability-related risks may affect future asset viability.	• Applies IFRS principles to determine appropriate accounting treatment under uncertainty. • Analyses how sustainability-related risks affect impairment testing and disclosure decisions. • Assesses whether financial disclosures adequately reflect material uncertainty.	• Exercises sound professional judgement when balancing growth expectations with prudence. • Justifies accounting decisions with reference to uncertainty, governance oversight and stakeholder accountability.
					A	• Critically evaluates how feasibility assumptions, environmental risk and social licence considerations influence recognition decisions. • Interprets exploration accounting within a broader governance and stewardship context.	• Evaluates the robustness of feasibility assumptions underlying capitalisation decisions. • Integrates financial, environmental and governance considerations in assessing reporting coherence. • Advises on transparent disclosure aligned with professional standards.	• Critically assesses whether capital allocation reflects disciplined stewardship or excessive optimism. • Anticipates long-term financial and sustainability consequences of exploration decisions. • Defends governance-aligned reporting decisions in complex, uncertain contexts.
Planning & Building	• Recognition and measurement of asset retirement obligations (rehabilitation provisions) from project inception.	• Financial reporting in accordance with IFRS	• Professional judgement • Ethical behaviour	Using Easton Minerals' Ithaka mine development plan: • Evaluate how rehabilitation obligations should be recognised and measured at project inception.	**N**	• Describes the concept of asset retirement obligations and why rehabilitation provisions are recognised	• Applies basic principles to calculate a simplified rehabilitation provision. • Identifies relevant disclosure requirements.	• Recognises the ethical implications of underestimating long-term environmental obligations.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Planning & Building (continued)	• Judgement in estimating long-term environmental costs under changing regulatory and climate-related expectations. • Interaction between capitalised development costs and sustainability-related feasibility risks. • Governance expectations for transparent reporting of long-term environmental liabilities and stewardship commitments. • Capital allocation decisions relating to environmental mitigation, infrastructure design and sustainability-enhancing investment.	• External extended reporting	• Analytical and critical thinking • Future-orientated thinking	• Assess how sustainability-related risks (energy transition, water scarcity, regulatory tightening) influence development assumptions and provisioning estimates. • Consider whether financial disclosures appropriately reflect long-term environmental commitments and governance oversight.	**N**	• Identifies key components of closure and rehabilitation costs.		• Demonstrates awareness that development decisions create enduring responsibilities.
					P	• Explains how discount rates, inflation assumptions and regulatory uncertainty affect provision measurement. • Describes the link between development decisions and long-term environmental liabilities.	• Applies IFRS principles to measure and revise rehabilitation provisions under uncertainty. • Analyses how sustainability risks affect capitalised development costs and related disclosures. • Assesses sensitivity of estimates to changes in regulatory or climate assumptions.	• Exercises professional judgement in balancing commercial feasibility with prudent provisioning. • Justifies measurement assumptions with reference to uncertainty and governance accountability.
					A	• Interprets rehabilitation provisioning within a broader governance and stewardship framework. • Evaluates how sustainability commitments influence development-stage financial decisions.	• Evaluates the coherence between development-stage capital allocation and long-term environmental provisioning. • Integrates financial, environmental and governance considerations in recommending disclosure improvements. • Advises on transparent reporting aligned with stewardship principles.	• Critically assesses whether provisioning and development capitalisation reflect disciplined stewardship. • Anticipates long-term financial and intergenerational implications of environmental obligations. • Defends governance-aligned reporting decisions in complex, uncertain contexts.
Mining	• Operational disruption due to energy instability, water scarcity or regulatory intervention affecting production forecasts and useful lives.	• Financial reporting in accordance with IFRS • External extended reporting	• Professional judgement • Ethical behaviour • Analytical and critical thinking • Integrated thinking	Easton Minerals revises production forecasts due to persistent load-shedding, water restrictions and increased regulatory scrutiny. • Assess whether these sustainability-related developments require revision of useful lives, depreciation methods or residual values.	**N**	• Describes the purpose of depreciation and impairment testing. • Identifies that operational instability may affect asset values.	• Applies basic depreciation and impairment concepts to a simplified scenario. • Identifies relevant disclosure requirements.	• Recognises the ethical implications of delaying impairment recognition. • Demonstrates awareness that operational sustainability risks affect financial reporting credibility.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mining (continued)	• Impairment risk arising from climate transition pressures, commodity demand shifts, regulatory change or social licence constraints. • Judgement in revising depreciation methods and residual values in light of sustainability-related operational changes. • Governance tension in recognising impairment losses where financial performance may be negatively affected. • Capital allocation decisions relating to operational resilience, energy transition investment or environmental mitigation.			• Evaluate whether impairment indicators exist. • Consider whether financial disclosures appropriately reflect operational sustainability risks and governance oversight.	**P**	• Explains how changes in production assumptions influence depreciation and impairment assessments. • Describes how sustainability-related risks can constitute impairment indicators.	• Applies IFRS principles to revise useful lives and assess recoverable amounts. • Analyses the financial impact of sustainability-related disruptions. • Assesses the adequacy of impairment disclosures.	• Exercises sound professional judgement in balancing short-term performance pressures with prudent reporting. • Justifies impairment and depreciation decisions with reference to governance accountability.
					A	• Interprets impairment and depreciation adjustments within a broader governance and capital allocation context. • Evaluates the interaction between operational sustainability risk and long-term value preservation.	• Evaluates whether management assumptions reflect disciplined judgement or earnings management bias. • Integrates operational, financial and sustainability data to assess impairment robustness. • Advises on transparent disclosure aligned with governance expectations.	• Critically assesses whether impairment decisions reflect responsible stewardship or opportunistic reporting. • Anticipates long-term financial consequences of operational sustainability risks. • Defends reporting decisions consistent with integrated thinking and stakeholder trust.
Processing and Blending	• Capitalisation of processing upgrades aimed at reducing water usage, energy intensity or emissions. • Judgement in assessing whether sustainability-driven expenditure meets asset recognition criteria. • Determining whether efficiency improvements generate probable future economic benefits. • Inventory valuation impacted by changes in production efficiency, product quality or sustainability-linked market positioning.	• Financial reporting in accordance with IFRS • External extended reporting	• Professional judgement • Analytical and critical thinking • Integrated thinking • Ethical behaviour	Easton Minerals implements processing upgrades to improve water recycling and reduce energy intensity. • Assess whether the expenditure should be capitalised or expensed. • Evaluate how sustainability-driven improvements influence inventory valuation and recoverable amounts. • Consider whether financial disclosures adequately reflect the strategic rationale and expected economic benefits of the investment.	**N**	• Describes the distinction between capital and revenue expenditure. • Identifies the criteria for recognising assets and valuing inventory.	• Applies basic recognition criteria to determine whether expenditure should be capitalised. • Calculates inventory values using simplified assumptions.	• Recognises that environmental efficiency decisions have financial consequences. • Demonstrates awareness of the long-term impact of operational investment.
					P	• Explains how sustainability-driven efficiency improvements may affect recognition, measurement and valuation decisions. • Describes the relationship between production efficiency and inventory cost allocation.	• Applies IFRS principles to assess whether processing upgrades meet recognition criteria. • Analyses the impact of efficiency improvements on production costs and inventory valuation.	• Exercises professional judgement in assessing economic benefit and measurement uncertainty. • Justifies capitalisation decisions in light of governance accountability and stakeholder expectations.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Processing and Blending (Continued)	• Governance considerations in allocating capital toward environmental performance enhancement.				**P**		• Assesses disclosure requirements relating to capitalised sustainability investments.	
					A	• Interprets sustainability-related capital expenditure within a governance and value creation framework. • Evaluates how environmental efficiency initiatives influence financial performance over the short, medium and long term.	• Evaluates whether capital allocation decisions align with stated sustainability strategy. • Integrates operational efficiency data with financial reporting implications. • Advises on transparent disclosure linking financial consequences to sustainability objectives.	• Critically assesses whether sustainability investments are strategically aligned or symbolic. • Anticipates the financial and reputational consequences of misaligned capital allocation. • Defends reporting decisions consistent with integrated thinking and stewardship principles.
Marketing & Sales	• Sustainability-linked pricing and the recognition of variable consideration. • Revenue recognition where sustainability performance conditions affect contract terms. • Risk of overstating sustainability-linked revenue benefits or "green premiums." • Disclosure alignment between sustainability claims and financial performance. • Governance risk of greenwashing where marketing narratives exceed verifiable performance. • Trust implications where sustainability positioning is not supported by financial consequences.	• Financial reporting in accordance with IFRS • External extended reporting	• Professional judgement • Ethical behaviour • Integrated thinking • Professional scepticism	Easton Minerals markets its product as environmentally responsible and charges a sustainability-linked premium. • Assess how sustainability-linked pricing affects revenue recognition. • Evaluate whether contract terms create variable consideration. • Consider whether financial disclosures and sustainability narratives present a coherent and supportable representation of performance. • Identify risks of greenwashing where marketing claims are not supported by measurable outcomes.	**N**	• Describes the basic principles of revenue recognition. • Recognises that sustainability claims may affect pricing and stakeholder perception.	• Applies basic revenue recognition criteria to a simplified scenario. • Identifies potential variable consideration elements.	• Recognises ethical implications of misleading sustainability claims. • Demonstrates awareness that trust is central to corporate reporting.
					P	• Explains how sustainability-linked conditions may affect revenue measurement and disclosure. • Identifies risks associated with overstating sustainability performance.	• Applies IFRS principles to assess sustainability-linked pricing arrangements. • Analyses whether financial statements adequately reflect contractual performance obligations. • Evaluates disclosure consistency between marketing narratives and financial reporting.	• Exercises professional judgement when evaluating aggressive sustainability-linked revenue assumptions. • Justifies reporting decisions with reference to governance accountability.
					A	• Interprets revenue recognition within a broader governance and trust framework.	• Assesses whether reported revenue reflects genuine performance or narrative inflation.	• Critically assesses whether sustainability positioning is supported by financial substance.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Marketing & Sales (continued)					A	• Evaluates how sustainability narratives must align with financial evidence.	• Integrates financial and non-financial data to evaluate credibility. • Advises on transparent disclosures to mitigate greenwashing risk.	• Anticipates reputational and financial consequences of greenwashing. • Defends reporting decisions consistent with ethical leadership and long-term stakeholder trust.
Shipping & Distribution	• Exposure to fuel price volatility and carbon-related regulatory costs in transportation. • Allocation of freight, logistics and distribution costs in inventory valuation and cost of sales. • Potential impact of carbon pricing mechanisms, emissions taxes or regulatory expansion on profitability. • Judgement in assessing whether distribution-related sustainability risks constitute impairment indicators. • Disclosure alignment between operational emissions exposure and financial reporting assumptions. • Governance decisions regarding investment in lower-emission logistics infrastructure or supply chain redesign.	• Financial reporting in accordance with IFRS • External extended reporting	• Professional judgement • Analytical and critical thinking • Integrated thinking • Future-orientated thinking	Easton Minerals relies on carbon-intensive transport routes to export its product. • Assess how increased fuel costs or carbon pricing may affect inventory valuation and cost of sales. • Evaluate whether regulatory developments could constitute impairment indicators. • Consider whether financial disclosures appropriately reflect distribution-related sustainability risk and governance response.	N	• Describes how distribution costs are treated in financial reporting. • Recognises that fuel and regulatory costs affect profitability.	• Applies basic cost allocation principles to freight and distribution expenses. • Identifies disclosure requirements relating to cost assumptions.	• Demonstrates awareness that distribution decisions have financial and environmental consequences.
					P	• Explains how carbon pricing and fuel volatility may affect cost allocation and margin analysis. • Identifies when distribution-related risks may trigger impairment considerations.	• Analyses how regulatory change or carbon pricing affects cost structures and recoverable amounts. • Assesses the impact of distribution risk on profitability and asset valuation.	• Exercises professional judgement in assessing long-term cost implications of carbon exposure. • Balances short-term profitability pressures with prudent risk disclosure.
					A	• Interprets logistics risk within a broader governance and long-term value framework. • Evaluates how operational carbon exposure influences strategic financial planning.	• Integrates operational emissions data with financial modelling assumptions. • Evaluates whether capital allocation decisions reflect proactive supply chain transition or reactive compliance. • Advises on transparent disclosure of distribution-related sustainability exposure.	• Critically assesses whether logistics strategy aligns with sustainability commitments. • Anticipates systemic financial implications of regulatory expansion. • Defends governance-aligned reporting decisions under evolving sustainability risk.
Mine Closure & Rehabilitation	• Recognition and measurement of asset retirement and rehabilitation obligations.	• Financial reporting in accordance with IFRS	• Professional judgement • Ethical behaviour	Easton Minerals approaches the end of its mine life. • Evaluate how rehabilitation provisions should be measured and updated.	N	• Describes the purpose of rehabilitation and asset retirement provisions.	• Applies basic principles to calculate a simplified rehabilitation provision. • Identifies relevant disclosure requirements.	• Recognises the ethical implications of underestimating long-term environmental obligations.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mine Closure & Rehabilitation (continued)	• Judgement in estimating long-term restoration costs under evolving regulatory and environmental standards. • Selection of discount rates and inflation assumptions affecting provision measurement. • Governance risk of underestimating closure liabilities to preserve short-term profitability. • Capital allocation decisions relating to environmental restoration, biodiversity rehabilitation and community transition support. • Disclosure of uncertainty and sensitivity relating to long-term environmental obligations.	• External extended reporting	• Integrated thinking • Future-orientated thinking	• Assess how regulatory changes or environmental degradation may affect cost estimates. • Consider whether financial disclosures appropriately reflect long-term environmental and community obligations. • Analyse whether sustainability commitments are supported by adequate financial provisioning.	**N**	• Identifies the key components of closure cost estimation.		• Demonstrates awareness of intergenerational responsibility.
					P	• Explains how discount rates, inflation and regulatory changes influence provision measurement. • Describes the link between sustainability commitments and financial obligations.	• Applies IFRS principles to measure and revise provisions under changing assumptions. • Analyses sensitivity of closure obligations to regulatory and environmental developments. • Assesses whether disclosures adequately reflect uncertainty and long-term exposure.	• Exercises professional judgement in balancing financial performance pressures with prudent provisioning. • Justifies measurement assumptions with reference to governance accountability and stakeholder trust.
					A	• Interprets rehabilitation provisioning within a stewardship and intergenerational equity framework. • Evaluates how long-term environmental obligations affect organisational value and governance credibility.	• Evaluates the adequacy and robustness of management's closure estimates. • Integrates financial, environmental and governance considerations in assessing provisioning discipline. • Advises on transparent disclosure aligned with responsible stewardship.	• Critically assesses whether provisioning reflects genuine stewardship or short-term bias. • Anticipates long-term financial and societal consequences of inadequate closure planning. • Defends governance-aligned reporting decisions in complex, uncertain environments.
Cross-Cutting – Reporting Integrity and Greenwashing Risk	• Misalignment between sustainability narratives and financial consequences. • Capital allocation decisions that signal commitment publicly but are not reflected in recognised financial effects.	• Financial reporting in accordance with IFRS • External extended reporting	• Professional judgement • Ethical behaviour • Professional scepticism • Integrated thinking	Review Easton Minerals' sustainability report alongside its financial statements. • Identify areas where sustainability commitments are not reflected in capital allocation or recognised financial consequences. • Assess whether disclosures present a coherent and faithful representation of performance.	**N**	• Defines greenwashing in a corporate reporting context. • Recognises that sustainability claims must align with financial evidence.	• Compares basic sustainability claims with financial disclosures. • Identifies obvious inconsistencies.	• Demonstrates awareness of ethical implications of misleading reporting.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Cross-Cutting – Reporting Integrity and Greenwashing Risk (continued)	• Selective disclosure or omission of material sustainability-related financial risks. • Delayed recognition of impairment, provisions or liabilities linked to sustainability risk. • Inconsistency between extended external reporting and audited financial statements. • Governance failure where accountability mechanisms do not challenge optimistic assumptions.			• Evaluate governance mechanisms that should mitigate greenwashing risk.	P	• Explains how misalignment between narrative and financial reporting may undermine credibility. • Identifies reporting areas vulnerable to optimistic bias.	• Analyses whether capital allocation, provisioning and impairment decisions align with stated sustainability strategy. • Assesses disclosure sufficiency and transparency.	• Exercises professional scepticism when evaluating sustainability-related financial judgements. • Justifies conclusions with reference to governance accountability.
					A	• Interprets greenwashing as a governance and accountability failure. • Evaluates the relationship between reporting integrity and stakeholder trust.	• Integrates financial and non-financial reporting to evaluate overall credibility. • Advises on strengthening governance mechanisms to mitigate reporting integrity risk.	• Critically assesses systemic greenwashing risk across the value chain. • Anticipates reputational, regulatory and financial consequences of reporting misalignment. • Defends governance-aligned reporting decisions under scrutiny.

10.6.3 Assessment and Grading Guidance (KSA-Aligned and Developmental)

Application notes:
Assessment within this subsection is intended to support the development of disciplined professional judgement aligned to the SAICA CA of the Future Competency Framework (2025), rather than checklist-based technical evaluation.

In the context of Financial Reporting, student performance should be evaluated not only on the accuracy of standard application, but on how effectively students interpret sustainability-related risks, capital allocation decisions and governance implications within realistic business contexts. Assessment should therefore focus on the quality of reasoning, transparency of assumptions, and coherence between financial consequences and sustainability commitments, rather than on the reproduction of technical content alone.

Evidence of learning is expected to demonstrate integration across Knowledge, Skills and Abilities. Students should show how technical accounting principles are applied under conditions of uncertainty, how estimates and disclosures are justified, and how reporting decisions reflect ethical stewardship and accountability. High-quality responses will demonstrate balanced, financially informed and governance-aware reasoning.

Judgements about performance should reflect:
- *clarity and coherence of reasoning;*
- *appropriateness and defensibility of technical application;*
- *recognition of sustainability-related risk and uncertainty; and*
- *alignment with the expected learning outcomes for the relevant stage of study.*

Importantly, achievement levels are developmental rather than hierarchical. A Novice learner operating at first-year level can, and should, be capable of achieving high academic distinction when demonstrating full mastery of the learning outcomes appropriate to that level. Progression reflects increasing complexity of judgement and integration, not a simple accumulation of technical rules.

The table below provides indicative developmental descriptors across the Knowledge, Skill and Ability (KSA) dimensions of the CA of the Future Competency Framework (2025). These descriptors are intended to support consistent and transparent grading judgements, while allowing flexibility in assessment design, weighting and institutional marking practices.

They are illustrative rather than prescriptive, and should be applied with due regard to local curriculum structures, assessment policies and professional judgement.

Dimension	Novice (Foundational Mastery – e.g. 1st Year students)	Proficient (Applied Mastery – 2nd / 3rd Year)	Advanced (Integrative Mastery – PGDA / Capstone)
Knowledge (Conceptual)	Demonstrates foundational understanding of relevant financial reporting principles. Identifies sustainability-related issues when prompted. Recognises that uncertainty, estimates and long-term obligations influence reporting outcomes.	Explains how sustainability-related risks affect recognition, measurement and disclosure. Identifies impairment indicators, provisioning implications and capital allocation consequences with reasonable clarity. Shows understanding of governance implications in reporting decisions.	Demonstrates deep conceptual understanding of how sustainability risk, uncertainty and capital allocation intersect with financial reporting. Critically evaluates assumptions and connects technical principles to stewardship and long-term value creation.
Skill (Application)	Applies relevant financial reporting principles to structured scenarios with guidance. Identifies basic disclosure requirements and performs straightforward calculations accurately.	Applies principles-based standards under moderate uncertainty. Analyses the financial implications of sustainability-related developments. Evaluates assumptions and demonstrates coherent reasoning in impairment, provisioning or revenue decisions.	Integrates financial, environmental and governance considerations in complex scenarios. Evaluates robustness of management assumptions. Demonstrates disciplined judgement in balancing prudence, performance pressures and disclosure transparency. Advises on reporting approaches aligned with stewardship principles.
Ability (Transfer and judgement / problem solving/ integration	Demonstrates emerging awareness of ethical implications in financial reporting decisions. Recognises that sustainability commitments must align with financial consequences.	Exercises professional judgement in situations involving uncertainty and competing pressures. Justifies accounting decisions with reference to governance accountability and stakeholder trust. Identifies potential greenwashing risks.	Critically assesses reporting integrity across the value chain. Anticipates long-term financial and reputational consequences of misaligned capital allocation or disclosure. Defends governance-aligned reporting decisions under scrutiny. Demonstrates integrated thinking and responsible stewardship.

10.6.4 Developmental Rubric with Interpretive Notes

Application notes:
The following rubric provides illustrative grading anchors for evaluating sustainability- and governance-related learning outcomes within the disciplinary context. The descriptors are designed to support consistent and transparent academic judgement across Novice, Proficient, and Advanced levels of learning, aligned to the CA of the Future Competency Framework's Knowledge, Skill, and Ability (KSA) dimensions.

The descriptors should be interpreted relative to the expected level of study, recognising that performance quality is assessed within, rather than across, levels. Progression reflects increasing integration, professional judgement, and contextual awareness, rather than merely greater technical complexity or volume of content.

The rubric is intended to guide academic judgement rather than prescribe marking schemes. Educators retain discretion over task design, assessment weighting, and the application of institutional grading policies, while using the descriptors to support coherent, defensible, and developmentally aligned assessment decisions.

Novice (Foundational Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Demonstrates limited understanding of relevant standards. Fails to identify key sustainability-related financial issues.	Identifies some relevant standards but shows partial or fragmented understanding. Limited awareness of uncertainty or long-term obligations.	Demonstrates sound foundational understanding of relevant financial reporting principles. Correctly identifies sustainability-related financial implications when prompted.	Demonstrates clear and accurate understanding of principles and recognises the interaction between sustainability risk and financial consequences.	Demonstrates comprehensive foundational understanding. Independently recognises relevant sustainability implications and articulates connections to governance and stewardship.
Skill (Application)	Unable to apply standards appropriately. Significant errors in reasoning or calculation.	Applies standards with guidance but shows inconsistencies or incomplete reasoning.	Applies relevant standards accurately in structured scenarios. Performs calculations correctly and identifies basic disclosure requirements.	Applies standards with clear reasoning and limited prompting. Shows logical integration of sustainability-related factors.	Applies standards confidently and coherently. Demonstrates strong analytical reasoning and clear linkage between financial outcomes and sustainability context.
Ability (Transfer and judgement / problem solving/ integration	Shows little awareness of ethical or governance implications.	Recognises ethical considerations when prompted but reasoning lacks depth.	Demonstrates emerging professional judgement. Recognises that sustainability commitments should align with financial consequences.	Shows thoughtful reflection on governance and reporting integrity implications.	Demonstrates mature awareness for level of study. Clearly articulates ethical and stewardship implications within financial reporting decisions.

Proficient (Intermediate / Applied Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Demonstrates incomplete understanding of how sustainability risks affect recognition, measurement or disclosure.	Identifies relevant issues but explanations lack clarity or integration.	Clearly explains how sustainability-related risks influence financial reporting decisions. Demonstrates accurate conceptual understanding.	Demonstrates strong integration of accounting standards with governance and capital allocation implications.	Demonstrates sophisticated conceptual clarity. Critically evaluates assumptions and systemic implications of sustainability-related financial decisions.
Skill (Application)	Applies standards incorrectly or inconsistently in uncertain scenarios.	Applies principles partially but struggles to evaluate assumptions or uncertainty.	Applies principles-based standards appropriately. Analyses impairment, provisioning or revenue implications with logical reasoning.	Evaluates assumptions critically and integrates financial and sustainability considerations coherently.	Demonstrates disciplined judgement in complex scenarios. Provides well-reasoned, defensible recommendations aligned with governance and transparency.
Ability (Transfer and judgement / problem solving/ integration	Demonstrates limited professional judgement. Reasoning may reflect technical compliance without ethical depth.	Recognises governance issues but analysis remains surface-level.	Exercises sound professional judgement. Justifies decisions with reference to accountability and stakeholder trust.	Demonstrates integrated thinking and anticipates potential reporting integrity risks.	Demonstrates advanced professional judgement. Critically assesses capital allocation discipline and anticipates reputational, regulatory and financial consequences.

Advanced (Integrative Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Demonstrates gaps in understanding complex financial reporting implications of sustainability risk.	Shows understanding but lacks depth in analysing systemic or governance implications.	Demonstrates strong conceptual integration of financial reporting standards with sustainability, uncertainty and capital allocation considerations.	Critically evaluates management assumptions and identifies systemic reporting implications.	Demonstrates exceptional conceptual mastery. Integrates financial reporting, governance, long-term value creation and stewardship seamlessly.
Skill (Application)	Struggles to apply standards coherently in complex contexts.	Applies standards but reasoning lacks robustness under ambiguity.	Applies standards with disciplined judgement in complex scenarios. Evaluates impairment, provisioning, revenue and disclosure implications thoroughly.	Integrates financial, operational and sustainability data to support coherent conclusions.	Demonstrates exceptional analytical capability. Produces highly defensible, transparent and governance-aligned reporting recommendations under uncertainty.
Ability (Transfer and judgement / problem solving/ integration	Demonstrates limited integration or ethical depth.	Shows emerging integrated thinking but lacks critical evaluation.	Demonstrates mature professional judgement. Balances prudence, performance pressure and long-term stewardship appropriately.	Critically assesses systemic greenwashing or reporting integrity risks across the value chain.	Demonstrates exceptional professional maturity. Anticipates intergenerational, regulatory and reputational consequences and defends governance-aligned reporting decisions with authority and clarity.

10.6.5 Digital Acumen Considerations

Application notes:
In this subsection, digital acumen refers to the ability to use, interpret, evaluate and govern digital data, analytics and systems in ways that support strategic oversight, risk management and ethical decision-making within financial reporting contexts.

Digital capability is embedded within recognition, measurement and disclosure judgement rather than assessed as a standalone technical skill. Expectations reflect how digital information informs governance oversight, capital allocation decisions, stakeholder communication and long-term value creation.

Particular attention should be paid to how digital tools, modelling systems and automated reporting processes may unintentionally exclude stakeholder perspectives, undervalue non-financial capitals, embed optimistic bias in financial assumptions, or prioritise short-term financial metrics over long-term sustainability and social legitimacy.

Digital Acumen Dimension	Novice	Proficient	Advanced
Interpretation of Digital Financial Data	Extracts and interprets basic financial data from digital systems. Recognises that digital outputs inform reporting decisions.	Analyses digitally generated financial data (e.g. forecasts, impairment models, cost data, or AI-assisted analyses) and evaluates how sustainability-related risks influence outputs.	Critically evaluates assumptions embedded in digital and AI-assisted financial analyses. Assesses how system design, data inputs, modelling choices, and automated outputs affect governance, capital allocation, and disclosure integrity.
Digital Modelling and Forecast Assumptions	Uses structured digital models (e.g. spreadsheets) to perform basic financial calculations. Accepts assumptions largely at face value.	Evaluates sensitivity of forecasts and estimates (e.g. impairment, provisioning, revenue projections) to changes in sustainability-related variables.	Challenges and stress-tests digital models and AI-assisted forecasts. Identifies potential bias, exclusion of environmental or social variables, unsupported assumptions, and short-term optimisation embedded in forecasting tools.
Data Governance and Reporting Integrity	Recognises that digital systems influence financial reporting accuracy.	Explains how internal controls, data governance, system integrity, and appropriate oversight of digital and AI-enabled processes support reliable sustainability-related disclosures.	Critically assesses whether digital systems and AI-assisted reporting processes enable or obscure reporting integrity. Identifies risks of automated greenwashing, selective data extraction, unsupported narratives, or misalignment between financial and sustainability reporting systems.
Integration of Financial and Non-Financial Data	Recognises that financial and sustainability data may originate from different systems.	Analyses how financial and sustainability datasets interact in impairment testing, provisioning and revenue modelling.	Evaluates coherence between financial reporting systems and sustainability metrics. Assesses whether digital infrastructure supports integrated thinking, connectivity, and long-term value assessment.
Ethical and Strategic Use of Digital Tools	Demonstrates basic awareness that digital tools influence financial outcomes.	Evaluates how digital and AI-enabled tools shape decision-making, estimates, and financial disclosures under sustainability pressure.	Anticipates ethical risks associated with algorithmic bias, unsupported AI-generated outputs, short-term optimisation, or exclusion of stakeholder impacts. Defends governance-aligned digital decision-making that supports transparency, accountability, and long-term stewardship.

Illustrative Teaching and Assessment Activities

Possible examples include:

- Comparing human-generated and AI-generated disclosure notes and identifying omissions or unsupported claims.
- Critiquing AI-generated sustainability narratives for potential greenwashing or weak connectivity.
- Using digital reporting tools to analyse the interaction between financial and sustainability information.
- Stress-testing impairment, provisioning, or revenue assumptions using spreadsheet models.
- Evaluating the completeness and reliability of sustainability-related data used in financial reporting.
- Analysing how system design and data governance influence disclosure quality.
- Assessing whether digital reporting processes support transparency, accountability, and integrated thinking.

Section 10.7: Auditing and Assurance

10.7.1 Purpose and Context

Auditing and assurance play a central role in enhancing the credibility, reliability and trustworthiness of sustainability-related information produced by organisations. Within the SAICA CA of the Future Competency Framework (2025), auditors and assurance professionals are expected not only to verify financial and non-financial information, but to exercise ethical judgement, apply professional scepticism, understand ESG-related risks, and evaluate the governance structures and reporting processes that underpin sustainable value creation.

Sustainability intersects deeply with auditing and assurance because:

- Sustainability reporting increasingly includes financial and non-financial metrics aligned with frameworks such as GRI, IFRS S1, IFRS S2, the <IR> Framework and JSE Sustainability Guidance.
- Many jurisdictions are moving toward mandatory third-party assurance of sustainability disclosures.
- Investors and other stakeholders require credible assurance over environmental, social, governance and climate-related information.
- Audit committees and combined assurance models depend on rigorous coordination between internal audit, external audit and sustainability assurance providers.
- Sustainability-related risks, including water scarcity, logistics constraints, emissions liabilities and regulatory exposure, directly affect financial statements and broader corporate reporting.

In auditing and assurance, sustainability does not merely expand the scope of reporting; it reshapes how risk is assessed, how audit evidence is obtained, how materiality is interpreted and how conclusions are formed. Professional scepticism, ethical leadership, integrated thinking and governance oversight are therefore central to evaluating both traditional financial reporting and emerging sustainability disclosures.

Beyond verifying reported outcomes, auditors increasingly evaluate the integrity of the information systems, internal controls and governance processes that generate sustainability-related data. Assurance over ESG disclosures requires understanding how environmental, social and governance metrics are captured, validated, aggregated and reported across complex organisational structures. Weak control environments, fragmented data systems or inadequate oversight increase the risk of material misstatement and greenwashing. Accordingly, the assurance role extends beyond retrospective verification to assessing whether robust systems and controls exist to support reliable, decision-useful sustainability information.

Where sustainability commitments are not supported by reliable systems, adequate controls or sufficient audit evidence, the risk of greenwashing becomes a matter of assurance integrity rather than marketing overstatement. The assurance function therefore plays a critical governance role in safeguarding stakeholder trust and reinforcing accountability.

Technical Competency Areas:

Note on technical competency alignment:
For the purposes of this guidance, this subsection assumes that the following technical competency areas, as outlined in the CA of the Future Competency Framework (2025), are developed within the discipline of Auditing and Assurance.

These assumptions acknowledge that programme structures and module allocations may differ across institutions. The competency areas identified below are illustrative of alignment and are not intended to be exhaustive or prescriptive.

- Concepts and principles of assurance engagements (F1)
- Audit of Historical Information (F2)
- Other assurance services (F4)
- Business ethics (I2)
- Corporate Citizenship (II2)
- Governance Model (A1)
- Business systems and processes (B2)
- Risk management and control (B3)
- Laws and regulations (E2)

10.7.2 Case Study Application: Integrating PVAAs, Technical Competencies and KSA application

Application notes:

This table connects the audit and assurance activities relevant to Easton Minerals Limited (EML) to selected technical competency areas, Professional Values, Attitudes and Acumen (PVAAs), and the expected developmental progression across Knowledge, Skill and Ability (KSA) dimensions within the CA of the Future Competency Framework (2025).

Aligned to the nature of audit and assurance services, the case study application is structured according to core assurance knowledge areas rather than strictly following the value-chain structure adopted in other sections of this document. This approach illustrates how sustainability considerations can be embedded within existing audit and assurance competencies, emphasising differences in assurance types, levels of assurance and the evolving regulatory environment.

Each issue, dilemma or opportunity should be analysed through a governance, ethical and control-environment lens. In auditing and assurance, sustainability-related risks influence not only reporting outcomes but also the design and effectiveness of internal controls, information systems and risk management processes that generate sustainability-related data. Students should therefore evaluate how assurance engagements assess the reliability of both financial and non-financial information, and how weaknesses in systems, data governance or oversight may increase the risk of material misstatement or greenwashing.

Beyond verifying reported outcomes, auditors increasingly evaluate whether robust systems and controls exist to support reliable sustainability reporting. Assurance over ESG disclosures requires understanding how environmental, social and governance metrics are captured, validated, aggregated and reported across complex organisational structures. This includes assessing the adequacy of control design, testing operating effectiveness, and evaluating whether management bias, estimation uncertainty or fragmented data systems compromise reporting integrity.

Professional scepticism, ethical judgement and integrated thinking are central throughout. Students should consider how assurance providers respond to risks of misstatement, how materiality is determined in both financial and sustainability contexts, and how assurance conclusions contribute to stakeholder trust and governance accountability.

Importantly, ISSA 5000 (International Standard on Sustainability Assurance), although not yet effective in South Africa at the time of writing, provides useful illustrative principles for sustainability assurance engagements. Educators should note that sustainability assurance is implicitly embedded within the CA of the Future Competency Framework under F4 (Other Assurance Services), with intermediate-level competency expected. However, sustainability-related risks remain relevant at advanced levels within traditional audit of historical financial information (F2), concepts of assurance (F1), governance (A1), ethics (I2), risk management (B3) and legal compliance (E2).

The overarching aim is to cultivate an assurance mindset grounded in professional scepticism, disciplined evidence evaluation and governance accountability. Reliable sustainability reporting depends not only on accurate disclosures, but on strong internal controls, coherent information systems and effective combined assurance structures that safeguard integrity across the organisation.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Concept of Assurance	• Extending assurance beyond historical financial information to sustainability metrics aligned with strategic objectives. • Determining appropriate levels of assurance (limited vs reasonable) for sustainability disclosures. • Interpreting double materiality in contrast to financial statement materiality. • Managing expectation gaps in sustainability assurance engagements. • Assessing assurance engagement risk where ESG metrics rely on emerging systems, estimates and control environments. • Evaluating whether internal controls and data governance structures support reliable sustainability disclosures.	• Concept of Assurance (F1.1) • Expectation Gap (F1.2) • Regulatory Environment of Assurance Engagements (F1.3) • Assurance Engagement Risk Considerations (F1.5)	• Professional ethics (I3) • Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2)	Using the Easton Minerals scenario: • Evaluate whether limited or reasonable assurance is appropriate for sustainability disclosures. • Compare financial statement materiality with double materiality concepts. • Identify stakeholder groups relying on sustainability assurance. • Assess the assurance engagement risks arising from ESG metrics dependent on new data systems and internal controls. • Discuss the expectation gap in both financial audit and sustainability assurance contexts. • Consider potential greenwashing risks where sustainability claims are not supported by robust evidence.	**N**	• Define limited and reasonable assurance. • Define double materiality and contrast it with financial statement materiality. • Identify key stakeholder groups relying on assurance. • Recognise that internal controls influence reliability of sustainability information.	• Distinguish between financial statement audits and sustainability assurance engagements. • Identify basic assurance risks in sustainability disclosures. • Describe how weak internal controls may increase risk of misstatement.	• Recognise the role of assurance in promoting stakeholder trust. • Demonstrate emerging awareness of the expectation gap. • Identify basic ethical risks associated with sustainability assurance.
					P	• Explain how assurance risk differs between financial and sustainability engagements. • Describe how internal control systems and data governance structures affect audit evidence. • Explain the public interest role of auditors in sustainability assurance.	• Evaluate appropriate assurance levels based on risk and stakeholder reliance. • Assess engagement risk considering estimation uncertainty, data system maturity and governance oversight. • Analyse the expectation gap in sustainability assurance contexts.	• Apply professional scepticism when evaluating sustainability disclosures. • Assess potential greenwashing risk from an assurance perspective. • Justify assurance approach decisions with reference to governance accountability.
					A	• Critically evaluate double materiality and its implications for assurance scope. • Analyse liability exposure in sustainability assurance engagements. • Interpret emerging standards such as ISSA 5000 within regulatory evolution.	• Design an appropriate assurance strategy considering engagement risk, control environment strength and stakeholder expectations. • Evaluate sufficiency and appropriateness of evidence for ESG metrics. • Assess whether control weaknesses materially affect assurance conclusions.	• Critically assess expectation gap implications for sustainability assurance. • Evaluate ethical threats to independence in sustainability engagements. • Recommend appropriate safeguards under the Code of Professional Conduct. • Defend assurance conclusions in complex governance contexts.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit of Financial Statements	• Sustainability-related risks affecting the Risk of Material Misstatement (ROMM) at both overall financial statement and assertion levels. • Complex estimation uncertainty in sustainability-related balances (rehabilitation provisions, carbon tax liabilities, sustainability reserves). • Increased fraud risk or greenwashing where regulatory pressure and stakeholder scrutiny are high. • Weak internal controls over ESG-related financial data and environmental liabilities. • Reliance on work performed by other assurance providers (e.g., sustainability auditors, internal audit). • Determination of Key Audit Matters (KAMs) relating to climate risk, environmental provisions or regulatory exposure.	Audit of Historical Financial Information (F2.1–F2.2	• Professional ethics (I3) • Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2)	Using Easton Minerals Limited (EML): • Evaluate ROMM at overall and assertion levels considering sustainability-related risks. • Assess inherent risk factors for rehabilitation provisions, carbon tax liabilities and sustainability reserves. • Identify relevant internal controls over ESG-related balances and evaluate their design and operating effectiveness. • Formulate appropriate substantive audit procedures. • Consider whether any sustainability-related matters should be disclosed as Key Audit Matters. • Evaluate reliance on other assurance providers in sustainability-related areas.	**N**	• Define ROMM at overall and assertion levels. • Identify sustainability-related balances in the financial statements. • Recognise that internal controls influence reliability of financial reporting. • Identify situations where reliance on other assurance providers may be required.	• Identify sustainability-related risks that may increase ROMM. • Describe basic audit procedures for provisions and environmental liabilities. • Recognise potential need for evaluating internal controls over ESG-related financial data.	• Demonstrate emerging professional scepticism. • Recognise how regulatory pressure may increase risk of misstatement. • Identify basic greenwashing risk as it affects financial reporting.
					P	• Explain how sustainability-related risks influence inherent risk and control risk. • Describe the interaction between business model risk, regulatory exposure and audit risk. • Explain the role of internal controls in mitigating ESG-related misstatement.	• Evaluate ROMM at assertion level for rehabilitation provisions, carbon tax liabilities and climate-related estimates. • Assess the design and implementation of controls over ESG-related balances. • Formulate appropriate substantive procedures. • Evaluate whether sustainability matters qualify as Key Audit Matters. • Assess appropriateness of reliance on work of internal audit or sustainability assurance providers.	• Apply professional scepticism to management assumptions regarding environmental provisions and asset useful lives. • Evaluate whether pressure to meet sustainability commitments increases fraud risk. • Justify audit responses aligned with governance accountability and public interest.
					A	• Critically evaluate the impact of sustainability risk on going concern assessments. • Analyse how climate transition risk affects impairment testing and asset valuation.	• Design a comprehensive audit strategy addressing sustainability-related ROMM. • Critically assess the operating effectiveness of internal controls over ESG data integrated into financial reporting.	• Exercise disciplined professional scepticism in evaluating management bias. • Critically assess whether sustainability narratives are supported by financial evidence.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit of Financial Statements (continued)					**A**	• Evaluate regulatory exposure (Carbon Tax Act, environmental legislation) as audit risk drivers.	• Develop robust substantive procedures addressing complex estimation uncertainty. • Evaluate sufficiency and appropriateness of audit evidence in areas prone to greenwashing. • Formulate a justified audit opinion strategy including KAM considerations.	• Anticipate reputational and regulatory consequences of audit failure in sustainability contexts. • Defend audit conclusions in complex, high-risk sustainability environments.
Governance Structures and Practices	• Risk of non-compliance with sustainability-related legislation and regulatory frameworks affecting EML's licence to operate. • Weak governance oversight over ESG strategy, reporting and compliance. • Inadequate board-level monitoring of sustainability risks. • Insufficient funding of environmental guarantees or rehabilitation provisions. • Misalignment between governance disclosures and operational practice. • Failure to comply with legal and regulatory obligations (e.g., Carbon Tax Act, Mining Charter, NEMA, Companies Act).	• Governance Structures and Practices (A1.2) • Compliance with Laws and Regulations (E2.1)	• Professional ethics (I3) • Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2)	Using Easton Minerals Limited: • Identify key sustainability-related legal and regulatory frameworks applicable to EML. • Evaluate compliance risk and potential impact on going concern. • Assess the governance structures responsible for oversight of sustainability reporting. • Consider whether internal controls and board-level monitoring mechanisms are adequate. • Evaluate potential consequences of non-adherence to King V or environmental legislation.	**N**	• Identify key sustainability-related laws and frameworks applicable to the mining sector. • Recognise the role of governance structures in ensuring compliance. • Understand that non-compliance may threaten licence to operate.	• Identify governance risks associated with non-compliance. • Describe how auditors consider compliance during audit planning. • Recognise need for obtaining evidence regarding regulatory compliance.	• Demonstrate emerging awareness of public interest responsibilities. • Recognise ethical implications of governance failure. • Identify basic consequences of non-compliance.
					P	• Explain how governance structures influence sustainability reporting reliability. • Describe the interaction between regulatory compliance and audit risk. • Understand the role of the audit committee in overseeing sustainability disclosures.	• Evaluate compliance risk in relation to specific legislation (e.g., Carbon Tax Act, Mining Charter). • Assess adequacy of governance oversight structures. • Evaluate evidence supporting compliance with sustainability regulations. • Identify deficiencies in control environments related to regulatory risk.	• Apply professional scepticism when evaluating governance disclosures. • Assess whether governance structures mitigate or exacerbate greenwashing risk. • Justify conclusions regarding governance adequacy in sustainability contexts.
					A	• Critically analyse how governance failures may lead to material misstatement or audit qualification.	• Assess effectiveness of board oversight and audit committee processes.	• Exercise mature professional judgement in evaluating governance integrity.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Governance Structures and Practices (continued)					**A**	• Evaluate interplay between governance, compliance, internal controls and assurance scope.	• Evaluate sufficiency and appropriateness of audit evidence regarding regulatory compliance. • Design audit procedures to test compliance with sustainability-related legislation. • Assess potential reporting implications where governance weaknesses are identified.	• Anticipate systemic risks arising from weak compliance structures. • Recommend governance improvements aligned with public interest and sustainability objectives. • Defend assurance conclusions in high-risk regulatory environments.
Internal Audit and Combined Assurance	• Weak coordination between the three lines of assurance leading to gaps or overlaps in ESG risk coverage. • Inadequate internal audit involvement in sustainability reporting processes. • Over-reliance on sustainability assurance providers without sufficient evaluation of competence and objectivity. • Weak internal controls over ESG data collection, aggregation and reporting. • Fragmented data systems affecting reliability of sustainability disclosures. • Lack of continuous auditing or monitoring over high-risk sustainability areas (e.g., emissions reporting, rehabilitation funding, SLP compliance).	• Governance – Internal Audit (A1.3) • Reliance on Other Parties (F2.3) • Assurance Engagement on Other Non-Financial Information (F4) • Internal Audit (F5.5)	• Decision-making acumen (Y1–Y5) • Business external environment (Z2) • Professional ethics (I3) • Corporate citizenship (II2)	Using Easton Minerals Limited: • Evaluate the effectiveness of EML's combined assurance model in addressing sustainability-related risks. • Identify ESG risk areas and determine which assurance provider should be responsible. • Assess internal audit's role in reviewing high-risk sustainability areas (e.g., emissions reporting, logistics constraints, rehabilitation funding). • Evaluate whether reliance on internal audit or sustainability assurance providers is appropriate. • Identify gaps or overlaps in the three lines of assurance model.	**N**	• Define combined assurance and the three lines of defence model. • Describe the role of internal audit. • Recognise that sustainability reporting requires coordination between assurance providers.	• Identify which assurance provider may address specific sustainability risks. • Describe the external auditor's responsibility when relying on internal audit. • Recognise need to evaluate control systems supporting ESG data.	• Demonstrate emerging awareness of assurance coordination risks. • Recognise consequences of assurance gaps in sustainability reporting.
					P	• Explain how internal controls and information systems affect sustainability data reliability. • Describe criteria for evaluating competence and objectivity of internal audit or other assurance providers. • Understand how reliance decisions affect audit risk.	• Evaluate effectiveness of internal audit in addressing sustainability-related risks. • Assess whether ESG-related internal controls are designed and operating effectively. • Identify gaps or overlaps in combined assurance coverage. • Evaluate appropriateness of reliance on sustainability assurance providers.	• Apply professional scepticism when relying on other assurance providers. • Assess whether governance oversight adequately supports sustainability reporting integrity. • Justify reliance decisions with reference to risk and public interest.
					A	• Critically analyse interaction between internal control systems, ESG data governance and	• Design a coordinated assurance plan covering high-risk sustainability areas.	• Exercise mature professional judgement when determining extent of reliance on internal audit.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Internal Audit and Combined Assurance (continued)					**A**	external assurance scope. • Evaluate maturity of combined assurance structures in complex organisations.	• Evaluate operating effectiveness of internal controls over ESG metrics. • Assess adequacy of continuous auditing or monitoring systems. • Identify systemic weaknesses in sustainability data governance.	• Anticipate assurance failure risks arising from fragmented control environments. • Recommend improvements to combined assurance frameworks to enhance sustainability reporting credibility. • Defend assurance approach decisions in high-risk ESG environments.
Audit and Assurance Activity: Other Assurance Services	• Assurance over non-financial ESG metrics (emissions, water usage, SLP commitments, community trust funding). • Reliability and completeness of sustainability data generated from operational systems. • Determination of materiality in sustainability assurance engagements. • Transition to IFRS S1/S2-aligned reporting and evolving assurance standards (e.g., ISSA 5000). • Risk of greenwashing where disclosures are selectively presented or lack evidential support. • Inadequate internal controls over data collection, aggregation and reporting of sustainability metrics.	• Assurance Engagements on Other Non-Financial Information (F4.1) • Governance Structures and Practices (A1.2) • Compliance with Laws and Regulations (E2.1)	• Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2) • Professional ethics (I3)	Using Easton Minerals Limited: • Evaluate assurance considerations over Scope 1, 2 and 3 emissions. • Assess reliability of water recycling ratios and SLP metrics. • Determine appropriate level of assurance (limited vs reasonable). • Identify internal controls required to support reliable ESG reporting. • Evaluate sufficiency and appropriateness of evidence under ISSA 5000 principles. • Identify areas where greenwashing risk may arise due to weak systems or selective disclosure.	**N**	• Define limited and reasonable assurance in non-financial contexts. • Identify common ESG metrics requiring assurance. • Recognise that sustainability data must be supported by evidence. • Understand that internal controls influence data reliability.	• Identify assurance risks in non-financial disclosures. • Describe basic procedures to verify ESG metrics. • Recognise need to assess reliability of data sources.	• Demonstrate emerging awareness of greenwashing risk. • Recognise importance of credibility in sustainability reporting. • Identify ethical implications of misleading ESG disclosures.
					P	• Explain how materiality is determined in sustainability assurance engagements. • Describe how data systems and internal controls affect ESG reporting reliability. • Understand principles underlying ISSA 5000 and evolving sustainability assurance frameworks.	• Evaluate internal controls over ESG data collection and reporting. • Design procedures to test accuracy and completeness of emissions, water and SLP metrics. • Assess whether reported sustainability information is free from material misstatement. • Evaluate appropriateness of limited vs reasonable assurance in context.	• Apply professional scepticism to sustainability disclosures. • Assess greenwashing risk arising from weak data governance. • Justify assurance scope and conclusions based on risk assessment. • Evaluate independence threats in sustainability assurance engagements.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit and Assurance Activity: Other Assurance Services (continued)	• Over-reliance on management-generated sustainability reports without sufficient independent verification.				**A**	• Critically evaluate challenges in assuring forward-looking sustainability disclosures. • Analyse interaction between sustainability reporting frameworks and assurance standards. • Evaluate liability exposure and public interest implications of sustainability assurance failure.	• Design a sustainability assurance strategy aligned with ISSA 5000 principles. • Evaluate sufficiency and appropriateness of evidence for complex ESG metrics. • Assess maturity of ESG data governance systems. • Identify systemic weaknesses in sustainability reporting infrastructure.	• Exercise mature professional scepticism in high-risk ESG contexts. • Anticipate reputational and regulatory consequences of assurance failure. • Defend assurance conclusions in complex stakeholder environments. • Recommend improvements to governance and control systems supporting ESG reporting.
Audit and Assurance Activity: Exploration	• Bribery or corruption risk in securing exploration rights. • Weak environmental and social impact assessments (ESIAs). • Incomplete or unreliable stakeholder consultation evidence. • Overstatement of mineral reserves affecting sustainability disclosures. • Insufficient governance oversight of exploration activities. • Inadequate internal controls over environmental and stakeholder data.	• Assurance Engagement on Other Non-Financial Information (F4.1) • Governance Structures and Practices (A1.2) • Compliance with Laws and Regulations (E2.1)	• Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2) • Professional ethics (I3)	You are part of the sustainability assurance team assigned to EML's exploration activities. • Evaluate whether exploration-related sustainability disclosures are free from material misstatement. • Identify assurance risks, including governance and ethical risks, and describe the audit evidence required. • Assess whether internal controls and stakeholder engagement processes provide sufficient reliability.	**N**	• Define ethical governance in the context of resource exploration. • Identify key stakeholder groups affected by exploration activities. • Recognise that unreliable ESIA data increases assurance risk.	• Identify assurance risks linked to bribery, environmental approvals and stakeholder consultation. • Describe basic procedures to obtain evidence over sustainability disclosures.	• Recognise the importance of transparency and stakeholder trust. • Demonstrate emerging awareness of governance-related assurance risk.
					P	• Explain governance risks such as bribery, regulatory non-compliance and ecological harm. • Understand how weak controls increase risk of misstatement.	• Evaluate internal controls over exploration approvals and stakeholder consultation. • Assess reliability of ESIA data and reserves disclosures. • Apply professional scepticism in areas of management bias.	• Assess how governance failures may undermine sustainability reporting credibility. • Justify assurance procedures in high-risk exploration environments. • Evaluate whether sustainability disclosures align with underlying evidence.
					A	• Critically analyse how governance weaknesses may affect financial and sustainability reporting.	• Design assurance procedures to test reliability of exploration sustainability metrics.	• Exercise mature professional scepticism in politically sensitive or ethically complex environments.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit and Assurance Activity: Exploration (continued)					**A**	• Evaluate public interest implications of exploration-related assurance failure.	• Evaluate sufficiency and appropriateness of evidence in high-risk governance contexts. • Assess whether internal control deficiencies materially affect assurance conclusions.	• Recommend governance and control improvements to strengthen sustainability reporting. • Defend assurance conclusions under scrutiny.
Audit and Assurance Activity: Planning & Building	• Underestimation of environmental rehabilitation obligations. • Inadequate provisioning for environmental guarantees. • Misalignment between sustainability commitments and capital allocation. • Weak internal controls over cost estimation and environmental budgeting. • Overstatement of projected environmental mitigation performance. • Insufficient stakeholder consultation in infrastructure planning. • Regulatory approval risks affecting licence to operate.	• Assurance Engagement on Other Non-Financial Information (F4.1) • Audit of Historical Financial Information (F2) • Governance Structures and Practices (A1.2) • Compliance with Laws and Regulations (E2.1)	• Professional ethics (I3) • Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2)	You are reviewing sustainability disclosures related to EML's new mine development phase. • Evaluate whether rehabilitation plans, environmental guarantees and mitigation commitments are supported by adequate financial provisioning and reliable internal controls. • Identify assurance risks and design appropriate procedures."	**N**	• Identify sustainability risks associated with mine planning and development. • Recognise that rehabilitation obligations require financial provisioning. • Understand that internal controls influence reliability of cost estimates.	• Identify risks of understatement of environmental liabilities. • Describe basic assurance procedures over environmental commitments. • Recognise potential greenwashing where commitments lack evidence.	• Demonstrate emerging awareness of governance accountability. • Recognise the importance of reliable cost estimation.
					P	• Explain estimation uncertainty in rehabilitation and infrastructure costs. • Understand how internal control weaknesses increase misstatement risk. • Describe regulatory requirements affecting mine planning.	• Evaluate design and implementation of controls over environmental cost estimation. • Assess alignment between sustainability commitments and financial provisioning. • Apply professional scepticism to management projections. • Evaluate sufficiency of audit evidence over mitigation plans.	• Assess risk of greenwashing arising from overstated mitigation commitments. • Justify assurance procedures in high-uncertainty environments. • Evaluate governance oversight over capital allocation decisions.
					A	• Critically analyse systemic risk arising from underfunded environmental obligations. • Evaluate interplay between financial reporting, sustainability assurance and regulatory oversight.	• Design assurance strategy addressing complex estimation uncertainty. • Critically evaluate adequacy of environmental guarantees. • Assess operating effectiveness of	• Exercise mature professional scepticism in politically or economically sensitive projects. • Anticipate public interest and regulatory consequences of under-provisioning. • Recommend governance and control

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit and Assurance Activity: Planning & Building (continued)					**A**		internal controls over sustainability budgeting. • Evaluate whether commitments are realistically achievable and evidentially supported.	enhancements to strengthen sustainability reporting credibility. • Defend assurance conclusions in high-risk capital-intensive environments.
Audit and Assurance Activity: Mining	• Inaccurate reporting of emissions, water usage or waste disposal metrics. • Non-compliance with environmental permits and regulatory thresholds. • Underreporting of safety incidents or environmental breaches. • Weak internal controls over operational ESG data capture systems. • Manipulation of performance metrics to meet sustainability targets. • Inadequate monitoring of rehabilitation progress during active operations. • Fragmented data systems resulting in unreliable sustainability disclosures.	• Assurance Engagement on Other Non-Financial Information (F4.1) • Audit of Historical Financial Information (F2) • Governance Structures and Practices (A1.2) • Compliance with Laws and Regulations (E2.1)	• Professional ethics (I3) • Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2)	You are part of the assurance team reviewing EML's operational sustainability disclosures. • Evaluate the reliability of emissions, water usage and safety reporting metrics. • Assess the design and operating effectiveness of internal controls over ESG data collection and aggregation. • Identify potential fraud or greenwashing risks and propose appropriate assurance responses.	**N**	• Identify common operational sustainability metrics in mining. • Recognise regulatory compliance requirements. • Understand that internal controls affect data reliability.	• Identify risks of inaccurate ESG data reporting. • Describe basic assurance procedures over operational metrics. • Recognise potential misalignment between performance targets and disclosures.	• Demonstrate emerging professional scepticism. • Recognise ethical implications of misleading operational disclosures.
					P	• Explain how operational risk affects audit and assurance risk. • Understand control design principles for ESG data systems. • Describe fraud risk factors related to sustainability targets.	• Evaluate design and operating effectiveness of controls over emissions and safety data. • Assess completeness and accuracy of ESG reporting. • Apply analytical procedures to identify anomalies. • Evaluate sufficiency and appropriateness of audit evidence.	• Apply professional scepticism to management-generated sustainability metrics. • Assess risk of greenwashing arising from performance pressure. • Justify assurance procedures in high-risk operational environments.
					A	• Critically analyse systemic risk in sustainability data governance during operations. • Evaluate integration between operational data systems and financial reporting systems.	• Design comprehensive assurance procedures addressing high-volume ESG data. • Evaluate continuous monitoring and automated control systems. • Assess whether control deficiencies materially affect sustainability disclosures.	• Exercise mature professional scepticism in high-pressure operational environments. • Anticipate reputational and regulatory consequences of assurance failure.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit and Assurance Activity: Sales and Marketing	• Revenue recognition risk linked to sustainability-linked contracts. • Misleading sustainability claims in marketing materials or integrated reports. • Incentive structures tied to ESG performance targets. • Selective disclosure of sustainability achievements. • Overstatement of "green" credentials without evidential support. • Inconsistency between sustainability narrative disclosures and financial results. • Reputational risk affecting going concern or impairment assessments.	• Audit of Historical Financial Information (F2) • Assurance Engagement on Other Non-Financial Information (F4) • Governance Structures and Practices (A1.2) • Business Ethics (I2)	• Professional ethics (I3) • Business ethics (I2) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2)	You are reviewing EML's integrated report and sustainability marketing disclosures. • Evaluate whether sustainability-related revenue claims are supported by sufficient evidence. • Assess risk of greenwashing and determine appropriate audit or assurance responses.	**N**	• Identify sustainability-related revenue disclosures. • Recognise fraud risk factors. • Understand that sustainability claims require evidence.	• Identify risk of misstatement in revenue recognition. • Recognise inconsistency between narrative and financial data.	• Demonstrate emerging scepticism. • Recognise ethical implications of misleading sustainability claims.
					P	• Explain interaction between sustainability commitments and revenue recognition. • Understand incentive-related fraud risks.	• Evaluate revenue recognition in sustainability-linked contracts. • Assess consistency between financial results and sustainability narrative. • Apply professional scepticism to marketing disclosures. • Identify greenwashing risk in integrated reporting.	• Assess material misstatement risk arising from sustainability claims. • Justify audit procedures addressing narrative disclosures. • Evaluate governance oversight of sustainability communications.
					A	• Critically analyse how sustainability-linked incentives increase fraud risk. • Evaluate regulatory and legal consequences of misleading sustainability disclosures.	• Design audit procedures to test sustainability-linked revenue. • Evaluate sufficiency and appropriateness of evidence supporting ESG claims. • Assess consistency across integrated, financial and sustainability reports.	• Exercise mature scepticism in high-reputational-risk contexts. • Anticipate public interest consequences of greenwashing. • Defend audit conclusions under regulatory scrutiny.
Audit and Assurance Activity: Distribution	• Inaccurate reporting of Scope 3 emissions. • Weak oversight over third-party logistics providers. • Non-compliance with transport or environmental regulations.	• Assurance Engagement on Other Non-Financial Information (F4) • Audit of Historical Financial Information (F2)	• Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Professional ethics (I3)	You are evaluating EML's Scope 3 emissions disclosures and logistics-related sustainability claims. • Assess assurance risks related to third-party reliance and supply chain data integrity. • Identify appropriate audit procedures.	**N**	• Identify Scope 3 emissions. • Recognise reliance on third-party data. • Understand that supply chain risks affect reporting.	• Identify risks in logistics-related sustainability disclosures. • Recognise need for evidence over third-party information.	• Demonstrate awareness of public interest implications. • Recognise risk of incomplete disclosures.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit and Assurance Activity: Distribution (continued)	• Carbon tax exposure linked to logistics operations. • Inconsistent sustainability disclosures across supply chain partners. • Inadequate monitoring of supplier ESG compliance.	• Governance Structures and Practices (A1.2) • Compliance with Laws and Regulations (E2)	• Business external environment (Z2)		**P**	• Explain challenges in assuring third-party ESG data. • Understand regulatory exposure linked to carbon and logistics.	• Evaluate reliability of supplier-provided sustainability data. • Assess adequacy of controls over supply chain reporting. • Apply professional scepticism to third-party disclosures.	• Assess risk of misstatement in Scope 3 emissions reporting. • Justify reliance decisions involving external providers.
					A	• Critically analyse systemic risk in global supply chain ESG reporting. • Evaluate legal and regulatory exposure from inaccurate Scope 3 reporting.	• Design assurance procedures addressing complex supply chain data. • Evaluate adequacy of monitoring and oversight over logistics partners. • Assess sufficiency of evidence from third parties.	• Exercise mature judgement in high-reliance contexts. • Anticipate reputational and regulatory consequences of inaccurate Scope 3 reporting. • Recommend governance enhancements for supply chain sustainability oversight.
Audit and Assurance Activity: Mine Closure	• Understatement of rehabilitation provisions and environmental restoration costs. • Inadequate funding of environmental guarantees. • Failure to comply with closure regulations and long-term monitoring requirements. • Weak internal controls over rehabilitation cost estimation and funding arrangements. • Overly optimistic assumptions regarding environmental recovery. • Misalignment between closure commitments and financial capacity. • Risk to going concern if closure obligations exceed available resources.	• Audit of Historical Financial Information (F2) • Assurance Engagement on Other Non-Financial Information (F4) • Governance Structures and Practices (A1.2) • Compliance with Laws and Regulations (E2)	• Professional ethics (I3) • Corporate citizenship (II2) • Decision-making acumen (Y1–Y5) • Business external environment (Z2)	You are part of the audit and sustainability assurance team reviewing EML's mine closure disclosures. • Evaluate whether rehabilitation provisions, environmental guarantees and long-term monitoring commitments are fairly presented and supported by sufficient evidence. • Assess internal controls over estimation processes and identify potential risks of understatement or greenwashing.	**N**	• Identify rehabilitation provisions in financial statements. • Recognise that environmental obligations extend beyond operational life. • Understand that cost estimates involve uncertainty.	• Identify risks of understatement of rehabilitation liabilities. • Describe basic audit procedures over provisions. • Recognise need for evidence supporting environmental guarantees.	• Demonstrate emerging awareness of long-term accountability. • Recognise ethical implications of underfunded closure obligations.
					P	• Explain estimation uncertainty in closure cost modelling. • Understand regulatory requirements governing mine closure. • Describe interaction between financial reporting and sustainability disclosures.	• Evaluate design and implementation of controls over rehabilitation estimation processes. • Assess assumptions used in calculating closure provisions. • Evaluate sufficiency and appropriateness of audit evidence. • Consider implications for going concern assessment.	• Apply professional scepticism to management's closure cost assumptions. • Assess risk of greenwashing where rehabilitation commitments lack financial backing. • Justify audit responses to high estimation uncertainty.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Audit and Assurance Activity: Mine Closure (continued)					**A**	• Critically analyse systemic risk arising from long-term environmental liabilities. • Evaluate public interest implications of inadequate closure provisioning. • Analyse interaction between closure risk, going concern and sustainability credibility.	• Design comprehensive audit procedures addressing complex closure modelling. • Evaluate adequacy of environmental guarantees and funding structures. • Assess operating effectiveness of internal controls over long-term liability estimation. • Evaluate evidence from environmental experts and independent consultants.	• Exercise mature professional judgement in high-uncertainty, high-public-interest contexts. • Anticipate regulatory and reputational consequences of assurance failure. • Recommend governance and funding improvements to strengthen sustainability accountability. • Defend audit conclusions in politically sensitive closure environments.

10.7.3 Assessment and Grading Guidance (KSA-Aligned and Developmental)

Assessment within this subsection is intended to support the development of disciplined professional scepticism, ethical judgement and governance-oriented assurance reasoning aligned to the SAICA CA of the Future Competency Framework (2025), rather than checklist-based procedural compliance.

Student performance should be evaluated with reference to both the level of study and the quality of achievement within that level. Assessment should therefore focus on how effectively students:

- *identify sustainability-related audit and assurance risks;*
- *evaluate internal controls and governance structures;*
- *determine sufficiency and appropriateness of audit evidence;*
- *apply professional scepticism in areas of estimation uncertainty or potential greenwashing; and*
- *justify assurance conclusions with reference to public interest and accountability.*

Evidence of learning should demonstrate integration across Knowledge, Skill and Ability (KSA) dimensions. Strong performance reflects the ability to reason through complex sustainability-related assurance scenarios, evaluate risk systematically, and defend audit responses coherently.

Importantly, achievement levels are developmental rather than hierarchical. A Novice learner operating at foundational level can achieve distinction when fully demonstrating mastery of expected learning outcomes at that stage. Likewise, Advanced learners are expected to exhibit integrative reasoning, not merely technical recall.

The table below provides indicative developmental descriptors across Knowledge, Skill and Ability dimensions. These descriptors are illustrative and should be applied with due regard to institutional context, assessment weighting and professional judgement.

Dimension	**Novice (Foundational Mastery – e.g. 1st Year students)**	**Proficient (Applied Mastery – 2nd / 3rd Year)**	**Advanced (Integrative Mastery – PGDA / Capstone)**
Knowledge (Conceptual)	Demonstrates foundational understanding of assurance concepts, audit risk (ROMM), internal control components, and basic sustainability-related compliance requirements. Recognises that non-financial information requires evidence and governance oversight.	Demonstrates integrated understanding of audit risk, internal control systems, sustainability assurance principles, regulatory compliance, and governance structures. Understands interaction between financial and non-financial reporting risks.	Demonstrates sophisticated conceptual integration of audit standards, sustainability assurance frameworks (e.g., ISSA 5000 principles), governance accountability and public interest obligations. Critically evaluates systemic assurance risk and long-term sustainability implications.
Skill (Application)	Identifies sustainability-related audit risks and applies basic audit procedures under guidance. Recognises need to evaluate control design and obtain sufficient appropriate evidence.	Designs and applies risk-based audit and assurance procedures addressing sustainability-related misstatement risk. Evaluates design and operating effectiveness of internal controls and assesses sufficiency and appropriateness of evidence.	Designs comprehensive assurance strategies in complex sustainability contexts. Critically evaluates evidence reliability, internal control maturity, reliance decisions and systemic governance weaknesses under conditions of uncertainty.
Ability (Transfer and judgement / problem solving/ integration	Demonstrates emerging professional scepticism and awareness of ethical and public interest considerations. Recognises greenwashing risk when prompted.	Exercises sound professional judgement in evaluating sustainability disclosures, control deficiencies and governance oversight. Applies disciplined scepticism independently and justifies assurance conclusions.	Demonstrates mature, defensible professional judgement. Anticipates reputational, regulatory and public interest consequences of assurance failure. Integrates governance, ethics, risk and long-term accountability into assurance reasoning.

10.7.4 Developmental Rubric with Interpretive Notes

Application notes:
The following rubric provides illustrative grading anchors for evaluating sustainability- and governance-related learning outcomes within the disciplinary context. The descriptors are designed to support consistent and transparent academic judgement across Novice, Proficient, and Advanced levels of learning, aligned to the CA of the Future Competency Framework's Knowledge, Skill, and Ability (KSA) dimensions.

The descriptors should be interpreted relative to the expected level of study, recognising that performance quality is assessed within, rather than across, levels. Progression reflects increasing integration, professional judgement, and contextual awareness, rather than merely greater technical complexity or volume of content.

The rubric is intended to guide academic judgement rather than prescribe marking schemes. Educators retain discretion over task design, assessment weighting, and the application of institutional grading policies, while using the descriptors to support coherent, defensible, and developmentally aligned assessment decisions.

Novice (Foundational Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Limited understanding of assurance concepts, sustainability risk and control environments.	Identifies relevant audit concepts but explanations are incomplete or fragmented.	Demonstrates sound foundational understanding of assurance principles, ROMM and internal control relevance to sustainability reporting.	Demonstrates clear and accurate understanding, linking sustainability risk to audit procedures and governance oversight.	Demonstrates comprehensive foundational mastery, independently recognising control weaknesses and assurance implications.
Skill (Application)	Unable to apply audit procedures appropriately. Significant reasoning errors.	Applies audit concepts with guidance but lacks depth in risk assessment or control evaluation.	Applies appropriate audit procedures in structured sustainability scenarios. Identifies relevant evidence and basic control deficiencies.	Applies procedures with logical, risk-based reasoning. Evaluates internal controls and evidence quality effectively.	Demonstrates disciplined application of audit strategy. Clearly integrates risk assessment, control testing and evidence evaluation.
Ability (Transfer and judgement / problem solving/ integration	Limited professional scepticism or ethical awareness.	Recognises ethical concerns when prompted but lacks depth of judgement.	Demonstrates emerging professional scepticism and awareness of public interest responsibilities.	Applies professional scepticism independently and evaluates greenwashing risk thoughtfully.	Demonstrates mature judgement for level of study, clearly articulating governance accountability and assurance integrity implications.

Proficient (Intermediate / Applied Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Incomplete understanding of sustainability-related audit risk.	Identifies risks but lacks integration of governance or control systems.	Demonstrates clear understanding of audit risk, internal control systems and sustainability assurance principles.	Demonstrates strong integration between audit risk, governance oversight and sustainability disclosures.	Demonstrates sophisticated conceptual clarity, critically evaluating systemic assurance risk.
Skill (Application)	Applies audit procedures inconsistently or incorrectly.	Applies procedures but risk assessment lacks robustness.	Designs appropriate audit responses to sustainability-related ROMM and control deficiencies.	Evaluates sufficiency and appropriateness of evidence with coherent reasoning.	Demonstrates advanced analytical capability, integrating financial and non-financial assurance procedures effectively.
Ability (Transfer and judgement / problem solving/ integration	Limited professional judgement in complex contexts.	Shows developing scepticism but reasoning may lack balance.	Exercises sound professional judgement in evaluating evidence and governance structures.	Demonstrates disciplined scepticism and evaluates potential greenwashing risk critically.	Demonstrates advanced assurance judgement, anticipating regulatory and public interest consequences of audit failure.

Advanced (Integrative Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Gaps in understanding complex sustainability assurance issues.	Understands concepts but lacks depth in systemic or regulatory analysis.	Demonstrates strong conceptual integration of audit standards, sustainability assurance and governance principles.	Critically evaluates interaction between control environments, regulatory exposure and assurance risk.	Demonstrates exceptional conceptual mastery, integrating public interest, governance and assurance integrity seamlessly.
Skill (Application)	Struggles to design coherent assurance strategy.	Designs procedures but reasoning lacks depth under uncertainty.	Designs robust audit strategies addressing sustainability-related risks and control weaknesses.	Evaluates evidence quality critically and integrates multi-source assurance approaches.	Produces highly defensible assurance strategies in complex, ambiguous contexts.
Ability (Transfer and judgement / problem solving/ integration	Limited integration or ethical depth.	Shows developing integrative reasoning.	Demonstrates mature professional judgement aligned to public interest and governance accountability.	Anticipates systemic assurance failure risks and evaluates reputational impact.	Demonstrates exceptional professional maturity, defending complex assurance conclusions with clarity and authority.

10.7.5 Digital Acumen Considerations

Application notes:
In this subsection, digital acumen refers to the ability to use, interpret, evaluate, and govern digital data, analytics, and systems in ways that support strategic oversight, risk management, and ethical decision-making. Digital capability is embedded within strategic and risk reasoning rather than assessed as a standalone technical skill. Expectations reflect how digital information informs governance judgement, stakeholder communication, and long-term value creation.

Particular attention should be paid to how digital tools may unintentionally exclude certain stakeholder perspectives, undervalue non-financial capitals, or prioritise short-term financial outcomes over long-term sustainability and social legitimacy.

Digital Acumen Dimension	Novice	Proficient	Advanced
Use of Digital Audit Tools	Uses basic digital tools for audit documentation and testing.	Applies data analytics tools to evaluate sustainability-related data and identify anomalies or potential risks.	Designs and evaluates advanced data analytics procedures addressing ESG risk, control environments, and AI-enabled business processes.
Evaluation of ESG Data Systems	Recognises that ESG data originates from operational systems.	Evaluates the design and implementation of controls over ESG data systems and reporting processes.	Critically assesses the maturity, integration, governance, and reliability of ESG data architecture, including risks arising from automation and AI-enabled systems.
Digital Evidence & Data Integrity	Understands that digital evidence must be reliable.	Evaluates the completeness, accuracy, and consistency of digitally generated ESG data and disclosures.	Critically evaluates algorithmic bias, automated reporting systems, AI-generated outputs, and continuous monitoring controls; assesses their impact on audit evidence and assurance conclusions.
Continuous Auditing & Monitoring	Recognises that automated monitoring supports assurance.	Applies analytics to identify anomalies, trends, and control exceptions in sustainability-related metrics.	Designs continuous auditing approaches for high-risk ESG areas; evaluates the effectiveness of automated controls, exception reporting, and ongoing monitoring processes.
Ethical Use of Digital Tools	Demonstrates awareness of data privacy, confidentiality, and ethical use of digital information.	Evaluates ethical risks associated with automated sustainability reporting, analytics, and AI-enabled processes.	Anticipates systemic bias, governance weaknesses, and assurance risks embedded in digital and AI-enabled systems; defends assurance integrity, transparency, and public-interest responsibilities.

Illustrative Teaching and Assessment Activities

Possible examples include:

- Using data analytics tools to identify anomalies, trends, or control exceptions within sustainability-related datasets.
- Evaluating the design and effectiveness of controls over ESG data collection, processing, and reporting systems.
- Comparing human-generated and AI-generated sustainability analyses and assessing their reliability, completeness, and suitability as audit evidence.
- Critiquing AI-generated sustainability disclosures or assurance documentation and identifying omissions, unsupported claims, bias, or inconsistencies.
- Designing continuous auditing or monitoring procedures for high-risk sustainability metrics.
- Assessing the quality, completeness, and integrity of digitally generated ESG information obtained from multiple operational systems.
- Evaluating governance, ethical, and assurance risks associated with automated reporting systems and AI-enabled business processes.

Section 10.8: Finance

10.8.1 Purpose and Context

Integrated thinking within the SAICA "CA of the Future" Competency Framework (2025) requires deliberate alignment between strategy, governance, performance and prospects across the six capitals (financial, manufactured, intellectual, human, social & relationship, and natural). Sustainability in finance therefore extends beyond environmental awareness; it requires disciplined capital allocation that recognises trade-offs, systemic risk and multi-stakeholder accountability over the short, medium and long term.

Within the finance discipline, sustainability influences how investment, financing and distribution decisions are structured and justified. Capital budgeting, funding strategy, capital structure, performance measurement and restructuring decisions must incorporate environmental, social and governance (ESG) risk alongside financial return. Financial projections that ignore sustainability risk are incomplete and may undermine long-term value creation.

Finance therefore plays a governance-enabling role. It determines:

- how resources are allocated across competing priorities;
- whether sustainability commitments are backed by credible funding;
- how cost of capital reflects ESG risk exposure;
- whether distributions are equitable relative to risk assumed across stakeholders; and
- whether restructuring or divestiture decisions protect long-term stakeholder value.

Sustainability in finance is not "additional content". It is a reframing of traditional finance questions:

- How should capital be allocated under uncertainty?
- How should risk be priced when environmental or social exposure may affect solvency?
- How should trade-offs between short-term return and long-term licence to operate be evaluated?

The finance professional's role therefore extends beyond optimisation of shareholder return to disciplined, ethically grounded decision-making that integrates governance accountability and multi-capital value creation.

Technical Competency Areas:

Note on technical competency alignment:
For the purposes of this guidance, this subsection assumes that the following technical competency areas, as outlined in the SAICA CA of the Future Competency Framework (2025), are addressed within the finance discipline context illustrated here. These assumptions recognise that programme structures differ across institutions, and that competencies may be developed across multiple modules. The areas identified below are therefore illustrative and not prescriptive.

Contextual:

- A1 Governance Models
- A2 Business Strategy
- A3 Aligning the Business Model with Strategy

Primary Finance Focus:

- A4 Finance Strategy
- C1 Performance Measurement for Decision-Making
- C2 Financing Decisions
- C3 Investment Decisions
- C4 Use of Derivatives
- C5 Business Valuation and Divestiture
- C6 Performance Management Systems
- C7 Financially Troubled Businesses

10.8.2 Case Study Application: Integrating PVAAs, Technical Competencies and KSA application

Application notes:
This table links each stage of Easton Minerals Limited's value chain to selected technical competency areas, Professional Values, Attitudes and Acumen (PVAAs), and the expected progression of learning from Knowledge to Skills and Abilities (KSA). The depth of engagement is signalled through three indicative levels (Novice, Proficient, and Advanced) which are intended to guide the design of learning activities, assessment tasks, and grading expectations. These levels do not simplify or fragment the underlying case study material; rather, they support calibrated engagement with authentic professional complexity.

Each issue, dilemma, or opportunity should be considered through a governance and ethical decision-making lens, examining how leadership choices, accountability structures, stakeholder responsibilities, and organisational values shape the organisation's response. The overarching aim is to cultivate a sustainability mindset, encouraging integrated, responsible, and long-term thinking in future accounting professionals.

The table is designed to surface authentic teaching opportunities while allowing academic discretion regarding:
- *the calibration of questions, prompts, and evaluative criteria to the level of the student;*
- *the depth and mode of engagement (for example, tutorial discussion, formative activity, assignment, or simulation);*
- *the weighting and assessment format applied; and*
- *the phrasing of questions, prompts, or marking guides in line with local academic and institutional policy.*

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration	• Whether positive NPV justifies proceeding despite ESG uncertainty. • How to incorporate environmental and social externalities into investment appraisal. • Regulatory and commodity price volatility affecting capital allocation. • Stakeholder opposition affecting licence to operate. • Whether cost of capital adequately reflects sustainability risk. • Early-stage performance indicators signalling long-term risk exposure.	• Investment Decisions (NPV, IRR, Real Options) (C3.1) • Planning, Budgeting and Forecasting (C1.2) • Decision-Making and Scenario Analysis (C1.4) • Performance Management Systems (C6)	• Business Acumen • Critical and Integrative Thinking (Y1–Y2) • Problem Solving (Y3) • Professional Scepticism • Ethical Judgement in Long-Term Trade-Offs • Stakeholder and Relational Acumen	EML has identified a potentially viable mineral deposit. Commodity prices are volatile and carbon regulation is uncertain in the host jurisdiction. Students are required to: • Evaluate whether EML should proceed immediately using NPV. • Consider delaying development or treating the exploration rights as a real option. • Incorporate environmental, social and governance uncertainty into their recommendation. • Identify relevant financial and non-financial performance indicators. • Evaluate whether proceeding is justified where financial projections are positive but non-financial indicators are deteriorating.	N	• Understands basic capital budgeting tools (NPV, IRR). • Recognises that sustainability expands the scope of investment evaluation. • Identifies that exploration decisions affect multiple stakeholders.	• Applies basic investment appraisal techniques to structured scenarios. • Identifies obvious financial and non-financial impacts. • Recognises basic stakeholder-related risks (e.g., community opposition, regulatory approval).	• Recognises tension between financial return and environmental or social impact. • Demonstrates emerging awareness that capital allocation decisions have ethical consequences. • Reflects on whether positive NPV alone is sufficient justification.
					P	• Explains how stakeholder impacts and ESG risk influence investment decisions. • Understands limitations of traditional NPV under uncertainty. • Describes real options as a mechanism for managing regulatory and ESG uncertainty.	• Integrates financial and non-financial indicators into structured analysis. • Performs scenario analysis incorporating ESG variables. • Maps stakeholder inputs and outputs across the six capitals. • Evaluates how cost of capital may reflect sustainability risk exposure.	• Applies professional judgement to balance financial return with ESG risk. • Evaluates whether externalities are adequately reflected in projected returns. • Justifies capital allocation decisions using multi-capital reasoning.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Exploration (continued)					**A**	• Critically evaluates whether financial models adequately capture embedded ESG risk. • Analyses how early-stage signals influence long-term value creation and solvency. • Evaluates governance responsibility in capital allocation decisions.	• Designs investment appraisal frameworks that incorporate real options, ESG-adjusted discount rates or risk premiums. • Critiques management assumptions embedded in financial projections. • Integrates performance dashboards linking financial and sustainability metrics.	• Demonstrates integrated reasoning linking capital allocation, stakeholder equity, risk appetite and long-term value creation. • Evaluates whether proceeding protects or undermines long-term licence to operate. • Defends recommendations using disciplined, governance-aligned reasoning rather than purely financial optimisation.
Planning & Building	• Choice between traditional project finance, sustainability-linked loans or green bonds. • How financing structure influences cost of capital and risk exposure. • Whether sustainability commitments are backed by credible funding mechanisms. • Performance-linked financing incentives affecting management behaviour. • Capital structure decisions affecting solvency and long-term resilience. • Equity between capital providers relative to risk assumed.	• Finance Strategy (A4) • Financing Decisions (C2) • Capital Allocation (C3) • Performance Measurement (C1) • Performance Management Systems (C6)	• Business Acumen • Critical and Integrative Thinking (Y1–Y2) • Problem Solving (Y3) • Professional Scepticism • Ethical Judgement in Long-Term Trade-Offs • Stakeholder and Relational Acumen	Following successful exploration, EML must determine how to finance development of the mine. Options include: • Traditional project finance • Sustainability-linked loan with performance-based interest adjustments • Green bond restricted to environmentally beneficial infrastructure Students must evaluate: • Cost of capital implications • Capital structure impact • Behavioural incentives created by each instrument • Governance alignment and ESG accountability • Long-term value creation implications	**N**	• Understands basic financing sources and capital structure concepts. • Identifies differences between traditional and sustainability-linked finance. • Recognises that financing choices influence stakeholder outcomes.	• Compares financing options in structured scenarios. • Identifies basic advantages and disadvantages of green financing. • Recognises performance conditions attached to sustainability-linked loans.	• Recognises tension between cost minimisation and sustainability commitments. • Demonstrates emerging awareness that financing decisions influence behaviour and accountability.
					P	• Explains interaction between capital structure, cost of capital and ESG risk. • Understands how sustainability-linked instruments affect performance measurement. • Describes how financing choices influence solvency and long-term resilience.	• Compares cost of capital implications across financing options. • Evaluates performance-based incentives embedded in financing structures. • Integrates financial and non-financial considerations into structured recommendations. • Applies the SAF framework where appropriate.	• Applies professional judgement to balance financial efficiency with ESG accountability. • Evaluates whether financing instruments create unintended incentives. • Justifies capital structure decisions using governance-aligned reasoning.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Planning & Building (continued)					**A**	• Critically evaluates whether sustainability-linked financing genuinely improves accountability or merely shifts disclosure risk. • Analyses systemic impact of capital structure decisions on long-term resilience. • Evaluates how financing decisions signal governance quality to capital markets.	• Designs financing strategies aligned to sustainability objectives and risk appetite. • Critiques management assumptions underlying cost of capital estimates. • Integrates scenario analysis and behavioural implications into capital structure decisions.	• Demonstrates integrated reasoning linking finance strategy, governance accountability and long-term value creation. • Anticipates reputational, solvency and stakeholder consequences of financing misalignment. • Defends financing recommendations using disciplined, ethically grounded judgement.
Mining	• Balancing operational efficiency with environmental compliance costs. • Short-term cost-cutting vs long-term sustainability investment. • Working capital pressures affecting sustainability commitments. • Performance bonuses linked to financial metrics without ESG integration. • Dividend distributions reducing reinvestment capacity. • Hedging decisions affecting exposure to carbon or commodity price volatility. • Whether sustainability KPIs are integrated into performance management systems.	• Performance Measurement for Decision-Making (C1) • Financing Decisions (dividend policy and reinvestment) (C2) • Capital Allocation (C3) • Use of Derivatives (C4) • Performance Management Systems (C6)	• Business Acumen • Critical and Integrative Thinking (Y1–Y2) • Problem Solving (Y3) • Professional Scepticism • Ethical Judgement in Trade-Offs • Stakeholder and Relational Acumen	EML is now in full production. Commodity prices are volatile, operating margins are under pressure, and sustainability targets require continued investment in water recycling and emissions reduction. Students must evaluate: • Whether dividend distributions should continue or be reduced. • Whether reinvestment in sustainability initiatives should be prioritised. • How performance management systems should incorporate ESG KPIs. • Whether hedging strategies appropriately reflect ESG-related risk exposure. • How cost-of-capital implications affect operational capital allocation.	**N**	• Understands basic operational finance concepts (working capital, dividend policy). • Recognises that operational decisions influence sustainability outcomes. • Identifies basic financial and non-financial performance indicators.	• Applies simple performance measures to operational scenarios. • Identifies obvious trade-offs between profit and sustainability spending. • Recognises how dividend decisions affect reinvestment capacity.	• Demonstrates emerging awareness of short-term vs long-term tension. • Recognises that operational finance decisions affect stakeholder trust.
					P	• Explains interaction between operational cash flow, reinvestment and sustainability commitments. • Understands how ESG risk may influence cost of capital. • Describes role of hedging in managing commodity and regulatory exposure.	• Integrates ESG indicators into performance dashboards. • Evaluates dividend vs reinvestment decisions using structured reasoning. • Applies scenario analysis to operational capital allocation. • Assesses whether performance incentives align with sustainability objectives.	• Applies professional judgement to balance solvency, shareholder return and stakeholder obligations. • Evaluates behavioural implications of performance management systems. • Justifies operational capital allocation decisions using integrated reasoning.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mining (Continued)					**A**	• Critically evaluates how operational finance decisions affect long-term resilience. • Analyses systemic impact of dividend policy on sustainability investment. • Evaluates how derivative strategies influence ESG risk exposure.	• Designs integrated performance management systems incorporating financial and ESG metrics. • Critiques management decisions prioritising short-term earnings over sustainability investment. • Models long-term impact of reinvestment vs distribution strategies.	• Demonstrates integrated reasoning linking operational finance, risk management and sustainability. • Anticipates unintended consequences of misaligned incentives. • Defends governance-aligned operational finance decisions under capital market pressure.
Production & Blending	• Investment in cleaner but higher-cost processing technology. • Allocation of capital toward efficiency improvements. • Carbon pricing embedded within production cost structures. • Trade-off between short-term margin optimisation and long-term sustainability gains. • Whether sustainability investments improve long-term cost competitiveness. • Performance measurement systems that exclude environmental cost drivers.	• Performance Measurement for Decision-Making (C1) • Investment Decisions (C3) • Performance Management Systems (C6) • Finance Strategy (A4)	• Business Acumen • Critical and Integrative Thinking (Y1–Y2) • Problem Solving (Y3) • Ethical Judgement in Trade-Offs • Professional Scepticism	EML must decide whether to upgrade its processing plant to reduce water usage and emissions. The upgrade increases upfront capital expenditure but reduces long-term environmental compliance risk and operating volatility. Students must evaluate: • Payback and NPV implications of the upgrade. • Whether carbon pricing should be incorporated into production cost modelling. • Impact on operating margin and cost competitiveness. • Whether sustainability investment strengthens long-term resilience. • How performance dashboards should reflect environmental efficiency metrics.	**N**	• Understands basic cost structures and capital expenditure decisions. • Recognises that sustainability investments may increase short-term costs. • Identifies key production performance indicators.	• Applies basic NPV and payback techniques to structured scenarios. • Identifies trade-offs between cost and environmental impact. • Recognises how capital expenditure affects profitability.	• Demonstrates awareness of short-term vs long-term tension. • Recognises that production decisions influence sustainability outcomes.
					P	• Explains interaction between production efficiency, sustainability investment and cost of capital. • Understands how carbon pricing influences cost modelling. • Describes how performance management systems influence behaviour.	• Integrates environmental cost drivers into financial modelling. • Evaluates ROI of sustainability-focused process improvements. • Applies scenario analysis to assess regulatory or compliance risk. • Designs balanced performance dashboards incorporating ESG metrics.	• Applies professional judgement to balance profitability with environmental accountability. • Evaluates whether production incentives align with sustainability objectives. • Justifies capital allocation decisions using integrated reasoning.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Production & Blending (continued)					**A**	• Critically evaluates whether financial models adequately reflect embedded environmental risk. • Analyses long-term competitive advantage arising from sustainability investment. • Evaluates systemic risk of underinvestment in environmental efficiency.	• Designs investment appraisal models incorporating carbon cost projections and regulatory uncertainty. • Critiques management assumptions underlying efficiency upgrade decisions. • Models long-term margin stability arising from sustainability investment.	• Demonstrates integrated reasoning linking operational finance, sustainability and governance accountability. • Anticipates unintended consequences of cost-cutting at the expense of long-term resilience. • Defends disciplined, governance-aligned production investment decisions under shareholder pressure.
Marketing & Sales	• Whether sustainability attributes justify premium pricing. • Demand volatility linked to ESG reputation. • Long-term contracts incorporating sustainability performance clauses. • Risk of overpricing based on unsubstantiated sustainability claims. • ESG ratings affecting cost of capital and market valuation. • Revenue concentration risk linked to sustainability-sensitive customers.	• Performance Measurement for Decision-Making (C1) • Investment Decisions (C3) • Financing Decisions (cost of capital implications) (C2) • Business Valuation (C5) • Performance Management Systems (C6)	• Business Acumen • Critical and Integrative Thinking (Y1–Y2) • Problem Solving (Y3) • Ethical Judgement in Market Signalling • Stakeholder and Relational Acumen	EML is considering positioning its mineral output as "sustainably produced" to access premium export markets. Students must evaluate: • Whether price premiums are justified and sustainable. • Impact of ESG reputation on revenue forecasts. • Cost of capital implications arising from improved ESG ratings. • Financial risk if sustainability claims are later challenged. • Whether marketing incentives align with operational sustainability performance.	**N**	• Understands basic pricing and revenue forecasting concepts. • Recognises that sustainability reputation may influence demand. • Identifies key revenue performance indicators.	• Applies simple pricing analysis to structured scenarios. • Identifies basic revenue risk factors. • Recognises potential link between reputation and revenue stability.	• Demonstrates awareness that marketing decisions influence financial sustainability. • Recognises ethical considerations in sustainability positioning.
					P	• Explains how ESG performance may influence cost of capital and valuation. • Understands interaction between pricing strategy and long-term demand stability. • Describes how sustainability performance clauses affect contract risk.	• Integrates ESG variables into revenue forecasting models. • Evaluates risk-adjusted revenue scenarios. • Assesses whether sustainability premiums are financially defensible. • Links marketing positioning to capital market perception.	• Applies professional judgement to balance revenue growth with reputational risk. • Evaluates financial consequences of misaligned sustainability claims. • Justifies pricing strategy using governance-aligned reasoning.
					A	• Critically evaluates sustainability positioning as a strategic value driver. • Analyses market signalling effects of ESG performance.	• Designs revenue models incorporating ESG-adjusted demand elasticity. • Evaluates impact of ESG reputation on firm valuation.	• Demonstrates integrated reasoning linking pricing strategy, capital markets and governance accountability. • Anticipates reputational and valuation consequences of misaligned sustainability messaging.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Marketing & Sales (continued)					A	• Evaluates systemic risk of over-reliance on sustainability-sensitive revenue streams.	• Integrates marketing, finance strategy and risk modelling into coherent analysis.	• Defends disciplined market strategy under pressure for short-term revenue growth.
Shipping & Distribution	• Carbon pricing and fuel volatility affecting logistics costs. • Scope 3 emissions influencing customer demand or regulatory exposure. • Supply chain disruptions affecting working capital cycles. • Sustainability-linked supply chain financing arrangements. • Insurance and risk transfer mechanisms in climate-exposed routes. • Whether logistics cost optimisation undermines environmental commitments.	• Performance Measurement for Decision-Making (C1) • Financing Decisions (working capital management) (C2) • Use of Derivatives (fuel hedging, commodity exposure) (C4) • Performance Management Systems (C6) • Finance Strategy (A4)	• Business Acumen • Critical and Integrative Thinking (Y1–Y2) • Problem Solving (Y3) • Ethical Judgement in Trade-Offs • Stakeholder and Relational Acumen	EML exports mineral output to international markets. Rising fuel prices and carbon border adjustment mechanisms increase logistics costs and regulatory exposure. Students must evaluate: • Whether fuel hedging strategies are appropriate. • Impact of carbon pricing on export margins. • Working capital implications of extended supply chain cycles. • Use of sustainability-linked supply chain financing. • Trade-offs between cost optimisation and environmental commitments.	N	• Understands basic working capital and cost management concepts. • Recognises that logistics costs influence profitability. • Identifies exposure to fuel price volatility.	• Applies simple working capital analysis to structured scenarios. • Identifies basic cost drivers in distribution. • Recognises that fuel volatility affects margins.	• Demonstrates awareness that logistics decisions affect financial sustainability. • Recognises trade-offs between cost and environmental impact.
					P	• Explains interaction between working capital management and supply chain risk. • Understands how carbon pricing influences export competitiveness. • Describes hedging mechanisms used to manage fuel exposure.	• Integrates fuel price scenarios into margin forecasting. • Evaluates supply chain financing options. • Assesses working capital implications of sustainability commitments. • Applies structured reasoning to hedging decisions.	• Applies professional judgement to balance cost efficiency with environmental accountability. • Evaluates risk transfer mechanisms under sustainability constraints. • Justifies logistics strategy using governance-aligned reasoning.
					A	• Critically evaluates systemic exposure to carbon border adjustments and regulatory shifts. • Analyses strategic implications of supply chain sustainability expectations. • Evaluates how logistics risk influences capital structure and solvency.	• Designs hedging and financing strategies addressing sustainability-linked logistics risk. • Models long-term impact of carbon pricing on export margins. • Integrates working capital, derivatives and sustainability exposure into cohesive strategy.	• Demonstrates integrated reasoning linking logistics risk, financial resilience and governance accountability. • Anticipates unintended consequences of cost-driven distribution strategies. • Defends sustainability-aligned logistics strategy under competitive pressure.
Mine Closure & Rehabilitation	• Adequacy of funding for rehabilitation obligations. • Solvency risk arising from under-provisioned closure costs.	• Financially Troubled Businesses (C7) • Financing Decisions (C2) • Business Valuation and Divestiture (C5)	• Business Acumen • Critical and Integrative Thinking (Y1–Y2) • Problem Solving (Y3)	EML is approaching the end of the mine's productive life. Rehabilitation cost estimates have increased due to regulatory tightening and environmental degradation.	N	• Understands basic solvency and liquidity concepts. • Recognises that closure obligations require financial funding. • Identifies relationship between liabilities and capital structure.	• Applies simple solvency analysis to structured scenarios. • Identifies risk of insufficient funding. • Recognises tension between dividend distribution and liability coverage.	• Demonstrates awareness of long-term financial responsibility. • Recognises ethical implications of underfunded closure commitments.

Value Chain Stage (Easton Minerals)	Potential Sustainability Issues, Dilemmas, or Opportunities	CA of the Future Competency Framework		Examples Class Room Prompt / Assessment Example	Learning Activity Application based on Expected Learning Progression (Novice, Proficient, Advanced)			
		Relevant Technical Competency Area	Associated PVAA Dimensions		Level	Knowledge (Conceptual)	Skill (Application)	Ability (Transfer and judgement)
Mine Closure & Rehabilitation (continued)	• Dividend distributions prior to fully funding environmental liabilities. • Divestiture of high-risk assets before closure obligations materialise. • Impact of closure risk on cost of capital. • Intergenerational equity between current investors and future stakeholders.	• Investment Decisions (C3) • Finance Strategy (A4)	• Ethical Judgement in Long-Term Trade-Offs • Professional Scepticism • Corporate Citizenship	Students must evaluate: • Whether current funding arrangements are sufficient. • Impact of closure obligations on solvency and capital structure. • Whether dividend distributions should be suspended. • Financial implications of divesting the asset. • Long-term impact on firm valuation and cost of capital.	**P**	• Explains interaction between closure funding, capital structure and cost of capital. • Understands how restructuring or refinancing may be required. • Describes financial implications of asset divestiture.	• Evaluates funding adequacy using structured financial analysis. • Assesses impact of closure obligations on solvency ratios. • Applies scenario analysis to regulatory and environmental risk. • Evaluates trade-offs between shareholder return and liability funding.	• Applies professional judgement to balance investor expectations with stakeholder protection. • Evaluates whether financial decisions shift risk unfairly to future stakeholders. • Justifies governance-aligned closure funding strategies.
					A	• Critically evaluates systemic financial risk arising from long-term environmental liabilities. • Analyses interaction between closure risk, valuation and capital markets. • Evaluates impact of closure mismanagement on corporate reputation and financing access.	• Designs restructuring or refinancing strategies aligned with sustainability obligations. • Critiques dividend and divestiture strategies in high-liability contexts. • Models long-term solvency scenarios under regulatory uncertainty.	• Demonstrates integrated reasoning linking solvency, governance accountability and intergenerational equity. • Anticipates reputational and capital market consequences of underfunded rehabilitation. • Defends financially disciplined, ethically grounded closure strategies under shareholder pressure.

10.8.3 Assessment and Grading Guidance (KSA-Aligned and Developmental)

Application notes:
Assessment within this subsection is intended to support developmental professional judgement aligned to the SAICA CA of the Future Competency Framework, rather than checklist-based evaluation.

Student performance should be evaluated with reference to both the level of study and the quality of achievement within that level. Assessment should therefore focus on how effectively students identify, interpret, and reason through sustainability, governance, and ethical considerations within realistic business contexts, rather than on the reproduction of technical content alone.

Evidence of learning is expected to demonstrate how knowledge, skills, and professional judgement are integrated to support balanced, ethically grounded, and financially informed decision-making. Judgements about performance should reflect coherence of reasoning, appropriateness of application, and alignment with the expected learning outcomes for the relevant stage of study.

Importantly, achievement levels are developmental rather than hierarchical. A Novice learner operating at first-year level can, and should, be capable of achieving high academic distinction when demonstrating full mastery of the learning outcomes appropriate to that level.

The table below provides indicative developmental descriptors across the Knowledge, Skill, and Ability (KSA) dimensions of the CA of the Future Competency Framework (2025). These descriptors are intended to support consistent, transparent grading judgements while allowing flexibility in assessment design, weighting, and institutional marking practices.

They are illustrative rather than prescriptive, and should be applied with due regard to local curriculum structures, assessment policies, and professional judgement.

Dimension	**Novice (Foundational Mastery – e.g. 1st Year students)**	**Proficient (Applied Mastery – 2nd / 3rd Year)**	**Advanced (Integrative Mastery – PGDA / Capstone)**
Knowledge (Conceptual)	Demonstrates foundational understanding of capital budgeting, financing decisions, working capital management and basic performance measurement. Recognises that sustainability considerations may influence financial decision-making.	Demonstrates integrated understanding of capital allocation, cost of capital, capital structure, performance management systems and ESG-related financial risk. Explains how sustainability factors influence valuation and financing decisions.	Demonstrates sophisticated conceptual integration of finance strategy, sustainability risk pricing, capital market signalling and long-term solvency implications. Critically evaluates how financial models capture or omit embedded ESG risk.
Skill (Application)	Applies basic financial tools (NPV, IRR, ratio analysis, working capital analysis) in structured sustainability-related scenarios. Identifies simple trade-offs between profitability and sustainability investment.	Designs and evaluates financial models incorporating ESG variables, scenario analysis and risk-adjusted cost of capital. Integrates financial and non-financial metrics in structured recommendations.	Designs comprehensive finance strategies addressing sustainability uncertainty, capital structure implications and long-term resilience. Critically evaluates assumptions embedded in financial projections and valuation models.
Ability (Transfer and judgement / problem solving/ integration	Demonstrates emerging awareness that capital allocation decisions affect multiple stakeholders and long-term outcomes. Recognises ethical dimensions of financial decision-making.	Exercises sound professional judgement in balancing shareholder return with sustainability commitments and risk exposure. Justifies financing and investment decisions using structured, governance-aligned reasoning.	Demonstrates mature, defensible judgement integrating finance strategy, governance accountability, stakeholder equity and intergenerational responsibility. Anticipates systemic and capital market consequences of financially misaligned sustainability decisions.

10.8.4 Developmental Rubric with Interpretive Notes

Application notes:
The following rubric provides illustrative grading anchors for evaluating sustainability- and governance-related learning outcomes within the disciplinary context. The descriptors are designed to support consistent and transparent academic judgement across Novice, Proficient, and Advanced levels of learning, aligned to the CA of the Future Competency Framework's Knowledge, Skill, and Ability (KSA) dimensions.

The descriptors should be interpreted relative to the expected level of study, recognising that performance quality is assessed within, rather than across, levels. Progression reflects increasing integration, professional judgement, and contextual awareness, rather than merely greater technical complexity or volume of content.

The rubric is intended to guide academic judgement rather than prescribe marking schemes. Educators retain discretion over task design, assessment weighting, and the application of institutional grading policies, while using the descriptors to support coherent, defensible, and developmentally aligned assessment decisions.

Novice (Foundational Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Limited understanding of capital budgeting, financing decisions or performance measures. Sustainability implications not recognised.	Identifies relevant finance concepts but explanations are incomplete or fragmented.	Demonstrates sound foundational understanding of capital allocation, financing options and performance indicators, recognising basic sustainability implications.	Demonstrates clear understanding of how sustainability considerations influence financial decisions and cost structures.	Demonstrates comprehensive foundational mastery, independently recognising sustainability-linked financial risks and trade-offs.
Skill (Application)	Unable to apply financial tools appropriately. Significant calculation or reasoning errors.	Applies financial tools with guidance but analysis lacks depth or integration.	Applies NPV, ratio analysis, working capital and financing tools appropriately in structured sustainability scenarios.	Integrates financial and non-financial considerations into structured analysis with logical reasoning.	Demonstrates disciplined and accurate application of finance tools with clear integration of sustainability variables.
Ability (Transfer and judgement / problem solving/ integration	Limited awareness of ethical or long-term implications of financial decisions.	Recognises basic trade-offs when prompted but reasoning lacks depth.	Demonstrates emerging professional judgement, recognising that capital allocation decisions affect multiple stakeholders.	Applies structured reasoning to balance profitability with sustainability commitments.	Demonstrates strong ethical awareness for level of study, articulating long-term implications of financial trade-offs clearly.

Proficient (Intermediate / Applied Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Incomplete understanding of cost of capital, valuation or capital structure implications.	Understands finance concepts but lacks integration of sustainability risk.	Demonstrates clear understanding of capital structure, cost of capital and valuation in sustainability contexts.	Integrates ESG risk and governance considerations coherently into financial conceptual understanding.	Demonstrates strong conceptual integration of finance strategy, sustainability risk pricing and long-term value creation.
Skill (Application)	Applies financial models inconsistently or without considering ESG variables.	Applies tools correctly but sustainability integration is superficial.	Designs structured financial analysis incorporating scenario analysis and sustainability-linked variables.	Evaluates financial projections critically and integrates non-financial risk into modelling.	Demonstrates advanced analytical capability, modelling risk-adjusted financial outcomes under uncertainty.
Ability (Transfer and judgement / problem solving/ integration	Limited professional judgement in balancing financial and sustainability objectives.	Shows developing judgement but reasoning may be narrow or short-term focused.	Exercises sound professional judgement balancing shareholder return, risk exposure and sustainability commitments.	Demonstrates disciplined reasoning linking finance strategy to governance accountability.	Demonstrates advanced integrative judgement, anticipating financial, reputational and capital market implications of sustainability misalignment.

Advanced (Integrative Mastery)

Dimension	Below Expectation (<50%)	Developing (50 - 59%)	Competent / Meets Expectation (60-74%)	Exceeds Expectations (75-84%)	Exceptional (85%+)
Knowledge (Conceptual)	Gaps in understanding systemic financial risk or sustainability valuation impact.	Understands advanced concepts but lacks depth in integration across risk, valuation and governance.	Demonstrates strong conceptual integration of finance strategy, solvency risk, valuation and sustainability exposure.	Critically evaluates embedded assumptions in financial models under ESG uncertainty.	Demonstrates exceptional conceptual mastery, integrating capital markets, governance accountability and intergenerational equity.
Skill (Application)	Struggles to design coherent finance strategy in complex contexts.	Designs analysis but reasoning under uncertainty lacks depth.	Designs robust financial strategies addressing sustainability uncertainty and capital structure implications.	Evaluates long-term solvency and valuation consequences using structured modelling.	Produces highly defensible finance strategies integrating risk pricing, scenario modelling and sustainability governance.
Ability (Transfer and judgement / problem solving/ integration	Limited integration of long-term accountability or stakeholder equity.	Shows developing integrative reasoning but lacks confidence in defending conclusions.	Demonstrates mature professional judgement aligned to governance and long-term value creation.	Anticipates systemic consequences of financially misaligned sustainability decisions.	Demonstrates exceptional professional maturity, defending complex finance strategy decisions under capital market pressure with clarity and authority.

10.8.5 Digital Acumen Considerations

Application notes:
In this subsection, digital acumen refers to the ability to design, interpret and critically evaluate digital financial models, forecasting systems and analytics tools in ways that support strategic capital allocation, risk management and long-term value creation.

Digital capability in finance is not assessed as isolated software proficiency. Rather, it is embedded in financial reasoning: how data, modelling assumptions, scenario analysis and algorithmic outputs inform investment decisions, financing strategy and solvency management.

Particular attention should be paid to how digital financial models may:
- *Embed biased assumptions about growth, risk or discount rates;*
- *Underestimate long-term environmental or social risk exposure;*
- *Prioritise short-term optimisation over resilience;*
- *Exclude non-financial capital considerations from valuation models.*

Students should therefore develop the ability not only to use digital modelling tools, but to interrogate them critically.

Digital Acumen Dimension	Novice	Proficient	Advanced
Financial Modelling & Forecasting Tools	Uses structured spreadsheets and basic financial models accurately. Understands that digital models rely on assumptions and input data.	Integrates ESG-related variables into spreadsheet-based financial forecasting, valuation, and scenario models. Evaluates the sensitivity of outcomes to changing assumptions and data inputs.	Designs and critiques complex financial models incorporating uncertainty, ESG risk pricing, AI-assisted forecasts, and long-term valuation implications. Challenges assumptions embedded in digital modelling tools and automated outputs.
Scenario Analysis & Risk Simulation	Applies simple sensitivity analysis to financial variables using structured digital tools.	Conducts scenario analysis using spreadsheet models, simulation tools, or AI-assisted techniques that incorporate regulatory, carbon pricing, climate-related, or market volatility factors.	Designs multi-variable scenario models assessing systemic sustainability risk, interconnected uncertainties, and long-term solvency implications. Critically evaluates assumptions embedded in digital and AI-assisted scenario analyses.
ESG Data Integration into Valuation	Recognises that ESG information may influence financial projections and can be incorporated into digital valuation models.	Integrates sustainability metrics into spreadsheet-based valuation models, investment appraisals, and cost of capital calculations.	Critically evaluates the quality, completeness, and appropriateness of ESG data used in digital valuation models. Identifies risks arising from data limitations, automated assumptions, and AI-assisted analyses.
Performance Dashboards & Digital Reporting	Interprets basic digital performance dashboards and financial visualisations.	Designs dashboards integrating financial and sustainability KPIs to support management and investment decision-making.	Evaluates behavioural incentives embedded in digital performance systems and their governance implications. Assesses whether dashboards support balanced, transparent, and decision-useful reporting.
Critical Evaluation of Algorithmic & AI Tools	Demonstrates awareness that automated tools, algorithms, and AI-enabled systems rely on assumptions and data quality.	Identifies potential limitations, bias, or inappropriate assumptions in algorithm-driven forecasts, investment models, and decision-support tools.	Critically interrogates AI-assisted financial modelling, identifying embedded bias, risk mispricing, unsupported assumptions, governance blind spots, and potential impacts on investment and capital allocation decisions.

Illustrative Teaching and Assessment Activities

Possible examples include:

- Building spreadsheet-based financial models that incorporate ESG-related variables, carbon pricing assumptions, and sustainability risks to evaluate investment outcomes under alternative scenarios.
- Comparing human-generated and AI-generated forecasts, valuations, or investment recommendations and evaluating the assumptions, limitations, and reliability of each approach.
- Using spreadsheet modelling, simulation tools, or AI-assisted scenario generation to evaluate the impact of regulatory change, climate-related risks, carbon pricing, or market volatility on financial performance.
- Integrating financial and sustainability datasets within digital valuation models to assess long-term value creation, risk exposure, and investment attractiveness.
- Designing dashboards that combine financial, operational, environmental, and social performance indicators to support management and investment decision-making.
- Critiquing AI-generated financial analyses, forecasts, or investment recommendations and identifying unsupported assumptions, bias, omissions, or risk mispricing.
- Evaluating how digital and AI-enabled tools influence investment decision-making, governance processes, capital allocation, and long-term value creation.

Part 4: Call to Action

Purpose of Part 4:

This sectionprovides concluding remarks on the purpose of this guidance and encourages accounting educators to embrace a sustainability mindset and to reflect on and anticipate future developments in this area.

By the very nature of academia and through the pursuit of new knowledge, it is incumbent upon accounting educators to prepare prospective professional accountants for the changing world around us and to ensure they are equipped to play their role to leave the world in a better place. Accounting educators can do this by adapting what they teach, when / where the teach and how they teach in order to develop professionals who care about their impact on the world and who can go on to be difference makers.

This is a call to action to all accounting educators.

Section 11: Concluding Remarks

Section Contributor:

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In the preface this document addresses the question of "How seriously should I take this?". I feel it appropriate to return to this question at the end of this document. I hope having read this document that as an accounting educator you fully understand the rationale for SAICA (and IFAC) being an advocate for sustainability and that you will now embrace this in your programmes. We (SAICA and its members) have a **responsibility to society** and to developing prospective accountants with a mindset that embraces sustainability. **This is not a fringe or optional project.** This is who we need to be as professional accountants.

I would like to reassure you that this guide aligns fully with SAICA's strategic direction.

This document has been prepared to assist account educators position their teaching within a **longer-term professional and societal trajectory.** Having read this document you should now be assured that sustainability is not an additional burden nor a contributor to "syllabus overload", it is framed as a **core dimension of professional relevance** and enhances the roles professional accountants can serve in. The CA(SA) is the most trusted designation (Edelman trust survey) and continuing to remain relevant through, for example grounding the context for prospective accountants in sustainability, will ensure we retain our **credibility and relevance** as a profession.

This guide provides a common language for accounting educators to support the development of a sustainability mindset in prospective professional accountants. This guide also highlights the importance of not treating sustainability, related governance, reporting and assurance requirements and a sustainability mindset as a "tick the box" exercise. Rather, it needs to be deeply embedded into the SAICA endorsed programme.

This document recognises that **meaningful sustainability integration** requires YOUR action through:

- Development of professional judgement and critical thinking in your graduates as well as a mindset of lifelong learning,
- Tapping into institutional and professional body support to build capacity,
- Being responsive to ongoing regulatory and professional change, and
- Sustained alignment with the CA of the Future Competency Framework (as adapted from time to time).

SAICA expectations as it relates to the topic of sustainability

In an environment where sustainability-related expectations, standards, and terminology continue to evolve, accounting educators (and students) are not expected to master every emerging sustainability framework. Instead, the aim is to develop sufficient **conceptual confidence** in prospective professional accountants so that sustainability can be engaged with thoughtfully, critically, and proportionately when it intersects with governance, decision-making, reporting, assurance, professional judgement and ethics.

At point of entry to becoming a professional accountant through one of the SAICA designations, we **do not expect such professionals to be an expert** in the area of sustainability, rather that demonstrating a sustainability mindset provides the foundation that accounting professionals, once designated, can either perform their roles with a future thinking and responsible lens or specialise in various aspects of sustainability post qualification.

What we do want is to develop professionals who can think critically, ask the right questions (curiosity), apply themselves to new developments (application) and make decisions within a recognised ethical framework that allows governments, businesses and therefore the economy to thrive beyond today. The aim is to develop graduates who can reason, argue, and act responsibly in the grey zones that define sustainability practice, while anticipating both risks and opportunities for business and society.

Decision making can no long be in the context of just financial information and accountants therefore need to have an appreciation for and understanding of the impact of climate change, as well as social and ecological inequalities.

CA of the Future competency framework

The CA of the Future competency framework project started as far back as 2017 with the aim of emphasising that if we are to remain relevant as professional accountants, we need to place more emphasis on the skills we develop in prospective professional accountants (referred to in this document as developing transferable capability). This led to segmenting the competencies into three key areas which do not stand in isolation, rather together form the whole picture. These are:

- Professional values and attitudes
- Enabling competencies or Acumens
- Technical competencies in the value creation process

It was at this time that we started to emphasise that technical know-how for professional accountants would no longer be enough for them to remain relevant in the roles they are to perform now or in the future. The phrase “to develop responsible leaders who behave ethically and create sustainable value…” was crafted with intention and to signal that the roles accountants would fill would go “beyond the numbers” (emphasising that accountants would not only look at financial information but non-financial information as well in the decision-making process!)

Nearly ten years later, we have seen a significant and rapid change in both the landscape (as it relates to sustainability ad technology among other things) and we have seen many changes in the SAICA endorsed academic programmes in their response to give effect to the CA of the Future.

While there has been much change over this period and since the revised competency framework was adopted in 2021, there is still so much more that can be done to better integrate and develop skills in the academic programme. This guide provides the context for this further change and deeper reflection and integration that is needed to contribute to a growing and resilient economy and ultimately a better South Africa and planet for all.

Call to action:

This document is prepared to provide all accounting educators, irrespective of their discipline, with background on the topic of sustainability and how it can be easily integrated into specific courses and the programme as a whole. It encourages accounting educators to reflect on and prepare for emerging and intensifying drivers of change, including: the expanding scope and assurance of sustainability-related disclosures; evolving expectations of ethical leadership, public accountability, and trust; increasing integration of sustainability into risk, strategy, and capital allocation decisions; advances in digital systems, data governance, and analytics; and the growing role of accountants in supporting organisational transition, resilience, and long-term value creation.

This document can be used in many ways, and at the very least I hope this has increased your understanding of sustainability, how it can be integrated into your teaching and assessment and stirred in you a realisation that you can be part of the solution to creating meaningful and lasting change.

This document can be used to inform programme-level discussions and curriculum reviews; support departmental or faculty conversations about long-term teaching strategy; guide professional development and scholarly engagement; frame conversations with accreditation bodies, professional organisations, and institutional leadership.

Ongoing reflection and future developments

This guide emphasises a number of times that the area of sustainability is not new and that it continues to evolve. It is therefore incumbent on accounting educators, in the pursuit of new knowledge, that you stay abreast of new developments in this field. This field also presents a number of areas where formal and informal academic research can take place, and in turn be shared with your students.

Thanks and appreciation

This document has been prepared by a volunteer group of accounting educators for whom this is a passion – I hope that their passion touches you in the same way it touched me when reading this document. I am deeply grateful that we were able to bring together such a wide range of diverse academics to share their thoughts and recommendations on how you as an accounting educator can embrace this topic in your teaching and assessments. I would like to thank them for the hard work, additional hours and careful thought that went into the development of this guide. Without them this work would not have been possible.

Yours in learning
Mandi

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Glossary

It is acknowledged that many of the terms used in this guidance have been developed and applied in different domains and disciplines, often with varying definitions. For the purposes of this guidance, the following glossary provides working definitions of key terms as they are applied in the SAICA *CA of the Future* Competency Framework, the International <IR> Framework and in the context of sustainability-oriented accounting education. These definitions aim to ensure clarity and consistency, while recognising the broader debates in the literature.

Accounting educators (also Educators)	For the purposes of this guidance, "accounting educator" refers collectively to all academics and teaching staff involved in SAICA-endorsed accounting programmes, **irrespective of disciplinary specialisation**, teaching role, or module allocation.
Adaptability	The capacity to adjust thinking, behaviour and problem-solving in response to changing contexts, constraints or expectations.
Additionality	Benefits or impacts that would not have occurred without a specific action, policy or investment (e.g., extra emissions reductions).
Active/ experiential learning	Learning through doing, reflection and application (e.g., projects, simulations, fieldwork), rather than passive reception.
AI literacy	The knowledge and judgement to use, question and explain AI tools responsibly (capabilities, limits, bias, transparency, ethics).
AI-driven greenwashing	Misleading sustainability claims produced or amplified by AI (e.g., autogenerated narratives, selective metrics).
Capitals (six capitals)	The stocks that organisations depend on and affect: financial, manufactured, intellectual, human, social & relationship, and natural.
Constructive alignment	Designing outcomes, learning activities and assessment so they reinforce the same intended capabilities.
Decolonial orientation	A pedagogy that surfaces and challenges colonial legacies and power in knowledge, practice and evaluation.
Dialogical education	Teaching that centres dialogue and co-inquiry (rather than one-way transmission) to build understanding and judgement.
Disorienting dilemma	A challenging experience that unsettles assumptions and can trigger transformative learning.
Double materiality	A lens that considers both (1) how sustainability matters affect the enterprise's value and (2) how the enterprise impacts the economy, people and the environment.
Economic sustainability	Maintaining economic viability and livelihoods over time without eroding social or environmental foundations.
Entry-level CA(SA)	A newly registered Chartered Accountant (South Africa) who has completed required education, training and professional assessment.
Environmental sustainability	Conserving natural systems and resources so ecological functions and biodiversity endure over time.
Ethical stamina	The sustained ability to uphold ethical standards under time pressure, ambiguity, incentives or pushback.
Externalities	Costs or benefits of activities borne by others rather than the decision-maker (e.g., pollution, public health effects).
Feedback literacy	The ability to interpret, evaluate and use feedback to improve work and learning (including giving feedback to others).
Financial materiality	Sustainability matters that could reasonably influence enterprise value and decisions of capital providers.
Gibbs' reflective cycle	A structured reflection model: description → feelings → evaluation → analysis → conclusion → action plan.
Governance	The systems, structures and processes through which organisations are directed, controlled and held to account (including ethics, risk and value creation).
Golden thread	A curriculum-wide, visible integration (e.g., sustainability or integrated thinking) that connects modules and assessments.
Group logs	Brief records of team contributions, decisions and issues that support accountability and reflection.
Hidden curriculum	Unstated norms or signals (often via assessment) that shape what students actually prioritise and learn.
Impact materiality	Actual or potential positive and negative impacts on the economy, people and the environment, regardless of financial effects.
Information	Data processed and contextualised into decision-useful form for defined users (relevant, reliable, comparable, complete).
Information systems	Organised processes and technologies that capture, process, secure and report financial and non-financial data.
Integrated reporting (<IR>)	Concise communication about strategy, governance, performance and prospects leading to value creation over time.
Integrated thinking	Active consideration of the relationships and trade-offs between the six capitals, strategy, business model and stakeholders.
Judgement (professional)	Weighing evidence and alternatives to make defensible decisions that balance technical, ethical, social and environmental considerations.
Just transition	Managing the shift to a low-carbon, sustainable economy in ways that are fair, inclusive and supportive of affected workers and communities.
Kolb's experiential cycle	A learning loop: concrete experience → reflective observation → abstract conceptualisation → active experimentation.

Lifelong learning	Continuous, self-directed development of knowledge, skills and values across one's career and life.
Mendelow's Matrix	Stakeholder analysis by **power** and **interest** to guide engagement priorities.
Moral imagination	The ability to envision alternative, ethically preferable actions and consequences in a situation.
Moral pluralism	Recognition that multiple, sometimes competing moral perspectives (e.g., rights, utility, virtue) may reasonably apply
Outcomes (learning)	What learners should know, do and value at the end of a learning unit; they anchor alignment and assessment.
PBL (Problem-Based Learning)	Student-centred learning driven by authentic problems, emphasising inquiry, collaboration and self-direction.
Planetary boundaries	Scientific thresholds for Earth-system processes within which humanity can operate safely.
Polluter-pays principle	Those who produce pollution should bear the costs of preventing, controlling and remedying it.
Polycrisis	Interacting, compounding crises (e.g., climate, inequality, biodiversity, geopolitics) that amplify overall risk.
Precautionary principle	Where serious or irreversible harm is plausible, lack of full scientific certainty is **not** a reason to delay safeguards.
Prevention principle	Environmental harm should be prevented at source rather than remedied after it occurs.
PVAA	Professional Values, Attitudes and **Acumen** (e.g., ethics, scepticism, citizenship, judgement, resilience).
Reflection-in-action / reflection-on-action	Reflecting **during** practice to adapt in real time / reflecting **after** practice to learn for next time.
Rolfe's framework	A simple reflective prompt: "What? So what? Now what?".
Scaffolding	Temporary support that enables learners to perform beyond current ability, gradually withdrawn as capability grows.
SDG wedding-cake model	A view of the SDGs as nested layers: biosphere → society → economy
Social licence to operate (SLO)	Ongoing acceptance and approval from communities and stakeholders that allows an organisation to operate.
Social sustainability	Sustaining social cohesion, equity, human rights, well-being and participation over time.
Stakeholder capitalism	A model of capitalism that prioritises value for a broad set of stakeholders, not only shareholders.
Stakeholder inclusivity	Engaging and considering the legitimate needs and interests of stakeholders in decisions and reporting.
Stakeholder salience	The relative priority of stakeholders based on power, legitimacy and urgency
Strong sustainability	The view that natural capital has critical, non-substitutable functions that must be maintained intact.
Sustainability	Meeting present needs while safeguarding ecological systems and social foundations so future generations can also thrive.
Sustainability mindset	Framing problems and decisions through interconnected social–environmental–economic lenses with stewardship and long-term value in view.
Sustainable development	Pathways that improve well-being and prosperity while protecting planetary and social boundaries.
Sustainable value creation	Creating value across the six capitals over the short, medium and long term, without shifting costs to people or planet.
Systems thinking	Understanding how elements interact within and across systems, including feedbacks, delays and unintended effects.
Teleconnections	Distant linkages where a change in one system influences outcomes far away (e.g., climate, supply chains).
Tipping point	A threshold beyond which a system shifts into a new state that is hard to reverse.
Transferable competencies	Skills gained in one context that can be applied effectively in another (e.g., analysis, communication).
Transformative learning	Learning that changes frames of reference (assumptions, values, identity) through critical reflection and dialogue.
Transversal competencies	Broad capabilities usable across disciplines and roles (e.g., ethics, systems thinking, collaboration, digital acumen).
Tragedy of the commons	Overuse of shared resources when individual incentives conflict with collective interest.
Ubuntu	A relational ethic emphasising shared humanity, dignity, reciprocity and responsibility ("I am because we are").
Value creation	Increases (or decreases) in the capitals an organisation uses and affects, considering stakeholders and time horizons.
Value creation process	The activities, relationships and resources through which value is created, preserved or eroded across capitals.
Weak sustainability	The view that different capitals can substitute for each other, so natural capital losses can be offset by other gains.
Wicked problem	A complex challenge with incomplete information, conflicting values and no single correct solution.

Abbreviations

3BL	Triple Bottom Line (People, Planet, Profit)
4Ps	People, Planet, Profit, Prosperity
5Ps	People, Planet, Prosperity, Peace; Partnership or People, Planet, Prosperity, Profit, Purpose
ACCA	Association of Chartered Certified Accountants
AGSA	Auditor General of South Africa
APC	Assessment of Professional Competence
CA	Chartered Accountant
CA ANZ	Chartered Accountants Australia and New Zealand
CA(SA)	Chartered Accountant (South Africa)
CDP	Carbon Disclosure Project
CERES	Coalition for Environmentally Responsible Economies
CGMA	Chartered Global Management Accountant
CIMA	Chartered Institute of Management Accountants
CIPC	Companies and Intellectual Property Commission
CPA Canada	Chartered Professional Accountants of Canada
CPD	Continuing Professional Development
CRISA	Code for Responsible Investing in South Africa
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
CSDDD	Corporate Sustainability Due Diligence Directive
DCE	Democratic Citizenship Education
DFFE	Department of Forestry, Fisheries, and the Environment
DMRE	Department of Mineral Resources and Energy
DWS	Department of Water and Sanitation
EF	Ecological Footprint
EIA	Environmental Impact Assessment
ESG	Environmental, Social, and Governance
ESRS	European Sustainability Reporting Standards
EU	European Union
FSCA	Financial Sector Conduct Authority
GAA	Global Accounting Alliance
GCE	Global Citizenship Education
GNi	Gross National Income
GRI	Global Reporting Initiative
HDI	Human Development Index
IAASB	International Auditing and Assurance Standards Board
ICAEW	Institute of Chartered Accountants in England and Wales
IES	International Education Standards (for professional accountants)
IESBA	International Ethics Standards Board for Accountants
IFAC	International Federation of Accountants
IFRS	International Financial Reporting Standards
IIRC	International Integrated Reporting Council *(now consolidated into the IFRS Foundation)*
<IR>	Integrated Reporting
IRC SA	Integrated Reporting Committee of South Africa
IDP	Integrated Development Plan
ISSA	International Standard on Sustainability Assurance *(IAASB)*
ISSB	International Sustainability Standards Board
JSE	Johannesburg Stock Exchange
KPI	Key Performance Indicator
KSA	Knowledge, Skills and Abilities
LLE	Lifelong Learning Entitlement
NEMA	National Environmental Management Act
NERSA	National Energy Regulator of South Africa
NFRD	Non-Financial Reporting Directive (EU)
NRW	Non-revenue water
MFMA	Municipal Financial Management Act
MTREF	Medium-Term Revenue and Expenditure Framework
PBL	Problem-Based Learning
PCC	Presidential Climate Commission
PCI	Peer Contribution Index
PFMA	Public Financial Management Act
PGDA	Postgraduate Diploma in Accounting
PPP	Purchasing Power Parity / Also Public-Private Partnership
PVAA	Professional Values, Attitudes and Acumen
SAICA	South African Institute of Chartered Accountants
SANRAL	South African National Roads Agency SOC Ltd
SASB	Sustainability Accounting Standards Board *(now part of IFRS Foundation via VRF)*
SDBIP	Service Delivery and Budget Implementation Plan
SDF	Spatial Development Framework
SDG	Sustainable Development Goals
SEC	(U.S.) Securities and Exchange Commission
SLO	Social Licence to Operate
SOE	State-owned Enterprice
SRI	Socially Responsible Investing *(also "Investment" in some sources)*
TCFD	Task Force on Climate-related Financial Disclosures
UN	United Nations
UN PRI	United Nations-supported Principles for Responsible Investment
UNESCO	United Nations Educational, Scientific and Cultural organisation

Index Key terms and concepts found in Sections 1 to 9

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