



Assessing International Interoperability and Usability of the South African Green Finance Taxonomy

A technical report prepared for the South African National Treasury

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ABOUT THIS REPORT

This technical paper seeks to assess the international Interoperability and Usability of the South African Green Finance Taxonomy(SA GFT) while further addressing usability concerns and making recommendations for future iterations of the SA GFT. The report makes a multi-jurisdictional comparison of other existing and taxonomies that are under development to identify the best global practices and address how these could be applied to the SA GFT.

ABOUT CLIMATE POLICY INITIATIVE

Climate Policy Initiative (CPI) is an analysis and advisory organisation with deep expertise in finance and policy. Their mission is to help governments, businesses, and financial institutions drive economic growth while addressing climate change. CPI has seven offices worldwide in Brazil, India, Indonesia, South Africa, the United Kingdom, and the United States.

ABOUT GREENCAPE

GreenCape is a non-profit organisation registered in South Africa that looks to drive the widespread adoption of economically viable green economy solutions. They work with businesses, investors, academia, and government to help unlock the investment and employment potential of green technologies and services, and to support a transition to a resilient green economy. Their sector experts specialise in energy, circular economy, water, smart agriculture, alternative service delivery and climate finance.

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FOREWORD

By Dr Duncan Pieterse, Director General, National Treasury

As we stand at a pivotal moment in South Africa's journey towards a sustainable, resilient economy, the importance of transitioning to cleaner energy sources and the development of sustainable industries cannot be overstated. The challenges posed by climate change demand urgent action, and our commitment to an energy and economic transition is not merely a choice; it is a necessity for the well-being of our nation and future generations to foster economic growth, create jobs, and ensure energy security for all South Africans.

The financial resources required to facilitate this transition are substantial. It is estimated that climate finance in South Africa needs to increase by at least three to fivefold from the current annual average of R131 billion in order to meet its Nationally Determined Contributions (NDCs). Achieving this ambitious goal requires diverse investors' collective effort, attracting new investments and strategically aligning existing financial flows to support this transition. All this will ensure the risks and returns on these investments meet the requirements of savers and investors.

In this context, the establishment of a robust South African Green Finance Taxonomy (SA GFT) plays an essential role in the mobilisation of necessary financing. The SA GFT (1st edition, 2022) serves as a framework defining the constitution of "green" investments, providing clarity and certainty for investors. By aligning with international best practices, the taxonomy enhances transparency in financial markets, reduces greenwashing, and, ultimately, facilitates capital flows towards sustainable projects. This alignment is essential for building investor confidence and unlocking significant funding opportunities in sectors critical to our green economy.

Moreover, the success of our green finance initiatives hinges on international collaboration. The complexities of climate finance require a concerted effort among nations to share knowledge, resources, and best practices. Collaborative frameworks can accelerate innovation and technology deployment while establishing common standards that level the playing field for low-emission goods and services. South Africa's participation in global partnerships will enhance its capacity to attract sustainable investment and effectively drive our energy transition.

This technical paper shows that the SA GFT has a strong international alignment, particularly in its broad coverage of environmental objectives, sectors, and activities, along with its prioritisation of climate change mitigation. While this supports interoperability with global taxonomies and the Paris Agreement, challenges remain in the usability and adoption of the SA GFT. To drive meaningful impact, therefore, the taxonomy must meet local needs, align internationally, and be implemented and utilised by various stakeholders, from government entities to private investors.

In conclusion, I invite all stakeholders to embrace this step towards a sustainable future. By working together, we can effectively leverage the taxonomy and green finance to transform and drive sustainable economic and social transformation.



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LIST OF ACRONYMS

ASEAN	Association of Southeast Asian Nations
CBI	Climate Bonds Initiative
CGT	Common Ground Taxonomy
DNSH	Do No Significant Harm
ESRS	European Sustainability Reporting Standards
EU	European Union
GFI	Green Finance Institute
GRI	Global Reporting Initiative
GTAG	Green Technical Advisory Group
IFC	International Finance Corporation
IPSF	International Platform on Sustainable Finance
ISO	International Organization for Standardization
JSE	Johannesburg Stock Exchange
MSC	Make Substantial Contribution
MSS	Minimum Social Safeguards
NEMA	National Environmental Management Act
NT	National Treasury
OECD	Organisation for Economic Co-operation and Development
SA	South Africa
SA GFT	South African Green Finance Taxonomy
SASB	Sustainability Accounting Standards Board
SDGs	Sustainable Development Goals
TSC	Technical Screening Criteria
UN	United Nations
UNEP FI	United Nations Environment Programme Finance Initiative

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EXECUTIVE SUMMARY

Interoperability¹ between sustainable finance taxonomies is essential to facilitate seamless cross-border flows of climate finance, helping countries mobilise the resources needed to achieve the net-zero targets outlined in their Nationally Determined Contributions (NDCs).

While the potential benefits of diverse approaches to developing taxonomies are acknowledged, significant differences in objectives, methodologies, and design can lead to incompatibility, exacerbating market fragmentation and information asymmetries resulting in higher verification costs, particularly for cross-border investments (IFC, 2024).

Consequently, several global initiatives have emerged to promote methodological approaches and principles that enhance alignment and interoperability between taxonomies, underscoring that the challenges posed by market fragmentation have become a significant concern for market participants and taxonomy users (Climate Policy in Action, 2023). As global initiatives continue to shape the future of sustainable finance, aligning the South African Green Finance Taxonomy (SA GFT) with international standards is strategically imperative, and should be embedded into its ongoing maintenance and implementation for several reasons:

- To expand and maintain South Africa's position as an attractive destination for foreign direct investment, assisting in bridging the climate finance gap that domestic sources alone cannot fill.
- To support setting a fair carbon price in line with international standards and ensuring market consistency.
- To guide the local financial market in developing credible labels for green investment products to ensure competitiveness in global capital markets.
- To establish credible, taxonomy-based metrics that non-financial corporations can disclose to demonstrate the green and transition credentials of their activities and assets, enabling easier international market access.
- To effectively navigate the potential challenges and opportunities in the rapidly evolving international sustainable finance landscape.

¹ Interoperability refers to key design attributes that allow a taxonomy to be used across borders. Please see Chapter 2 for more details.

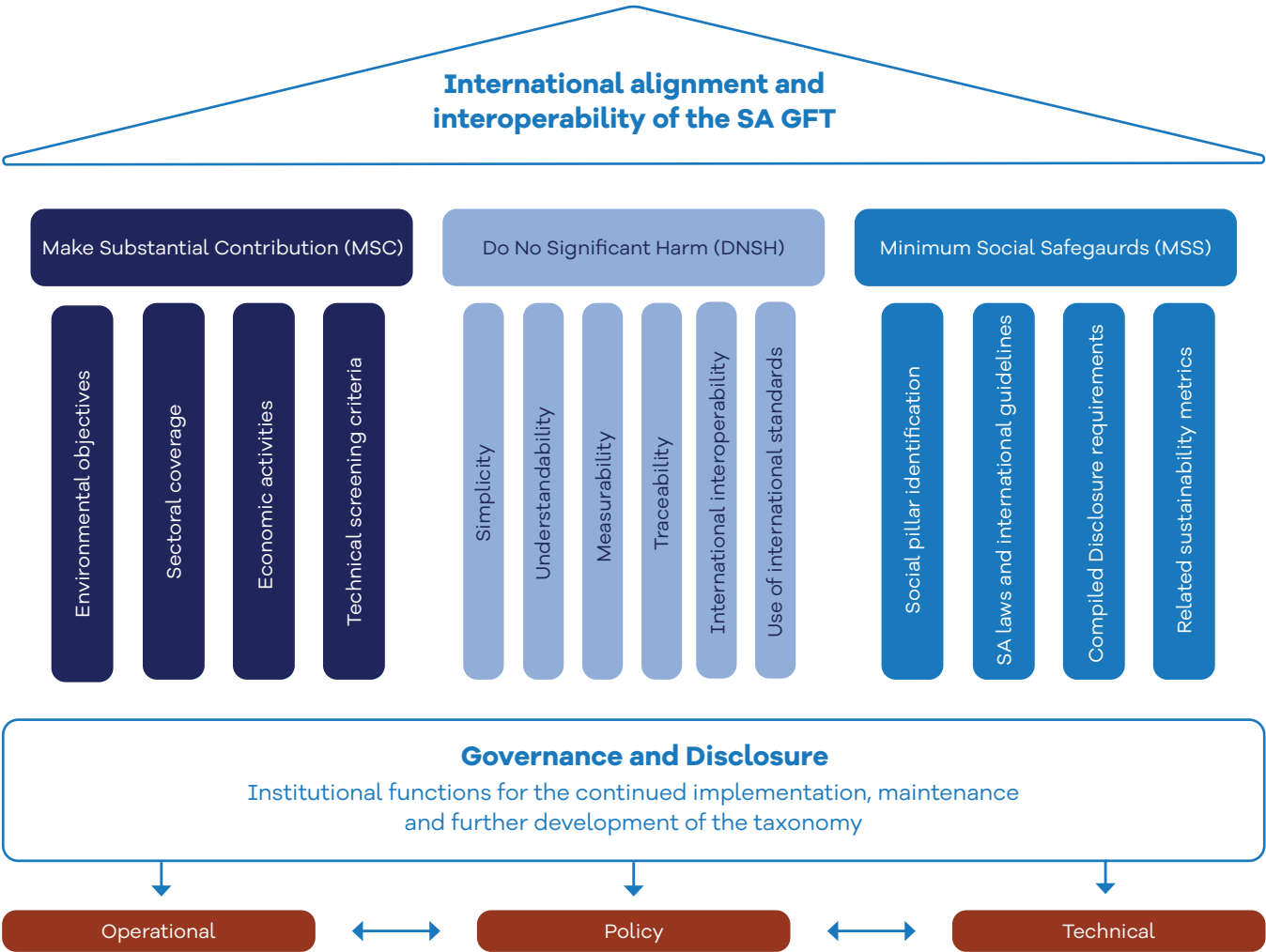
METHODOLOGY

This study evaluates the SA GFT’s international alignment and interoperability with other green and sustainable finance taxonomies through a comparative analysis of three key principles that define the eligibility criteria for economic activities, sectors, and projects to qualify as green. These principles—or pillars—are as follows (SA National Treasury, 2022):

- i. The activity must **make a substantial contribution (MSC)** to at least one of the SA GFT’s six taxonomy objectives.
- ii. An activity fulfilling the MSC criteria must also **Do No Significant Harm (DNSH)** to any of the other five objectives.
- iii. In addition to meeting the MSC and DNSH criteria, the activity must also meet **Minimum Social Safeguards (MSS)**.

In addition, the analysis draws on global practices to identify the institutional, operational, and technical functions necessary for **governance and disclosure**, which are essential for the ongoing implementation, maintenance, and further development of the SA GFT. **Figure 1** below presents a high-level overview of the analytical framework and key elements central to the empirical analysis.

Figure 1: Key SA GFT components relevant to international alignment and interoperability



KEY INSIGHTS AND RECOMMENDATIONS

The analysis indicates that the SA GFT demonstrates high international interoperability and alignment, evidenced by its relatively broad coverage of environmental objectives, economic sectors, and activities for compliance with the MSC principle. The development of performance criteria for climate change mitigation is prioritised. This supports interoperability with international taxonomies, which have similarly prioritised climate change mitigation to date, and aligns with the urgent need to identify credible activities that substantially contribute to achieving the goals outlined by the Paris Agreement.

However, its usability and adoption face challenges associated with demonstrating alignment with the DNSH and MSS pillars. Therefore, clear user guidelines and robust mechanisms are required to ensure the SA GFT remains practical and relevant for stakeholders. Furthermore, current governance and disclosure frameworks lack clarity regarding roles and responsibilities, along with other structural issues relating to support for adoption, such as the absence of compliance incentives. These gaps impede effective implementation and continuous improvement, limiting the SA GFT’s ability to remain aligned with evolving global standards and practices.

To overcome these challenges, the following recommendations are proposed for each of the pillars.

RECOMMENDATIONS UNDER THE MAKE SUBSTANTIAL CONTRIBUTION PILLAR:

1. **Leverage the wide coverage of economic activities within the SAGFT to lead efforts** in advancing interoperability, particularly with global initiatives such as the G20 sustainable finance agenda, as well as with the broader African region.
2. **Balance interoperability with localisation** to maintain flexibility by incorporating elements that reflect the local context, such as specific activities and metrics tailored to the country’s sustainability challenges and opportunities.
3. **Facilitate compatibility between the SA GFT and other taxonomies** by developing toolkits that streamline economic sector and activity categorization, such as correspondence tables formally recognised by international peers, which ease the compliance burden for users.
4. **Foster collaboration with other jurisdictions and international bodies to enhance interoperability**, such as international working group participation, best practice sharing, and developing joint technical screening criteria for sectors common across multiple taxonomies.

RECOMMENDATIONS UNDER THE DO NO SIGNIFICANT HARM PILLAR:

- 1. Introduce alternative classifications for economic activities within the SA GFT to make compliance with the DNSH criteria more flexible, moving away from an all-or-nothing approach.** Specifically, the SA GFT could adopt an ‘eligible vs aligned’ classification system, whereby ‘aligned’ activities fully meet all the MSC, DNSH and MSS requirements while ‘eligible’ activities fully satisfy MSC but may not fully meet DNSH and/or MSS.
- 2. Establish a working group to improve usability, international interoperability, and disclosure of the DNSH principle** by conducting phased reviews of South Africa’s DNSH implementation, identifying gaps, formulating plans to address them and integrating international best practices. This working group can also design capacity-building programmes and toolkits to support the effective implementation of DNSH.
- 3. Improve the use of specific quantitative thresholds:**
 - **Where possible, quantitative thresholds should be prioritised** to simplify performance measurement and reduce uncertainties associated with discretionary judgements or process-based DNSH criteria.
 - **When quantitative thresholds are not feasible, such as with generic DNSH criteria,** improvements can be made by using clear, objective language.
- 4. Enhance traceability and specificity:**
 - **Where relevant regulations or standards are missing from the criteria, add references.** Although 57% of the generic DNSH criteria include thresholds, many are not linked to specific regulations or standards. This creates uncertainty as to whether these thresholds align with the goals of the Paris Agreement or other international and national standards.
 - Improve usability by **adding details to clarify the scope of terms used in the criteria.**
 - **Where regulations or standards are referenced, clearly specify relevant sections providing guidance on the type of evidence** that can be used to demonstrate compliance.
- 5. Minimise the use of subjective language or provide a definition where unavoidable.** Subjective language is a common issue across taxonomies with DNSH criteria. When its use is inevitable, a clear definition should always be provided.
- 6. Facilitate international interoperability:**
 - **When resources allow, conduct a line-by-line assessment of the DNSH criteria in the taxonomies of other major or relevant economies** to evaluate interoperability with the SA GFT.
 - The **use of international standards**, such as those of the International Organization for Standardization (ISO) or UN frameworks, should be increased, where possible, to improve international interoperability.

RECOMMENDATIONS UNDER THE MINIMUM SOCIAL SAFEGUARDS PILLAR:

- 1. Integrate relevant existing national regulations,** such as the Broad-based Black Economic Empowerment (B-BBEE) Act 53 of 2003 and the Women Empowerment and Gender Equality Bill of 2013 in the MSS framework.
- 2. Engage with market participants to understand challenges with MSS compliance,** enabling regulators to refine the framework in practical ways that address usability issues and support effective adoption across industries.
- 3. Provide clear and practical guidance to reduce ambiguity in MSS compliance,** including actionable steps, templates, case studies, and best practices to help users integrate MSS into daily operations.
- 4. Develop standardised metrics for MSS compliance** that align with widely recognised sustainability reporting frameworks, such as those of the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Johannesburg Stock Exchange (JSE). These metrics should be measurable, verifiable, and easily applicable across sectors.
- 5. Design and adopt a standardised reporting framework** to integrate and strengthen social due diligence processes.
- 6. Promote more flexible common ground social safeguards,** helping investors and companies face fewer barriers when navigating different sustainable finance taxonomies.

Table 1: Recommended actions towards enhancing the international interoperability and usability of the SA GFT

Actors	Recommended Actions	Pillars
Theme 1: Governance and Leadership		
South African regulators & policymakers	<ul style="list-style-type: none">• Establish a domestic SA GFT Working Group to improve usability, international interoperability, and disclosure. This working group should include policymakers, representatives from reporting entities such as large financial institutions and corporations, experts from key economic sectors, and consultants.• Consider collaborative, joint development of technical screening criteria for sectors common to multiple taxonomies. These efforts are essential to continuously update and refine the SA GFT in line with evolving global standards while retaining local relevance.	All
Theme 2: Improve the usability of SA GFT		
South African regulators, SA GFT Working Group	<ul style="list-style-type: none">• Increase the compliance flexibility of the DNSH criteria in the SA GFT by creating a category for a lower level of alignment in the current taxonomy.• Improve the use of specific quantitative thresholds, prioritising them over discretionary judgements or process-based DNSH criteria, and tailor the generic criteria to specific sectors.• Enhance the traceability and specificity of DNSH criteria by providing references, details, and clarifying the scope of terms. Where compliance with regulation is required, clearly specify the relevant sections of the legislation to be consulted and the type of evidence required.• Minimise the use of subjective language or provide definitions.	DNSH
South African regulators, SA GFT Working Group	<ul style="list-style-type: none">• Leverage the SA GFT’s broad coverage of economic activities and sectors to lead interoperability efforts: As one of the earliest adopters of a sustainable finance taxonomy and the first in Africa, South Africa is well positioned to become a leader in the effort to advance interoperability between taxonomies, particularly in areas where it has already set robust technical screening criteria. This is underpinned by the fact that the SA GFT covers a wider range of economic activities compared to many other taxonomies.• Balance harmonisation with localisation to support interoperability: The SA GFT currently demonstrates a high level of harmonisation with the EU’s taxonomy, which enhances its interoperability within global markets where EU-aligned standards are dominant. However, retaining local relevance is equally important.	MSC
International sustainable finance taxonomy community	<ul style="list-style-type: none">• Establish capacity-building workshops, toolkit guidance, online learning platforms for reporting entities, and best practice sharing among countries and international actors to ensure ease of use and effective implementation of SA GFT.	All

Actors	Recommended Actions	Pillars
SA GFT Working Group	<ul style="list-style-type: none">• Develop toolkits to facilitate compatibility mappings, such as correspondence tables formally recognised by international peers. This would enable seamless alignment of SA GFT economic activities with those in other taxonomies. This process could be particularly effective through neutral benchmarks like the International Standard Industrial Classification of All Economic Activities (ISIC).• Refine the classification and identification of economic activities to enhance interoperability: In some instances, the SA GFT identifies economic activities at a broader level than the ISIC, leading to the aggregation of activities that may correspond to several classes under the ISIC. This overlapping can create challenges for mapping specific economic activities across different taxonomies, cross-border comparisons, and interoperability.	MSC
	<ul style="list-style-type: none">• Enhance the use of international standards by leveraging those already adopted in other taxonomies and/or exploring underutilised options. This would entail a comprehensive and regular mapping of the DNSH criteria to the taxonomies of other major or relevant economies to facilitate comparability and, therefore, interoperability.	DNSH
Theme 4: Governance and Disclosure		
South African regulators & policymakers	<ul style="list-style-type: none">• Allow disclosure of the percentage of activities that meet MSC but not DNSH criteria by reporting entities, along with reasons for failure.• Provide disclosure templates, examples, and detailed guidance.• Encourage third-party verification of disclosed information from qualified verifiers.• Conduct a comprehensive review of various sustainability reporting frameworks to identify interoperable data points. Where possible, leverage existing ESG reporting frameworks, such as the JSE listing requirements, the King IV Code and the National Environmental Management Act, to reduce the burden of compliance for the SA GFT.• Define institutional roles and responsibilities related to policy, operational, and technical functions more precisely. This is necessary for the ongoing implementation, maintenance, and further development of the SA GFT.	All
International sustainable finance taxonomy community	<ul style="list-style-type: none">• Encourage international collaboration between regulators, taxonomy frameworks, and other sustainability reporting regimes to standardise disclosure guidance or templates.	All

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01

INTRODUCTION

1.1 CONTEXT

Globally, countries are enhancing their strategies to legitimise green projects in global markets and attract the capital needed to develop their green economies, and meet their Nationally Determined Contributions (NDCs). A notable and relatively recent development in this context is the rapid emergence of “green” or “sustainable” finance taxonomies worldwide.² In 2013, the Climate Bonds Initiative (CBI) released the first Climate Bonds Taxonomy (CBI, 2023). As of April 2024, 47 countries have adopted sustainable finance taxonomies, and many more are in development (IFC, 2024).

While the taxonomy models developed by the CBI, China, and the European Union (EU) have been widely adopted as global benchmarks, certain regions and countries are also introducing innovations tailored to their socioeconomic contexts, national policies, strategies, and development needs. For instance, the Association of Southeast Asian Nations (ASEAN) introduced an innovative traffic light system with green, amber, and red classifications for economic activities (ASEAN Taxonomy Board, 2024). Other markets have incorporated activities and criteria that reflect the socioeconomic challenges and opportunities of their local economies, such as promoting the inclusivity of micro-, small-, and medium-sized enterprises, women-owned businesses, and vulnerable groups (IFC, 2024).

An example of this is Mexico’s inclusion of a Gender Equality Index in its Sustainable Finance Taxonomy which guides users in identifying investments that close gender gaps (Ministry of Finance and Public Credit, 2023).

In South Africa, the National Treasury (NT) published the first edition of the SA GFT in April 2022. The SA GFT accounts for the country’s socioeconomic and development context while maintaining alignment with international best practices (Sustainable Finance Initiative, 2022). The SA GFT leverages international examples, particularly from the EU taxonomy, by initially focusing on a core set of climate-related objectives towards which qualifying economic activities can contribute. Other environmental objectives are also acknowledged, allowing for their inclusion in future iterations. Additionally, the design objectives of the first edition of the SA GFT emphasise integrating environmental and social goals, while minimising trade-offs, suggesting the potential inclusion of social dimensions in the future to better align with the country’s development challenges and opportunities (Sustainable Finance Initiative, 2022).

As global initiatives continue to shape the future of sustainable finance, South Africa’s efforts to ensure its taxonomy aligns with international standards are pivotal.

The benefits of adopting diverse approaches to developing sustainable taxonomies are widely acknowledged. These include fostering innovation and inclusivity tailored to each country’s unique sustainable development challenges, local market practices, and opportunities. However, significant variations in taxonomy objectives, methodologies, and design considerations can exacerbate market fragmentation and information asymmetry, leading to higher transaction costs, particularly for cross-border investments (IFC, 2024).

Questions about the interoperability of sustainable finance taxonomies across borders have come to the fore globally, underscoring that the challenges posed by market fragmentation are a significant concern for market participants and taxonomy users (Climate Policy in Action, 2023).

Key sources of foreign direct investment, such as the EU, are setting increasingly stricter definitions and disclosure requirements for sustainable investment.

In addition, certain sustainability-linked measures, such as the EU’s Carbon Border Adjustment Mechanism (CBAM), aimed at driving the global economy towards net zero, will require South African businesses exporting to the EU and other markets to strongly evaluate their business-as-usual operations, resources, and inputs. Therefore, achieving interoperability between the SA GFT and the EU taxonomy for sustainable activities would enable South Africa to safeguard its local supply chains, particularly for cross-border investments (IFC, 2024).

1.2 OBJECTIVES

The objectives of this technical report are to:

- Assess the SA GFT’s core design elements for international interoperability and usability, including the pillars of make a substantial contribution (MSC), Do No Significant Harm (DNSH), and Minimum Social Safeguards (MSS).
- Review international disclosure and governance practices to identify insights that could enhance the disclosure and governance framework for the SA GFT.
- Identify potential gaps and key issues affecting the SA GFT’s interoperability and alignment and recommend actions to address them.
- Recommend industry tools and initiatives to enhance the interoperability of the SA GFT.

1.3 COVERAGE OF TAXONOMIES AND SCOPE

This has been done through a multi-jurisdictional comparison of the SA GFT and other taxonomies, as shown in **Table 2**. Taxonomies have been selected based on several considerations, including relevance to South Africa, economic development, context, granularity, literature gaps, geographic diversity and regional proximity. Comprehensive coverage and line-by-line comparisons with all publicly available taxonomies are outside the scope of this study.

²Green finance taxonomies define economic activities that contribute positively to environmental objectives, such as climate change mitigation and adaptation, biodiversity conservation, or resource efficiency. Sustainable finance taxonomies, on the other hand, are broader classification systems that encompass not only environmentally sustainable activities but also those that contribute to social and governance objectives.

Table 2: Taxonomy coverage utilised in the comparative analysis by pillar

Taxonomy	Comparison Pillars		
	MSC	DNSH	MSS
ASEAN Taxonomy for Sustainable Finance V3	✓		
Sustainable Taxonomy for Mexico 2023 Edition	✓	✓	
Indonesian Taxonomy for Sustainable Finance 2024 Edition	✓	✓	✓
EU Taxonomy for Sustainable Activities	✓	✓	✓
Singapore-Asia Taxonomy for Sustainable Finance 2023 Edition	✓	✓	
Rwanda’s Green Taxonomy 2023 Edition		✓	
Colombian Green Taxonomy			✓
Australian Sustainable Finance Taxonomy		✓	✓

- ✓ Comparison with SA GFT undertaken
- ✓ Taxonomy not yet released; analysis based on ongoing taxonomy development work.
- ✓ Integrates the findings of Carbon Trust on the line-by-line comparison on DNSH and summary of regulations/ standards referred to in the EU taxonomy.

Engagement with key stakeholders was conducted to identify global best practices along the following dimensions:

1. Principles and design elements that underpin taxonomy interoperability.
2. Taxonomy governance models and best practices.
3. Taxonomy-related disclosure practices and frameworks.

1.4 REPORT OUTLINE

The remaining sections of the paper are organised as follows:

- **Section 2:** Defining interoperability, its relevance and guidelines.
- **Section 3:** Evaluating Interoperability through Make a Substantial Contribution.
- **Section 4:** Do No Significant Harm.
- **Section 5:** Minimum Social Safeguards.
- **Section 6:** Disclosure and Governance.
- **Section 7:** Conclusions and recommendations.



02

INTEROPERABILITY: GLOBAL RELEVANCE AND GUIDELINES

2.1. DEFINING INTEROPERABILITY AND ITS GLOBAL RELEVANCE

For this analysis, interoperability refers to key design attributes that allow a taxonomy to be used across borders (SAIIA, 2024). Taxonomies do not need to be identical to achieve interoperability. However, they must be based on similar guiding principles and have comparable design elements, such as objectives and classification systems for sectors and activities. Additionally, the approaches and methodologies used for defining eligibility must also be similar (UNEP FI, 2023). This ensures sufficient compatibility between different approaches and clear guidance on how these frameworks interact across multiple jurisdictions (Verougstraete *et. al*, 2022).

A major concern among sustainable finance investors is uncertainty over whether the initiatives they fund genuinely contribute to intended environmental outcomes.

Misallocating capital due to an incorrect assessment of an activity's contribution to environmental objectives can cause significant reputational damage, as it may be perceived as greenwashing.

This credibility challenge—and the associated risk of underfunding sustainability goals—is especially pronounced in emerging markets and developing economies (EMDEs). Consequently, despite the recent global growth in climate finance, investors with sustainability mandates have been hesitant to allocate capital to support the decarbonisation of hard-to-abate sectors such as steel, chemicals, and cement (Shirai, 2023; SAIIA, 2024).

While taxonomies can provide essential information to assess the sustainability credentials of investments and classify them according to specific sustainability goals—thereby guiding investors and stakeholders in making more informed decisions—the recent proliferation of divergent taxonomies worldwide has raised significant concerns about market fragmentation and information asymmetry (Ehlers *et al.*, 2021). This adds friction that can undermine the cross-border mobilisation of financial resources needed to achieve sustainability goals. EMDEs, requiring such resources the most, can mitigate this risk by developing internationally interoperable and usable taxonomies, particularly across borders where capital originates.

2.2. RELEVANCE OF INTEROPERABILITY IN THE SOUTH AFRICAN CONTEXT

Many countries are leveraging established frameworks to develop their own sustainable finance taxonomies that are internationally aligned and interoperable. For example, the first SA GFT published in 2022 was developed using the EU taxonomy for sustainable activities as its foundation (Carbon Trust, 2022). For South Africa, ensuring international alignment and interoperability is not just a matter of convenience; it is a strategic imperative that must be embedded in the ongoing maintenance and implementation of its taxonomy for several reasons:

- To facilitate and maintain South Africa's position as an attractive destination for foreign direct investment, assisting in bridging the climate finance gap that domestic sources alone cannot fill.
- To support the setting of a fair carbon price in line with international standards and ensure market consistency.
- To guide local financial markets in developing credible labels for green investment products, ensuring competitiveness in global capital markets.
- To establish credible, taxonomy-based metrics that non-financial corporations can disclose to demonstrate the green and transition-oriented credentials of their activities and assets, enabling easier access to international markets.
- To effectively navigate the challenges and opportunities in the rapidly evolving international sustainable finance landscape.

The following subsections elaborate on why ensuring international interoperability and alignment with prominent sustainable finance taxonomies should remain a strong priority in the development and future updates of the SA GFT, while retaining local relevance.

2.2.1. UNLOCKING FOREIGN CAPITAL TO BRIDGE THE DOMESTIC CLIMATE FINANCE GAP

Given the critical role of foreign capital in South Africa's economy, ensuring international interoperability and alignment is essential. In 2020, foreign entities—including development financial institutions, corporates, and banks—held R3.3 trillion in assets in South African corporations, compared to R1.9 trillion held by South African investors and financial institutions (Boonzaaier, 2019). This stark comparison demonstrates why taxonomy alignment is essential to the maintenance of the country's position as an attractive destination for foreign investment, as well as the importance of bridging the climate finance gap that current domestic sources alone cannot fill.

Additionally, over the 2019 to 2021 period, South Africa received an average of R131 billion per year in climate finance investments. Of this amount, only 9% (R12 billion per year) came from domestic sources, with the remainder (91%) coming from international sources, primarily located in Western Europe (de Aragão Fernandes, *et al*, 2023). Therefore, given that South Africa is estimated to require, R334 billion per year to meet its net zero by 2050 target, and R535 billion annually for its NDCs by 2030, there is a significant need to increase the volume of climate finance, specifically from international sources. (see SA landscape study)

2.2.2. SETTING A FAIR CARBON PRICE IN LINE WITH INTERNATIONAL STANDARDS

Alignment with international good practices will increasingly dominate domestic concerns and circumstances in many countries, including South Africa (Sustainable Finance Initiative, 2022). One example is the need to address the potential impact of the Carbon Border Adjustment Mechanism (CBAM), introduced by the EU in 2019. Among its various other aims, this policy tool aims to prevent the relocation of production from countries with stringent carbon penalties to those with more lenient regulations, and to level the playing field when goods are imported from such regions. Countries such as the US, Canada, and Japan are also considering carbon border adjustment measures, signalling a convergence of international policies and developments in carbon pricing (South African Reserve Bank, 2024).

2.2.3. SUPPORTING LOCAL MARKETS IN DEVELOPING CREDIBLE GREEN INVESTMENT PRODUCTS

International compliance and disclosure requirements increasingly influence investor preferences, driving investments that demonstrably meet international green standards. With most prominent capital providers concentrated in advanced economies, the financial sector in EMDEs must develop green investment solutions that meet the credibility standards of international investors. Therefore, an internationally interoperable and aligned taxonomy will play a crucial role in identifying the universe of qualifying assets, activities, and investments consistent with these international standards.

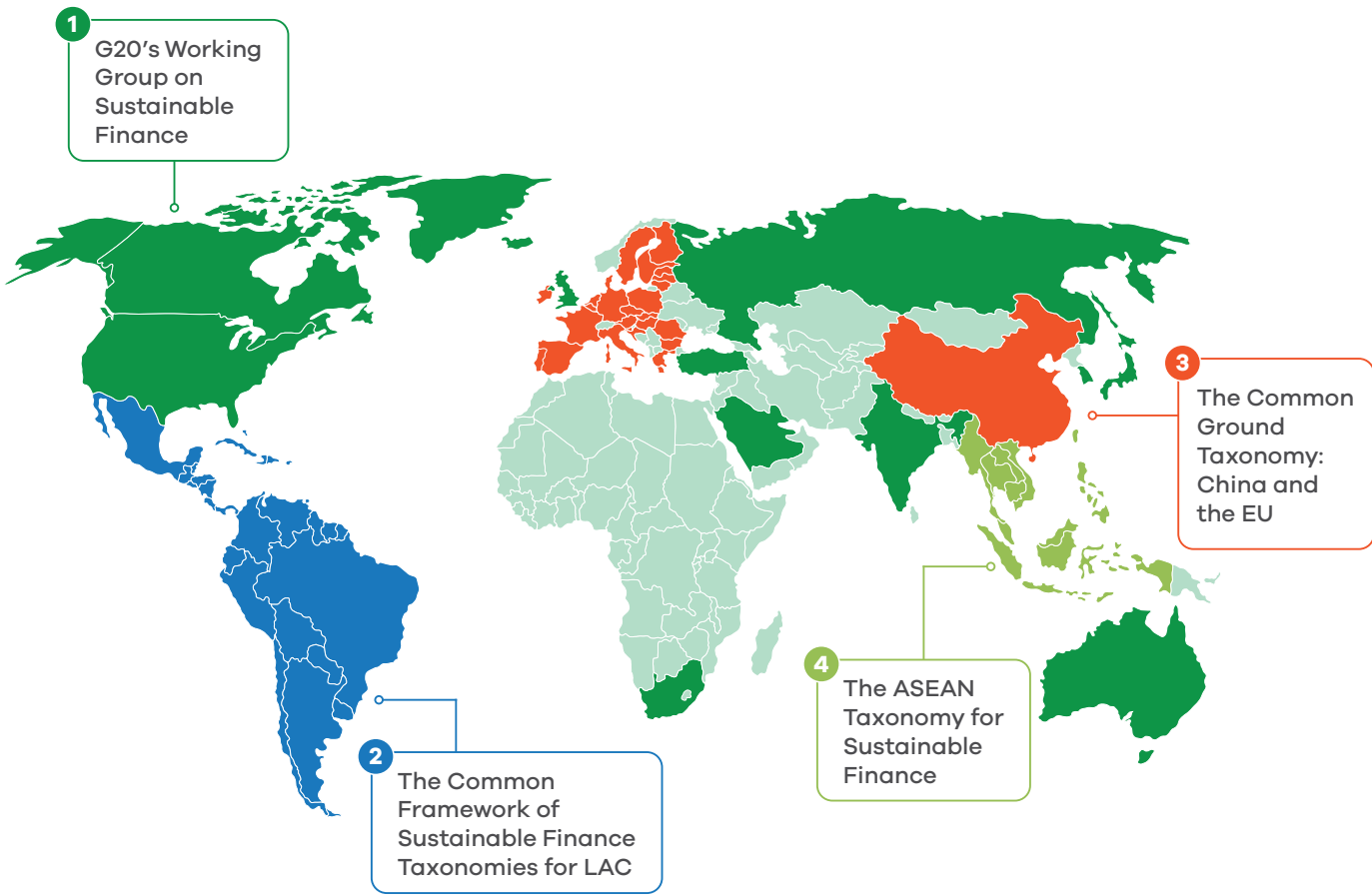
South Africa can adapt to international carbon pricing by enhancing the interoperability and alignment of the SA GFT with global standards. This will ensure that South African businesses are not subject to additional tariffs or excluded from export markets with more rigorous carbon pricing regulations. Furthermore, it will prevent the country from becoming a haven for companies relocating from jurisdictions with stricter carbon regulations.

Beyond the now well-understood green bonds and equity funds, various emerging green investment products, tools, and solutions are being developed. Notable examples include green securitisation, climate insurance, green leasing/lending, and transition bonds designed to meet investors’ diverse needs and mobilise sustainable finance at the required scale.

2.3. GLOBAL INITIATIVES TO PROMOTE INTEROPERABILITY

Several global initiatives have emerged to promote methodological approaches and principles that enhance alignment and interoperability between taxonomies, aiming to mitigate market fragmentation. While interoperability efforts are most prominent at the regional level, there are also significant initiatives that transcend regional boundaries, involving global policy institutions and non-sovereign actors. A non-exhaustive list of these initiatives is highlighted below.

Figure 2: Examples of global initiatives that have emerged to promote interoperability



2.3.1. G20 WORKING GROUP ON SUSTAINABLE FINANCE

In 2021, the G20 Working Group on Sustainable Finance (G20 SFWG) conducted a comprehensive stocktake of existing international efforts in sustainable finance, culminating in the G20 Sustainable Finance Roadmap. To support this work, the International Platform on Sustainable Finance (IPSF), as a recognised knowledge partner of the G20 SFWG, together with the United Nations Department of Economic and Social Affairs (UN DESA), submitted an input paper proposing the following high-level principles to promote the development of globally coherent approaches for identifying and aligning investments with sustainability goals:

- **Principle 1:** Making a positive contribution to support at least one of the 17 UN Sustainable Development Goals (SDGs).
- **Principle 2:** Ensuring identified activities Do No Significant Harm to any of the SDGs, regardless of whether they positively contribute to other SDGs.
- **Principle 3:** Alignment approaches should be objective in nature, supported by clearly defined and disclosed metrics and thresholds that align with the latest available science.
- **Principle 4:** Alignment approaches that orient investments to sustainable goals must be regularly reviewed to reflect the changing market, the development of green and sustainable technologies, and changing domestic and international policy agendas and priorities.
- **Principle 5:** A given alignment approach should be transparent and utilise robust methodologies to identify sustainable investment opportunities, disclose sustainable investment products and strategies, and implement independent verification mechanisms.
- **Principle 6:** While some alignment approaches are developed with an initial focus on climate, they need to expand their coverage over time to include other aspects of the SDGs, such as the environment, biodiversity and social aspects of sustainability.
- **Principle 7:** For a comprehensive assessment, alignment approaches should consider the entire impact of an investee entity's activities, both from its operational activities and in the value chain, as well as the use of its products and services.

'Alignment Approaches' refer to sustainable finance frameworks developed nationally or internationally to monitor investments, and ensure they contribute to specific sustainability commitments, such as the Paris Agreement, the SDGs or NDCs (Gardes-Landolfini et al., 2023). However, the diversity in these approaches has resulted in various methodologies, objectives, and governance frameworks, thus complicating a comparative assessment of their alignment with sustainability goals.

The G20 alignment principles aim to address this issue by providing a framework to help identify the primary application levels and tools for interoperability across leading approaches developed to support the global objective of transitioning to a low-carbon and climate-resilient economy. The principles provide high-level, voluntary guidelines for the development and global coordination of approaches to meet sustainability goals.

2.3.2. COMMON GROUND TAXONOMY

China and the EU collaborated to produce the Common Ground Taxonomy (CGT) for the IPSF in 2022. The CGT provides a methodology to identify the commonalities and differences between the EU and Chinese taxonomies. This tool offers a starting point for developing new taxonomies, serving as a shared reference point for other jurisdictions. Policymakers can use this document to gain insight into which climate change mitigation activities should be included within the scope of their respective national taxonomies. This is a valuable frame of reference that can be employed when assessing the technical screening criteria and legal standards of activities.

While the CGT has assisted stakeholders to overcome several obstacles, further work is required. Current gaps within the CGT include, but are not limited to:

- Incomplete coverage of economic sectors and activities.
- Lack of consideration of wider environmental objectives and transition considerations.
- Lack of inclusion of DNSH criteria and the development of an interoperable framework for MSS. Currently, the MSS frameworks used in China and the EU are highly contextual, offering minimal interoperability avenues.

2.3.3. ASEAN TAXONOMY FOR SUSTAINABLE FINANCE

The ASEAN Taxonomy for Sustainable Finance provides an overarching guide that accommodates the differences in ASEAN member states' diverse economies, financial structures, and transition trajectories. For example, the ASEAN Taxonomy Board (ATB) sets eligibility and alignment with technical screening criteria (TSC) in a way that allows flexibility for individual ASEAN Member States (AMS) by giving them the responsibility to set policies for activities that occur within their own territory. AMS considers their economic and technical realities while reflecting the decarbonisation framework for ASEAN.

2.3.4. THE COMMON FRAMEWORK OF SUSTAINABLE FINANCE TAXONOMIES FOR LAC

The Working Group on Sustainable Finance Taxonomies for Latin America and the Caribbean (LAC) developed the Common Framework of Sustainable Finance Taxonomies in 2023. The Inter-American Development Bank led this effort in collaboration with various regional and international partners, including UNEP FI. This initiative establishes a unified approach that accommodates the region's specific socioeconomic and environmental contexts.

The LAC Common Framework draws on international best practices, including those of the EU, to provide guiding principles that foster regional alignment and establish classification systems for sectors and activities, ensuring transparency and interoperability. This provides a valuable reference framework for establishing metrics and pathways for eligibility criteria in high Greenhouse gas (GHG)-emitting sectors, enabling the selection of metrics based on the desired level of ambition.

2.3.5. OTHER INITIATIVES DRIVEN BY NON-SOVEREIGN ACTORS

Global policy institutions such as the International Monetary Fund, the Bank for International Settlements, the Organisation for Economic Co-operation and Development (OECD), and the World Bank play influential roles in advancing the climate information architecture. These institutions have collaborated on common minimum guidance for the G20 high-level voluntary principles for sustainable finance alignment approaches described above. Building on past work such as the CGT, the guide focuses on asset-level approaches, emphasising taxonomies and interoperability.

2.4. KEY ELEMENTS AND FRAMEWORK FOR INTEROPERABILITY ANALYSIS

The dimensions influencing taxonomy alignment are diverse, ranging from general factors and political dimensions to technical dimensions. **Table 3** outlines the primary elements of many taxonomies and proposes a comparative analytical framework for key interoperability-related elements. Each dimension has a set of elements whose relevance to interoperability can be categorised into three levels: direct, indirect, or not significant.

Table 3: Elements of taxonomy development and interoperability relevance³

Dimension	Aspect	Elements	Interoperability relevance*
General	General	Implementation status	Insignificant
		Publication date	Insignificant
		Review standard	Direct
Political	Political	Stakeholder engagement	Indirect
		Development process	Indirect
		Governance structure	Insignificant
		User	Direct
		Incentives	Insignificant
Technical	Goal	Overarching policy framework	Direct
		Objective	Direct
		Guiding principles	Direct
	Scope	Classification of economic activities	Direct
		Coverage of economic activities	Direct
		Screening approach	Direct
		Technical screening criteria	Direct
		MSC	Direct
		DNSH	Direct
		MSS	Direct
		Inclusion of transition and enabling activities	Direct
		Inclusion of social elements	Indirect
	Output	Granularity	Direct
		Usability	Direct
		Disclosure obligations	Direct
		Verification	Indirect

*Elements directly related to interoperability are labelled as “Direct” and highlighted in green. Elements that do not directly influence interoperability are labelled as “Indirect” in light green; and Elements with no significant impact on interoperability are labelled as “Insignificant” and highlighted in grey.

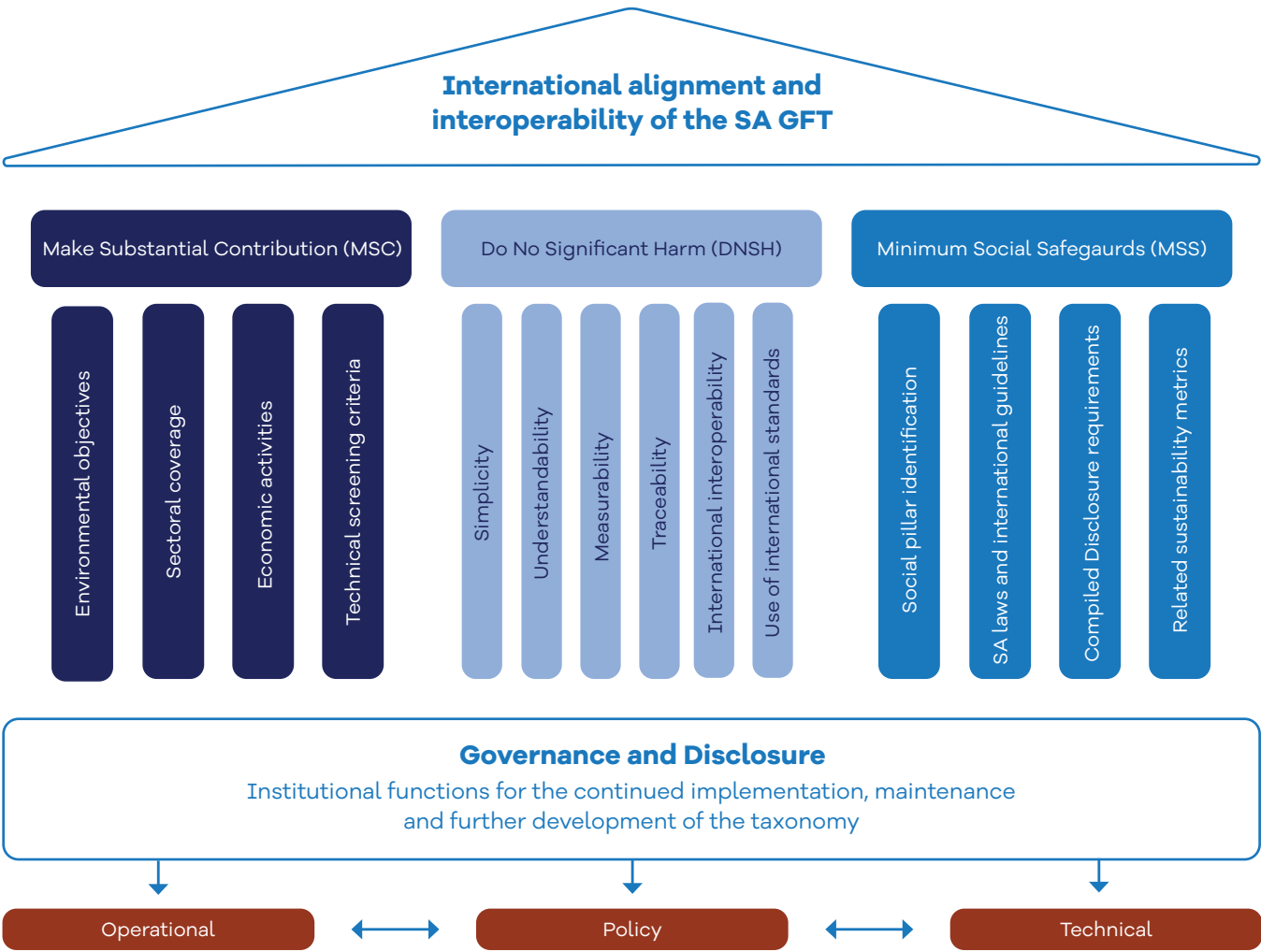
³ Additional descriptive details are given in the appendix.

To assess the international alignment and interoperability of the SA GFT, the report provides a detailed comparison of the three main principles underpinning eligibility criteria for green activities, between the SA GFT and other selected taxonomies. These principles are as follows::

- i. **The activity must make a substantial contribution (MSC)** to at least one of the six objectives of the SA GFT.
- ii. An activity that makes a substantial contribution to at least one of the six taxonomy objectives must also **Do No Significant Harm (DNSH)** to any of the other five objectives.
- iii. In addition to meeting the above two principles, the activity must also meet **Minimum Social Safeguards (MSS)**.

Moreover, the analysis includes an assessment of **governance and disclosure** frameworks, drawing insights from global practices. This helps evaluate the institutional, operational, and technical functions required for continued implementation, maintenance, and further development of the SA GFT. **Figure 3** presents a high-level overview of the analytical framework and key elements central to the empirical analysis.

Figure 3: Analytical framework: international alignment and interoperability of the SA GFT



03

EVALUATING INTEROPERABILITY UNDER THE MAKE SUBSTANTIAL CONTRIBUTION PILLAR

3.1. INTRODUCTION

The first major principle for determining eligibility for green classification under the SA GFT is that an economic activity must make a substantial contribution (MSC) to at least one of the six objectives of the taxonomy, which include (NT, 2022):

- i. Climate change mitigation.
- ii. Climate change adaptation.
- iii. Sustainable use of water and marine resources.
- iv. Pollution prevention.
- v. Sustainable resource use and circularity.
- vi. Ecosystem protection and restoration.

The first edition of the SA GFT prioritises climate change mitigation and adaptation objectives in developing the screening criteria that assess the contribution of activities to taxonomy objectives. However, other environmental objectives are also considered using the DNSH criteria to prevent negative impacts on these objectives, alongside the inclusion of minimum social safeguards criteria.

3.2. KEY OBJECTIVES OF THIS ASSESSMENT

This section presents a comparative analysis of the international alignment and interoperability of SA GFT by examining the key elements of its MSC pillar against those of the taxonomies of Mexico, ASEAN, Indonesia, Singapore, and EU. This analysis focuses on the following main elements of the MSC pillar:

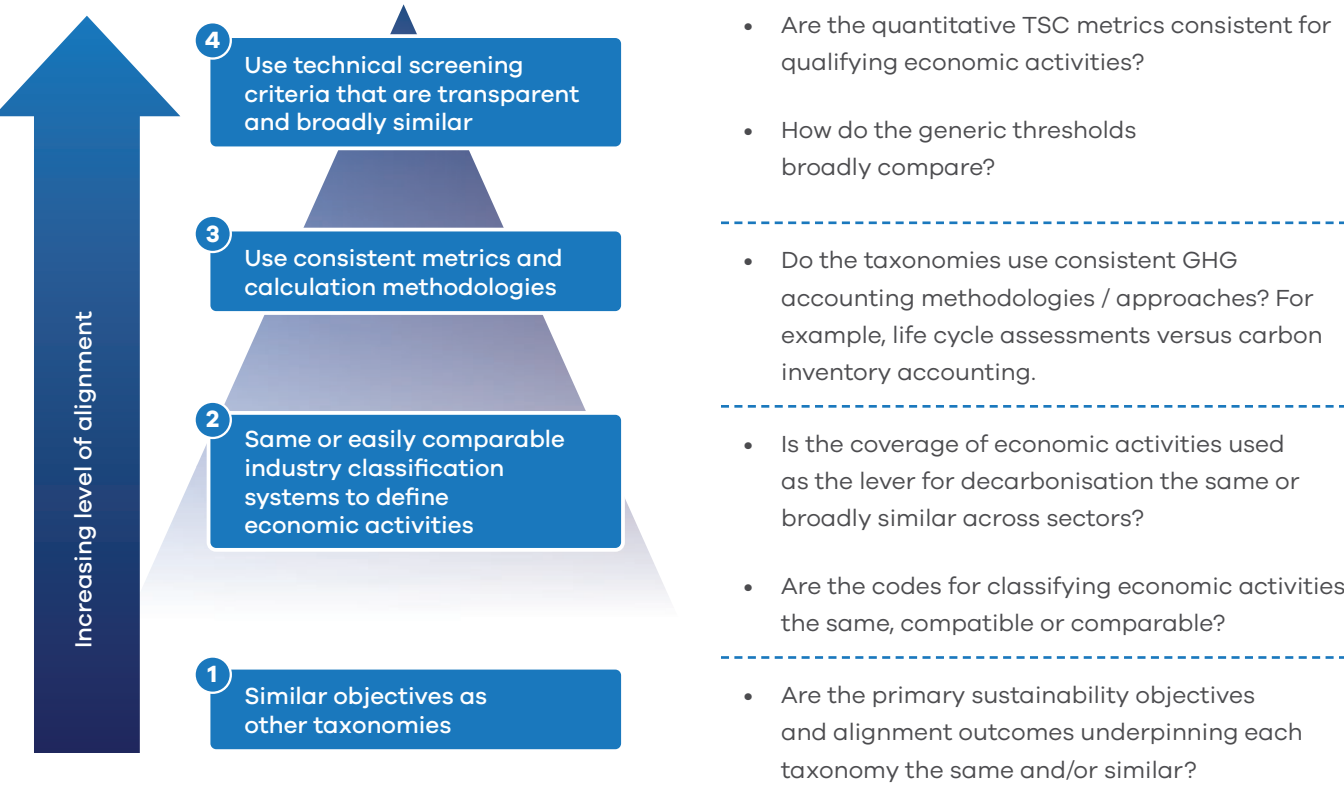
- 1. **Evaluation of objectives:** Understanding and comparing the primary objectives associated with the MSC pillar across jurisdictions.
- 2. **Sectoral coverage:** Assessing the breadth of sectoral representation within each taxonomy to identify coverage gaps or overlaps.
- 3. **Economic activities:** Comparing the economic activities each taxonomy encompasses.
- 4. **Screening criteria for the MSC principle:** Analysing the TSC applied to determine MSC compliance across these taxonomies, focusing on consistency and flexibility in standards and benchmarks.

This comparative analysis aims to identify the level of alignment and the potential for interoperability improvements in the MSC pillar of the SA GFT.

3.3. METHODOLOGY

In addition to sharing guiding principles, such as those suggested by the G20 WGSF (see **Section 2.3.1**), interoperable taxonomies must incorporate compatible structural elements—such as comparable objectives, sector and activity classification systems, and consistent approaches and methodologies for defining eligibility (UNEP FI, 2023). To assess interoperability based on the MSC pillar, this analysis compares the objectives, sectoral coverage, economic activities, and screening criteria of the SA GFT with those of the other taxonomies, as shown in **Figure 4**.

Figure 4: Framework for evaluating interoperability under the MSC pillar



3. Evaluating interoperability under the make substantial contribution pillar

The assessment of whether an activity meets the MSC principle is based on the applicable TSC, which are metrics such as grams of CO₂ per kilowatt hour (gCO₂/kWh) and thresholds like 100 gCO₂/kWh for economic activities, established to determine their alignment with the taxonomy. These criteria provide clear, science-based quantitative guidance for determining eligibility, but the thresholds set for activities within a given sector reflect each taxonomy's decarbonisation ambitions.

There are several approaches to defining substantial contribution through screening criteria, some of which include (Canfora et al., 2021):

- **Target-based criteria:** Criteria requiring activities to meet a specific performance level (e.g., gCO₂/km for passenger cars).
- **Best-in-class:** Criteria requiring activities to achieve a top-class performance metric (e.g., efficiency levels within the top 15% of the building stock).
- **Relative improvement:** Criteria requiring activities to show a defined improvement over a baseline scenario (e.g., building renovations resulting in at least a 20% improvement in energy efficiency compared to previous levels).
- **Practice-based:** Criteria requiring activities to comply with an established list of practices or compliance parameters (e.g., implementing sustainable agricultural practices).
- **Process-based:** Criteria focussing on qualitative processes that improve the environmental performance of activities (e.g., composting processes—using source-separated waste and ensuring adequate mixing to prevent methane leakage).
- **Nature of the activity:** Certain activities are directly eligible due to their inherent substantial contribution (e.g., electricity generation from solar PV).

As one of the leading global initiatives promoting the interoperability of sustainable finance taxonomies, the LAC Taxonomy Common Framework offers guidance on various metrics that can be applied to key sectors when establishing screening criteria. This framework provides a range of options to facilitate interoperability—based on a review of various approaches used in taxonomies globally—that Technical Expert Groups can choose from when defining criteria for sectors and activities. Regardless of chosen indicators, the screening criteria must be (CBI, 2021):

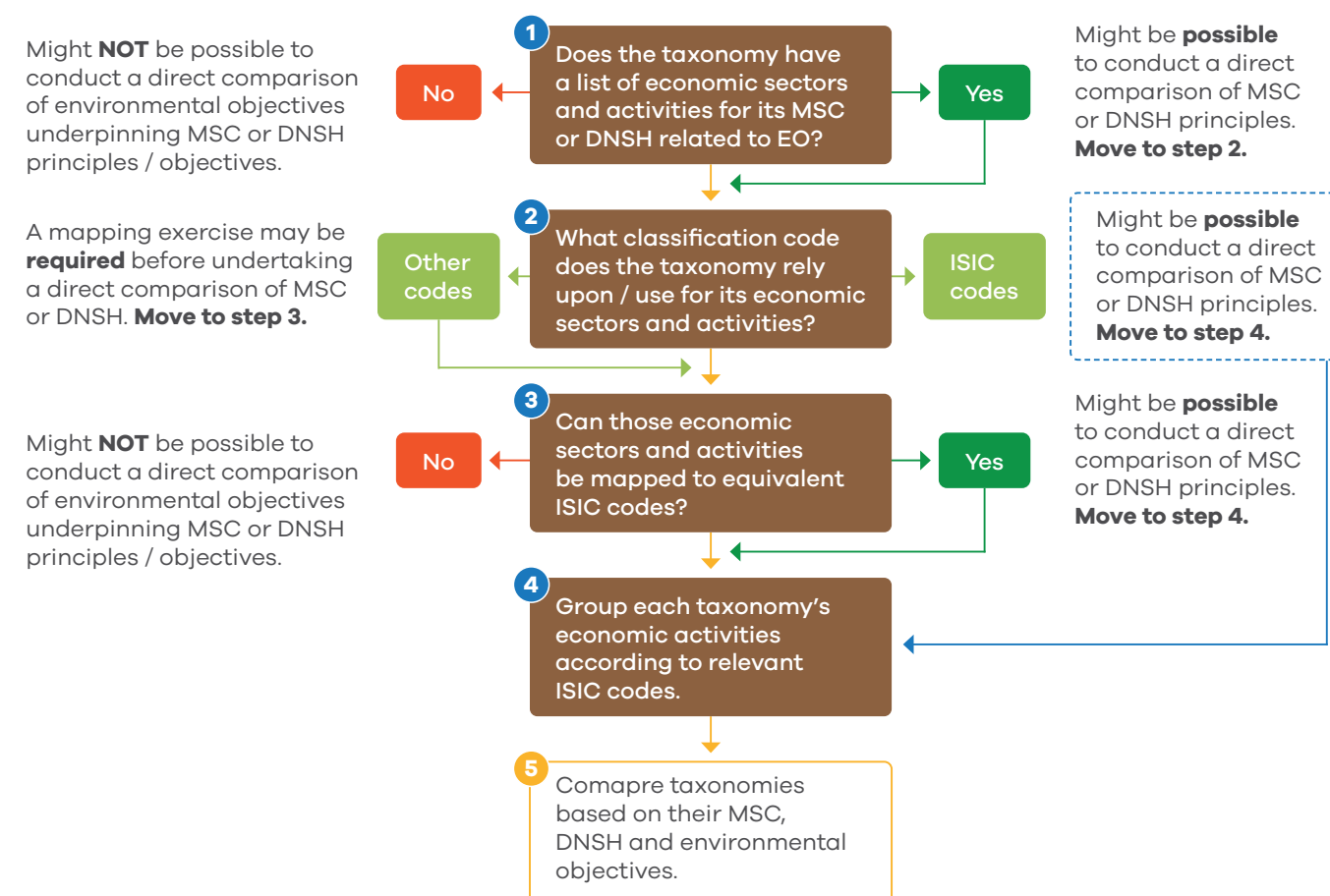
- Based on science and clear definitions.
- Quantitative wherever possible.
- Subject to periodic review and revision.
- Transparent regarding the underlying methodology used.
- Contribute to the taxonomy objective.

3. Evaluating interoperability under the make substantial contribution pillar

A key feature of TSC-based taxonomies is their ability to provide a list of eligible activities that contribute to each taxonomy's stated objectives. However, the TSC are not always directly comparable across taxonomies, even for seemingly related activities. This is primarily due to two factors: first, jurisdictions may use varying economic classification systems to organise and measure their activities; second, these jurisdictions may follow distinct decarbonisation pathways, leading to differences in the thresholds and metrics used for defining eligibility. While aligning classification systems can often be addressed through mapping industrial classification systems to a common benchmark, the real challenge lies in reconciling diverse decarbonisation pathways, which can affect the ability of taxonomies to seamlessly interoperate.

Globally, many of the industrial codes used by international jurisdictions as reference classifications in formulating their national taxonomies are derivatives of the International Standard Industrial Classification of All Economic Activities (ISIC). These are often contextualised to suit each country's specific needs. The SA GFT is based on the Standard Industrial Classification of All Economic Activities (SIC) code, which is derived from ISIC (Statistics South Africa, 2022). Therefore, to assess the interoperability through a consistent comparison of TSC across different taxonomies, economic activities in the SA GFT have been mapped to similar, or closely related, activities in other jurisdictions, using the ISIC code as the reference. **Figure 5** provides a broad overview of this mapping process, which facilitated an evaluation of the TSC related to the MSC principle based on a line-by-line comparison between the SA GFT and other jurisdictions.

Figure 5: Mapping economic sectors and activities to a common ISIC code

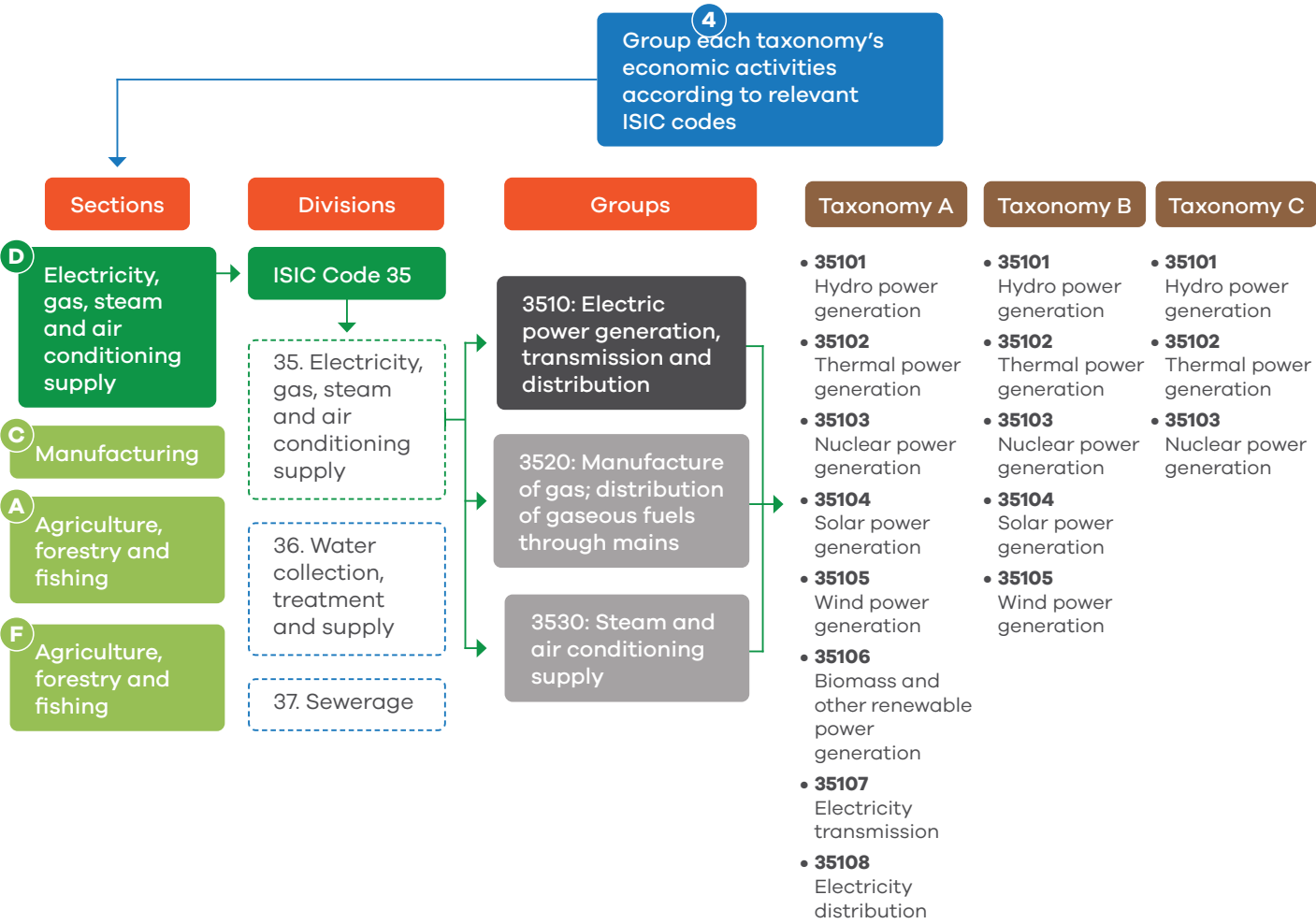


Like the ISIC code, the SIC code also uses a hierarchical structure consisting of the following levels (Statistics South Africa, 2012):

- **Sections:** Broadest categories of economic activities, represented by letters.
- **Divisions:** More specific categories within sections, represented by two-digit numeric codes.
- **Group:** Refinement within divisions, represented by three-digit numeric codes.
- **Class:** Four-digit code that further refines groups by identifying specific types of activities.
- **Sub-class:** Most detailed level in the hierarchy that precisely identifies activities.

Mapped activities are grouped into homogenous, or closely related, categories under the ISIC hierarchy, as illustrated by **Figure 6**. This grouping of activities ensures that the analysis and comparison of TSC is conducted on a like-for-like basis, facilitating consistent evaluation of interoperability.

Figure 6: Grouping of each taxonomy’s economic activities according to relevant ISIC groups



In some cases, the SA GFT identifies economic activities only at a higher level of the SIC code. Consequently, activities that may correspond to multiple ISIC classes are aggregated. For example, in the SA GFT, electricity generated from ocean energy is aggregated with solar PV technology, concentrating solar-thermal power (CSP) technology, and wind power under a single SIC code (3510). In other cases, the ISIC code may be broader, especially when activities with distinct TSCs are grouped under a single ISIC class. This aggregation complicates the cross-taxonomy mapping of economic activities, making it more challenging to evaluate the interoperability of the SA GFT by comparing the TSC. In other cases, the SIC code is not provided for certain activities.

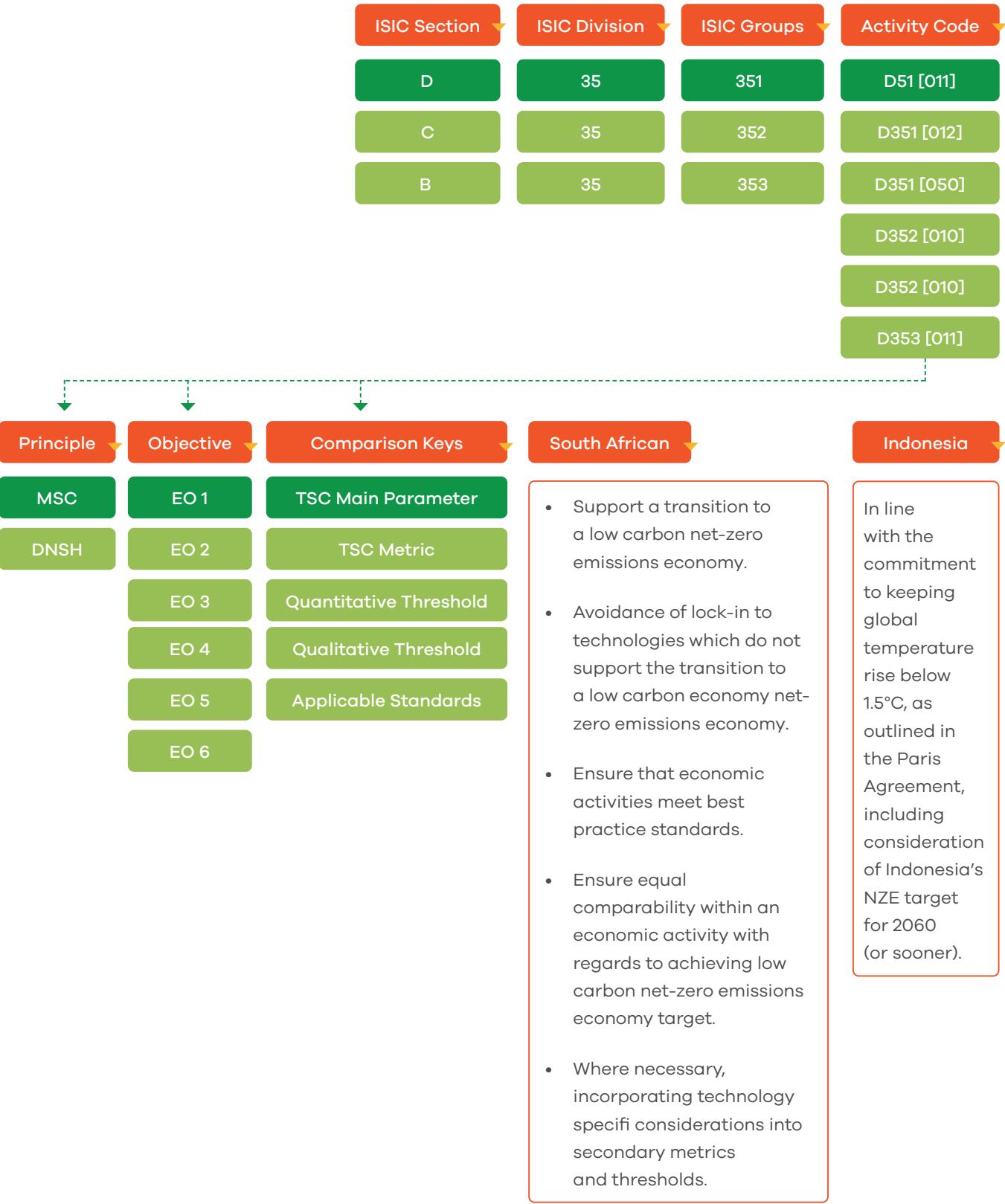
To achieve granularity, similar or closely related economic activities within the ISIC group are assigned a single Activity Code. This economic activity identification system was adapted from the ASEAN Taxonomy (ATB, 2023), where activities are grouped under the ISIC group but are further refined by appending an additional code (the Activity Code) to the end of the ISIC group code. This refinement ensures a more precise economic activities classification rather than relying solely on ISIC classes, which can be broader.

For example, while ISIC Code 3510 refers to the class “Electric power generation, transmission, and distribution,” the ASEAN Taxonomy appends Activity Codes to further classify related activities more specifically, such as:

- 351[030] Electricity generation from wind power.
- 351[040] Electricity Generation from Hydropower.
- 351[050] Electricity generation from geothermal energy.

In this report, the above approach was applied to achieve a more specific identification of economic activities than ISIC classifications alone, allowing for a precise line-by-line evaluation of key taxonomic elements, such as the TSC. A Microsoft Excel-based tool was developed to manage data related to environmental objectives, eligible economic activities, and TSC for each activity across multiple taxonomies under analysis. **Figure 7** illustrates the design and output of this tool. It allows the filtering of economic activities across multiple levels of the ISIC code (up to the ISIC group level) to directly compare various structural taxonomic elements, such as ambition levels, TSC metrics, and quantitative thresholds. This is an example of a tool that ensures consistency, robustness, and transparency in the comparison of each economic activity’s TSC between the SA GFT and other taxonomies in the analysis. Additionally, the tool is scalable, allowing the incorporation and comparison of data from an unlimited number of taxonomies.

Figure 7: Example of a line-by-line evaluation of the TSC between the SA GFT and others



3.4. LIMITATIONS

Despite this comprehensive approach, the following limitations may affect the conclusions drawn from the analysis:

- Evolving taxonomy versions:** Taxonomies are updated continuously around the world. As new versions are released, they may introduce new criteria or reclassify economic activities, affecting the interoperability analysis. The current analysis may not capture these latest changes in real-time, potentially impacting the relevance and accuracy of the assessment.
- Different industrial classification systems:** Taxonomies are based on different industrial classification systems for economic activities, which may lead to inconsistencies, as some taxonomies may categorise or disaggregate activities differently. This can limit the accuracy of comparisons and the ability to fully align activities between the SA GFT and other taxonomies. To handle this in the analysis, economic activities are assigned individual Activity Codes to identify economic activities at the most granular level. However, the assignment of Activity Codes may depend on judgements that determine a relevant ISIC group to which an activity belongs before an Activity Code is assigned. This is particularly the case where the taxonomy does not provide any code to identify the economic activity within the ISIC hierarchy or the local industrial classification code.
- Limitations of the data handling tool:** Although the MS Excel tool facilitates quicker, robust, and consistent mapping of economic activities across multiple taxonomies, it has the following limitations:
 - Data integrity dependency:** The accuracy of the tool's output depends heavily on the quality and integrity of the data being collected and input. Any errors or inconsistencies in the source data can significantly affect results, leading to incorrect assessments of alignment and interoperability.
 - Manual evaluation requirement:** The tool does not perform automatic evaluations of alignment and interoperability for the SA GFT. Instead, it serves as a platform to efficiently map and compare different structural taxonomic elements, enabling a streamlined assessment. This requires users to conduct manual analysis to determine the actual alignment and interoperability of the taxonomies.
 - Compatibility issues:** The tool is designed using the 365 version of MS Excel and incorporates dynamic array functions. This may lead to compatibility issues with older versions of Excel, limiting accessibility for users who do use the latest version of the program.

3.5. FINDINGS

This section presents the findings from the analysis of the SA GFT’s interoperability with other jurisdictions—namely the ASEAN region, Singapore, Indonesia, Mexico, and the EU—focusing on evaluating objectives, sectoral coverage, economic activities, and screening criteria for the MSC principle.

3.5.1. ENVIRONMENTAL OBJECTIVES

The first edition of the SA GFT covers six environmental objectives. **Table 4** illustrates the SA GFT’s strong alignment with other international taxonomies in terms of its objectives. Notably, South Africa, and all other jurisdictions covered in the analysis, prioritise climate change mitigation and adaptation objectives. Internationally, the urgency of achieving the goals of the Paris Agreement and enhancing countries’ preparedness for the negative climate change impacts has driven many countries to prioritise these objectives in their taxonomies. In line with this norm, the SA GFT has identified economic activities and developed corresponding screening criteria to determine their contributions to these objectives.

Table 4: Analysis of interoperability based on the evaluation of taxonomy objectives

Taxonomy	South Africa	ASEAN	Singapore	Indonesia	Mexio	EU
Climate change mitigation	✓	✓	✓	✓	✓	✓
Climate change adaption	✓	✓	✓	✓	✓	✓
Sustainable use of water and marine resources	✓				✓	✓
Sustainable resource use and circularity	✓	✓	✓	✓	✓	✓
Pollution prevention	✓		✓		✓	✓
Ecosystem protection and restoration	✓	✓	✓	✓	✓	✓

- ✓ TSC developed
- ✓ TSC and economic activities to be developed/ not specified

** Singapore broadly defines sustainable resource use to include water*

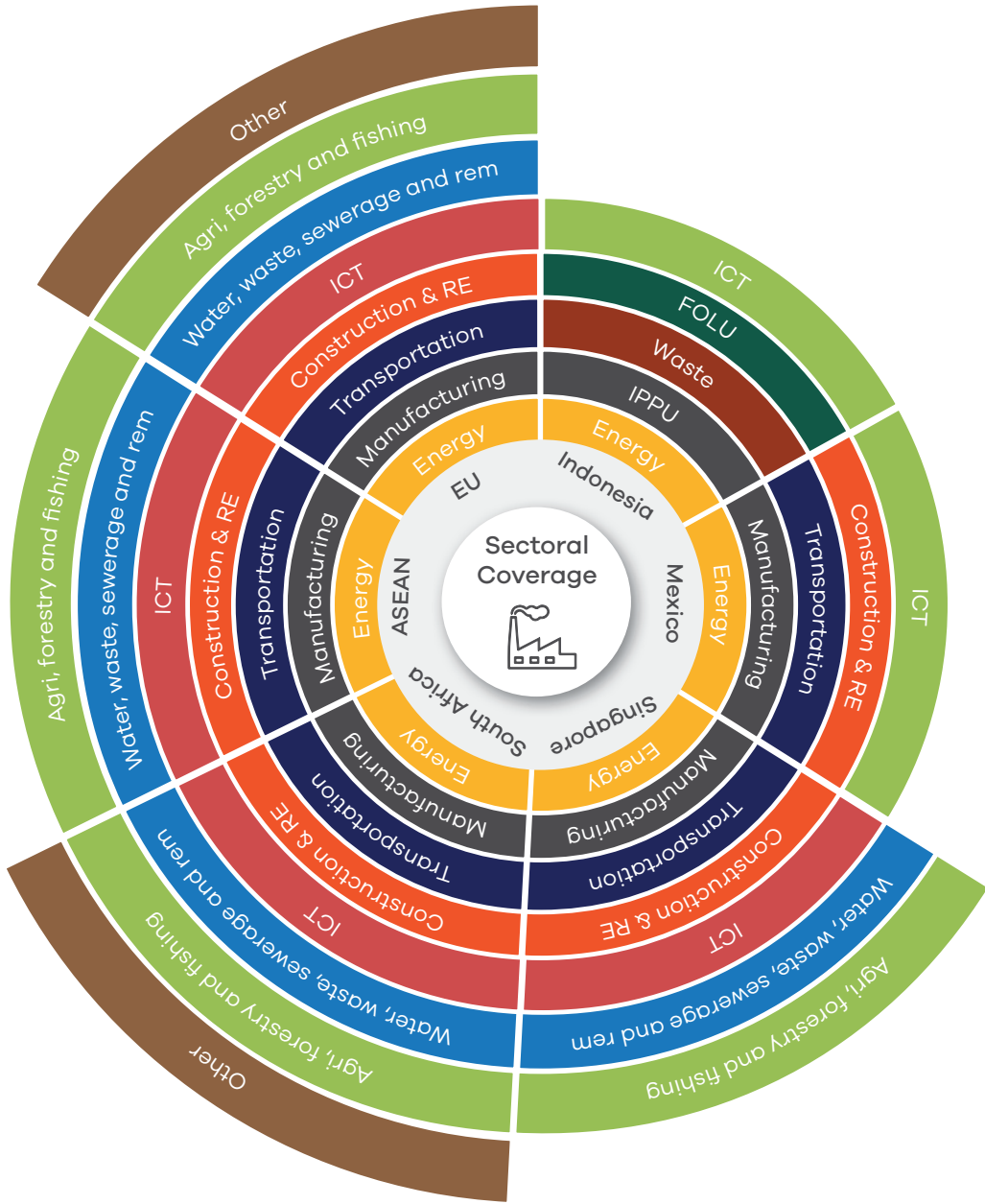
Individual differences regarding the environmental objectives covered between the SA GFT and other analysed jurisdictions are primarily driven by each country’s specific sustainable development challenges and local contexts. While Mexico, the EU, and South Africa are fully aligned in their taxonomy objectives, the SA GFT shows some divergence compared to Indonesia and ASEAN, which do not cover pollution prevention or the sustainable use of water and marine resources in their taxonomies. The broad scope of South Africa’s taxonomy includes a wider set of environmental objectives, enhancing its interoperability with a broader range of global taxonomies.

3.5.2. SECTORAL COVERAGE

Sectoral coverage is crucial for assessing whether jurisdictions shared a common understanding of sectors’ potential contribution to reducing greenhouse gas (GHG) emissions. Therefore, taxonomies should cover as wide a range of sectors and activities as possible to enhance interoperability, particularly those responsible for higher GHG emissions or those needing climate change adaptation (UNEP FI, 2023).

Compared to Mexico and Indonesia’s taxonomies, the SA GFT features broader sectoral coverage. Its inclusion of sectors was determined through extensive stakeholder engagement, considering various factors such as national climate and development goals, sectoral GHG emissions, vulnerability to climate change, alignment with best global practices and standards, and each sectors’ economic significance (NT, 2022).

Figure 8: Sectoral coverage between the SA GFT and other taxonomies



An-analysis of the SA GFT’s sectoral coverage against its peer’s reveals overlaps and gaps that present interoperability and alignment improvement opportunities. The energy sector, for instance, is included across all jurisdictions, underscoring its critical role in driving decarbonisation. This shared focus presents a strong foundation for aligning the TSC with respect to renewable energy, energy efficiency, and emissions reductions. Similarly, manufacturing, transportation and construction, all prominent in the South African, Singaporean, EU, ASEAN, and Mexican taxonomies, offer opportunities for alignment, especially in applying sustainability standards for resource efficiency, pollution control, and emissions thresholds. Moreover, South Africa’s inclusion of the information and communications technology (ICT) sector, in line with Singapore, highlights the increasing role of digital infrastructure in enabling sustainable development.

Figure 8 also highlights misalignment in certain sectors covered by SA GFT and other taxonomies. For instance, the ASEAN Taxonomy includes unique sectors such as carbon capture, storage, and utilisation (CCSU), while Indonesia includes mining and quarrying, which are absent from the SA GFT. These differences point to potential taxonomic expansion opportunities for South Africa, particularly in sectors that are increasingly important for addressing global sustainability challenges, such as CCSU.

3.5.3. COVERAGE OF ECONOMIC ACTIVITIES

This section presents the findings from comparing the SA GFT with the taxonomies of Singapore, Indonesia, EU, ASEAN, and Mexico. It covers individual economic activities for which definitions and TSC have been developed. The analysis evaluates several key considerations addressed under the following subsections.

Therefore, by broadening its sectoral scope, the SA GFT could enhance its interoperability with other jurisdictions, improve cross-border investment opportunities, and better align with emerging global standards.

On the other hand, the lack of strong overlap between the SA GFT and Indonesia’s taxonomy can be attributed to differences in the aggregation of economic activities at the sectoral level. In other words, both South Africa and Indonesia’s taxonomies are based on localised versions of the ISIC code, which complicates direct comparisons and alignment between the two jurisdictions. Therefore, employing a standardised industrial classification code could improve interoperability. To address this challenge, conducting a mapping exercise through the creation of an ISIC equivalence table, to align sectors and activities in the SA GFT with ISIC classifications, is recommended.

This approach has already been applied by the CGT, which mapped the EU taxonomy, based on the Nomenclature of Economic Activities codes, and China’s taxonomy, based on the Industrial Classification for National Economic Activities, to ISIC. Conducting a similar mapping exercise would facilitate cross-border investments and enhance interoperability, not only with Indonesia but also with other jurisdictions such as ASEAN and Singapore, whose taxonomies are based on the ISIC. Such an alignment could streamline the harmonisation of screening criteria, thus improving international cooperation and fostering sustainable cross-border financial flows.

a. Inclusion of economic activities

Various methodologies guide the selection of economic activities for inclusion in a taxonomy. One approach is to start with the list of activities under each economic sector of the ISIC and either complement or adapt that list with activities relevant to each country’s taxonomy objectives (UNEP FI, 2023). Regardless of the methodology used, identifying a comprehensive set of economic activities is crucial for ensuring interoperability and eliminating ambiguities about whether an activity contributes to sustainability goals or is irrelevant for classification according to taxonomy objectives.

Where a taxonomy activity corresponds to multiple ISIC classes due to aggregation, the individual activities are disaggregated and assigned a unique Activity Code (see **Section 4.4**) enabling a consistent line-by-line comparison across different taxonomies. As a result, the number of individual activities reported after disaggregation could be greater than the original aggregated number in the taxonomy.

For example, in the SA GFT, the generation of electricity from ocean energy is aggregated together with solar PV, CSP, and wind power technology under a single SIC code (3510). In contrast, the ASEAN Taxonomy disaggregates these activities, assigning separate codes for electricity generation from ocean energy (351[060]), wind power (351[030]), CSP technology (351[022], and solar PV (351[021]).

Such classification mismatches highlight the need for consistent comparison of TSC for similar or closely related activities across different taxonomies using disaggregation. Without this level of detail, accurately evaluating the alignment and comparability between different taxonomies becomes more challenging.

In terms of total eligible economic activities (based on disaggregated output), the analysis reveals that the EU taxonomy offers the broadest coverage, with 115 activities, making it the most comprehensive framework in this comparison. The SA GFT includes 70 eligible economic activities, addressing both climate change mitigation and adaptation objectives (see Table 5). This dual coverage enhances the versatility and interoperability of the SA GFT, enabling it to align with other jurisdictions that also prioritize both mitigation and adaptation goals, fostering opportunities for cross-border collaboration. The ASEAN (50 activities) and Indonesian (42 activities) taxonomies also adopt a dual-objective approach, covering both mitigation and adaptation objectives.

While Singapore’s taxonomy includes 79 activities, it focuses solely on climate change mitigation, much like Mexico’s taxonomy, which lists 32 eligible activities.

Table 5: Comparison of eligible economic activities for mitigation and adaptation

Taxonomy	Total eligible economic activities*
EU	115
Singapore	79
South Africa	70
ASEAN	50
Indonesia	42
Mexico	32

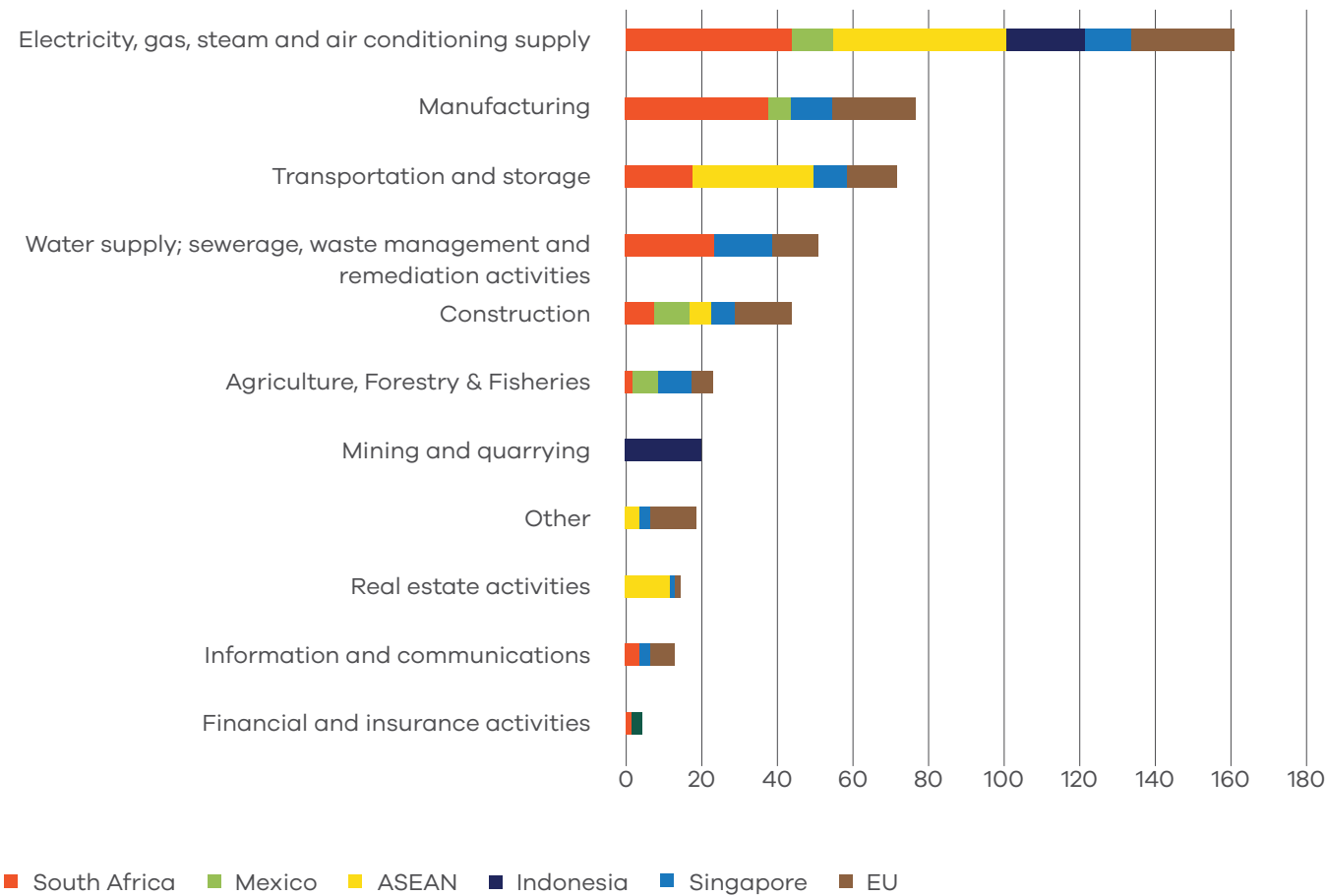
**For South Africa, as well as the ASEAN and Indonesian taxonomies, the number of eligible activities is equal for both climate change mitigation and adaptation objectives. In contrast, the Mexico and Singapore taxonomies only include eligible activities for the climate change mitigation objective.*

The SA GFT, Indonesia, EU, and the ASEAN taxonomies demonstrate that all eligible activities provide dual benefits, as evidenced by the equal number of activities under both mitigation and adaptation. This means that for each activity where the TSC for mitigation is defined, there is a corresponding TSC for adaptation. In contrast, Singapore and Mexico have defined TSC only for the activities currently contributing to mitigation. Additionally, the narrower scope of economic activities in the taxonomies of Indonesia (42) and Mexico (32) result from fewer sectors being covered compared to other jurisdictions in the analysis, naturally limiting the number of eligible economic activities. These limitations in sectoral coverage and environmental objectives—likely reflecting each country’s economic realities and priorities—could constrain their interoperability with the SA GFT, which covers a broader range of sectors and addresses both mitigation and adaptation.

b. Eligible economic activities per sector

The analysis of eligible economic activities by sector highlights that the energy sector (electricity, gas, steam, and air conditioning supply) has the most significant number of economic activities covered across all analysed taxonomies. This positions the energy sector as having the greatest potential for interoperability between the SA GFT and other jurisdictions. While all taxonomies include eligible activities from the energy sector, the ASEAN region has the highest number (46), followed by South Africa (44) Indonesia (42) and EU (25). Furthermore, this common sectoral coverage is significant due to its ability to facilitate an assessment of whether a shared understanding of the sector’s potential contribution to the reduction of GHGs is present. This assessment is based on the emission thresholds and metrics set by each jurisdiction, which is critical for fostering cross-border alignment in sustainable finance.

Figure 9: Number of eligible economic activities per sector



Within the energy sector, the SA GFT exhibits significant potential for interoperability with the EU, ASEAN and Indonesian taxonomies, as these jurisdictions include a relatively large number of eligible activities from this sector compared to others such as Mexico and Singapore. Beyond energy, South Africa, the EU, Singapore, ASEAN, and Mexico cover eligible activities in priority sectors including manufacturing (excluding ASEAN), construction, transportation and storage, agriculture, forestry, and fisheries (excluding Singapore). However, several taxonomies lack coverage in sectors that represent enabling activities for both adaptation and mitigation objectives, such as ICT as well as financial and insurance services, which could hinder interoperability. Additionally, South Africa’s real estate sector exhibits an absence of eligible activities, highlighting a gap in achieving broader interoperability with jurisdictions that include this sector in their taxonomies.

c. Economic activities matching or closely related to those in the SA GFT

While interoperability does not necessarily require harmonisation (i.e., adopting identical structural elements across taxonomies), economic activities in the SA GFT are mapped to similar or closely related activities in other taxonomies (see Table 6). These similar or closely matching economic activities enable a more direct comparison of TSC, which is key to evaluating interoperability.

Table 6: Common economic activities between SA GFT and other jurisdictions taxonomies

		ASEAN	Mexico	EU	Singapore	Indonesia
Taxonomy activities matching or closely related to those in the SA GFT	Agriculture, Forestry and Fisheries	-	-	1	-	-
	Mining and quarrying	-	-	-	-	-
	Manufacturing	-	5	11	3	-
	Electricity, gas, steam and air conditioning supply	17	8	15	9	12
	Water supply; sewerage, waste management and remediation activities	-	-	10	11	-
	Construction	2	2	1	2	-
	Transportation and storage	9	-	9	5	-
	Match percentage	56%	47%	41%	38%	29%
	Total eligible activities	50	32	115	79	42

Note: Table 6 shows the number of individual economic activities that were matched between the SA GFT and other taxonomies, per sector. (-) indicates a lack of matching activity or that none is currently defined in the taxonomy.

The analysis reveals that the ASEAN Taxonomy has the highest proportion of activities that overlap with those in the SA GFT, with Indonesia having the least. Of the 50 eligible economic activities identified in the ASEAN Taxonomy, 56% (28) overlap with those in the SA GFT. This suggests this suggests a strong basis for deeper collaboration and the harmonisation of technical screening criteria to enhance interoperability. In contrast, Singapore has the lowest proportion of overlapping eligible activates, with only 27% (19 out of 70) aligning.

3.5.4. TECHNICAL SCREENING CRITERIA

This section explores the analysis of TSC metrics and thresholds between the SA GFT and other taxonomies organised by sector. This analysis is based on a line-by-line comparison of activity TSC elements employed in the SA GFT against the ASEAN, Mexico, Singapore, Indonesia and EU taxonomies, using the LAC Taxonomy Common Framework’s range of options per sector. Based on a review of global approaches to the design of TSC elements, the LAC framework recommends, regardless of indicators chosen, the provision of quantitative metrics and thresholds as a global best practice to enhance taxonomy interoperability. Moreover, evaluating the SA GFT against this benchmark reveals several significant gaps in the specification of quantitative TSC metrics and thresholds across all sectors, indicating a shortfall relative to the recommended global best practices (see Table 7).

Among the other taxonomies, 47% (15) of Mexico’s 32 and 41% (47) of the EU’s 115 eligible activities match, or closely relate to, those in the SA GFT. Of the 42 eligible activities in the Indonesia taxonomy, only 29% (12) match, or closely relate, to the SA GFT. The limited commonality between the SA GFT and Indonesia’s eligible activities, therefore, can be attributed to divergent priorities in sectoral coverage. Indonesia includes a significant number of eligible activities from the mining and quarrying sector, which is excluded from the SA GFT.

Table 7: Economic activities in the SA GFT where quantitative TSC metrics are specified

Sector	Total activities	% of activities with specified quantitative TSC metric
Agriculture, forestry and fishing	1	0%
Manufacturing	19	47.4 %
Electricity, gas, steam and air conditioning supply	22	20.5 %
Water supply, sewage, waste management and remediation activities	12	41.7 %
Construction	4	25.0 %
Transportation and storage	9	22.2 %
Computer programming, consultancy and related activities	2	0%
Financial and insurance activities	1	0%
Total	70	30.7%*

**Represents the weighted average percentage of activities in the SA GFT with a specified quantitative TSC metric, using the proportion of sector activity as the weight.*

Table 7 highlights significant gaps in the SA GFT regarding specifying quantitative TSC metrics across sectors: only **30.7%** of economic activities have a defined quantitative TSC metric, indicating that most sectors lack quantitative metrics that facilitate an objective assessment of the SA GFT’s compatibility relative to other taxonomies.

Disparities in metric specifications are evident across sectors, with **manufacturing** showing the highest coverage at **47.4%**, followed by **water supply, sewage, and waste management** (41.7%).

Conversely, critical sectors such as **electricity, gas, steam, and air conditioning supply** (20.5%), and **transportation and storage** (22.2%) have moderate, yet incomplete coverage, reflecting opportunities for greater metric inclusion. This uneven adoption of quantitative metrics affects the SA GFT’s internal consistency and challenges its international interoperability, as quantitative thresholds are essential for providing clear, comparable indicators across jurisdictions.

3.6. RECOMMENDATIONS

1. Enhance interoperability by increasing specificity in the identification of economic activities:

In some instances, the SA GFT identifies economic activities at a broader SIC code level, thereby aggregating activities that may correspond to more specific classes under the ISIC code. In addition, this broad aggregation can create challenges for economic activity mapping across different taxonomies, making cross-border comparisons and interoperability more difficult.

Therefore, enhancing specificity would simplify the comparison of economic activities between jurisdictions and allow for a more detailed TSC alignment, offering increased clarity for investors and stakeholders. Moreover, by making these improvements in future updates, the SA GFT can further advance its interoperability with other taxonomies and continue to lead regional efforts in sustainable finance.

2. Enhance interoperability by fostering collaboration with other jurisdictions and international bodies:

Collaboration could involve participation in international working groups, best practice sharing, and joint TSC development for multiple taxonomies with common sectors. By participating in global efforts such as the IPSF or the CGT, South Africa can facilitate the mutual recognition of taxonomies, enabling cross-border investments and smoother integration with global green finance initiatives. Meanwhile, collaboration with key partners such as ASEAN, Indonesia, Mexico, and Singapore will improve alignment and address sectoral coverage gaps. Furthermore, this level of collaboration can provide the expertise needed to continuously update and refine the SA GFT, ensuring consistent alignment with evolving global standards while retaining local relevance. In essence, strategic collaboration will enhance the SA GFT's credibility and functionality, increasing its efficacy as a tool for the creation of sustainable investment opportunities, locally and internationally.

3. Lead interoperability efforts by leveraging South Africa's broader coverage of economic sectors:

The SA GFT cover a wider range of economic activities than many other analysed jurisdictions, and South Africa was the first in Africa to have its own GFT. Therefore, this positions South Africa as a potential leader in the advancement of interoperability, particularly in areas where robust TSC already exist. Aligning these efforts with global initiatives, such as the G20 sustainable finance agenda, could enhance South Africa's ability to shape international standards. Moreover, South Africa can use its unique opportunity to lead in the African region to foster peer-to-peer learning among its neighbouring countries, and assist the development of taxonomies in line with global best practices.

4. Developing industry guidance tools to facilitate compatibility mapping:

To improve the SA GFT's interoperability, it is crucial to develop industry tools such as correspondence tables that allow for seamless SA GFT economic activity mapping with those in other taxonomies, particularly through neutral benchmarks, such as the ISIC. Therefore, correspondence tables would simplify the comparison of taxonomies leading to enhanced transparency and streamlined decision-making for investors, policymakers, and businesses.

5. Expanding the use of quantitative TSC metrics across sectors and activities

would enhance the SA GFT's robustness and alignment with international standards. A more comprehensive approach to specifying metrics, particularly in sectors with minimal coverage, would, therefore, facilitate comparability, enable better tracking of sustainability objectives, and improve investor confidence in the SA GFT's environmental rigor.

6. Balancing harmonisation with localisation for broader interoperability:

An overemphasis on harmonisation may result in a taxonomy less adapted to South Africa's unique economic activities, environmental conditions, and developmental needs. To maximise local usability and global interoperability, the SA GFT could maintain flexibility by incorporating elements reflecting local contexts, such as specific activities and metrics tailored to South Africa's sustainability challenges and opportunities. Therefore, by striking a balance between harmonisation and localisation, the SA GFT can serve local stakeholders and international investors, enabling smoother integration with multiple taxonomies beyond the EU while remaining relevant to domestic priorities.



04

DO NO SIGNIFICANT HARM

4.1. DNSH CONCEPT

Although it remains relatively new (EU, 2023), **Do No Significant Harm (DNSH)** is increasingly important in sustainable finance and environmental regulation. Sustainable finance frameworks include the DNSH principle to ensure that economic activities contributing to a given taxonomy objective do not cause significant negative impacts on others. (ICMA, 2021). This safeguards against the unintended consequences of green investments, fostering a holistic approach to achieving sustainability. It is applied in green taxonomies in different countries and plays a critical role in other regulations, such as the EU Sustainable Finance Disclosure Regulation, as one of the three elements used to assess sustainable investments (ESMA, 2023).

The six environmental objectives covered by DNSH in the SA GFT are:

- Climate change mitigation (for adaptation projects).
- Climate change adaptation (for mitigation projects).
- Sustainable use of water and marine resources.
- Ecosystem protection and restoration.
- Pollution prevention.
- Sustainable resource use and circularity.

The DNSH criteria is categorised into two types: **generic** and **unique**. Generic DNSH criteria for each objective apply to all relevant activities, while unique DNSH criteria are tailored to specific activities. Some activities involve broader environmental risks, whereas others have more limited impacts, potentially affecting only a few environmental objectives. For instance, forestry and land rehabilitation could threaten multiple objectives besides sustainable resource use and circularity.

Due to South Africa's all-or-nothing approach, DNSH has a significant impact on activity owners and the overall effectiveness of the SA GFT.

This activity could negatively affect ecosystem protection and restoration, with the potential risk of illegal logging. On the other hand, an activity such as material recovery from non-hazardous waste is primarily related only to climate change adaptation and ecosystem protection objectives (SA NT, 2022).

DNSH is one of the three key pillars for classifying activities in the SA GFT. An activity can only be classified as taxonomy-aligned if it meets all of the following principles:

1. Making a significant contribution (MSC).
2. Doing no significant harm (DNSH) to any other objectives.
3. Complying with minimal social safeguards (MSS).

This all-or-nothing approach means that failing to meet the DNSH criteria will result in misalignment with the SA GFT. Consequently, DNSH has a significant impact on activity owners and the SA GFT's overall implementation.

4.2. KEY ISSUES IN IMPLEMENTING DNSH

Challenges in implementing DNSH have become a major barrier to the effective application of the SA GFT. To address these challenges, the Green Technical Advisory Group (GTAG) conducted an assessment of the EU taxonomy's DNSH criteria, focusing on streamlining DNSH usability (GFI, 2023) through the identification of the following five key challenges:

1. **DNSH criteria are difficult to understand** due to their complexity, ambiguity, use of unclear language, and the variety of standards they refer to.
2. **DNSH criteria are difficult to effectively measure** due to their qualitative nature. This is consistent across multiple taxonomies, where most criteria are processed-based and lack quantitative thresholds.
3. **It is challenging for reporting entities to demonstrate DNSH compliance** due to extensive data-related taxonomy requirement slack.
4. **Significant variability and inconsistency** in structure exist even for DNSH criteria with similar requirements.
5. **The all-or-nothing approach** of DNSH in the SA GFT can disqualify activities that meet all TSC and MSS, discouraging voluntary disclosure of taxonomy alignment, which ultimately diminishes the taxonomy's overall impact.

The DNSH criteria are overly complex, difficult to measure and provide evidence for, and inconsistent, making it challenging for reporting entities to demonstrate compliance.

Other research aligns with GTAG's findings. An assessment by UN PRI of 40 funds across different asset classes has shown that the lack of DNSH data and its qualitative nature present significant challenges for effective implementation. In another case study, the strict alignment approach prevented 40 examined transactions from qualifying as taxonomy-aligned, underscoring the challenges of rigid DNSH criteria (ICMA, 2022). Furthermore, S&P conducted a performance analysis on meeting DNSH criteria, covering more than 12 000 companies with over 18 000 activities assessed to substantially contribute to climate change mitigation. The analysis, assessing the stringency of DNSH requirements, found that less than 10% of activities met the criteria of each objective. The primary reasons behind this low alignment rate are a lack of available data to serve as evidence, resulting in disqualification, or the failure to meet the specified criteria (S&P, 2023).

4.3. KEY OBJECTIVES OF THIS ASSESSMENT

The key objectives of this assessment include:

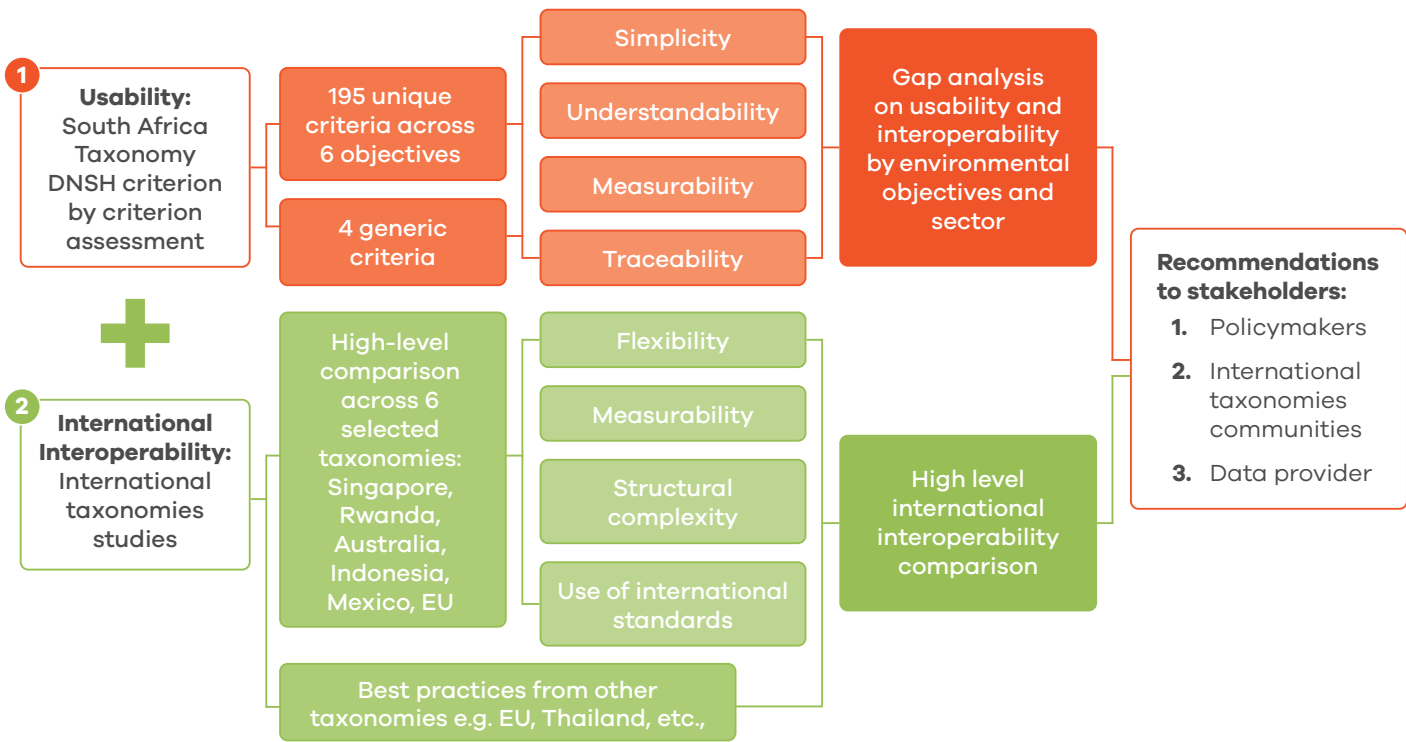
- **Conducting a thorough line-by-line activity assessment of the DNSH criteria** in the SA GFT, focusing on its simplicity, understandability, measurability, and traceability.
- **Conducting a high-level comparative analysis of the DNSH criteria across recent taxonomies**, including South Africa, EU, Singapore, Rwanda, Indonesia and Australia taxonomies, to assess international interoperability.
- **Providing best practices and recommendations for South African policymakers to improve the usability and international interoperability of the SA GFT.**
- **Aiding reporting entities' understanding of DNSH criteria application**, enabling them to better target capacity-building efforts that enhance reporting effectiveness.

4.4. METHODOLOGY

4.4.1. APPROACH

Scope: This assessment follows the GTAG scorecard approach used for the EU taxonomy DNSH criteria to evaluate each detailed criterion of the SA GFT. The project team assessed 44 activities in the SA GFT where detailed DNSH criteria were provided. **This includes assessment of 195 specific criteria across objectives and four generic criteria.** Assessment questions focus on the core issue and strive to minimise the need for subjective judgement. For example, when assessing whether a criterion is easy to understand or objective, the project team examined the use of vague or subjective language in the DNSH criteria, focusing on wording patterns such as 'minimise,' 'maximise,' 'long,' 'short,' or 'high' to reduce excessive discretionary judgment, as perceptions of clarity may vary among taxonomy users

Figure 10: Framework for DNSH analysis and evaluation



Taxonomy selection: The jurisdictions of Singapore, Mexico, Indonesia, Rwanda, and Australia were selected for DNSH criteria interoperability assessment based on the following considerations:

- **Relevance to South Africa:** The analysis includes taxonomies particularly relevant to South Africa. For example, Indonesia and South Africa are developing economies where key high-emission sectors, such as mining, play crucial roles in their economies. Such similarities allow for valuable comparisons and insights by learning from countries that face similar economic and environmental challenges.

- **Geographic diversity:** Selected taxonomies are drawn from the Asia Pacific region, Africa, and America. This geographic diversity provides a comprehensive perspective on how different regions address their unique environmental and economic challenges through these taxonomies.
- **Geographic proximity:** Rwanda announced the first phase of its Green Taxonomy in late 2023, becoming the second African country to implement a green finance taxonomy. Therefore, due to its proximity and alignment with regional context, Rwanda's taxonomy allows for an easier exchange of knowledge and best practice, fostering potential regional collaboration within Africa.

4.4.2. LIMITATIONS

Coverage of taxonomies and scope: The project does not cover all existing taxonomies, especially given that the GTAG has already conducted a high-level comparison of taxonomies in nine countries, including South Africa (GFI, 2023).

This report examines more recent taxonomies that have not yet been thoroughly investigated to provide a more comprehensive and value-added analysis for SA GFT policymakers and users. The Rwandan and Singaporean taxonomies were published in late 2023, and Indonesia published its latest version in February 2024. The project team also included available information on the Australian taxonomy's first consultation paper of the, published in June 2024. Due to time and resource constraints, this study does not include a line-by-line comparison of South Africa's DNSH criteria with those of other countries. Instead, the project team assessed international interoperability by conducting a high-level comparison between SA GFT and other taxonomies.

Regulations: When assessing measurability, the project team noted that many criteria in SA GFT do not specify quantitative thresholds; instead they broadly refer to regulations or standards. A thorough investigation could not be conducted into whether the referenced regulations contain precise quantitative thresholds. Additionally, when assessing the use of international standards to evaluate international interoperability, this analysis relied on the titles of the standards referenced. This may present a limitation, as certain domestic regulations aligned with international standards might not be explicitly identifiable.

4.5. FINDINGS

Section 4.5.1. presents the overall challenges, followed by a detailed analysis of all the key challenges (4.5.2), environmental objectives (4.5.3) and sectors (4.5.4). Interoperability with other taxonomies is covered in **Section 4.5.5.**

4.5.1. IMPLEMENTATION CHALLENGES IN THE SOUTH AFRICAN CONTEXT

The following main challenges were identified and covered in the analysis:

- **Simplicity:** For a certain activity, is the DNSH generic or unique? How is the usability of generic criteria?
- **Measurability:** Specific quantitative and/or inherently quantitative thresholds to limit the uncertainty of compliance.
- **Understandability:** Use of clear and objective language.
- **Traceability:** Referencing science-based standards/national and/or international standards and regulations to enhance credibility and transparency.
- **International interoperability:** Criteria are easily used and understood across borders.

Table 8: Implementation challenges related to DNSH in the SA GFT

Challenges	Understandability	Measurability	Simplicity	International interoperability	Traceability
Assessment	Do DNSH criteria cause inconsistent interpretations and confusion among users?	Are DNSH criteria challenging to assess quantitatively, making it challenging to reduce compliance uncertainty?	Does meeting DNSH criteria require substantial resources to acquire the required information?	Do DNSH criteria refer to international standards so they can be easily used and understood across borders?	Are DNSH criteria properly referenced, increasing their credibility and transparency?
Assessment questions (9)	<p>Does the criterion use subjective, vague, or confusing language?</p> <p>Does the criterion require professional judgment?</p>	<p>1) Has a specific quantitative threshold been provided?</p> <p>2) Is the criterion inherently quantitative, even in the absence of a specific threshold?</p>	<p>5) For a certain activity, is the DNSH generic or unique?</p> <p>6) Are multiple data points and evidence required to achieve compliance for one objective?</p>	<p>7) Does this criterion only refer to local regulations and standards?</p> <p>8) Does this criterion refer to local and international standards? If not, is it similar to another international taxonomy?</p>	<p>9) Is the criterion clearly referenced? E.g., aligned with science-based standards, and/or national or international standards and regulations.</p>
Positive examples from the SA GFT	<p>No subjective wording is used: When electrical and electronic equipment reaches its end of service, it is collected and managed by an authorised operator and treated according to the waste hierarchy.</p>	<p>Specific quantitative threshold provided: Emissions performance threshold of 95g CO2e/pkm.</p> <p>Criterion is inherently quantitative: For commuter road adaptation projects, the activity does not include purchasing vehicles with above-average emissions for the category. (Though a specific quantitative threshold was not provided (e.g., the category average), the nature of this criterion is quantitative.)</p>	<p>Example of generic DNSH criteria: The activity complies with criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.</p>	<p>Refers to international standards: The building must not be built on protected natural areas, e.g., land designated as Natura 2000, UNESCO World Heritage and Critical Biodiversity Areas, or equivalent as defined by UNESCO or International Union for Conservation of Nature (IUCN).</p> <p>Both international and local standards: Requirement of implementation and adherence to a recognised environmental management system (e.g., ISO 14001); Follows all requirements of the National Environmental Management Act (1998)</p>	<p>Reference of the threshold is provided: Activities that operate below the 100g threshold provide a significant contribution, and activities that operate above the regional average of 475g (IEA) would cause significant harm.</p>

Challenges	Understandability	Measurability	Simplicity	International interoperability	Traceability
Negative examples from the SA GFT	<p>Subjective wording is used: A waste management plan is in place and ensures maximal reuse.</p> <p>Minimise the use of pesticides and favour alternative approaches or techniques.</p>	<p>No specific quantitative threshold been provided</p> <p>Methane leakages from relevant facilities is controlled by a monitoring plan.</p>	<p>Activity 7.5.1: Sustainable resource use and circularity: For commuter road Ensure proper waste management both at the use phase (maintenance) and the end-of-life for e.g. reuse and recycle of parts like batteries, in compliance with the National Environmental Management Waste Act (Act 59 of 2008). Measures are in place to manage waste, in accordance with the waste hierarchy, both in the use phase (maintenance) and the end-of-life of the fleet. For battery-operated fleet, those measures include reuse and recycling of batteries and electronics, including critical raw materials therein.</p>	<p>Referring to only local standards: Emissions to air (e.g., Sox or NOx) after combustion of biogas are controlled, abated (when needed) and within the limits set by National Environmental Management Air Quality.</p>	<p>Reference of the threshold is not provided: The direct GHG emissions of the activity are lower than 270gCO2e/kWh. (Although the threshold is provided in the criterion, it is difficult to ascertain the sources and rationale behind it.)</p>

4.5.2. ANALYSIS BY CHALLENGES

This section presents analysis of DNSH challenges for each environmental objective. The analysis allows for a clear comparison of DNSH challenges across objectives, identifying those that may require additional effort and resources for improvement.

(1) Simplicity

Simplicity involves assessing the use and quality of generic criteria. This assessment is significant because many activities in the SA GFT rely on generic DNSH criteria, which have implications and/or interact with other challenges. While adopting generic criteria aims to provide a simplified and streamlined framework applicable to multiple activities, it can also create usability challenges if the criteria themselves are problematic.

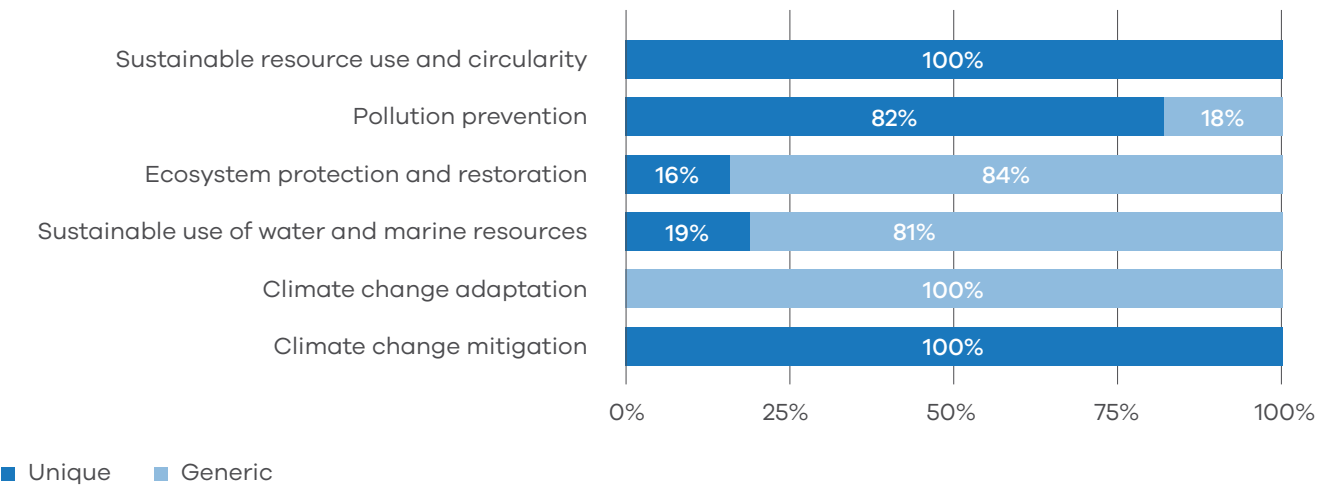
Table 9: Assessment of generic criteria by challenge for the SA GFT

Assessment on Generic Criteria	Measurability (quantitative threshold provided)	Understandability (only subjective wording used/ clarification provided)	Traceability (criteria referenced)	International Interoperability (referring to international standards)
Climate change mitigation (no generic criteria)	n/a	n/a	n/a	n/a
Climate change adaption	✗	✗	✗	✗
Sustainable use of water and marine resources	✗	✗	✓	✗
Ecosystem protection and restoration	✗	✗	✓	✓
Pollution prevention	✗	✓	✓	✗
Sustainable resource use and circularity (no generic criteria)	n/a	n/a	n/a	n/a

The assessment revealed that all objectives face issues with measurability, which is a common challenge with generic criteria. When criteria are intended to apply broadly across all activities, it becomes difficult to establish specific thresholds. Moreover, three out of four criteria employ subjective language, leading to interpretation difficulties. Similarly, three out of four criteria lack international interoperability.

In assessing the distribution of specific versus generic criteria across the environmental objectives, climate change mitigation, and sustainable resource/circularity employ 100% unique criteria. By contrast, adaptation relies solely on generic criteria. Similarly, most criteria for the sustainable use of water and marine resources, and ecosystem protection and restoration are generic. As a result, the SA GFT’s usability may be affected by its reliance on generic criteria, especially because many of its objectives are based largely on these criteria.

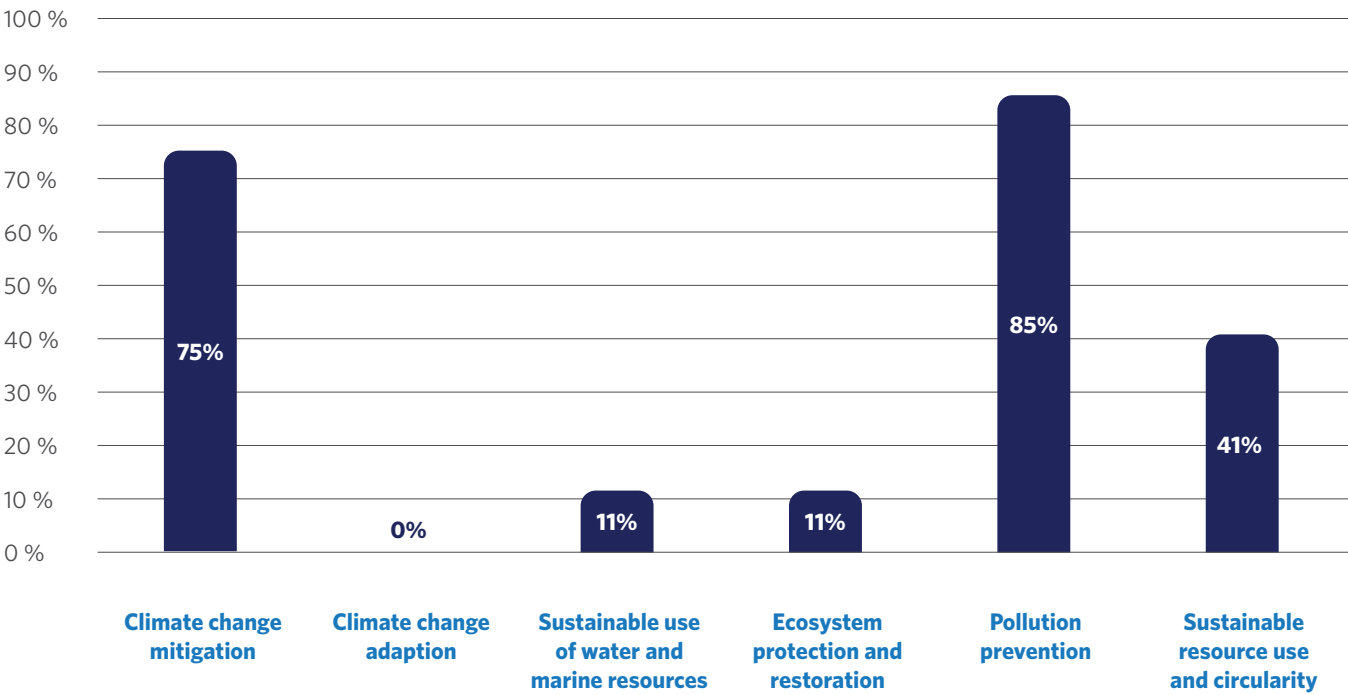
Figure 11: Distribution of the use of unique and generic DNSH criteria for the SA GFT



(2) Understandability

Understandability relates to the using clear and objective language when defining DNSH criteria. The analysis found that pollution prevention and climate change mitigation use the highest levels of objective language, at 85% and 75%, respectively. This is primarily due to the use of quantitative thresholds and requirements to comply with specific laws and regulations. Conversely, the objectives of climate change adaptation, the sustainable use of water and marine resources, and ecosystem protection and restoration exhibit lower levels of objective language usage. This is due mainly to the application of generic criteria, where vague wording has been employed.

Figure 12: Clear and objective language aiding understandability in the SA GFT

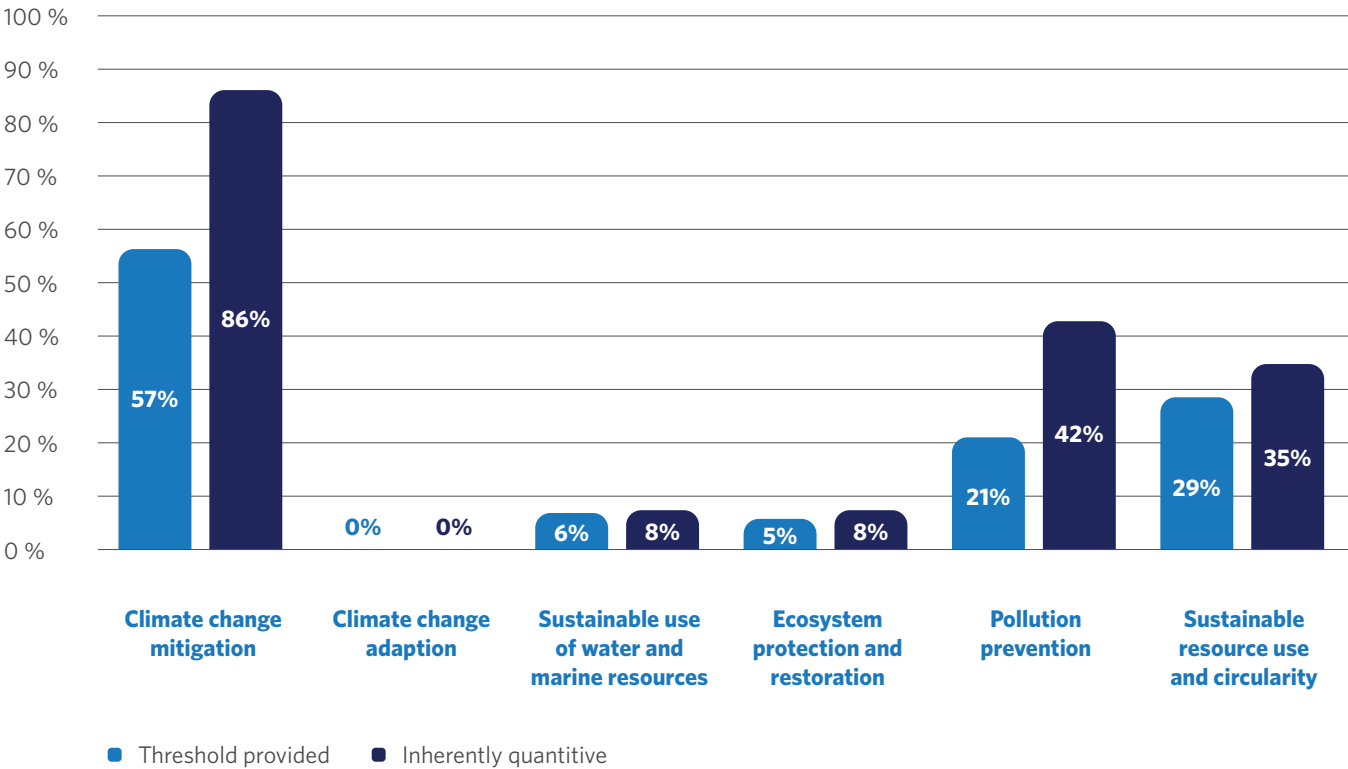


(3) Measurability

Measurability refers to the use of thresholds that are explicitly quantitative or inherently measurable in the criteria. By this evaluation, climate change mitigation has the highest adoption of quantitative thresholds, demonstrating significant progress in establishing measurable and well-defined metrics for this objective. This advancement underscores the growing emphasis on tackling climate change and achieving net-zero targets.

In contrast, climate change adaptation lacks quantitative metrics, as its solutions prioritise climate risk and vulnerability assessments, which aim to reduce physical risks and prevent adverse impacts on adaptation efforts. Adaptation efforts often involve complex and context-specific actions that vary widely, depending on the vulnerabilities and risks regions and sectors faces. Thus, it is challenging to define standardised quantitative criteria. Additionally, sustainable use of water and marine resources, along with the ecosystem protection and restoration has minimal criteria with specific thresholds or quantitative measures, demonstrating room for improvement in these areas.

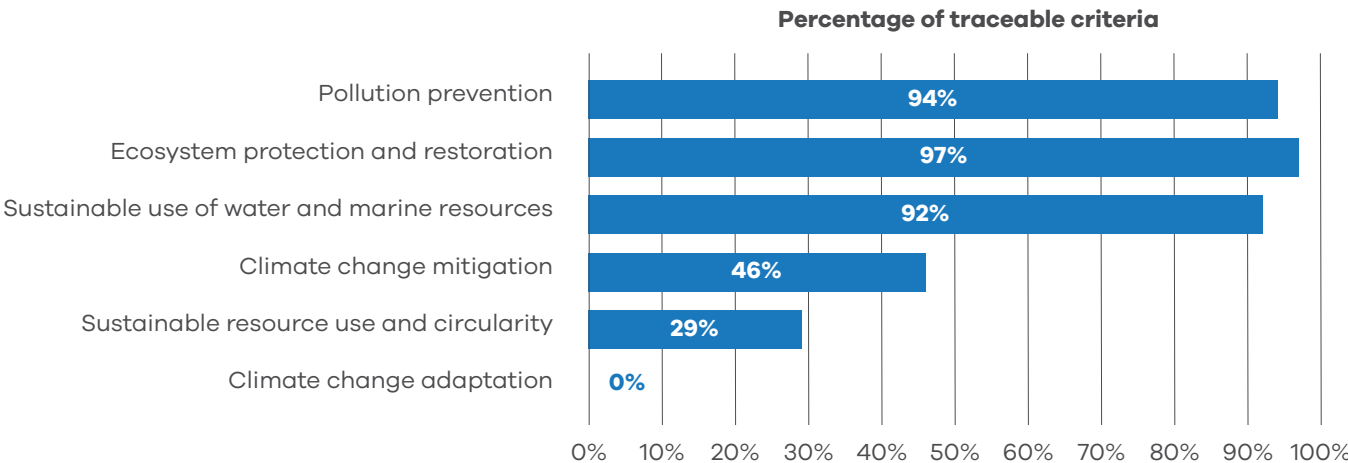
Figure 13: Provision of quantitative criteria and measurable thresholds in the SA GFT



(4) Traceability

Traceability refers to criteria that clearly reference science-based standards, as well as national or international standards and regulations. Ecosystem protection and restoration, pollution prevention, and sustainable use of water and marine resources demonstrate high traceability, with SA GFT criteria closely aligned with established standards. However, the criteria do not specify which sections of the referenced regulations to consult, which may reduce traceability and usability. For example, while 57% of the climate change mitigation criteria include quantitative thresholds, 46% reference specific regulations or standards. Therefore, the majority provides no indication of whether the rest of the thresholds align with the Paris Agreements’ goals or other international/national standards, which could cast doubt on their credibility and transparency.

Figure 14: Traceability in the SA GFT through referenced criteria and regulations



4.5.3. ANALYSIS BY SECTORS

The analysis by sector aimed to understand how the same DNSH implementation challenges are distributed by sector.

- **Best overall performance sector:** The construction sector emerged as the top performer, excelling in quantitative thresholds (56%), inherently quantitative criteria (69%), and clearly referenced domestic regulations and standards (69%). This suggests the presence of clear and measurable standards. Notably, approximately 75% of the construction sector criteria are unique, reflecting an effort to create sector-specific standards, thereby contributing to higher usability. Additionally, frequent references to domestic regulations indicate successful localisation of criteria for this sector.
- **Sectors with significant gaps:** The energy, and water and waste sectors display significant gaps, especially in providing quantitative thresholds (13% and 8%, respectively). Additionally, these sectors face challenges with the use of clear and objective language (creating understandability issues), scoring 33% and 23%, respectively. Given these two sectors represent over 50% of total activities covered by the SA GFT, these issues could have a substantial impact on overall taxonomy use.
- **Sectors with limited impact:** The ICT sector includes only two taxonomy-eligible activities, while the agriculture, forestry, and fisheries sector have a single taxonomy-eligible activity with a total of five DNSH criteria⁴. None of these criteria feature quantitative thresholds or inherently quantitative elements. In future iterations of the SA GFT, if additional activities are included, substantial efforts will be required to enhance the criteria usability.
- **Most challenging issue across sectors:** Measurability, which requires the use of quantitative thresholds, stands out as a widespread challenge, with an average of only 17% of criteria providing quantitative thresholds across sectors. In addition, the reference of international standards in the criteria also needs extensive improvement especially in the Transportation sector.

⁴ For the agriculture, forestry, and fisheries sector, the SA GFT offers only a broad categorization of industries, meaning that activities identified within these sectors may overlap with a range of other activities.

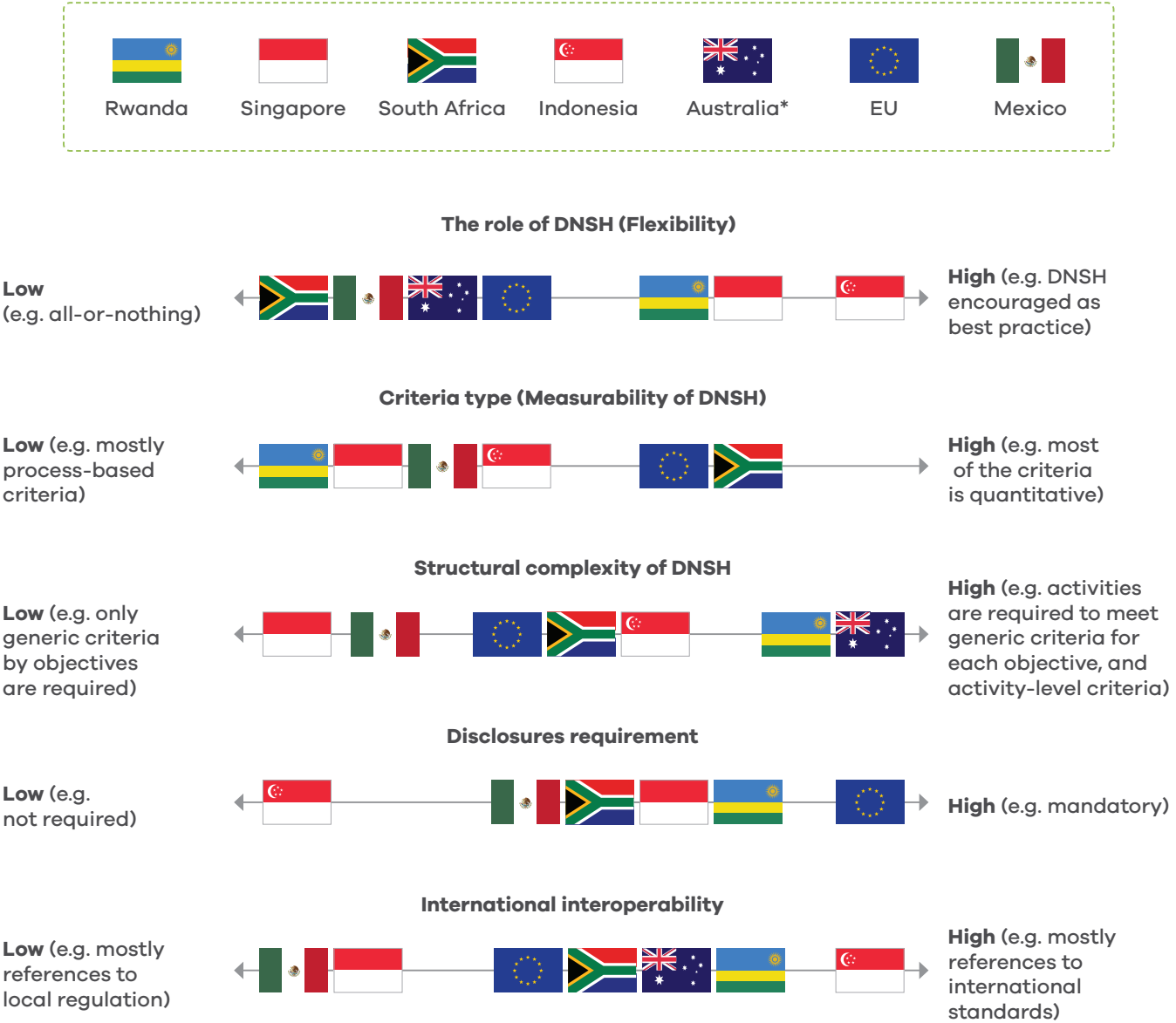
Figure 15: Analysis by sector



4.5.4. INTEROPERABILITY

To assess interoperability, the SA GFT was compared with the taxonomies of Rwanda, Singapore, Indonesia, Australia, the EU, and Mexico to evaluate the alignment of DNSH criteria across these frameworks. The assessment focused on the role of DNSH criteria in the taxonomy, criteria type, structural complexity, and international interoperability, the results of which indicate that taxonomies approach DNSH in varied ways. Notably, South Africa, not unlike the EU, has adopted a balanced approach across multiple dimensions while integrating a relatively complex and stringent framework.

Figure 16: High-level comparison of SA GFT versus other taxonomies: Singapore, Rwanda, Australia, EU and Mexico⁵



⁵ The graph is adapted from the GTAG report: Streamlining and increasing the usability of the Do No Significant Harm (DNSH) criteria within the UK Green Taxonomy but covering different countries. At the time of analysis, Australia had released only a consultation paper on its taxonomy, which included no specific DNSH details such as the criteria type and the disclosure requirements. These criteria are expected to be published in December 2024.

• DNSH flexibility

Among the DNSH criteria compared, Singapore’s are the most flexible. Currently, DNSH is not an essential pillar for taxonomy alignment in Singapore’s framework. Singapore taxonomy adopts a traffic light system and whether activities are classified as green or amber mainly depends on its TSC. This approach aims to ensure ease of use and encourage early taxonomy adoption. As it evolves, DNSH could become part of the eligibility criteria, and failing DNSH will render activities ineligible under the taxonomy (Monetary Authority of Singapore, 2023).

The role of DNSH in taxonomy alignment is less flexible in South Africa, Australia, the EU, and Mexico, all of which adopt an all-or-nothing approach. These taxonomies are built on three essential pillars: Technical screening criteria, DNSH, and MSS. As a result, DNSH is one of the three mandatory pillars activities must meet to achieve taxonomy alignment.

The Rwanda taxonomy is in a middle position; it is built on the same three pillars as South Africa’s but has more flexibility than the all-or-nothing approach. If an activity meets the TSC but fails to meet DNSH requirements, it can still achieve “Limited Alignment” if a remediation plan is prepared. This plan should be publicly available on the company’s website, detailing specific milestones and timelines. It must be submitted to the Rwandan Taxonomy Steering Committee for review (Ministry of Finance and Economic Planning of Rwanda, 2023). In addition, Rwanda’s taxonomy adopts a different and more lenient approach to the agricultural sector. Unlike other sectors, no general or specific DNSH criteria for agricultural and livestock-related activities exists. To be taxonomy-aligned, activity owners must prepare an Integrated Environmental Management Plan including environmental damage prevention measures listed in the taxonomy. However, the Rwandan taxonomy does not define the minimum number of measures required, leaving this aspect open-ended.

Indonesia’s taxonomy is also in a middle position in terms of flexibility. In alignment with the ASEAN Taxonomy, DNSH in Indonesia is one of three essential criteria, alongside Remedial Measures to Transition and Social Aspects (ATB, 2024). Activities will be classified as green if they align with the Paris Agreement, including considering Indonesia’s NZE in 2060; and all essential criteria must be met. However, if significant harm to other environmental objectives is found after assessment, remedial measures to transition must be undertaken to ensure the activity will not cause damage or loss. The implementation of these measures must be planned effectively to eliminate all significant harm within five years of the assessment. Therefore, under this circumstance, the activity can still be classified as green (The Indonesian Financial Services Authority, 2023).

Criteria type

The South Africa and EU taxonomies both use quantitative and qualitative thresholds, though the use of quantitative thresholds is low. The vast majority of DNSH criteria in the Singaporean, Rwandan, Mexican, and Indonesian taxonomies are highly process-based and descriptive. Examples include:

- Rwanda taxonomy:**
“For soil contamination, control of liquid waste must be kept by means of records detailing origin, state, chemical properties, the quantity of waste taken at the place of origin, and quantity arriving at the plant. Measures must be undertaken to treat such waste.”
- Singapore taxonomy:**
“Identify and manage risks related to water quality and/or water consumption at the appropriate level.”

While the measurability of the DNSH in Singapore’s taxonomy is low compared to South Africa’s—for instance, only three out of 32 matched activities in Singapore’s taxonomy include explicit quantitative thresholds—it is noteworthy that two of these thresholds are more stringent than those in South Africa’s taxonomy (**see example in the table below**):

Table 10: Examples of stringent rules in Singapore taxonomy over SA GFT

Activities	Environmental objectives	Singapore	South Africa
Construction of new buildings	Singapore: Protect healthy ecosystems and biodiversity	At least 80% of all timber products used in the new construction for structures, cladding and finishes must have been either recycled/reused or sourced from sustainably managed forests as certified by third-party certification audits performed by accredited certification bodies, e.g., FSC/ PEFC standards or equivalent.	At least 50% of all timber products are used in the new construction for structures, cladding and finishes must have been either recycled/reused or sourced from sustainably managed forests as certified by third-party certification audits performed by accredited certification bodies, e.g., FSC/PEFC
	South Africa: Ecosystem protection and restoration		
Renovation of existing buildings	Singapore: Protect healthy ecosystems and biodiversity	Same as above.	No criteria under this objective.
	Singapore: Promote resource resilience and circular economy South Africa: Sustainable resource use and circularity	At least 80% (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material) generated on the construction site must be prepared for reuse or sent for recycling or other material recovery, including backfilling operations that use waste to substitute other materials.	At least 50% (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material) generated on the construction site must be prepared for reuse or sent for recycling or other material recovery, including backfilling operations that use waste to substitute other materials.

Structural complexity of DNSH

Australia and Rwanda’s taxonomy structures are more complex than South Africa’s. Firstly, for each environmental objective, there are general compliance requirements all activities must meet. Secondly, most activities have an additional layer of unique activity-level DNSH criteria that need to be satisfied. The approach taken by the South African, Singaporean, and EU taxonomies strikes a balance by offering a mix of unique activity-level criteria and generic criteria, with most of objectives applying exclusively to one or the other.

The DNSH criteria in Mexico’s taxonomy are general criteria tailored to specific sectors or groups of activities within a sector. This approach could potentially address each industry’s unique characteristics while simplifying and standardising the criteria. In contrast, the Indonesian Taxonomy only provides general guidelines for each objective. The DNSH criteria generally apply to all sectors and activities if they are relevant (Indonesia Financial Services Authority, 2023). Thus, the complexity is lower than that of other taxonomies with activity-specific DNSH.

The disclosure requirement

Among the seven taxonomies compared, only the EU taxonomy requires mandatory disclosure on the extent to which DNSH requirements are met by reporting entities, with a reporting template provided for this purpose. In the case of Singapore, the disclosure of DNSH criteria is voluntary and only recommended as best practice. Currently, for activities aligned with the green or amber TSC, users are advised to disclose against DNSH criteria and prepare for future mandates.

Like the SA GFT, the disclosure requirements in the taxonomies of Rwanda, Mexico, and Indonesia remain voluntary. In Rwanda’s taxonomy, if DNSH criteria are not met, limited alignment requires the submission of remedial plans where the criteria are not fully satisfied. Other than this, the disclosure of DNSH is not specified in the taxonomy. In Mexico’s taxonomy, if a given eligible activity meets all the requirements (MSC, DNSH and MSS), entities may disclose the percentage such activities represent in terms of sales, capital expenditures, and operating expenses. Both implementation and disclosure of information in line with Mexico’s taxonomy at the current stage is voluntary (Government of Mexico, 2023). In Indonesia’s taxonomy, DNSH disclosure is also not specified.

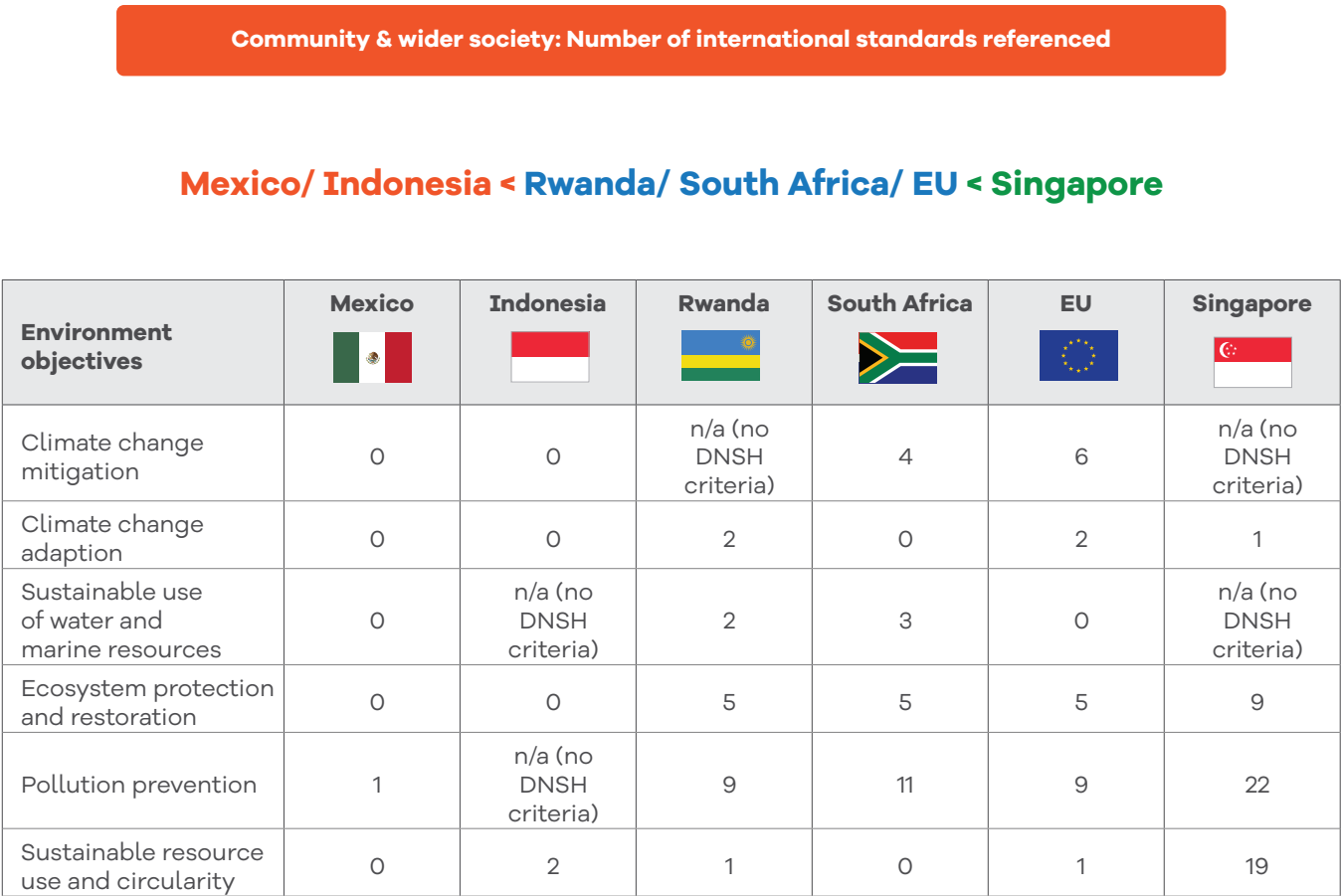
• International interoperability

For international interoperability, using international standards enhances usability and global coherence. Singapore leads in this regard, while Rwanda, Australia, the EU, and South Africa take a balanced approach, blending local and international standards. In contrast, Mexico and Indonesia primarily rely on domestic policy and regulations.

The Singaporean taxonomy stands out for its extensive use of international standards by referencing widely recognised global standards and regulations for most of its DNSH criteria.

This approach could strengthen its taxonomy's credibility and international alignment, without adopting identical thresholds. Furthermore, rather than specifying national regulations in the criteria, the Singaporean taxonomy broadly states that compliance with national standards is expected, potentially setting a baseline requirement. The table below shows the mapping of the number of international standards referenced across multiple taxonomies. In particular, Singapore's taxonomy demonstrates stronger performance in referencing international standards than the SA GFT, specifically in objectives such as pollution prevention and sustainable resource use and circularity.

Table 11: Mapping the number of international standards referenced



4.6. RECOMMENDATIONS

The table below provides an overview of the key actions to improve DNSH.

Table 12: Overview of recommended actions to enhance DNSH criteria

Actors	Recommended actions
Theme 1: Governance and Leadership	
South African regulators & policymakers	<ul style="list-style-type: none">Establish a domestic SA GFT Working Group to improve usability, international interoperability, and disclosure. This working group should include policymakers, representatives from reporting entities such as large financial institutions and corporations, experts from key economic sectors, and consultants.
Theme 2: Improve the usability of DNSH	
South African regulators, SA GFT Working Group	<ul style="list-style-type: none">Increase the compliance flexibility of DNSH criteria in the SA GFT by creating a category for lower levels of alignment in the current taxonomy.Improve the use of specific quantitative thresholds and tailoring their generic criteria to specific sectors.Enhance the traceability and specificity of generic DNSH criteria by providing references and details, and clarifying the scope of the terms. Where compliance with regulation is required, clearly specify the relevant regulations or sections of legislation to be consulted, and the type of evidence required.Minimise the use of subjective language or provide definitions.Provide capacity-building programme, detailed Q&A, toolkits, guidance to reporting entities.
International sustainable finance taxonomy community	<ul style="list-style-type: none">Establish capacity-building workshops, toolkit guidance, online learning platforms for reporting entities, and best practice sharing among countries and international actors to ensure ease of use and effective implementation of SA GFT.
Theme 3: Enhance the international interoperability	
South African regulators & policymakers	<ul style="list-style-type: none">Enhance use of international standards by leveraging those already adopted in other taxonomies and/or exploring underutilised options.Evaluate interoperability by conducting a line-by-line assessment of the DNSH criteria in the taxonomies of other most major or relevant economies.
International sustainable finance taxonomy community	<ul style="list-style-type: none">Establish an international Task Force on DNSH alignment.Regularly organise workshops and/or issue publications on progress sharing, as well as best practices and case studies on effective DNSH implementation.

Actors	Recommended actions
Theme 4: Disclosure	
South African regulators	<ul style="list-style-type: none">Allow reporting entities to disclose the percentage of activities meeting SC, but fail DNSH criteria, along with reasons for failure.Comprehensively review various sustainability reporting frameworks to identify interoperable data points.Provide disclosure templates, examples, and detailed guidanceEncourage third-party verification of disclosed information from qualified verifiers.
International sustainable finance taxonomy community	<ul style="list-style-type: none">Encourage international collaboration between regulators, taxonomy frameworks, and other sustainability reporting regimes to standardise disclosure guidance or templates.
External service providers	<ul style="list-style-type: none">Third-party Verifiers could validate data sources used by reporting entities, assessing their reliability.Data Providers could disclose employed methodologies and underlying assumptions.

The following subsections offer detailed insights into each of the recommendations above.

1.4.1 REGULATORS

1. Establish a task force targeting improving usability, international interoperability and disclosure of DNSH

Regulators could lead the establishment of a working group focusing on DNSH. This group could include policymakers, representatives from taxonomy-reporting entities such as large financial institutions and corporations, sector experts, and consultants. The working group would conduct a phased review of the SA GFT’s DNSH implementation, identify gaps, and formulate plans to address them. This may include inviting sector experts from industries facing significant challenges or those associated with net-zero objectives. Additionally, the group could regularly review developments in other countries’ taxonomies, integrating applicable best practices. Furthermore, it could support the effective implementation of DNSH by designing capacity-building programmes and toolkits.

2. Increase the compliance flexibility of the DNSH criteria

Currently, the SA GFT employs an, all-or-nothing method’s failing DNSH criteria immediately leads to taxonomy non-alignment, even if MSC and MSS requirements are met. This stringency could reduce the SA GFT’s alignment, demotivating investors (GFI, 2023a). Although South African data is currently unavailable, the EU Platform on Sustainable Finance (PSF) disclosed test results, covering more than 2,800 undertakings that passed the DNSH criteria when meeting the TSC for mitigation in the 2020 fiscal year. The PSF data shows 3.6% of undertakings met the 50% DNSH test, 1.1% met the 75% DNSH test, and only 0.6% met the 100% DNSH test (PSF, 2022a).

Compared to more flexible approaches adopted by other countries, the all-or-nothing method could exclude activities that broadly meet technical requirements, thereby reducing the taxonomy’s interoperability. Therefore, increasing the flexibility of DNSH assessment would benefit to the taxonomy’s effective implementation. This increased flexibility can be achieved by introducing a flexible alignment classification, such as “Limited alignment or eligible” or similar classifications. This approach, as seen in Rwanda’s taxonomy, allows activities that meet the TSC but fail DNSH to achieve “Limited Alignment or eligibility”, given a remediation plan is prepared. To ensure the credibility of such plans, the SA GFT could require remediation plans to be submitted to authorities and published on the company’s website, including clear milestones and implementation timelines.

The remediation plan could address current usability issues surrounding DNSH. This framework has been recommended in the ASEAN common taxonomy (ATB, 2024), and adopted by countries such as Thailand, Malaysia, and Indonesia. Moreover, unlike South Africa, these countries use a traffic light system, where TSC compliant activities that fail DNSH—yet have a remediation plan—are thus classified as amber or green. Therefore, since the SA GFT does not include a traffic light system, introducing an alternative classification could enhance its usability and flexibility. Except for the taxonomies in the scope of this research (e.g., Indonesia and Rwanda),⁶ the table below provides examples demonstrating flexibility in compliance with DNSH criteria for easy reference.

Table 13: Examples demonstrating flexibility in compliance with DNSH criteria

Country/Region	Details
Thailand	<i>“If the activity, project, or company in question does not comply with the DNSH criteria but otherwise passes relevant TSC and metrics, it may be considered compliant for the corresponding green or amber category if the operating company submits an additional plan indicating how it will correct the deficiencies within three years after the assessment.”</i> (Thailand Taxonomy Board, 2023)
Malaysia	<i>“The recognition of remedial measures to support a transition by avoiding any outright exclusion of economic activities that are currently not contributing to climate change objectives and/or not sustainable as the remedial measures address the significant harm”.</i> (Bank Negara Malaysia, 2021)
EU	<i>“The expert group of the European Commission “The EU Platform on Sustainable Finance” has recommended to extend the taxonomy framework to classify those activities that “operate between significantly harmful and substantial contribution performance levels and could qualify for taxonomy-recognised investment as part of an intermediate/amber transition plan under which they continue to improve to stay out of significantly harmful performance”</i> (EU Platform on Sustainable Finance, 2022b).

⁶For these countries, please refer to comparative analysis of international taxonomies

3. Improve the use of specific quantitative thresholds

Quantitative thresholds could be prioritised over action- or process-based criteria where possible. Quantitative thresholds facilitate performance measurement and reduce uncertainties associated with discretionary judgements that may be required for process-based criteria. From the analysis, a positive trend was observed in DNSH criteria for mitigation regarding the usage of quantitative criteria: although only 57% of the criteria have specific thresholds, an additional 29% (bringing the total to 86%) are inherently quantitative. Some criteria, for example, “The activity does not include purchasing vehicles with CO2 emissions higher than average for the category” (Activity 7.5.1), are quantitative by nature, even though no explicit threshold is provided. It is recommended, therefore, that specific values for these criteria, or guidance on how to identify such thresholds, could be provided to improve clarity and usability.

When a quantitative threshold is not feasible, in the case of generic criteria, improvements can still be made by tailoring generic criteria to specific sectors. This approach has been implemented in Mexico’s taxonomy, which includes DNSH criteria on a sector-by-sector basis. In contrast, the SA GFT’s adaptation criteria are all generic, focusing on climate risk and vulnerability assessments applicable to all activities, whereas Mexico’s sector-specific taxonomy criteria facilitates inclusion of quantitative thresholds. For instance, a specific quantitative threshold for the agriculture sector is: “It is forbidden to cultivate land on slopes greater than 20% without implementing soil conservation works (terraces, gabion dams, etc.).”

4. Enhance traceability and improve the specificity

- **Add references to the criteria where they are missing.** For most criteria, references cite either South African regulations or international standards. However, a gap in referencing is primarily observed in the climate change mitigation objective. For example, although 57% of the criteria include thresholds, some are not linked to specific regulations or standards, creating uncertainty as to whether these thresholds align with the Paris Agreements’ goals, or other international and national standards.

However, the SA GFT contains some examples that can guide future improvements. For instance, one criterion specifies that activities with emission intensities above the regional average of 475g, based on IEA data, cause significant harm. Incorporating such references, therefore, can significantly enhance the taxonomy’s credibility and transparency.

- **Improve usability by adding details and clarifying the scope of terms used in the criteria.** Given Adaptation’s generic criteria, i.e.: “The economic operator has developed a plan to implement adaptation solutions to reduce material physical climate risks to the activity. Those adaptation solutions do not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, of nature, of assets and of other economic activities and are consistent with local, sectoral, regional or national adaptation efforts”, It is difficult, without further guidance, for users to know what these efforts refer to. To solve this usability issue, sources such as the National Adaptation Plan of South Africa could be referenced where possible.

Additionally, some activity-specific criteria require management or monitoring plans, but lack guidance on which details need to be included, as per the following examples:

“For closed-loop pumped hydropower storage, environmental degradation risks related to preserving water quality and avoiding water stress are identified and addressed, in accordance with a water use and protection management plan, developed in consultation with relevant stakeholders”

“Methane leakages from relevant facilities are controlled by a monitoring plan” (7.4.8).

Notably, a best practice from Rwanda’s Green Taxonomy exists in the agriculture and livestock sectors. Although specific thresholds are not provided, it is clarified that the project owner must submit an Integrated Environmental Management Plan aimed at preventing environmental damage. While there is no predefined outline for such plans, the taxonomy still clearly lists required information to be present in the management plan.

- **Where regulations or standards are referenced, clearly specify relevant sections, providing guidance on the type of evidence that demonstrates compliance.** While most criteria reference regulations or standards, they often do not specify particular sections users should consult. A good example found in the EU taxonomy is the identification of specific articles and points, such as “Article 2, points (22) and (23) of a certain Regulation.” This level of specificity provides clarity, ensuring users know precisely where to locate compliance requirements.



5. Minimise the use of subjective language or provide definition

The use of subjective language is a common issue for most taxonomies with DNSH criteria. When the use of subjective language is inevitable, a clear definition could be provided. **Table 14** below summarises the most common examples subjective language use in the SA GFT, along with recommendations for better clarity.

Table 14: Summary of common examples of subjective language usage in the SA GFT

Examples	Recommendations
...Aligned with an internationally recognised method (7.1.2)	Provide a list of the methods recommended or provide examples.
... Long-term (7.1.1)	A range of time could be provided.
... Controlled by a monitoring plan (7.4.3) (7.4.4) (7.4.8),	To ensure clarity, the definition of control could be explicitly defined.
...Exceptions are allowed if there is a positive trade-off (7.7.2)	Benchmark or criteria of adjectives such as <i>positive, adverse, heavy</i> , and <i>significant</i> could be clarified. For instance, define "significant" as any impact resulting in more than a X% deviation from a baseline. Existing frameworks (e.g., ISO standards) or expert consultation will also benefit increased clarity.
The project does not show significant adverse impact (7.3.2)	
Avoid routing with heavy impact on marine and terrestrial ecosystems (7.3.5)	
Any potential risks to the good status of bodies of water (7.7.3)	Define the scope of potential risk, or which authorities are responsible to determine the stipulated potential risks.
Identify and manage risks related to water quality and/ or water consumption at the appropriate level	When using words such as "appropriately," a better practice is to clarify, such as <i>"ensure that an appropriate assessment has been conducted in compliance with the provisions of the National Environmental Management Biodiversity Act (Act 10 of 2004) "</i> (7.4.6).
The activity could not lead to releases of ballast water (7.5.4)	Define the scope of "lead to": Is it direct or indirect? To what extent can indirect actions still be considered as leading to the outcome?
The activity assesses the availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle (7.2.1) (7.3.1/11/12)	Provide the standards or guidance of the definition of "high durability" and "easy to dismantle". For example, in Rwanda taxonomy, it clarifies that <i>"Durability depends on the technology. Crystalline silicon photovoltaic panels, which account for almost 90% of the photovoltaic panels used on the market, have a lifetime of about 30 years"</i> .
A waste management plan is in place and ensures maximal reuse or recycling (7.3.6/7/8) (7.7.2)	Define specific percentages or ranges: For instance, <i>"maximal reuse or recycling"</i> could mean achieving a minimum recycling rate of X%. Industry standards could benefit increased clarity.

6. International interoperability

Where feasible, conduct a line-by-line assessment of the DNSH criteria in the taxonomies of other major or relevant economies to evaluate interoperability. While full consistency may not be achievable across all taxonomies, increasing the interoperability with major economies would maximise the South African taxonomy’s international alignment.

Where possible, increase the use of international standards. The interoperability of DNSH criteria varies across taxonomies. While a few countries primarily rely on international standards, jurisdictions such as South Africa and the EU have adopted a hybrid approach, referring to local and international DNSH frameworks. Other countries have crafted their DNSH criteria to primarily align with local regulations. Although ensuring DNSH compliance with local regulations has its merits, it can lead to interoperability issues, especially when reporting entities engage in overseas activities. Therefore, using international standards, such as ISO or UN frameworks, could improve international interoperability.

Another downside of relying solely on compliance with existing domestic laws in DNSH criteria is that these laws often represent only minimum regulatory requirements, which may be insufficient to prevent significant environmental harm. For example, Australia disclosed stakeholder feedback generally favouring a combination of compliance with national and local laws, reinforced by additional DNSH criteria (Australian Sustainable Finance Institute, 2022).

If compliance with local regulations is necessary, the taxonomy could clarify what may be used as evidence to demonstrate compliance. Questions could be addressed, such as whether the current legal framework can provide such proof, or which new mechanisms could be introduced/created to facilitate the effective implementation of the taxonomy.

See Annex for a mapping of the international standards referenced in different countries’ taxonomies. This may serve as a tool to reference available international standards in the SA GFT.

7. Disclosure

From a disclosure perspective, regulators could allow reporting entities to disclose the percentage of their activities that meet MSC criteria but fail to satisfy DNSH criteria, along with the reasons for failure, such as significant harm to other objectives, or insufficient data/evidence to prove compliance. This approach would enhance transparency, providing greater flexibility for entities facing stringent DNSH standards they are temporarily unable to meet, particularly when external limitations are the cause.

As sustainability reporting frameworks continue to develop, many entities may face multiple reporting obligations, such as those from the Task Force on Climate-related Financial Disclosures, the ISSB, and the Corporate Sustainability Reporting Directive (CSRD).

Regulators could comprehensively review widely recognised and up-to-date reporting regimes to identify interoperable data points or applicable information requirements across different frameworks. This will help reduce the reporting burden on entities by minimising duplication efforts and increase the SA GFT's international interoperability.

Publish disclosure templates, examples, and detailed guidance after piloting with relevant reporting entities with complex activities to provide comprehensive guidance.

Where possible, require third-party verification of disclosed information, where regulators prescribe standards for qualified verifiers.

1.4.2 EXTERNAL SERVICE PROVIDERS

For reporting entities using external data as a proxy, **use third-party auditors/verifiers** to validate data sources and assess their reliability and scientific accuracy.

In terms of data providers, feedback from reporting entities during the implementation of other taxonomies (GFI, 2023a) indicates the presence of inconsistencies between data from different providers. Therefore, data providers could publicly disclose employed methodologies and underlying assumptions to demonstrate their data's scientific validity.

1.4.3 INTERNATIONAL GREEN TAXONOMY COMMUNITY

This study conducted interviews with policymakers and consultants from multiple countries, with the majority of them emphasising significant challenges related to DNSH, particularly concerning usability and international interoperability. Addressing these issues, therefore, will require international collaboration. As such, the project team recommends the following actions:

- **Establish a dedicated DNSH international alignment working group:** A dedicated working group could be established to develop harmonised DNSH guidelines that can be adapted by individual countries while ensuring an international interoperability baseline.
- **Foster international collaboration on disclosure:** Encourage collaboration between international regulators, taxonomy frameworks, other sustainability reporting regimes, and reporting entities to standardise disclosure templates and requirements across different jurisdictions.
- **Organise international capacity-building programmes:** Collaborate with various countries to establish capacity-building initiatives, such as workshops and online learning platforms. These will assist stakeholders in sharing best practices and case studies on the effectively implementing of DNSH criteria, thereby enhancing global understanding and application.



05

MINIMUM SOCIAL SAFEGUARDS

5.1. MINIMUM SOCIAL SAFEGUARDS IN THE SA GFT

Minimum Social Safeguards (MSS) play a critical role in the SA GFT, ensuring companies and issuers pursue sustainable finance and environmental objectives, while maintaining fundamental social standards. These safeguards protect workers, communities, and broader societal interests by ensuring compliance with key laws and international guidelines.

To meet MSS requirements, companies and issuers must implement policies, procedures, and governance mechanisms that align with South African laws and international standards. These measures ensure that companies uphold workers' rights, promote fair labour practices, and address broader human rights concerns in their operations. Specifically, they must comply with the following non-exhaustive list of South African laws and related international guidelines:

South African Laws:

- The Bill of Rights (Constitution of South Africa)
- Labour Relations Act (Act 66 of 1995)
- Basic Conditions of Employment Act (Act 75 of 1997)
- Employment Equity Act (Act 55 of 1998)
- Occupational Health and Safety Act (Act 85 of 1993)
- Unemployment Insurance Act (Act 30 of 1996)
- Compensation for Occupational Injuries and Diseases Act (Act 130 of 1993)
- Protection of Personal Information Act (Act 4 of 2013)

International Guidelines:

- Core conventions of the International Labour Organization (ILO)
- OECD Guidelines on Multinational Enterprises
- UN Guiding Principles on Business and Human Rights

Minimum Social Safeguards aim to protect workers, communities, and broader societal interests by ensuring compliance with key laws and international guidelines.

As illustrated below, compliance with MSS involves two main areas of influence: 1) community and wider society, and 2) workforce.

Figure 17: Two main areas of influence for compliance with MSS



Source: Adapted from the SA GFT

MSS compliance also requires the implementation of a robust social due diligence process to ensure companies not only comply with legal requirements but also proactively identify and manage social risks. Companies and issuers with such processes can provide data, demonstrating their compliance with MSS. If they meet the MSS standards, the results can be shared transparently, along with supporting evidence.

5.2. CHALLENGES IN IMPLEMENTING MSS IN SA GFT

The effective implementation of MSS hinges on both usability—how easily companies and issuers can adopt and integrate safeguards—and interoperability—whether these safeguards align with other sustainable taxonomies and international standards, especially for overseas investors.

While the framework provides valuable guidance, several challenges exist when viewed through these lenses:

5.2.1. USABILITY

Usability refers to companies’ practical and demonstrable ability to implement, monitor, and prove adherence to required social and governance standards. It involves integrating human rights due diligence, anti-corruption measures, fair competition, and labour compliance frameworks within operations and supply chains, aligned with local laws and international standards. Thus, usability is about how effectively these safeguards can be operationalised, tracked, and transparently reported to demonstrate non-violation of core social and governance criteria.

• Complexity of social risk management

Managing social risks beyond basic legal compliance presents a significant barrier to the MSS framework’s usability. While South Africa’s labour laws, such as the Labour Relations Act and the Basic Conditions of Employment Act, provide comprehensive legal requirements for the workforce, the MSS framework requires companies to also address social risks affecting communities and society.

• Ambiguities and broad nature of existing guidelines

It is unclear whether social due diligence must cover only a company’s direct activities or extend across its entire value chain, including suppliers, employees, and consumers, as well as companies in which it invests in, insures, or finances. This ambiguity challenges companies with extensive business relationships throughout their direct and indirect value chains. Given the complexities and capacity limitations, applying due diligence to all suppliers and business relationships is impractical.

• Lack of tools and metrics for compliance assessment

Another challenge is the lack of specific tools and metrics to measure MSS compliance. While the current framework highlights safeguarding policies, whistleblowing procedures, and risk management, it lacks clear indicators or measurement tools to assess how well a company or issuer aligns with these requirements. For instance, companies must comply with the Labour Relations Act; yet, no defined metrics or tools exist to evaluate their MSS alignment. This gap leaves compliance open to inconsistent and subjective interpretation.

• Lack of guidance on disclosure

Although companies are encouraged to disclose their MSS compliance and provide supporting evidence, there is no explicit guidance on these disclosures’ structure. The lack of a standardised reporting framework specifying the documentation or evidence to be provided makes it challenging for companies and issuers to demonstrate taxonomy alignment effectively. This adds complexity, particularly for companies trying to meet both national regulations and international standards while presenting their data in clearly and transparently.

5.2.2. INTEROPERABILITY

• Overlaps between national and international legal requirements

South African companies and issuers must navigate both national legal requirements and international frameworks, creating potential overlaps and inconsistencies. This dual compliance requirement can lead to challenges in determining which regulations take precedence, especially when national laws are either more stringent or less comprehensive than international norms. Balancing these overlapping requirements adds compliance complexity across regulatory layers.

• Alignment with international taxonomies for overseas investors

Overseas investors may struggle to aligning their domestic taxonomies with the SA GFT. There is no clear framework outlining how South Africa’s MSS aligns with international taxonomies or how cross-border investments could be treated under these guidelines. Therefore, foreign investors may struggle to reconcile compliance with multiple taxonomies with distinct standards and requirements. As such, the absence of interoperability between taxonomies may affect the attractiveness of South African sustainable finance instruments to global investors.

5.3. KEY OBJECTIVES OF THIS ASSESSMENT

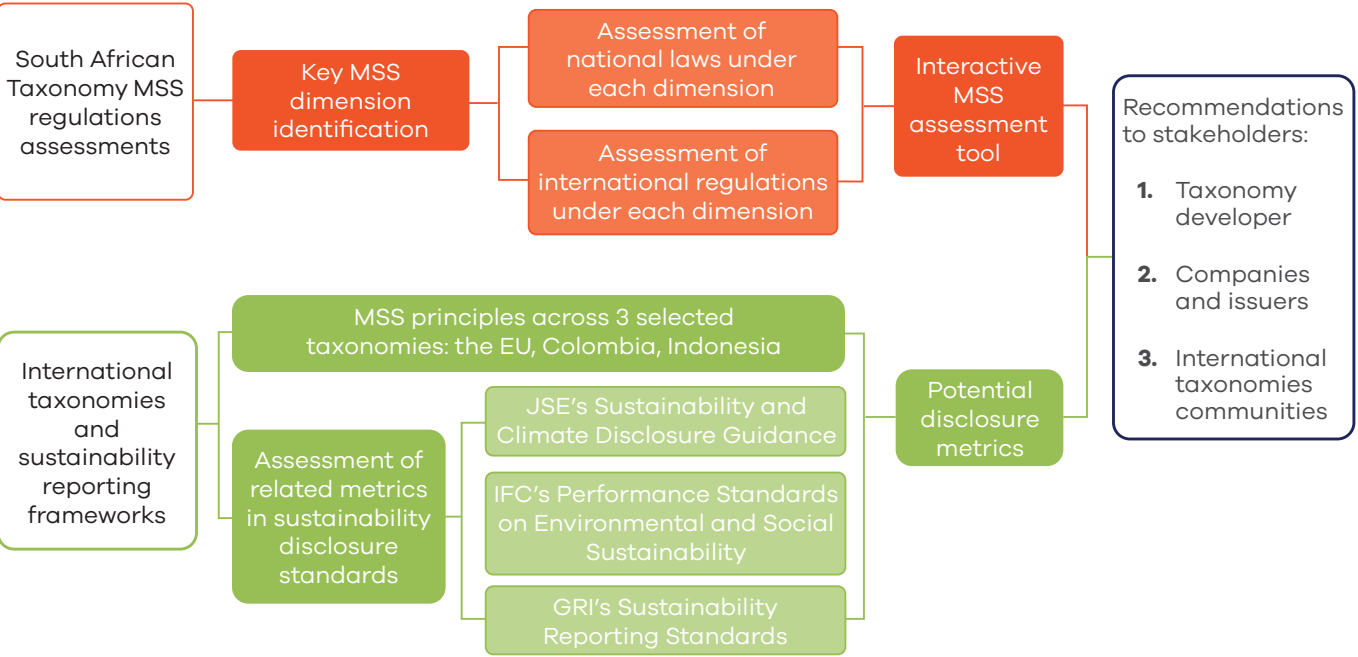
This assessment aims to establish a more consistent, comparable, and verifiable approach to evaluating MSS alignment and disclosure by companies and issuers. To achieve this, we focus on the following key objectives:

- **Identifying the core dimensions of the SA GFT MSS framework.** These foundational components will guide the overall assessment, breaking down complex social safeguards into more manageable and measurable areas.
- **Mapping existing South African laws and regulations with the MSS dimension.** By mapping relevant laws and regulations, we can assess the extent to which MSS requirements are already embedded within the local regulatory framework.
- **Exploring how international guidelines address gaps in MSS coverage beyond national laws.** This will assess how global standards can complement South Africa’s regulatory landscape, ensuring comprehensive MSS coverage.
- **Identifying related metrics in sustainability reporting.** These will serve as references for South Africa to develop its metrics for MSS alignment assessment.
- **Developing an MSS assessment tool** outlining the data required for compliance evaluation and ensuring transparent disclosure with supporting evidence in an accessible format.
- **Providing recommendations** to enhance the MSS framework for future versions of the SA GFT.

5.4. METHODOLOGY

5.4.1. APPROACH

Figure 18: Framework of the MSS analysis



MSS dimensions identification: To identify the core dimensions for the MSS in the SA GFT, we began by mapping key dimensions from other sustainable finance taxonomies, such as the EU and Colombian taxonomies, along with recommendations from leading research bodies, including the Platform on Sustainable Finance (PSF). These international frameworks serve as a basis for identifying common social dimensions. The proposed core dimensions were then adapted to South Africa’s context, ensuring they were tailored to domestic social and legal contexts and priorities.

Assessment of South African national laws and international guidelines: Once the dimensions were identified, the next step involved reviewing South African laws and regulations alongside international guidelines to assess their coverage of each dimension. This included analysing whether relevant laws contained provisions addressing the specific social dimensions and identifying the corresponding legal articles where applicable. For example, Chapter V(1)(c) of the OECD Guidelines on Multinational Enterprises, which focuses on the abolition of child labour, was mapped to the child labour dimension. This exercise clearly explained how South African laws and international guidelines align with the identified MSS dimensions.

Identification of related metrics in sustainability frameworks: Widely used sustainable finance frameworks were reviewed to map relevant metrics to the identified MSS dimensions. Sixteen global and regional standards and frameworks relating to sustainability disclosure have been reviewed. From these, the project team selected the JSE Sustainability and Climate Disclosure Guidance, the Global Reporting Initiative (GRI) Sustainability Reporting Standards, the Sustainability Accounting Standards Board (SASB), the IFC Performance Standards on Environmental and Social Sustainability, and the European Sustainability Reporting Standards, as all include specific social metrics. The JSE Guidance is particularly relevant to South Africa, while the others have global coverage.

Box 1: Relation between MSS and sustainability disclosure frameworks

Both MSS and sustainability disclosure frameworks aim to promote responsible corporate behaviour and transparency in relation to environmental, social, and governance (ESG) factors. While sustainability frameworks primarily focus on the **environmental and broader social impact of a company’s activities**, MSS specifically **addresses the social dimension by ensuring adherence to labor rights, human rights, and other social safeguards**.

In terms of scope, MSS ensures a **baseline for social aspects**, especially in sectors with high social risks, reinforcing sustainability disclosures by mandating adherence to key social safeguards. In contrast, sustainability frameworks provide a **wider scope** that includes environmental impact, climate resilience, governance structures, and long-term sustainability strategies.

Relation between MSS and sustainability disclosure frameworks:

Complementary functions: MSS is a foundational element of the “social” pillar within sustainability reporting, ensuring that companies meet essential social criteria before advancing to broader sustainability objectives.

Alignment in reporting: MSS and sustainability disclosure frameworks often use overlapping metrics within the social pillar. Reporting frameworks such as GRI and SASB often require disclosure on labor rights, community engagement, and human rights, directly aligning with MSS goals. By integrating MSS compliance metrics into sustainability reporting, companies can streamline their disclosures, making them more comprehensive and easier to verify

5.4.2. LIMITATIONS

Subjective nature of the mapping exercise:

Determining whether specific laws or guidelines are relevant to a particular social dimension involves a degree of subjectivity. In some instances, a law may relate to the dimension only indirectly, potentially resulting in gaps in coverage or the neglect of nuanced aspects of social risks.

Lack of market feedback:

While regulatory analysis provides a broad understanding of MSS requirements, there remains a need for company-level surveys to better identify which social dimensions are most relevant to the South African context. This would provide more specific data, helping refine metrics used for MSS assessment.

Complexity of social risk management beyond legal compliance:

South African labour laws, such as the Labour Relations Act and the Basic Conditions of Employment Act, provide a solid foundation for workforce protection. However, legal compliance alone does not ensure effective management of broader social risks. These risks, particularly those involving community impacts, are often context-specific and require more nuanced engagement strategies. Companies may struggle to address these risks if they rely solely on legal compliance without robust due diligence processes in place.

5.5. FINDINGS

5.5.1. KEY PILLARS FOR MSS

By reviewing various sustainable finance taxonomies, a common set of key social dimensions that form the foundation of MSS has been identified. These ensure social considerations and environmental goals are integrated into sustainable finance practices. Comparing the core dimensions from other international taxonomies reveals both overlapping and unique elements. These comparisons helped to identify the most relevant dimensions for the SA GFT. **Table 15** summarises the core social dimensions identified from sustainable taxonomies, including those of the EU, Colombia, and Indonesia.

Table 15: Key MSS dimensions mentioned in other taxonomies

Taxonomy/Report	Core dimensions
EU taxonomy	<ul style="list-style-type: none">Human rights, including workers’ rightsBribery/corruptionTaxationFair competition

Taxonomy/Report	Core dimensions
Colombia taxonomy	<ul style="list-style-type: none">Assessment and management of environmental and social risk impactsLabour and working conditionsCommunity health and safetyLand acquisition and involuntary resettlementIndigenous rightsCultural heritage
Indonesia taxonomy	<ul style="list-style-type: none">Protection and Respect for Human RightsEmployment includes decent work, prevention of forced labour, protection of women and child labour, as well as development of human resourcesImpact on people living close to investments covers aspects such as job creation, poverty alleviation, and fostering economic growth
KPMG report	<p>Human rights include the following sub-pillars:</p> <ul style="list-style-type: none">Child labourForced labourHealth and safetyFreedom of association and collective bargainingDiscrimination,Employment conditions, including, among others, working hours and remuneration

Human rights, worker protection, and broader social considerations—such as land acquisition, community health, and cultural heritage—are central themes across all taxonomies.

Based on a detailed analysis of these pillars in relation to the SA GFT, the following set of social core pillars is proposed to ensure the SA GFT reflects international best practices and the unique social challenges within the South African context. As highlighted in the limitations, some existing laws and regulations may already address these aspects to varying degrees, or fall under existing pillars. For example, gender-related issues could be incorporated into “Human rights, including workers’ rights” under the discrimination dimension. However, it is retained as a separate category to enable a more comprehensive assessment of national and international laws and disclosures.

Table 16: Key MSS dimensions suggested for SA GFT

Dimensions		Definition	Priority*
Human rights	Child labour	Measures in place to prevent child labour, abolish child labour in all its forms, and protect children from exploitative labour practices.	High
	Forced labour	Procedures to prevent and eliminate forced or compulsory labour and slavery.	High
	Health and safety	Implementation of health and safety measures, policies, and procedures to ensure a safe and healthy workplace, compliance with compensation laws for occupational injuries and diseases, and adherence to environmental management principles and remedial responsibilities.	High
	Freedom of association and collective bargaining	Evidence of support for employees' rights to freedom of association, including forming and joining trade unions, assembly, and collective bargaining.	High
	Discrimination	Measures and policies to ensure equal opportunity, equal protection, and to prevent and eliminate unfair discrimination in the workplace, including in employment and occupation on prohibited grounds.	High
	Employment conditions, including, among others, working hours and remuneration	Compliance with fair labour practices and legal standards, ensuring fair and just employment conditions, including working hours, overtime, leave provisions, employer compensation responsibilities, fair wages and benefits, safe working environments, procedures for workplace disputes, financial support during unemployment or other qualifying conditions, and adherence to codes of good practice in employment to support B-BBEE and promote social welfare advancement.	High
	Human dignity	Policies and measures to ensure respect for human dignity, fair treatment, appropriate compensation for affected employees, and support an adequate standard of living for all individuals in all business operations.	
Bribery/corruption		Implementing robust anti-corruption processes, including clear policies, preventive measures, and accountability structures aimed at deterring and addressing corrupt practices at all organisational levels. Companies must demonstrate a proactive commitment to ethical integrity, especially within senior management, ensuring accountability and adherence to legal and ethical standards (Nordea, 2022).	High
Taxation		Incorporating robust tax governance and risk management processes that prioritise lawful and transparent tax practices as part of corporate oversight. Companies must establish and enforce policies to manage tax obligations responsibly, demonstrating a commitment to lawful tax practices across all operations, including those of subsidiaries (Nordea, 2022).	High

Dimensions	Definition	Priority*
Fair competition	Implementing policies and educational programmes that ensure employees understand and comply with competition laws, fostering a culture of lawful and ethical business practices. Companies must proactively prevent anti-competitive behaviour, ensuring senior management and all subsidiaries uphold these standards to maintain a fair marketplace (Nordea, 2022).	High
Indigenous rights	Respect for indigenous rights and consideration of stakeholders' views.	Med/ Low
Cultural heritage	Support for respect, recognition, and protection of cultural heritage, linguistic diversity, traditional practices, and the arts.	Med/ Low
Gender equality	Policies and initiatives promoting gender equality and preventing gender-based discrimination, including a focus on the participation of black women in the economy, representation of women in decision-making positions, equal opportunities in the workplace, and anti-discrimination measures.	High/ Med

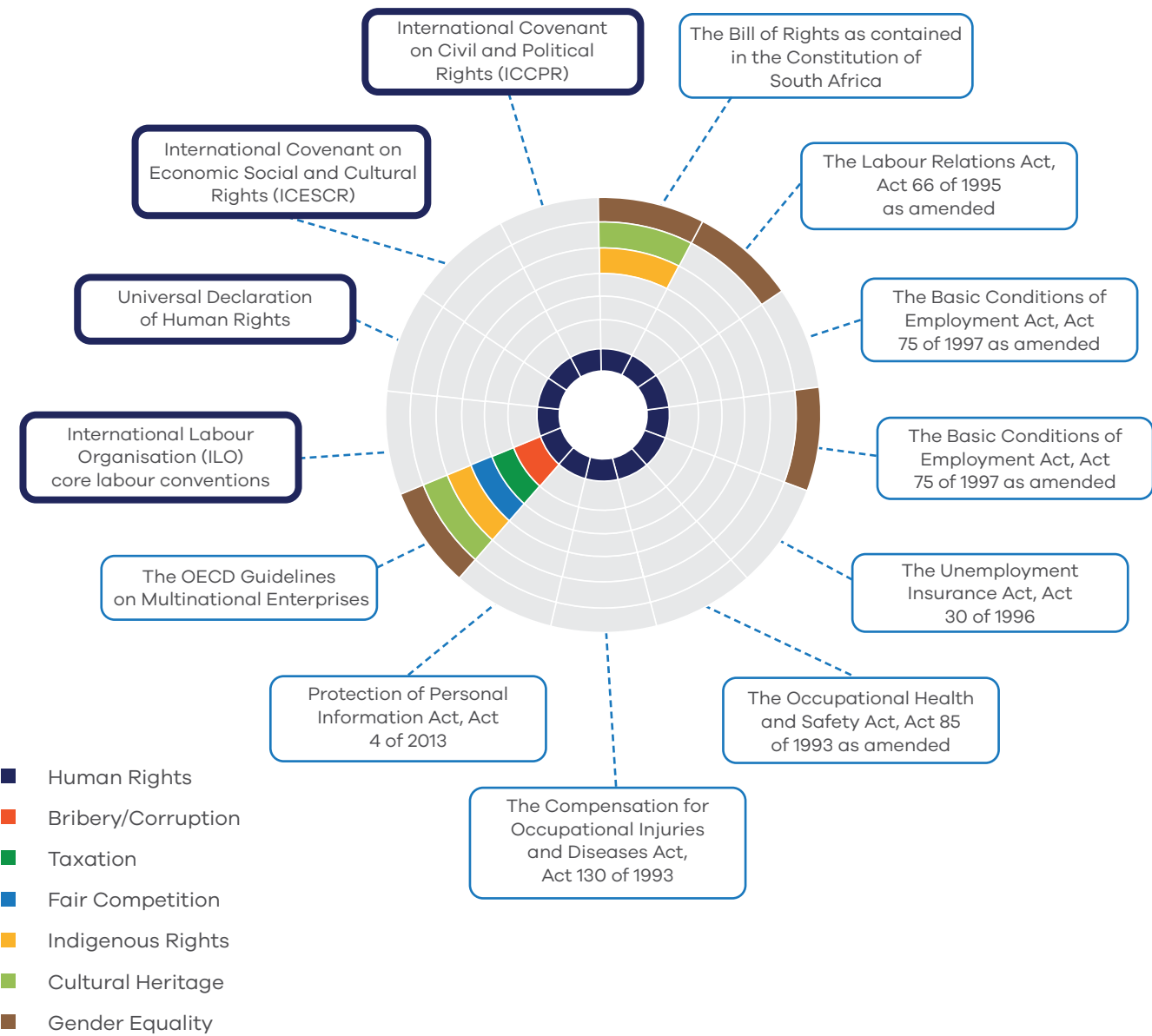
**The priority levels are determined based on international best practices and the specific social challenges in South Africa. High priority items are those recognised as essential dimensions in international frameworks, and are also highly relevant to South Africa's social challenges; Medium priority items may not be always emphasised in other international taxonomies but are still important within the South African context; Low priority items align with good international practices but may not be as critical in addressing South Africa's immediate social needs.*

5.5.2. ASSESSMENT OF LAWS AND REGULATIONS UNDER MSS PILLARS

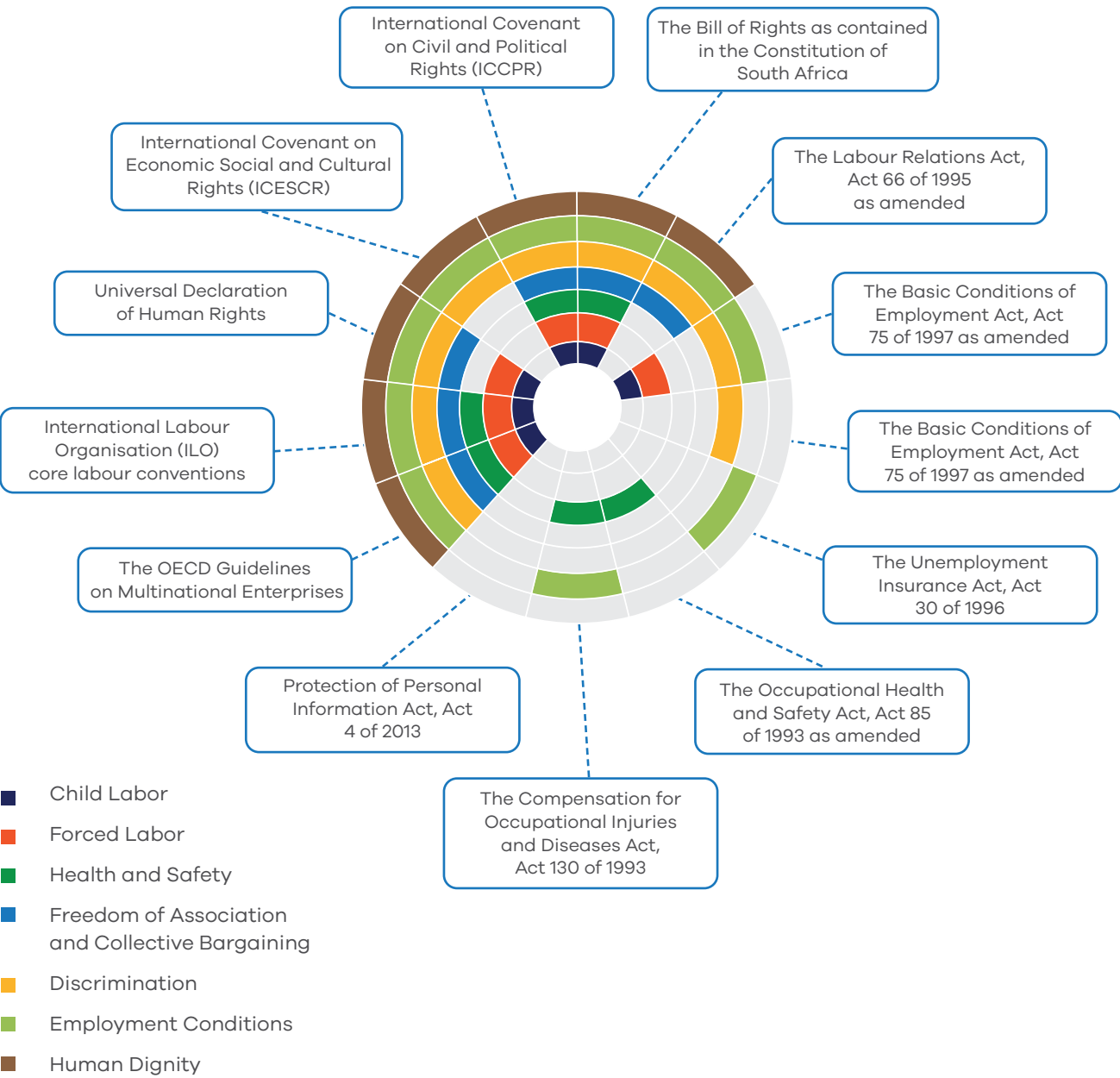
This section evaluates how effectively South African laws and international standards cover the identified MSS categories, focusing on human rights, anti-corruption, fair competition, and other key social safeguards. The assessment highlights gaps and areas of alignment across national laws and international guidelines, offering insights into how companies can ensure compliance and adopt best practices.

South Africa’s robust legal framework comprehensively covers several MSS pillars, particularly human rights, labour protection, and workplace safety. However, direct coverage is limited for issues such as bribery, corruption, and fair competition within primary social safeguard laws, requiring companies to adopt additional governance measures to ensure compliance with these aspects.

Figure 19: Coverage of MSS under South African national laws and international guidelines



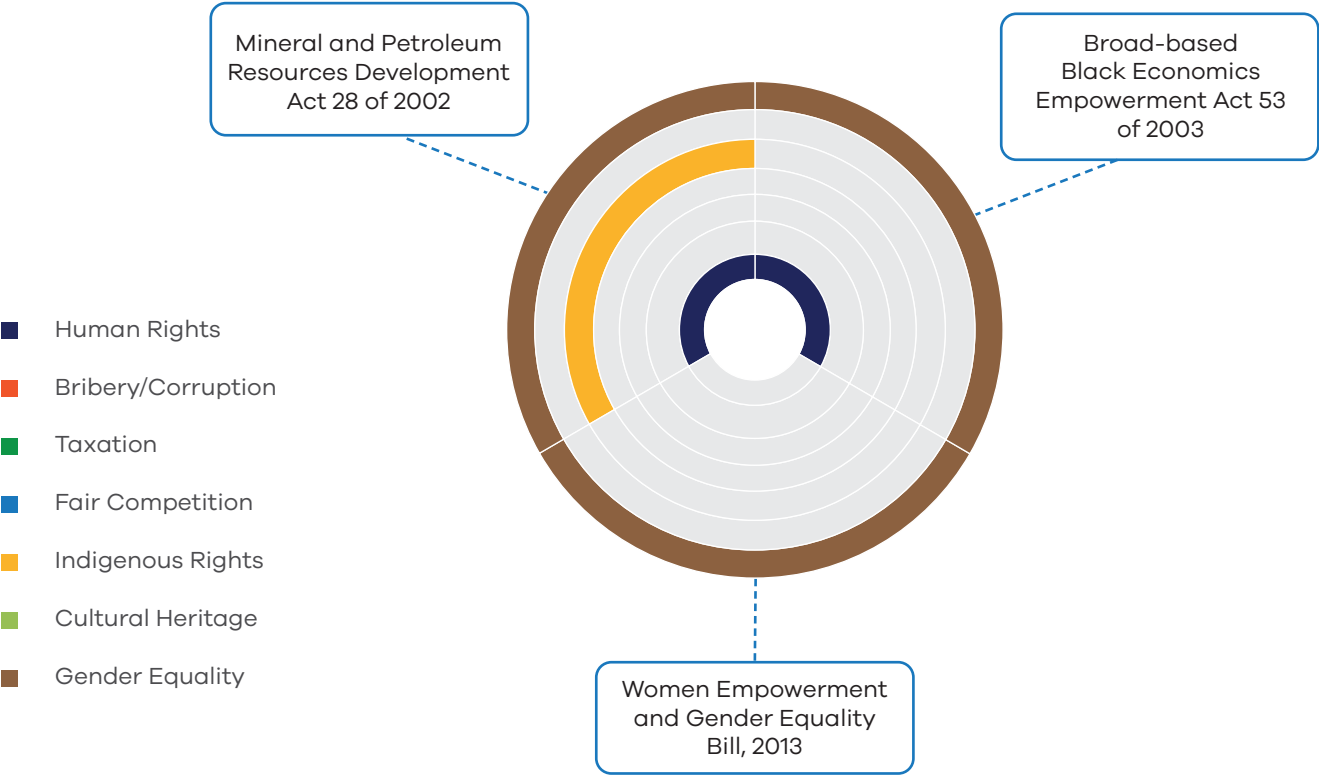
Human Rights breakdown:



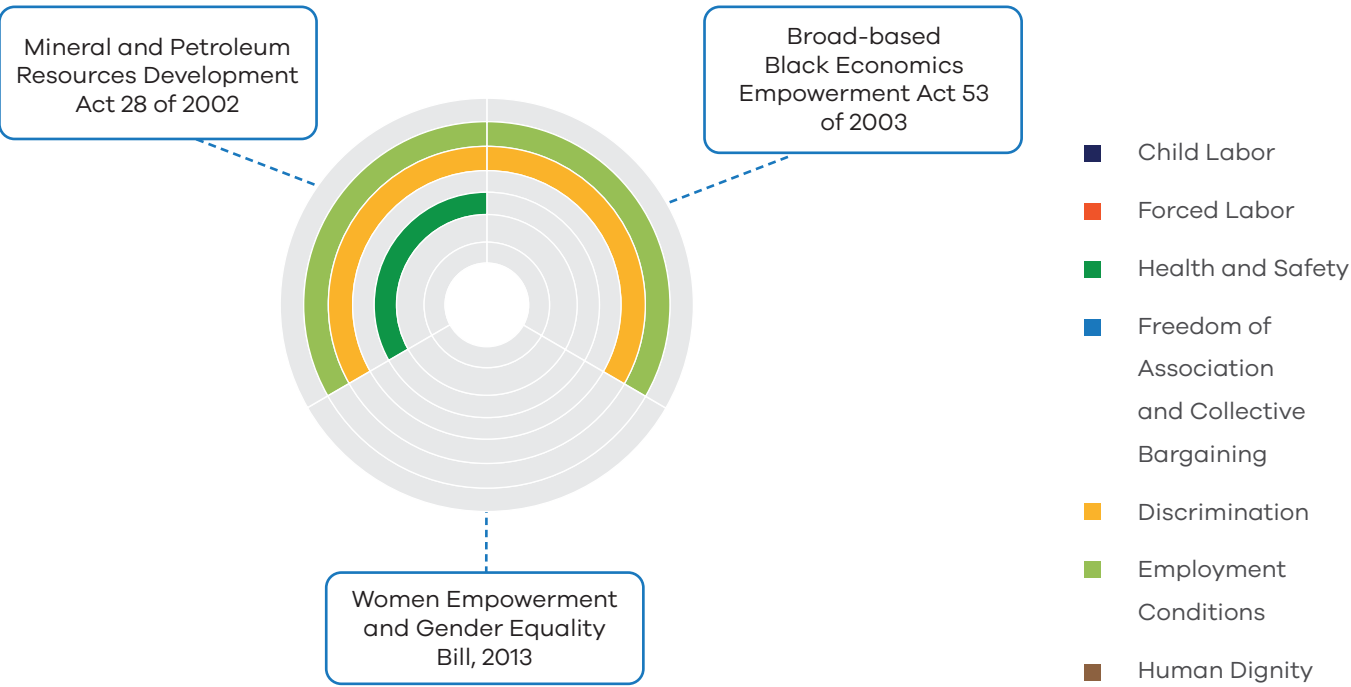
In addition to national laws, the SA GFT must to adhere to international guidelines such as the OECD Guidelines on Multinational Enterprises, the UN Guiding Principles on Business and Human Rights, and the ILO core conventions. The assessment is provided by **Figure 19** above, which further shows that the international guidelines, particularly the OECD Guidelines on Multinational Enterprises, strengthen areas such as bribery, corruption, and fair competition.

Beyond those already listed in the SA GFT, South Africa has several additional regulations that could support MSS assessment. For instance, **the Broad-Based Black Economic Empowerment (B-BBEE) Act and the Women Empowerment and Gender Equality Bill** address issues related to the economic participation of underrepresented groups. **Additionally, the Mineral and Petroleum Resources Development Act represents another valuable industry-specific addition.** **Figure 20** illustrates how supplementary laws and regulations encompass MSS pillars, particularly in areas such as gender equality, land rights, and the fair treatment of historically disadvantaged individuals.

Figure 20: Additional national laws and regulations not mentioned in the SA GFT



Human Rights breakdown:



5.5.3. ASSESSMENT OF RELATED METRICS IN SUSTAINABILITY FRAMEWORKS

Sustainability frameworks are designed to promote corporate responsibility by establishing standardised reporting metrics for ESG factors. MSS can be viewed as the foundational element of the “social” pillar within sustainability reporting. Therefore, when companies assess their compliance with MSS, the metrics and disclosure requirements in established sustainability frameworks under similar themes (i.e., the identified MSS pillars) can serve as valuable references. This section evaluates how key sustainability metrics correspond to MSS pillars, offering companies potential metrics and disclosure requirements for each pillar.

Table 17: Related metrics across different sustainability frameworks

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
1	Human Rights				
1.1	Child Labour	Identification of operations and suppliers at risk of child labour.	JSE S5.1a: Description of operations and suppliers at significant risk of child labour, forced or compulsory labour, or other social impacts.	GRI 408: Disclosure 408-1 requires identifying operations and suppliers at risk of incidents of child labour.	
		Number and percentage of incidents of child labour.	JSE S5.1b: Report the number and percentage of identified incidents of child labour or forced labour within operations or the value chain.		
		Remedy and corrective actions for child labour incidents.	JSE S5.1b: Percentage of incidents where the reporting entity played a role in securing remedy for those affected by child labour or forced labour.		
		Adherence to laws and policies regarding child labour.			IFC Performance Standard 2 (Para 21): The client must comply with national laws and ensure children are not employed in economically exploitative or hazardous work, and conduct regular monitoring.
		Risk assessment for child labour.			IFC Performance Standard 2 (Para 21): Employers must identify all people under 18 and conduct risk assessments for their work, ensuring regular monitoring of their health, working conditions, and hours.

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
1.2	Forced Labour	Description of operations and suppliers at risk of forced or compulsory labour.	JSE S5.1a: Description of operations and suppliers considered to have a significant risk of child labour, forced or compulsory labour, or other significant negative social impacts.	GRI 409-1: Operations and suppliers at significant risk. for incidents of forced or compulsory labour.	
		Measures taken to mitigate or eliminate forced labour risks.	JSE S5.1a: Nature measures taken by the organisation to eliminate forced labour risks.		
		Number and percentage of identified forced labour incidents in operations or value chain.	JSE S5.1b: Number and percentage of identified incidents of child labour, forced, or compulsory labour in the operations or value chain.		
		Percentage of incidents where the organisation secured a remedy for those affected by forced labour	JSE S5.1b: Percentage of forced labour incidents where the reporting entity played a role in securing remedy for those affected.		

#	Dimensions	Synthesised Metrics	Disclosure Requirements			IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)		
1.3	Health and Safety	Commitment not to employ forced labour in any form (including indentured or bonded labour; trafficked persons).				IFC Performance Standard 2 (Para 22): Clients must not employ forced labour or trafficked persons, including any kind of involuntary or compulsory labour such as bonded labour or indentured labour.
		Geographic or commodity-based risk assessment of forced labour.	JSE S5.1a: Risk identification based on type of operation, commodities, or geographic regions.			
		Explanation of efforts to secure compliance with anti-forced labour standards across the supply chain.			GRI 409-1: Operations and suppliers at significant risk for incidents of forced or compulsory labour and actions taken.	IFC Performance Standard 2 (Para 22): Policies to ensure no involvement in forced labour in value chains.
		Number and rate of fatalities due to work-related injuries or ill health.	JSE S3.1a: Number and rate of fatalities from work-related injury or ill health, including employees and non-employee workers.		GRI 403-9: Work-related injuries, including fatalities.	
		Number of recordable work-related injuries and illnesses.	JSE S3.1b: Number of recordable work-related injuries and illnesses from exposure to work-related hazards.		GRI 403-9: Recordable work-related injuries. GRI 403-10: Work-related ill health.	

#	Dimensions	Synthesised Metrics	Disclosure Requirements		FC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	
		Description of access to occupational health and medical services.	JSE S3.1c: Explanation of how the organisation provides access to non-occupational medical and healthcare services, voluntary health promotion services, and programmes addressing non-work-related health risks.	GRI 403-3: Occupational health services.	
		Occupational health and safety management system coverage.		GRI 403-1: Coverage of workers under occupational health and safety management systems.	
		Processes for hazard identification, risk assessment, and incident investigation.		GRI 403-2: Hazard identification, risk assessment, and incident investigation.	IFC Performance Standard 2 (Para 23): Identification of potential hazards, particularly life-threatening ones, and processes to address them (modification, substitution, elimination).
		Participation and communication with workers on health and safety issues.		GRI 403-4: Worker participation, consultation, and communication on occupational health and safety.	
		Worker training on occupational health and safety.		GRI 403-5: Training workers on occupational health and safety.	IFC Performance Standard 2 (Para 23): Training of workers to prevent accidents, injury, and disease.

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
		Prevention and mitigation of occupational health and safety impacts linked to business relationships.		GRI 403-7: Prevention and mitigation of health and safety impacts linked to business relationships.	
		Emergency prevention, preparedness, and response measures.			IFC Performance Standard 2 (Para 23): Emergency prevention, preparedness, and response measures, particularly in hazardous work environments.
		Voluntary health promotion programmes offered to workers to address major non-work-related health risks.	JSE S31c: Voluntary health promotion services and programmes addressing non-work-related health risks, and the specific health risks addressed.	GRI 403-6: Promotion of worker health.	
		Documentation and reporting of occupational accidents, diseases, and incidents.		GRI 403-2: Incident investigation and reporting.	IFC Performance Standard 2 (Para 23): Documentation and reporting of occupational accidents, diseases, and incidents.

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
1.4	Freedom of association and collective bargaining.	Management of freedom of association and collective bargaining policies.	JSE S1.4a: Describe how the organisation manages freedom of association and collective bargaining, including policies that may affect workers' decisions to form or join a union.		IFC Performance Standard 2 (Para 13): Compliance with national laws on workers' rights to form unions and bargain collectively.
		Percentage of employees covered under collective bargaining agreements.	JSE S1.4b: Percentage of employees covered under collective bargaining agreements.		
		Work stoppages due to labour disputes (strikes and lockouts).	JSE S1.4c: Number of major work stoppages (strikes or lockouts), number of workers involved, length of stoppage, reasons, and steps taken to resolve disputes.		
		Due diligence on suppliers where freedom of association is at risk.	JSE S1.4d: Explanation of due diligence on suppliers where the right to freedom of association is at risk, and measures to address these risks. GRI 407-1: Operations and suppliers in which freedom of association and collective bargaining may be at risk.		

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
		Operations and suppliers where freedom of association and collective bargaining may be restricted or at risk.		GRI 407-1: Identification of operations and suppliers at risk for violating freedom of association and collective bargaining rights.	
		Engagement with worker representatives and collective bargaining organisations.			IFC Performance Standard 2 (Para 14): The client must engage with workers' representatives and organisations, providing them with necessary information for meaningful negotiation. The client must not discourage or retaliate against workers involved in union activities or bargaining collectively.
		Protection of workers' rights to form unions, elect representatives, or organise in countries with restricted legal frameworks.			IFC Performance Standard 2 (Para 13): In countries where national law restricts workers' rights to organise, the client will not restrict workers from developing alternative mechanisms to express grievances.

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
1.5	Discrimination	Non-discrimination and non-retaliation for participating in unions or collective bargaining activities.			IFC Performance Standard 2 (Para 14): The client will not discriminate or retaliate against workers who participate or seek to participate in unions or collective bargaining activities.
		Number of allegations and confirmed incidents of discrimination or human rights violations.	JSE S11b: Number of allegations and confirmed incidents of discrimination or human rights violations related to workers during the reporting period. GRI 406-1: Incidents of discrimination and corrective actions taken.		
		Investigation status of reported and actual incidents of discrimination or human rights violations.	JSE S11b: Investigation status of reported and actual incidents of discrimination or human rights violations.		

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
		Actions taken in response to discrimination incidents.	JSE S11b: Actions taken in response to discrimination or human rights incidents.		GRI 406-1: Corrective actions taken for incidents of discrimination.
		Monetary losses due to legal proceedings related to labour law violations, or human rights violations, discrimination, or human rights violations.	JSE S11b: Total monetary losses due to legal proceedings related to labour law violations, employment discrimination, or human rights violations.		
		Non-discrimination in employment decisions and equal opportunity practices.			
					IFC Performance Standard 2 (Para 15): Employment decisions could not be based on personal characteristics unrelated to job requirements. Principles of equal opportunity and fair treatment must be applied in all aspects of employment (recruitment, compensation, training, promotion, etc.), including prevention of harassment.

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
		Compliance with national laws regarding non-discrimination in employment.			IFC Performance Standard 2 (Para 16): Compliance with national laws where non-discrimination is provided, and adherence to IFC standards where national laws are silent.
		Measures taken to address harassment, intimidation, or exploitation, especially concerning women.	JSE S11b: Total monetary losses due to legal proceedings related to labour law violations, employment discrimination, or human rights violations.		IFC Performance Standard 2 (Para 15): Measures to prevent and address harassment, intimidation, and exploitation, with a focus on protecting women and migrant workers.
		Special measures for remedying past discrimination or job selection based on inherent job requirements.			IFC Performance Standard 2 (Para 17): Special measures of protection or assistance to remedy past discrimination or selection based on inherent job requirements are not considered discriminatory.

#	Dimensions	Synthesised Metrics	Disclosure Requirements			IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)		
1.6	Employment conditions, including, among others, working hours and remuneration	CEO to employee pay ratio.	JSE S1.2a: Ratio between the CEO's total annual remuneration and the median, lower quartile, and upper quartile remuneration of all employees (excluding the CEO).	GRI 2-21: Annual total compensation ratio.		
		Top 10% to bottom 10% pay ratio.	JSE S1.2b: Ratio of the average annual remuneration of the top 10% of earners to the average annual remuneration of the bottom 10% of earners.			
		Highest, lowest, average, and median employee remuneration.	JSE S1.2c: Total annual remuneration of the highest paid employee, lowest paid employee, average remuneration, and median remuneration of all employees.			
		Gender and race pay ratios by employee category.	JSE S1.2d: Ratio of total annual remuneration of women to men, and by race group, for each employee category, by significant locations of operation.			
		Entry-level wage by gender and race compared to minimum wage.	JSE S1.3a: Ratio of standard entry-level wage by race and gender to the legislated minimum wage for the sector.	GRI 202-1: Ratio of standard entry-level wage by gender compared to local minimum wage.		

#	Dimensions	Synthesised Metrics	Disclosure Requirements			
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)	
		Lowest wage to living wage ratio.	JSE S1.3b: Ratio of lowest wage to living wage for employees and non-employee workers at significant locations of operation.			
		Percentage of employees and workers earning below the living wage.	JSE S1.3c: Percentage of employees and non-employee workers whose wages fall below a specific living wage benchmark.			
		Remuneration policies.		GRI 2-19: Disclosure of remuneration policies and processes.		
		Compliance with labour and employment law regarding working conditions, hours, wages, and overtime.			IFC Performance Standard 2 (Para 9): Clear, documented information on workers' rights under national labour law regarding hours of work, wages, overtime, and benefits.	
		Entry-level wage by gender and race compared to minimum wage.			IFC Performance Standard 2 (Para 10): Provision of reasonable working conditions and terms of employment, especially in the absence of collective bargaining agreements.	

#	Dimensions	Synthesised Metrics	Disclosure Requirements			
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)	
		Migrant workers'/ terms and conditions.			IFC Performance Standard 2 (Para 11): Ensure migrant workers are engaged on substantially equivalent terms as non-migrant workers.	
		Quality and management of worker accommodation.			IFC Performance Standard 2 (Para 12): Policies on the quality and management of worker accommodation services, ensuring non-discrimination and freedom of movement.	
		Retrenchment policies and severance payments.			IFC Performance Standard 2 (Paras 18-19): Implementation of a retrenchment plan, consultation with workers, and provision of notice and severance payments as required by law and collective agreements.	
		Grievance mechanisms for workers.			IFC Performance Standard 2 (Para 20): Provision of a grievance mechanism for workers to raise workplace concerns, including anonymous complaints, with a transparent and prompt resolution process.	

#	Dimensions	Synthesised Metrics	Disclosure Requirements			IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)		
2	Bribery/corruption	Percentage of governance body members, employees, and business partners trained on anti-corruption policies.	JSE G3.1a: Total percentage of governance body members, employees, and business partners trained on anti-corruption policies, broken down by category and region.	GRI 205-2: Communication and training on anti-corruption policies and procedures.		
		Total number and nature of confirmed corruption incidents.	JSE G3.1b: Total number and nature of confirmed corruption incidents during the current and previous years, and actions taken to address confirmed incidents.	GRI 205-3: Confirmed incidents of corruption and actions taken.		
		Description of grievance mechanisms for reporting unethical or unlawful behaviour (including whistleblowing facilities).	JSE G3.1c: Description of internal and external grievance mechanisms (including whistleblowing facilities) for reporting unethical behaviour and lack of integrity, mechanisms for seeking advice, and usage outcomes.			
		Description of initiatives and stakeholder engagement to combat corruption.	JSE G3.1d: Discussion of initiatives and stakeholder engagement to improve the operating environment and culture to combat corruption.			

#	Dimensions	Synthesised Metrics	Disclosure Requirements			IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)		
2	Bribery/corruption	Operations assessed for risks related to corruption.		GRI 205-1: Operations assessed for risks related to corruption.		
		Mechanisms for seeking advice about ethical behaviour and organisational integrity.	JSE G3.1c: Mechanisms for seeking advice about ethical and lawful behaviour, organisational integrity, and the extent to which these mechanisms have been used.			
		Outcomes of processes using internal and external grievance mechanisms.	JSE G3.1c: Extent of usage and outcomes of internal and external grievance mechanisms related to unethical or unlawful behaviour.			
3	Taxation	Approach to tax strategy and management.		GRI 207-1: Approach to tax, including the organisation's tax strategy, how tax practices align with business objectives, and approach to tax compliance.		
4	Fair competition	Number and nature of legal actions related to anti-competitive behaviour, anti-trust, and anti-monopoly practices.		GRI 206-1: Disclosure of legal actions taken for anti-competitive behaviour, anti-trust, and monopoly practices, including the outcomes of such legal actions.		

#	Dimensions	Synthesised Metrics	Disclosure Requirements			FC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)		
5	Indigenous rights	Incidents of violations of Indigenous peoples' rights.		GRI 411-1: Number of incidents involving violations of the rights of Indigenous peoples, and actions taken to address these incidents.	IFC Performance Standard 7 (Paras 8-22): Respect for Indigenous peoples' rights to land, their cultural heritage, and meaningful participation in decision-making processes affecting their land and resources. Organisations are required to ensure these rights are protected during the course of their operations.	
		Recognition and protection of Indigenous peoples' land rights, culture, and participation in decision-making.				
5.1	Land acquisition and involuntary resettlement	Operations with significant actual and potential negative impacts on local communities.		GRI 413-2: Operations with significant actual or potential negative impacts on local communities, including impacts from land acquisition and resettlement.	IFC Performance Standard 5 (Paras 8-32): Focus on minimising involuntary resettlement, ensuring fair compensation for those affected, and restoring or improving their livelihoods and standards of living. Includes consultation with affected communities.	
		Minimising involuntary resettlement and ensuring fair compensation.	compliance with legal requirements on resettlement and compensation.			

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
6	Cultural heritage	Operations with local community engagement, impact assessments, and development programmes related to cultural heritage.		GRI 413-1: Operations with local community engagement, impact assessments, and development programmes, particularly those related to cultural heritage.	
		Safeguarding cultural heritage impacted by business activities.			IFC Performance Standard 8 (Paras 6-16): Measures taken to safeguard cultural heritage from the adverse impacts of business activities. Includes processes for consultation with affected communities and procedures for managing and protecting cultural heritage resources during business operations.

#	Dimensions	Synthesised Metrics	Disclosure Requirements		
			JSE's Sustainability and Climate Disclosure Guidance (JSE, 2022)	The Global Standards for Sustainability Impacts (GRI, 2023)	IFC's Performance Standards on Environmental and Social Sustainability (IFC, 2012)
7	Gender Equality	Ratio of the total annual remuneration of women to men.	JSE S1.2d: Ratio of the total annual remuneration of women to men, broken down by race group and employee category for significant locations of operation.	GRI 405-2: Ratio of basic salary and remuneration of women to men.	
		Diversity of governance bodies and employees.		GRI 405-1: Disclosure of diversity in governance bodies and among employees, including gender representation.	
		Non-discriminatory employment practices.			IFC Performance Standard 2 (Para 15): Clients must ensure equal opportunity and fair treatment in all employment decisions (recruitment, hiring, compensation, promotion, etc.) and take measures to prevent and address harassment, intimidation, and exploitation, particularly in regard to women and migrant workers.
		Safe and healthy work environment with a focus on women's safety.			IFC Performance Standard 2 (Para 23): Provision of a safe and healthy work environment, with specific attention to addressing hazards and threats to women in ¹ the workplace.

5.6. RECOMMENDATIONS

5.6.1. TAXONOMY DEVELOPERS

- 1. Adopt a phased MSS compliance approach.** Taxonomy developers could consider adopting a phased approach for MSS compliance. This tiered approach would allow companies to first establish eligibility before fully aligning with MSS requirements. Additionally, such an approach could prioritise compliance for larger entities based on employee size and balance sheet value, with gradual requirements introduced for SMEs over time.
- 2. Ensure the inclusion of comprehensive national regulations.** Taxonomy developers could ensure that all relevant South African national regulations and laws are incorporated into the MSS framework. For instance, the Broad-based Black Economic Empowerment (B-BBEE) Act 53 of 2003 and the Women Empowerment and Gender Equality Bill of 2013 complement some MSS dimensions, particularly gender equality and economic inclusion, which may not be fully addressed by other laws.
- 3. Link sustainability reporting metrics with MSS.** Taxonomy developers could link MSS compliance with sustainability frameworks such as those of the GRI, SASB, and JSE. These metrics are measurable, verifiable, and easily applicable across sectors. As seen in the analysis of related metrics from sustainability frameworks, many overlaps already exist. By leveraging established metrics, taxonomy developers can streamline reporting requirements, making it easier for companies to integrate MSS compliance into their broader ESG disclosures.
- 4. Establish a standardised MSS reporting framework.** Taxonomy developers could establish a standardised reporting framework including MSS alignment as a core component. Under this framework, clear criteria for MSS alignment could be defined across key dimensions. Based on these criteria, companies will be regarded as non-compliant if specified criteria are not met.
- 5. Engage with market participants to understand challenges.** Taxonomy developers could actively engage with relevant stakeholders, including companies and issuers, assurance providers, international taxonomy developers, and other stakeholders—to assess concerns, adequacy, and potential recommendations for MSS compliance. This collaboration will allow regulators to refine the framework in practical ways for businesses, address usability challenges, and ensure effective cross-industry adoption.

5.6.2. COMPANIES

- 1. Adopt comprehensive social due diligence processes.** Companies and issuers could integrate or strengthen their social due diligence processes. As the assessment highlights, compliance with South African labour laws alone does not guarantee effective social risk management, especially in complex situations involving local communities. Companies could implement advanced due diligence processes beyond legal compliance, ensuring risks are proactively identified and mitigated.

5.6.3. INTERNATIONAL TAXONOMY AND SUSTAINABILITY REPORTING COMMUNITY

- 1. Seek common ground on social safeguards.** The taxonomy community could work towards greater alignment of social safeguards across sustainable/green taxonomies across different countries. With country-specific content, the taxonomy community could consider a less stringent, more flexible common ground of social safeguards aimed at assisting investors and companies decrease barriers when navigating different sustainable finance taxonomies.
- 2. Align MSS with broader ESG reporting frameworks.** As highlighted in Box 1, MSS is a foundational element within the social dimension of sustainability reporting. The ESG reporting community could consider the integration of MSS-aligned metrics into broader ESG reporting frameworks. This will ensure companies can address core social issues within their overall sustainability strategies more efficiently.



06

DISCLOSURE AND GOVERNANCE

6.1. INTRODUCTION

As the SA GFT moves from development to implementation its governance structure should balance flexibility with accountability. Each phase requires effective project coordination and comprehensive stakeholder engagement. The development and implementation of a taxonomy involves various technical and administrative steps. These include defining design objectives, developing principles, setting standards and criteria for eligibility, ensuring integration with national policies and goals, undertaking project coordination, dissemination, capacity building, taxonomy implementation and monitoring, and, in certain cases, the development of regulations (Minecofin, 2024).

In the context of taxonomies, governance refers to the system that addresses the division of institutional responsibilities related to the taxonomy’s operational, legislative, and technical functions. This section discusses the taxonomy’s governance structure, guiding principles, involved stakeholders, and each stakeholders’ roles and responsibilities. Section 6.3 reviews the disclosure practices some key geographies have attempted to implement in their taxonomy-related disclosure frameworks. Key learnings are extracted from these examples and adapted for the unique South African context. The section also discusses some existing ESG-related frameworks currently being implemented in South Africa upon which the SA GFT can learn from.

6.2. TAXONOMY GOVERNANCE: KEY ROLES AND RESPONSIBILITIES

As shown in **Table 19** below, a review of other countries’ taxonomy governance models reveals that three primary components must be clearly defined and institutionalised to facilitate the ongoing refinement and advancement of the SA GFT. This approach ensures that the key roles and responsibilities essential for the implementation and continued development of the SA GFT are well-coordinated among various stakeholders. Although the specific allocation of these roles and responsibilities varies by jurisdiction, they generally fall under the three levels (CBI, 2021):

- **Executive oversight** led by a national or government agency. This role is responsible for overall strategy, ensuring alignment with sustainability goals, and providing approval and taxonomy endorsement.
- **Operational management** through a dedicated working group or advisory panel. This function oversees the operational aspects of taxonomy updates and revisions.
- **Technical discussions** entrusted to subject-matter experts. This category involves reviewing scientific data, international standards, and market trends to inform TSC development.

In addition, institutionalising these functions establishes long-term ownership and responsibility for the taxonomy. This enables responsiveness to user feedback and ensures the taxonomy’s continued evolution (Galaxy Consulting, 2014). To address this, the EU has established the Platform on Sustainable Finance—a formal, permanent expert group tasked with advising the European Commission on the implementation and usability of the EU taxonomy (European Commission, 2020). A similar arrangement is recommended to guide the continued development of the SA GFT.

Table 18: Taxonomy governance: Key roles and responsibilities

Tier	Role	Responsibilities	Representative
1	Oversight	Strategic direction and endorsement of the taxonomy.	Representation from government agencies and the financial sector.
2	Coordination	Coordinating taxonomy design and development.	Sustainable consultancy firm.
3	Technical	Development of technical taxonomy content.	Taxonomy Technical Expert Group comprised of experts, the financial sector, real economy representatives, scientific and policy experts (including government, academia, and civil society).

Table 19: Mapping SA GFT governance model to select international examples

ASEAN	Indonesia	Singapore	Mexico	EU	Rwanda	SA GFT
Tier 1						
ASEAN Finance Ministers and Central Bank Governors Meeting	Indonesia Financial Service Authority	Singapore Sustainable Finance Association chaired by the Monetary Authority of Singapore	Sustainable Finance Committee chaired by the Ministry of Finance and Public Credit	European Commission	Taxonomy Steering Committee co-chaired by the Ministry of Environment and Ministry of Finance and Economic Planning	Taxonomy Working Group chaired by the National Treasury
Tier 2						
ASEAN Taxonomy Board	Integrated Financial Services Sector Policy Group	Green Finance Industry Taskforce and Climate Bonds Initiative	Sustainable Taxonomy Work group	Technical Expert Group	Taxonomy Working Group	The National Business Initiative and the Carbon Trust carried out the research, stakeholder consultation and drafting of the document
Tier 3						
Technical discussions by sector experts						

In transitioning from development to implementation, the governance structure shifts focus towards ensuring that the taxonomy is refined and advanced over time. A successful shift in governance establishes long-term ownership and responsibility for the taxonomy, responds to feedback from taxonomy users, and ensures the taxonomy’s continued evolution (Galaxy Consulting, 2014). It raises questions about the appropriate governance arrangements given a specific country’s context.

The EU has attempted to address this by establishing the Platform on Sustainable Finance, a formal and permanent expert group mandated to advise the European Commission on the implementation and usability of the EU taxonomy (European Commission, Taxonomy Regulation, 2020)⁷. Additional responsibilities include the continued development and possible revisions of taxonomy criteria and monitoring capital flows.

Despite the lack of apparent international practical examples to guide the development of a similar governance structure for the South African context, the following key aspects should be considered:

⁷The Platform consists of four Directorate Generals: The Directorate General for Financial Stability, Financial Services and Capital Markets Union (FISMA), Directorate-General for Environment (ENV), Climate-Action (CLIMA), and Joint Research Centre.

• Custodianship

Custodianship refers to the entity or group that holds responsibility for the taxonomy’s long-term management, oversight, and safeguarding. This involves endorsing and approving taxonomy updates or changes, providing strategic direction for its development and use, ensuring it remains relevant to national and international standards, overseeing compliance, and monitoring its implementation in the market. The choice of institution(s) is dependent on requisite authority, impartiality, and influence within the sustainable finance ecosystem.

A country’s fiscal policy authority typically fulfils this role. For instance, for Mexico’s taxonomy, the Secretariat of Finance and Public Credit acts as custodian. However, in certain cases, the responsibility may fall under the financial sector supervisory or conduct authority, as in Indonesia. Alternatively, a country’s monetary authority may assume this role, as in Kenya, given that Kenya initially developed its taxonomy for its banking sector (Central Bank of Kenya, 2024). Thus, the long-term institutional arrangements depend on the intended use cases.

In the South African context, considering the multiple envisioned applications of the SA GFT, the National Treasury or a consortium of government agencies such as the Reserve Bank, the Prudential Authority, the Financial Sector Conduct Authority, and the Department of Forestry, Fisheries and the Environment could serve as suitable custodians.

• Institutional home

The institutional home refers to the formal, often permanent, organisation where the taxonomy is housed and managed. This body provides the necessary infrastructure, resources, and authority for the day-to-day operations and long-term maintenance of the taxonomy. The appropriate institutional home depends on the disclosure framework pursued by the custodian (GTAG, 2023). This depends on whether the taxonomy will serve as a self-regulated framework, where voluntary disclosure is encouraged, or as legislation mandating disclosure.

South Africa’s taxonomy currently exists as a self-regulated framework, with plans for future expansion and maintenance. A suitable institutional home could be where an advisory body is established to revise and co-ordinate the inclusion of additional economic activities, with the taxonomy itself hosted on the National Treasury’s website to offer a credible endorsement of the document. In this scenario, a potential institutional home might be the Association for Savings and Investment South Africa, given its authority and influence. This is particularly relevant if the taxonomy continues to be implemented voluntarily, with the primary goal of facilitating its adoption and acceptance across the market.

In a scenario where taxonomy disclosure is mandatory, the SA GFT would require statutory implementation, necessitating the establishment of a statutory body or appropriate government agency with sufficient authority to update, revise, and monitor taxonomy implementation. Depending on the anticipated use of the taxonomy, the appropriate home could vary. For instance, if the primary aim is to enforce corporate disclosure requirements, South Africa’s financial sector regulators may be an option. Conversely, if the focus is on managing greenwashing among debt products, the Financial Sector Conduct Authority, as the market conduct regulator for financial institutions, could serve as an appropriate home for the taxonomy.

The custodian may or may not be part of the institutional home. To ensure objectivity and integrity within the market, the custodian may operate at arm’s length from the institutional home.

• **Monitoring and review**

Monitoring and review procedures refer to the formal and regular review junctures embedded within the governance structure of taxonomies. Such processes are used to identify and implement any changes to the taxonomy in response to new information, technological advancements, or changes in legislation. Additionally, they assess the effectiveness of the taxonomy and provide support for taxonomy users, thus facilitating its adoption (PRI, 2022).

The EU Taxonomy Regulation requires a review every three years, while a five-year review cadence is proposed for South Africa to align with the submission of its NDCs. This timeline would allow the taxonomy to take full effect, provide sufficient time for market maturity, and give affected parties adequate time to prepare for any revisions.

• **Structures and channels for stakeholder input**

Stakeholder engagement is essential for both the development and implementation of a taxonomy. It allows for pooling expertise and perspectives, ensuring the taxonomy is technically credible and garners sufficient support from key stakeholders. A well-structured engagement process allows stakeholders to submit input to the governance mechanism for formal recognition. This feedback informs any future changes to the taxonomy, whether through periodic or ad hoc review processes. In addition, the communication of envisioned and final taxonomy changes, along with their commencement date forms part of the overall stakeholder engagement process.

In order to facilitate suggestions from stakeholders, the EU Commission established a stakeholder request mechanism. The questionnaire allows stakeholders to submit potential amendments to existing criteria of the EU taxonomy and/or additional economic activities.

By ensuring continuous refinement and enhancements, the monitoring and review process helps maintain the SA GFT’s relevance and promotes interoperability.

The review framework should also allow for scheduled periodic reviews and ad hoc changes.

In addition to periodic reviews, the EU Commission has established two working groups to assist with the usability and effectiveness of the EU taxonomy, along with the continued refinement of the taxonomy—an approach that South Africa could consider emulating with its governance mechanism.

This mechanism operates continuously, with periodic “cut-off” dates to evaluate and address suggestions (European Commission, 2021).

Another key aspect of stakeholder engagement is the establishment of mechanisms for international collaboration and knowledge exchange. Such mechanisms ensure global interoperability and harmonisation over time. South Africa could benefit from joining the IPSF, a forum for dialogue between policymakers concerned with increasing private capital flows towards sustainable investments. By participating in the forum, South Africa can work towards making its taxonomy more comparable and interoperable.

6.3. DISCLOSURE AND REPORTING FRAMEWORKS

Effective disclosure practices are vital for the success of any legislation, promoting transparency, accountability, and informed decision-making. However, designing a disclosure framework requires careful consideration of potential pitfalls, such as complexity, cost, information overload, privacy concerns, and standardisation challenges. Balancing these factors is key to creating a framework that is both effective and manageable. Many existing disclosure practices can be leveraged to reduce the burden of compliance with sustainable finance taxonomies, and the identification of these practices is a key element of a successful implementation plan.

Various geographies have attempted to implement their disclosure frameworks with various levels of success. Among geographies that have developed sustainable finance taxonomies, the EU disclosure practice supporting reporting against taxonomy alignment, is considered the most advanced.



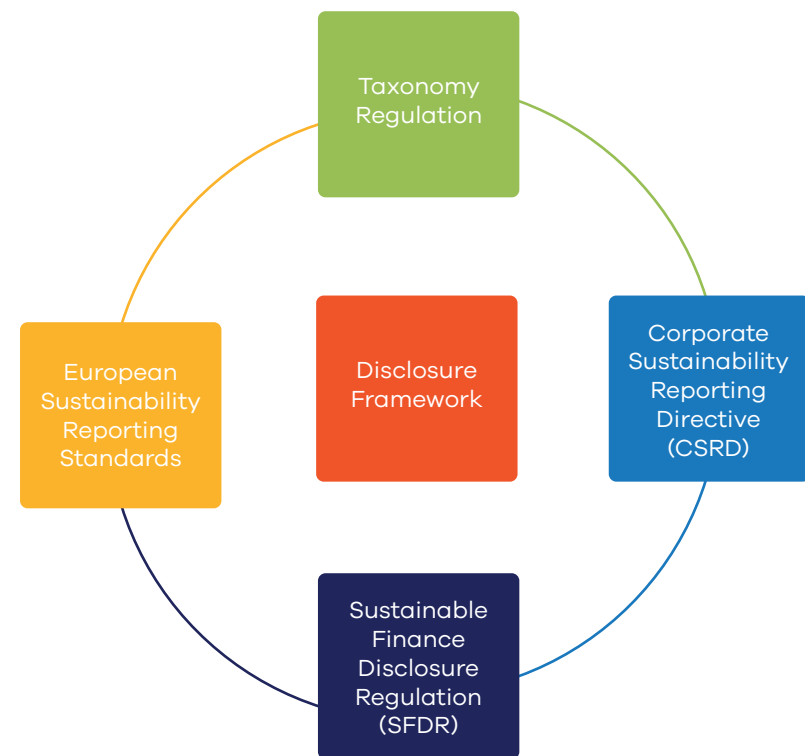
6.3.1. DRAWING FROM EU EXPERIENCE

The EU Taxonomy Regulation disclosure framework (illustrated in Figure 21) was developed and implemented with a phased approach, assisted by the IPSF, allowing for sufficient consultation and preparation for adoption. The framework leverages existing legislation and disclosure practices to ease users’ adoption burden. The basis of the framework, implemented in 2020, uses multiple Delegated Acts which focus on different environmental objectives. The disclosure framework fits into an existing larger framework encompassing four key legislative standards that provide the framework for implementation and incentivisation of compliance.

The CSRD provides a robust starting point for taxonomy disclosure and serves as an inclusion criterion for mandatory disclosure. The CSRD requires detailed sustainability reporting and compliance from all companies listed on regulated markets. Notably, the CSRD requires an external auditor to assure sustainability reporting. The CSRD is further supported by the European Sustainability Reporting Standards (ESRSs), which ensure reported information is consistent, comparable, and reliable.

This wider disclosure framework is overseen via a joint effort between regulatory bodies. The European Commission, in consultation with the IPSF, ensures that the framework is fit for purpose. The compliance oversight is handled by national authorities, which are entities assigned by each member state, with support from other European Supervisory Authorities.

Figure 21: Simplified presentation of the EU Taxonomy Regulation disclosure framework



The EU Taxonomy Regulation is placed within a comprehensive framework designed to promote sustainable investment by providing clear criteria for environmentally sustainable activities. Its phased rollout, detailed disclosure requirements, and robust enforcement mechanisms ensure that companies and financial institutions can build upon existing disclosure practices to achieve compliance with the EU taxonomy for sustainable activities.

6.3.2. SOUTH AFRICAN ESG-RELATED DISCLOSURE FRAMEWORKS

South Africa benefits from a strong legislative framework that protects social interests at the national and company levels. The SA GFT sets out eight local legislative acts that serve as a checklist for compliance with the MSS principle. Registered companies in South Africa should have existing compliance and disclosure practices regarding these acts; thus, developing a disclosure framework regarding MSS is not required.

The disclosure practices related to MSC and DNSH are less defined, and taxonomy users may be unaware of existing practices that can be expanded upon to reduce the burden of compliance with the SA GFT.

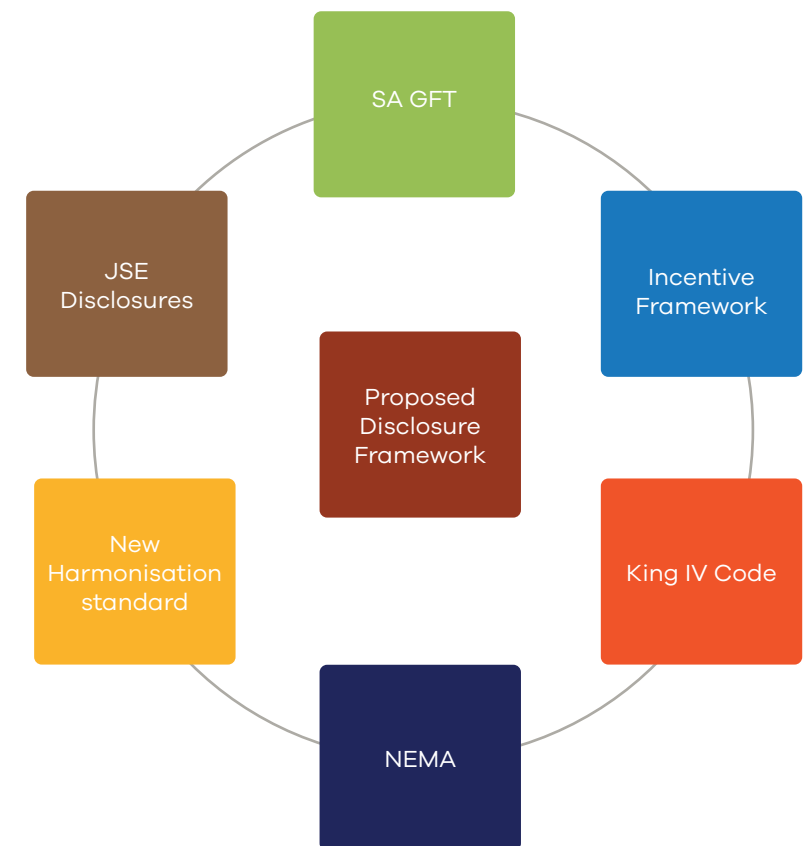
Currently, there are three preeminent standards related to environmental disclosures within the South African business landscape.

Many existing environmental disclosure practices will form part of these:

- 1. The King IV Reporting standard
- 2. JSE Listing Requirements
- 3. The National Environmental Management Act (NEMA)

The developers and regulators of the standards should be consulted to develop a more granular understanding of overlapping disclosure practices and to construct a regulatory ecosystem where each legislation or standard supports or leverages the next as opposed to operating in isolation. Often, there is significant overlap in the aims of these standards, and, as a result, overlapping or similar disclosure requirements can be seen across the regulatory landscape. The identification of these overlapping requirements is the first step in creating an integrated framework.

Figure 22: Existing ESG-related frameworks for consideration in developing SA GFT disclosure guidelines



• The King IV Reporting standard

The King IV Report on Corporate Governance is a comprehensive framework for corporate governance in South Africa. It is not legally mandatory; however, it is highly recommended and widely adopted. The JSE requires listed companies to comply with the King IV Standards before being eligible for listing. Under King IV, organisations must disclose how they apply the 17 principles of the framework. Principles 4 and 5 have relevance regarding the SA GFT. Principle 4 requires the entity to disclose how it has acknowledged its environmental context and impact, while Principle 5 requires it to produce integrated reports which include environmental performance and impact. To comply with these principles, companies must conduct risk assessments and report on environmental performance metrics such as energy consumption, emissions and water usage.

• JSE reporting requirements

The JSE requires listed companies to disclose material environmental issues and performance metrics while encouraging alignment with global standards such as the Global Reporting Initiative and the Sustainability Accounting Standards Board. To assist companies with compliance, the JSE developed the JSE Sustainability and Climate Disclosure Guidance in 2022. The JSE Guidance has been designed to be used in conjunction with the King IV Code, aiming to help companies navigate the disclosure process as per international best practices.

• National Environmental Management Act

The National Environmental Management Act (NEMA) has been in effect since 1999 and has been amended multiple times in response to evolving environmental challenges. NEMA is enforced by the Department of Forestry, Fisheries and the Environment and applies to all entities undertaking activities that may impact the environment. To comply with the Act, entities must disclose the findings of an environmental impact assessment via a report, develop and implement an environmental management plan, and disclose their environmental performance in their annual reports.

6.4. RECOMMENDATIONS

1. Developing an integrated disclosure framework. 2. Develop clear harmonisation across existing disclosure practices.

Taking lessons from the taxonomy disclosure framework in the EU and existing frameworks in South Africa, the SA GFT could exist as part of a wider integrated disclosure framework. By leveraging existing practices and frameworks, the compliance burden of compliance will be significantly reduced. The King IV reporting standard, the JSE reporting standard and NEMA have been identified as the foundation upon which to build a new integrated framework which includes the SA GFT.

The developers and regulators of the standards could be consulted to develop a more granular understanding of overlapping disclosure practices and to construct a regulatory ecosystem where each legislation or standard supports or leverages the next instead of operating in isolation. In the EU, the Sustainable Finance Disclosure Regulation supports its taxonomy by creating a framework to incentivise taxonomy compliance. In South Africa, the SA GFT is currently not supported by a strong incentive or punitive framework. Without such a framework, the SA GFT will struggle to achieve wider adoption. An integrated approach to regulatory oversight should also be explored to reduce the burden on regulators.

In all geographies, there are numerous standards and legislative acts to which entities must comply. Often, there is significant overlap in the aims of these standards, and, as a result, overlapping or similar disclosure requirements can be seen across the regulatory landscape. The identification of these overlapping requirements allows for the creation of an integrated framework. Once these disclosure practices are identified a new standard should be developed to harmonise disclosure, reducing the reporting burden within the ecosystem while improving local interoperability. The ESRS is an example of such a standard. The ESRSs are a set of detailed reporting requirements designed to standardise sustainability reporting across the EU. The ESRSs support the CSRD and enhance the transparency and comparability of sustainability information disclosed by companies.

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A. MSC

Primary elements of taxonomy development and interoperability relevance

Dimension	Aspect	Elements	Description	SA taxonomy	Interoperability relevance
General		State of play	The current implementation status of the taxonomy, whether it is in regulation, in use, under development, approved, or in draft	In use	
		Publication date	The taxonomy's official release date	Q1 2022	
		Review standard	The approach and frequency of reviews that assess the taxonomy's effectiveness. The evaluation often includes some adjustments that are necessary to keep the taxonomy aligned with the real economy, including the inclusion of new sectors and TSC.	Identified additional technical review needs, and several metrics and threshold will be reviewed by certain time.	
Political		Stakeholder engagement	The process and extent to which stakeholders are involved in developing, reviewing, and updating the taxonomy. The potential stakeholders include: 1. Public financial sectors: central banks, financial supervisors, financial regulators 2. Government: Ministry of Environment/Finance (define sectoral priorities) 3. Technical experts across different sectors 4. Market participant: private financial institutions, banking associations, investors, and bond issuers	Public entities and financial sector entities.	

Dimension	Aspect	Elements	Description	SA taxonomy	Interoperability relevance
		Development process	The series of steps and methodologies followed to create and establish the taxonomy.	In 2017, the National Treasury convened a Working Group of financial sector regulatory agencies, the South African Reserve Bank, and industry associations to develop a framework document on sustainable finance In 2020, the National Treasury published a first draft Technical Paper on "Financing a Sustainable Economy" in for public consultations	
				Members of the Working Group: South Africa's Department of Forestry, Fisheries and the Environment, Department of Monitoring and Evaluation, The Financial Sector Conduct Authority, The Prudential Authority, The JSE, The Banking Association South Africa, Batseta (Council of Retirement Funds for South Africa), The Association for Savings and Investment South Africa, other Representatives from banks and retirement funds.	
		Governance structure	The sustainable finance committees/steering groups that engage multiple stakeholders and oversee the taxonomy development process. The group can be led by: 1. Central bank: China/Georgia/Malaysia/Mongolia 2. Financial regulators: Colombia/Indonesia 3. Ministry of environment/finance: South Korea	South Africa based companies and financial market participants.	
		User	The main groups or entities that use the taxonomy, such as investors, financial institutions, or companies.	NA	
		Incentives	The benefits or motivations for different stakeholders to adopt and use the taxonomy, such as interest rate incentives, tax incentives or subsidies, and monetary policy/collateral incentives.		

Dimension	Aspect	Elements	Description	SA taxonomy	Interoperability relevance
Technical	Goal	Overarching policy framework	The environmental goals for the taxonomies, such as GHG emissions reductions, net-zero strategies, carbon neutrality goals, and high-level policy objectives linked to national regulations.	NA	
		Objective	The primary taxonomy goals help to define the ambition, selection of sectors, and activities and screening criteria, such as climate change mitigation, climate change adaptation, sustainable use of water and marine resources, pollution prevention, sustainable resource use and circularity, and ecosystem protection and restoration.	Core environment objective: net-zero economy by 2050. Carbon tax is a fundamental response to climate change in South Africa, where regulation plays a role, and foundational definitions and framework have been set up.	
		Guiding Principles	The foundational principles upon which taxonomy is based, which can include DNSH and MSS.	<ol style="list-style-type: none">1. Climate change mitigation2. Climate change adaptation3. Sustainable use and protection of water and marine resources4. Transition to a circular economy5. Pollution prevention and control6. Protection and restoration of biodiversity and ecosystems	
	Scope	Classification of economic activities	The classification of sectors, industries, and underlying economic activities, such as the ISIC code, and Nomenclature of Economic Activities/the European industrial classification system: EU, Georgia.	<ol style="list-style-type: none">1. Substantially contribute to at least one of the six environmental goals2. While not doing significant harm to any of the other five environmental objectives3. Carried out in compliance with minimum safeguards	

Dimension	Aspect	Elements	Description	SA taxonomy	Interoperability relevance
		Coverage of economic activities	Economic sectors for which activities are selected and defined.	7 economic sectors (could be listed for high-level comparison).	
		Screening approach	The approach to define activities' eligibility for inclusion in the sustainable taxonomy, including TSC, whitelist, and principle-based approach.	44 economic activities.	
		TSC	Metrics and thresholds determining the eligibility of an economic activity under the taxonomy.	Provides the TSC that sets the performance requirements for each economic activity.	
		MSC	Making a substantial contribution principle.	MSC are referenced in the economic activity's associated TSC table.	
		DNSH	Do No Significant Harm principle.	DNSH are referenced within the economic activity's associated TSC table.	
		MMS	Meeting Minimum Safeguards principle.	MMS are referenced in the economic activity's associated TSC table.	
		Inclusion of transition and enabling activities	Inclusion of economic activities that cannot yet be replaced by technologically and/or economically feasible low-carbon alternatives, but still contribute to reducing overall emissions over a distinct period of time, or activities which themselves may not be taxonomy-aligned, but still help other economic activities make substantial contributions to one or more environmental objectives.	Transition and enabling activities are included.	
		Inclusion of social elements	The consideration of social aspects, such as job creation, gender equity, and community engagement, within the taxonomy.	NA	

Dimension	Aspect	Elements	Description	SA taxonomy	Interoperability relevance
	Output	Granularity	The approach to label/classify/categorize different activities, i.e.: 1. Binary approach: economic activities are classified either as green or not green 2. Traffic light system (1) Distinguish between green, amber(transition), and ineligible activities (2) Distinguish whether the project/asset is automatically compatible with a 2C decarbonisation trajectory	Binary approach.	
		Usability	The practical application of taxonomy. Examples of usability include its mandatory application for green bond issuance, which signifies a regulatory requirement for compliance, or its provision as guidelines that are legally non-binding, indicating a more advisory or voluntary application.	Used by investors, issuers, and other financial sector participants to track, monitor, and demonstrate the credentials of their green activities more confidently and efficiently.	
		Disclosure obligations	The requirement of reporting relevant information in accordance with the taxonomy.	The SA GFT does not require either corporates or financial market participants to disclose the extent to which their activities and investments are taxonomy compliant. South Africa's guidance closely follows the EU approach to determining taxonomy eligibility, taxonomy alignment for different asset classes, as well as financial metric reporting of corporates under green revenues and/or CAPEX/OPEX.	

Dimension	Aspect	Elements	Description	SA taxonomy	Interoperability relevance
		Verification	The processes and standards for verifying the accuracy of disclosures and compliance with the taxonomy. Verification could be undertaken by an accredited third party. For example, Colombia is advancing towards linking its national measurement, reporting, and verification system for climate finance with its taxonomy, in order to assist monitoring, reporting, and verification of sustainability-aligned financial flows. This model serves as a very compelling example of how to link climate finance transparency and track climate finance flows with the goals for reporting purposes to the UNFCCC.	External review and verification are recommended.	

Primary elements of taxonomy development and interoperability relevance

Issues	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Ecosystem protection and restoration	Pollution prevention	Sustainable resource use and circularity
Simplicity	<div><div></div><div>100%</div></div> <div><div></div><div>Unique</div></div>	<div><div></div><div>100%</div></div> <div><div></div><div>Generic</div></div>	<div><div></div><div>81%</div><div>19%</div></div> <div><div></div><div>Unique</div><div>Generic</div></div>	<div><div></div><div>84%</div><div>16%</div></div> <div><div></div><div>Unique</div><div>Generic</div></div>	<div><div></div><div>18%</div><div>82%</div></div> <div><div></div><div>Unique</div><div>Generic</div></div>	<div><div></div><div>100%</div></div> <div><div></div><div>Unique</div></div>
Understandability	<div><div></div><div>25%</div><div>75%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	Subjective wording was used in generic criteria	<div><div></div><div>89%</div><div>11%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	<div><div></div><div>89%</div><div>11%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	<div><div></div><div>15%</div><div>65%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	<div><div></div><div>41%</div><div>59%</div></div> <div><div></div><div>Yes</div><div>No</div></div>

Issues	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Ecosystem protection and restoration	Pollution prevention	Sustainable resource use and circularity
Measurability	<div><div></div><div>86%</div><div>57%</div><div>29%</div></div> <div><div></div><div>With Threshold</div><div>Without Threshold</div><div>Inherently Quantitative</div><div>Non-Quantitative</div></div>	Neither a quantitative threshold is provided nor is it potentially quantifiable	<div><div></div><div>86%</div><div>94%</div><div>11%</div></div> <div><div></div><div>With Threshold</div><div>Without Threshold</div><div>Difficult to tell</div><div>Non-Quantitative</div><div>Inherently Quantitative</div></div>	<div><div></div><div>89%</div><div>95%</div><div>8%</div></div> <div><div></div><div>With Threshold</div><div>Without Threshold</div><div>Difficult to tell</div><div>Non-Quantitative</div><div>Inherently Quantitative</div></div>	<div><div></div><div>21%</div><div>42%</div><div>21%</div></div> <div><div></div><div>With Threshold</div><div>Without Threshold</div><div>Difficult to tell</div><div>Non-Quantitative</div><div>Inherently Quantitative</div></div>	<div><div></div><div>35%</div><div>29%</div></div> <div><div></div><div>With Threshold</div><div>Without Threshold</div><div>Difficult to tell</div><div>Non-Quantitative</div><div>Inherently Quantitative</div></div>
Traceability	<div><div></div><div>29%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	Not properly referenced	<div><div></div><div>92%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	<div><div></div><div>97%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	<div><div></div><div>94%</div></div> <div><div></div><div>Yes</div><div>No</div></div>	<div><div></div><div>29%</div></div> <div><div></div><div>Yes</div><div>No</div></div>

Comparative analysis of international taxonomies

Aspects	South Africa	Singapore	Rwanda	Australia*	Indonesia	Mexico
Role of DNSH (Flexibility)	Essential pillar	Not essential	Essential pillar	Essential pillar	Essential pillar	Essential pillar
	All-or-nothing	DHSN is only encouraged as best practice for being taxonomy-aligned	If an activity meets the TSC but fails the DNSH, it can still achieve "Limited Alignment" if a remediation plan is prepared	All-or-nothing	Effective Remedial Measures to Transition must be undertaken if significant harm to other objectives is found thus the activity can still be classified as "Green"	All-or-nothing
Requirement on the Disclosure of DNSH	Low	High	Medium	Low	Medium	Low
	Voluntary, Not mandated in taxonomy	Not required	Not specified. However, If DNSH are not met, limited alignment requires the submission of remedial plans	Unknown	Voluntary, Not mandated in taxonomy	Voluntary, Not mandated in taxonomy
Criteria type Measurability of DNSH)	Medium	Low	Medium	n/a	Medium	Medium
	Mixed, both quantitative threshold and process-based	Mainly process-based	Mainly process-based	Unknown (details of DNSH has not been published)	Mainly process-based	Mainly process-based
Structure Complexity of DNSH	Medium	Low	Low	Unknown	Low	Low
	Criteria are activity-specific and tailored to activity where possible	Criteria are activity-specific but significant repetition exists under the same objectives	All activities are required to meet generic criteria for each objective, and an activity-level criteria	All activities are required to meet generic criteria for each objective, and an activity-level criteria	Only generic criteria by objectives are required	Generic criteria tailor to sectors and group activities with a sector
Level of International Standards Reference	Medium	Low-Medium	High	High	Low	Low-Medium
	Mixed with domestic and international standards	Nearly all standards referenced are international	Mixed with domestic and international standards	Mixed with domestic and international standards	Very few international standards are referenced	Very few international standards are referenced
	Medium	High	Medium	Medium	Low	

*Note: As the current Australia Taxonomy consultation paper does not specify DNSH details, we only reflect them based on available high-level information. Australia's DNSH criteria are expected in December 2024 (Australian Sustainable Finance Institute, 2024). The scoring high-medium-low scores aim to reflect the level across different aspects of taxonomy.

Aspects	Low	Medium	High
The role of DNSH (Flexibility)	All-or-nothing	Remediation plan is allowed to get lower level of taxonomy alignment	DNSH is only encouraged as best practice
Requirement on the Disclosure of DNSH	Not required	Voluntary, not mandated in taxonomy	Mandatory
Criteria Type (Measurability of DNSH)	Qualitative/ action-based	Mix of quantitative and qualitative criteria	Quantitative threshold
Structure Complexity of DNSH	Only generic criteria for each objective exists	Activity either has activity-specific criteria or generic criteria Under each objective,	All activities are required to meet general criteria for each objective, and an activity-level criteria at the same time
Level of International Standards Reference	Mostly referenced to local regulation	Mix of local and international standards	Mostly referenced to international standards

This Table maps the international standards referenced in different countries’ taxonomies The standards not used in the SA GFT are in bold.

Environment objectives	South Africa	Singapore	Rwanda	EU
Climate change mitigation	1. ISO 14067:2018 Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification	n/a (Singapore taxonomy does not have DNSH criteria on climate change mitigation)	n/a (Singapore taxonomy does not have DNSH criteria on climate change mitigation)	1. FAO definition
	2. ISO 14064-1:2018 Carbon Assessment Verification			2. Pan-European Guidelines for Afforestation and Reforestation with a special focus on the provisions of the UNFCCC
	3. 10.1.5(a) of Annex VII to Regulation (EU) 2019/331			3. ISO 14067:2018 Greenhouse gases — Carbon footprint of products — Requirements and guidelines for quantification
	4. Commission Delegated Regulation (EU) 2019/331			4. ISO 14064-1:2018 Carbon Assessment Verification
	5. IEA 2019			5. European Code of Conduct on Data Centre Energy Efficiency (624), or in CEN-GENELEC document CLC TR50600-99-1
				6. Data centre facilities and infrastructures - Part 99-1

Environment objectives	South Africa	Singapore	Rwanda	EU
Climate change adaptation	No international standards/ regulations were referenced	1. ISO 14091:2021 — Guidelines on vulnerability, impacts and risk assessment	1. Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5 2. Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC)	1. Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5 2. Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC)
	1. UNECE Convention on the Protection and Use of Transboundary, Watercourses and International Lakes 2. IFC General EHS Guidelines 3. IFC EDGE Level 1 certification	/a (Singapore taxonomy does not have DNSH criteria on climate change mitigation)	3. UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes. 4. Water risk assessments by WWF Water Risk Filter, WRI Aqueduct	No international standards/ regulations were referenced
Sustainable use of water and marine resources				

Environment objectives	South Africa	Singapore	Rwanda	EU
Ecosystem Protection and Restoration	<div>1. IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks</div> <div>2. IFC Performance Standard 6</div> <div>3. IUCN Red List</div> <div>4. Natura 2000 network of protected areas</div> <div>5. FSC/PEFC standards or equivalent</div>	<div>1. Environmental Impact Assessment</div> <div>2. IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks</div> <div>3. Convention of Biological Diversity</div> <div>4. Voluntary guidelines on biodiversity-inclusive impact assessment</div> <div>5. Natura 2000 network of protected areas</div> <div>6. UNESCO World Heritage sites and Key Biodiversity Areas (KBAs)</div> <div>7. IFC Performance Standard 6</div> <div>8. FSC/ PEFC standards or equivalent.</div> <div>9. IUCN Red List</div>	<div>1. IFC Performance Standard 6</div> <div>2. IUCN Red List</div> <div>3. FSC and PEFC standards</div> <div>4. UNESCO World Heritage Sites and Key Biodiversity Areas (KBAs)</div> <div>5. Environmental Impact Assessment</div>	<div>1. Natura 2000 network of protected areas,</div> <div>2. UNESCO World Heritage sites and Key Biodiversity Areas</div> <div>3. IUCN Red List</div> <div>4. FAO definition</div> <div>5. Environmental Impact Assessment</div>

Environment objectives	South Africa	Singapore	Rwanda	EU
Pollution Prevention	<div>1. The Stockholm Convention</div> <div>2. The Rotterdam Convention</div> <div>3. The Montreal Protocol on Substances that Deplete the Ozone Layer</div> <div>4. WHO recommended Classification of Pesticides by Hazard</div> <div>5. Best Practicable Environmental Option (BPEO) principle informed by the Best Available</div> <div>6. Technology/Technique (BAT)</div> <div>7. International Convention on the Control of Harmful Anti-fouling Systems on Ships</div> <div>8. ISO 14001 Environmental Management System (EMS)</div> <div>9. CEN/TS 16516 Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air</div>	<div>1. IFC EHS Guidelines: Air emissions and ambient air quality</div> <div>2. ISO 14001:2015: Environmental management systems — Requirements with guidance for use</div> <div>3. Eco-Management and Audit Scheme</div> <div>4. Strategic Approach to International Chemicals Management (SAICM)</div> <div>5. ISO 11014:2009(en) Safety data sheet for chemical products</div> <div>6. ISO/TC 134, Fertilisers and soil conditioners</div> <div>7. ISO 27065: Protective clothing – Performance requirements for protective clothing worn by operators applying liquid pesticides</div>	<div>1. IFC Environmental, Health and Safety Guidelines for Geothermal Power Generation</div> <div>2. East African Community Standard (EAS751:2001) (Regional regulation)</div> <div>3. EAS 1047:2022 standards on Air Quality – Vehicular exhaust emission limits (Regional regulation)</div> <div>4. ISO 13,040.50: Emissions from mobile sources</div> <div>5. ISO 362 Measurement of noise emitted by accelerating road vehicles</div> <div>6. ISO 28580:2018 – Method of measuring the rolling resistance of passenger cars, trucks and buses tyres</div> <div>7. Euro 6/VI vehicle emission standards</div>	<div>1. Rotterdam Convention</div> <div>2. Minamata Convention on Mercury</div> <div>3. Montreal Protocol on Substances that Deplete the Ozone Layer</div> <div>4. WHO Recommended Classification of Pesticides by Hazard</div> <div>5. Best Available Technique-Associated Emission Level (BAT-AEL)</div> <div>6. The 1998 Guidelines of</div> <div>7. International Commission on Non-Ionising Radiation</div> <div>8. Protection (ICNIRP)</div> <div>9. ISO 18400 Soil quality</div> <div>10. CEN/EN 16516 Construction products: Assessment of release of dangerous substances - Determination of emissions into indoor air</div> <div>11. ISO 16000-3:201 Indoor Air Quality</div>

Environment objectives	South Africa	Singapore	Rwanda	EU
	<p>10. ISO 16000 Indoor Air Quality</p> <p>11. ISO 20887 Sustainability in buildings and civil engineering works — Design for disassembly and adaptability — Principles, requirements and guidance</p>	<p>8. FAO's The International Code of Conduct on Pesticide Management</p> <p>9. Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade</p> <p>10. The Minamata Convention on Mercury</p> <p>11. The Montreal Protocol on Substances that Deplete the Ozone Layer, and of active ingredients</p> <p>12. International Convention on the Control of Harmful Anti-fouling Systems on Ships;</p> <p>13. ISO 13073: Ships and marine technology. Risk assessment on anti-fouling systems on ships</p>	<p>8. US EPA test</p> <p>9. WP.29 World Forum for Harmonisation of Vehicle Regulation</p>	

Environment objectives	South Africa	Singapore	Rwanda	EU
		<p>14. ISO 13065:2015: Sustainability Criteria for Bioenergy</p> <p>15. 1998 ICNIRP (International Commission on Non-Ionising Radiation Protection)</p> <p>16. ISO 19884 Gaseous Hydrogen – Cylinders and tubes for stationary storage</p> <p>17. IEC 63341-2 Railway applications – Rolling stock – Fuel cell systems for propulsion -Part 2: Hydrogen storage system;</p> <p>18. ISO 16111 Transportable Gas Storage Devices - Hydrogen Absorbed in Reversible Metal Hydrides</p> <p>19. ISO 13.040.50: Transport Exhaust emissions</p> <p>20.ISO 362 Measurement of noise emitted by accelerating road vehicles</p>		

Environment objectives	South Africa	Singapore	Rwanda	EU
		21. ISO 28580:2018 - Passenger car, truck and bus tyre rolling resistance measurement method — Single point test and correlation of measurement results 22. EU Non-Road Mobile Machinery Regulation		
Sustainable Resource Use and Circularity	1. No international standards/regulations/ test/specifications were referenced	1. UNEP International Water Quality Guidelines for Ecosystems (IWQGES); 2. ISO 13.060: Water Quality 3. KAPSARC(King Abdullah Petroleum Studies and Research Center), Guide to circular economy 4. The Circular Economy Project Management System (XP X30-901, Requirements and Guidelines), a voluntary standard developed by the French Standardisation Association (AFNOR) 5. ISO/TC 323 - Circular economy (In development Scenario 2)	1. Extended Producer Responsibility Standards	1. ISO 20887: Sustainability in buildings and civil engineering works — design for disassembly and adaptability — principles, requirements and guidance

Environment objectives	South Africa	Singapore	Rwanda	EU
		6. ISO/AWI 59014: Secondary materials — Principles, sustainability and traceability requirements 7. Global Recycled Standard (GRS): a voluntary product standard for tracking and verifying the content of recycled materials in a final product 8. ETP Clean Energy Technology Guide 9. Strategic Approach to International Chemicals Management (SAICM) 10. ISO 11014:2009 - Safety data sheet for chemical products 11. IFC and World Bank Environmental and social standards 12. San José Declaration on Sustainable Hydropower; 13. Secretariat's Hydropower Sustainability Guidelines on Good International Industry Practice (HGIIIP)		

Environment objectives	South Africa	Singapore	Rwanda	EU
		<div>14. EIB's Environmental, Climate and Social Guidelines on Hydropower Development</div> <div>15. Principles of the UNECE Convention on the Protection and Use of Transboundary, Watercourses and International Lakes</div> <div>16. ISO 14001:2015 Environmental management systems</div> <div>17. ISO 22628:2002 Road vehicles — Recyclability and recoverability</div> <div>18. Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (1989): Basel Action Network Standard for Responsible Recycling and Reuse of Electronic Equipment (known as e-Steward)</div> <div>19. International water labelling systems (e.g., WELS, WaterSense)</div>		

C. MSS

a. Details of related provisions and disclosure requirements in each law, regulation, or guideline

The Bill of Rights as contained in the Constitution of South Africa

	Main Pillar	Related Provisions
1	Human Rights	Section 10: Everyone has inherent dignity and the right to have their dignity respected and protected.
1.1	Child Labour	Section 28(1)(e): Every child has the right to be protected from exploitative labour practices.
1.2	Forced Labour	Section 13: No one may be subjected to slavery, servitude, or forced labour.
1.3	Health and Safety	Section 24: Everyone has the right to an environment that is not harmful to their health or well-being.
1.4	Freedom of association and collective bargaining	Section 18: Everyone has the right to freedom of association.
1.5	Discrimination	Section 9: Everyone is equal before the law and has the right to equal protection and benefit of the law. No one may be unfairly discriminated against.
1.6	Employment conditions, including, among others, working hours and remuneration	Section 23: Everyone has the right to fair labour practices.
1.7	Human dignity	Section 10: Everyone has inherent dignity and the right to have their dignity respected and protected.
5	Indigenous rights	Section 30: Everyone has the right to use the language and to participate in the cultural life of their choice.
6	Cultural heritage	Section 31: Persons belonging to a cultural, religious, or linguistic community may not be denied the right, with other members of that community, to enjoy their culture, practice their religion, and use their language.
7	Gender Equality	Section 9(3): The state may not unfairly discriminate directly or indirectly against anyone on one or more grounds, including race, gender, sex, etc.

The Labour Relations Act, Act 66 of 1995 as amended

	Main Pillar	Related Provisions
1	Human Rights	The act promotes human rights by ensuring fair labour practices, preventing unfair dismissals, and protecting the rights of employees and employers in the labour market.
1.4	Freedom of association and collective bargaining	Section 4: Every employee has the right to form and join a trade union and to participate in its activities
1.5	Discrimination	Section 5: Protection of employees and people seeking employment.
1.6	Employment conditions, including, among others, working hours and remuneration	Section 185: Provides employees with the right not to be unfairly dismissed or subjected to unfair labour practices, which include various employment conditions.
		Section 186: Defines unfair labour practices, which include unfair conduct by the employer relating to promotion, demotion, probation, training, or provision of benefits to employees, thereby ensuring fair employment conditions.
7	Gender Equality	Section 187(f): Prohibits discrimination on various grounds, which include gender.

The Basic Conditions of Employment Act, act 75 of 1997 as amended

	Main Pillar	Related Provisions
1	Human Rights	The act focuses on promoting human rights by setting minimum employment conditions and protections against exploitation, ensuring fair treatment and security for employees.
1.1	Child Labour	Section 43: Prohibition of employment of children under 15.
1.2	Forced Labour	Section 44: Restrictions on employment of children aged 15 and older.
1.5	Discrimination	Section 48: Prohibition of forced labour.
		Part C: Prohibition of unfair discrimination in employment practices.
1.6	Employment conditions, including, among others, working hours and remuneration	Section 9: Regulation of working hours.
		Section 10: Regulation of overtime.
		Section 16-18: Provisions for leave, including annual leave, sick leave, and family responsibility leave.

The Employment Equity Act, Act 55 of 1998

	Main Pillar	Related Provisions
1	Human Rights	The act promotes human rights by ensuring fair treatment and equal opportunities in employment, supporting non-discriminatory practices in the workplace.
1.5	Discrimination	Chapter 2: Prohibition of unfair discrimination on grounds such as race, gender, sex, pregnancy, marital status, family responsibility, ethnic or social origin, colour, sexual orientation, age, disability, religion, HIV status, conscience, belief, political opinion, culture, language, and birth.
7	Gender Equality	Section 6: The act explicitly promotes gender equality by prohibiting discrimination on the basis of gender and ensuring equal opportunities for all genders in the workplace.

The Unemployment Insurance Act, Act 30 of 1996

	Main Pillar	Related Provisions
1	Human Rights	The act promotes human rights by providing financial support to employees during periods of unemployment, illness, maternity, adoption, or death of a breadwinner.
1.6	Employment conditions, including, among others, working hours and remuneration	Chapter 3 Part B: Provides unemployment benefits to employees who are temporarily unemployed, ensuring basic financial support during unemployment.

The Occupational Health and Safety Act, act 85 of 1993 as amended

	Main Pillar	Related Provisions
1	Human Rights	The act promotes human rights by ensuring a safe and healthy working environment for all employees, thereby protecting their rights to safety and well-being.
1.3	Health and Safety	Section 8: General duties of employers to their employees, including maintaining a safe work environment.
		Section 9: Duties of employers and self-employed persons to persons other than their employees.

The Compensation for Occupational Injuries and Diseases Act, Act 130 of 1993

	Main Pillar	Related Provisions
1	Human Rights	The act promotes human rights by ensuring that employees injured or suffering from diseases contracted at work are compensated fairly, supporting their right to health and security.
1.3	Health and Safety	Section 22: Compensation for occupational injuries. Section 65: Compensation for occupational diseases.
1.6	Employment conditions, including, among others, working hours and remuneration	Section 30: Employers' obligations to pay compensation.

Protection of Personal Information Act, Act 4 of 2013

	Main Pillar	Related Provisions
1	Human Rights	The act ensures the protection of personal information, which is a fundamental human right, supporting individuals' rights to privacy.

Broad-based Black Economic Empowerment Act 53 of 2003

	Main Pillar	Related Provisions
1	Human Rights	The act promotes human rights by aiming to address economic imbalances and provide equal economic opportunities for historically disadvantaged groups.
1.5	Discrimination	Section 2: The objectives of the Act include promoting equal opportunity and fair treatment in employment by eliminating unfair discrimination.
1.6	Employment conditions, including, among others, working hours and remuneration	Section 1: Definitions include codes of good practice that promote effective employment practices to support B-BBEE.
7	Gender Equality	Section 2: The Act's objectives include promoting gender equality in economic activities, encouraging the participation of black women in the economy.

Women Empowerment and Gender Equality Bill, 2013

	Main Pillar	Related Provisions
7	Gender Equality	Representation of women in decision-making positions, Equal opportunities in the workplace, Anti-discrimination measures, Development of gender equality policies

Mineral and Petroleum Resources Development Act (No. 28 of 2002)

	Main Pillar	Related Provisions
1	Human Rights	Implementation of policies ensuring fair access and equitable benefits from mineral resources.
1.3	Health and Safety	Compliance with environmental management principles and remedial responsibilities.
1.5	Discrimination	Policies to prevent discriminatory practices in the mineral and petroleum industries.
1.6	Employment conditions, including, among others, working hours and remuneration	Adherence to employment promotion and social welfare advancement policies.
5.1	Land acquisition and involuntary resettlement	Compliance with laws regarding compensation for land affected by prospecting or mining.
7	Gender Equality	Policies promoting gender equality and supporting the inclusion of women in the industry.

The OECD Guidelines on Multinational Enterprises

	Main Pillar	Related Provisions
1	Human Rights	Chapter IV: Enterprises should respect human rights, avoid causing or contributing to adverse human rights impacts, and address such impacts when they occur.
1.1	Child Labour	Chapter V(1)(c): Enterprises should contribute to the effective abolition of child labour.
1.2	Forced Labour	Chapter V(1)(d): Enterprises should contribute to the elimination of all forms of forced or compulsory labour.
1.3	Health and Safety	Chapter V(4)(b): Enterprises should maintain a safe and healthy working environment in line with international standards.
1.4	Freedom of association and collective bargaining	Chapter V(1)(a)/(b): Enterprises should respect the right of workers to establish and join trade unions and representative organisations of their own choosing.
1.5	Discrimination	Chapter V(1)(e): Enterprises should provide equality of opportunity and treatment in employment, without discrimination.
1.6	Employment conditions, including, among others, working hours and remuneration	Chapter V(4)(a): Enterprises should ensure fair wages and benefits that meet or exceed national legal standards.
1.7	Human dignity	Chapter IV(1): Enterprises should respect the dignity and worth of all individuals in their operations.
2	Bribery/corruption	Chapter VII: Enterprises should not offer, promise, give, or demand bribes or other undue advantages.
3	Taxation	Chapter XI: Enterprises should comply with both the letter and the spirit of the tax laws and regulations of the countries in which they operate.
4	Fair competition	Chapter X: Enterprises should refrain from entering into anti-competitive agreements or engaging in anti-competitive practices.
5	Indigenous rights	Chapter IV(45): Enterprises should respect the rights of indigenous peoples and consider the views of other stakeholders.
6	Cultural heritage	Chapter IV(44): Enterprises should respect cultural heritage, indigenous knowledge, and traditional practices.
7	Gender Equality	Chapter V(1)(e): Enterprises should promote gender equality and avoid gender discrimination in employment.

International Labour Organization core labour conventions

	Main Pillar	Related Provisions
1	Human Rights	The Declaration emphasises the universal nature of fundamental rights at work, recognising that respect for human rights is essential for social justice and peace.
1.1	Child Labour	Effective abolition of child labour: The Declaration commits to the effective abolition of child labour, recognising its detrimental impact on children's rights and development.
1.2	Forced Labour	Elimination of all forms of forced or compulsory labour: The Declaration commits to the elimination of all forms of forced or compulsory labour as a fundamental principle.
1.3	Health and Safety	Safe and healthy working environment: Added as a fundamental principle, the Declaration emphasises the importance of ensuring a safe and healthy working environment for all workers.
1.4	Freedom of association and collective bargaining	Freedom of association and effective recognition of the right to collective bargaining: The Declaration supports the rights of workers to freely associate and engage in collective bargaining as fundamental rights.
1.5	Discrimination	Elimination of discrimination in respect of employment and occupation: The Declaration seeks to eliminate discrimination in employment and occupation to promote equality and fairness in the workplace.
1.6	Employment conditions, including, among others, working hours and remuneration	Just and favourable conditions of work: The Declaration implicitly supports fair labour practices and just employment conditions through its commitment to eliminate discrimination and promote equality.
1.7	Human dignity	Respect for human dignity: The Declaration emphasises the importance of respecting human dignity in all aspects of work, recognising that fundamental principles and rights at work are essential to achieving decent work and social justice.

b. Related metrics in each Sustainability Framework

JSE's Sustainability and Climate Disclosure Guidance

#	Dimensions	Related metrics
1	Human Rights	
1.1	Child Labour	<p>S5.1a Description of the operations and suppliers considered to have a significant risk of child labour, forced or compulsory labour, or other significant actual and potential negative social impacts, given the type of operation, commodities, or geographic region, and the nature of the measures taken by the organisation intended to contribute to eliminating these risks.</p> <p>S5.1b The number and percentage of identified child labour, or forced and compulsory labour incidents in its operations or value chain; and percentage of these where the reporting entity has played a role in securing remedy for those affected.</p>
1.2	Forced Labour	<p>S5.1a Description of the operations and suppliers considered to have a significant risk of child labour, forced or compulsory labour, or other significant actual and potential negative social impacts, given the type of operation, commodities, or geographic region, and the nature of the measures taken by the organisation intended to contribute to eliminating these risks.</p> <p>S5.1b The number and percentage of identified child labour, or forced and compulsory labour incidents in its operations or value chain; and percentage of these where the reporting entity has played a role in securing remedy for those affected.</p>
1.3	Health and Safety	<p>S3.1a Number and rate of fatalities as a result of a work-related injury or ill health during the reporting period across the organisation; the disclosure should include both employees and workers who are not employees, but whose work and/or workplace is controlled by the organisation.</p> <p>S3.1b Number of recordable work-related injuries, and number of work-related illnesses or health conditions arising from exposure to work-related hazards during the reporting period; the disclosure should include both employees and workers who are not employees, but whose work and/or workplace is controlled by the organisation.</p> <p>S3.1c An explanation of how the organisation facilitates workers' access to non-occupational medical and healthcare services and the scope of access provided for employees and workers, and a description of any voluntary health promotion services and programmes offered to workers to address major non-work-related health risks, including the specific health risks addressed.</p>

#	Dimensions	Related metrics
1.4	Freedom of association and collective bargaining	<p>S1.4a Describe how the organisation manages freedom of association and collective bargaining, noting any policy or policies considered likely to affect workers' decisions to form or join a trade union, to bargain collectively or to engage in trade union activities.</p> <p>S1.4b Percentage of total employees covered under collective bargaining agreements.</p> <p>S1.4c Disclose the extent of major work stoppages (including both strikes and lockouts) due to disputes between the undertaking and its workforce, including the number of major work stoppages, and for each: number of workers involved; length in days of stoppage, reasons, and steps taken to resolve each dispute.</p> <p>S1.4d An explanation of the due diligence assessment performed on suppliers for which the right to freedom of association and collective bargaining is at risk, including measures taken by the organisation to address these risks.</p>
1.5	Discrimination	<p>S1.1b Number of allegations and confirmed incidents of discrimination and/or human rights incidents relating to workers incidents during the reporting period, noting the investigation status of reported and actual incidents, actions taken, and total amount of monetary losses due to legal proceedings associated with labour law violation, employment discrimination, and/or human rights violations.</p>
1.6	Employment conditions, including, among others, working hours and remuneration	<p>G2.1 Remuneration practices How the remuneration policies for board members and senior executives relate to their objectives and performance in relation to delivery of the organisation's strategy and management of its impacts on people, the environment and the economy, noting the split between fixed pay and variable pay, and with variable pay split into short- and long-term incentives.</p> <p>S1.2a Ratio between the CEO's total annual remuneration and the median, lower quartile, and upper quartile of the total annual remuneration of all the organisation's employees (excluding the CEO).</p> <p>S1.2b the ratio of the average annual remuneration of the top 10% of the organisation's top earners, and the average annual remuneration for the bottom 10% of the lowest earners in the organisation.</p> <p>S1.2c The total annual remuneration of both the highest paid employee and the lowest paid employee; the average remuneration; and the median remuneration of all employees.</p> <p>S1.2d Ratio of the total annual remuneration of women to men, and by race group, for each employee category, by 'significant locations of operation' (as defined by the organisation).</p>

#	Dimensions	Related metrics
2	Bribery/corruption	S1.3a When a significant proportion of employees are compensated based on wages subject to minimum wage rules, report the relevant ratio of the standard entry-level wage by race and gender compared to the applicable legislated minimum wage for the sector.
		S1.3b Ratio of lowest wage to living wage for employees and non-employee workers for each significant location of operation.
		S1.3c Percentage of employees and non-employee workers whose wages fall below a specific living wage methodology or benchmark.
		G3.1a Total percentage of governance body members, employees and business partners who have received training or awareness-raising on the organisation's anti-corruption policies and procedures, broken down by employee category and region.
7	Gender Equality	G3.1b Total number and nature of incidents of corruption confirmed during the current year, related to this year and previous years, with a description of the activities taken to address confirmed incidents, and of the outcomes of these activities.
		G3.1c A description of: i) the internal and external grievance mechanisms (including whistleblowing facilities) for reporting concerns about unethical or unlawful behaviour and lack of organisational integrity; ii) mechanisms for seeking advice about ethical and lawful behaviour and organisational integrity; and iii) the extent to which these various mechanisms have been used, and the outcomes of processes using these mechanisms.
		G3.1d Discussion of initiatives and stakeholder engagement to improve the broader operating environment and culture, to combat corruption.
		S1.2d Ratio of the total annual remuneration of women to men, and by race group, for each employee category, by 'significant locations of operation' (as defined by the organisation).

GRI's Sustainability Reporting Standards

#	Dimensions	Related metrics
1	Human Rights	
1.1	Child Labour	GRI 408: Child Labour
1.2	Forced Labour	Disclosure 408-1: Operations and suppliers at significant risk for incidents of child labour.
1.3	Health and Safety	GRI 403: Occupational Health and Safety Disclosure 403-1 Occupational health and safety management system Disclosure 403-2 Hazard identification, risk assessment, and incident investigation Disclosure 403-3 Occupational health services Disclosure 403-4 Worker participation, consultation, and communication on occupational health and safety Disclosure 403-5 Worker training on occupational health and safety Disclosure 403-6 Promotion of worker health Disclosure 403-7 Prevention and mitigation of occupational health and safety impacts directly linked by business relationships Disclosure 403-8 Workers covered by an occupational health and safety management system Disclosure 403-9 Work-related injuries Disclosure 403-10 Work-related ill health
1.4	Freedom of association and collective bargaining	GRI 407: Freedom of Association and Collective Bargaining Disclosure 407-1: Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk.
1.5	Discrimination	GRI 406: Non-discrimination Disclosure 406-1: Incidents of discrimination and corrective actions taken.

#	Dimensions	Related metrics
1.6	Employment conditions, including, among others, working hours and remuneration	GRI 2: General Disclosure
		Disclosure 2-19 Remuneration policies
		Disclosure 2-21 Annual total compensation ratio
		GRI 202: Market Presence
1.7	Human dignity	Disclosure 202-1 Ratios of standard entry-level wage by gender compared to local minimum wage.
		GRI 102: General Disclosures.
		GRI 205: Anti-corruption
		Disclosure 205-1: Operations assessed for risks related to corruption.
2	Bribery/corruption	Disclosure 205-2: Communication and training about anti-corruption policies and procedures.
		Disclosure 205-3: Confirmed incidents of corruption and actions taken.
		GRI 207: Tax
		Disclosure 207-1: Approach to tax.
3	Taxation	Disclosure 207-2: Tax governance, control, and risk management.
		Disclosure 207-3: Stakeholder engagement and management of concerns related to tax.
		Disclosure 207-4: Country-by-country reporting (regarding taxes paid by the organisation).
		GRI 206: Anti-competitive Behaviour
4	Fair competition	Disclosure 206-1: Legal actions for anti-competitive behaviour, anti-trust, and monopoly practices.
5	Indigenous rights	GRI 411: Rights of Indigenous Peoples
		Disclosure 411-1: Incidents of violations involving the rights of Indigenous peoples.

#	Dimensions	Related metrics
5.1	Land acquisition and involuntary resettlement	GRI 413: Local Communities
		Disclosure 413-2: Operations with significant actual and potential negative impacts on local communities.
6	Cultural heritage	GRI 413: Local Communities
7	Gender Equality	Disclosure 413-1: Operations with local community engagement, impact assessments, and development programmes (related to cultural heritage).
		GRI 405: Diversity and Equal Opportunity
		Disclosure 405-1: Diversity of governance bodies and employees.
		Disclosure 405-2: Ratio of basic salary and remuneration of women to men.

Sustainability Accounting Standards Board

#	Dimensions	Related metrics
1	Human Rights	
1.1	Child Labour	SASB 430
		SASB 440
1.2	Forced Labour	SASB 430
		SASB 440
1.3	Health and Safety	SASB 320
1.5	Discrimination	SASB 310
1.6	Employment conditions, including, among others, working hours and remuneration	SASB 310
2	Bribery/corruption	SASB 510
7	Gender Equality	SASB 310

IFC Performance Standards on Environmental and Social Sustainability

#	Dimensions	Related metrics
1	Human Rights	
1.1	Child Labour	<p>Performance Standard 2: Labour and Working Conditions</p> <p>Paras 21 The client will not employ children in any manner that is economically exploitative, or is likely to be hazardous or to interfere with the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development. The client will identify the presence of all persons under the age of 18. Where national laws have provisions for the employment of minors, the client will follow those laws applicable to the client. Children under the age of 18 will not be employed in hazardous work. All work of persons under the age of 18 will be subject to an appropriate risk assessment and regular monitoring of health, working conditions, and hours of work.</p>
1.2	Forced Labour	<p>Performance Standard 2: Labour and Working Conditions</p> <p>Paras 22 The client will not employ forced labour, which consists of any work or service not voluntarily performed that is extracted from an individual under threat of force or penalty. This covers any kind of involuntary or compulsory labour, such as indentured labour, bonded labour, or similar labour-contracting arrangements. The client will not employ trafficked persons.</p>
1.3	Health and Safety	<p>Performance Standard 2: Labour and Working Conditions</p> <p>Paras 23 The client will provide a safe and healthy work environment, taking into account inherent risks in its particular sector and specific classes of hazards in the client's work areas, including physical, chemical, biological, and radiological hazards, and specific threats to women. The client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimising, as far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice, as reflected in various internationally recognised sources including the World Bank Group Environmental, Health and Safety Guidelines, the client will address areas that include the (i) identification of potential hazards to workers, particularly those that may be life-threatening; (ii) provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) training of workers; (iv) documentation and reporting of occupational accidents, diseases, and incidents; and (v) emergency prevention, preparedness, and response arrangements. For additional information related to emergency preparedness and response refer to Performance Standard 1.</p>

#	Dimensions	Related metrics
		<p>Performance Standard 4: Community Health, Safety, and Security Community Health and Safety</p> <p>Para 5 The client will evaluate the risks and impacts to the health and safety of the affected communities during the project life-cycle and will establish preventive and control measures consistent with good international industry practice, such as in the World Bank Group Environmental, Health and Safety Guidelines (EHS Guidelines) or other internationally recognised sources. The client will identify risks and impacts and propose mitigation measures that are commensurate with their nature and magnitude. These measures will favour the avoidance of risks and impacts over minimisation.</p> <p>Infrastructure and Equipment Design and Safety</p> <p>Para 6 The client will design, construct, operate, and decommission the structural elements or components of the project in accordance with good international industry practice, taking into consideration safety risks to third parties or affected communities. When new buildings and structures will be accessed by members of the public, the client will consider incremental risks of the public's potential exposure to operational accidents and/or natural hazards and be consistent with the principles of universal access. Structural elements will be designed and constructed by competent professionals and certified or approved by competent authorities or professionals. When structural elements or components, such as dams, tailings dams, or ash ponds are situated in high-risk locations, and their failure or malfunction may threaten the safety of communities, the client will engage one or more external experts with the relevant experience in similar projects, separate from those responsible for the design and construction, to conduct a review as early as possible in project development and throughout the stages of project design, construction, operation, and decommissioning. For projects that operate moving equipment on public roads and other forms of infrastructure, the client will seek to avoid the occurrence of incidents and injuries to members of the public associated with the operation of such equipment.</p> <p>Hazardous Materials Management and Safety</p> <p>Para 7 The client will avoid or minimise the potential for community exposure to hazardous materials and substances that may be released by the project. Where there is potential for the public (including workers and their families) to be exposed to hazards, particularly those that may be life-threatening, the client will exercise special care to avoid or minimise their exposure by modifying, substituting, or eliminating the condition or material causing the potential hazards. Where hazardous materials are part of existing project infrastructure or components, the client will exercise special care when conducting decommissioning activities in order to avoid exposure to the community. The client will exercise commercially reasonable efforts to control the safety of deliveries of hazardous materials, and of transportation and disposal of hazardous wastes, and will implement measures to avoid or control community exposure to pesticides, in accordance with the requirements of Performance Standard 3.</p>

#	Dimensions	Related metrics
		<p>Ecosystem Services</p> <p>Para 8 The project's direct impacts on priority ecosystem services may result in adverse health and safety risks and impacts to affected communities. With respect to this Performance Standard, ecosystem services are limited to provisioning and regulating services as defined in paragraph 2 of Performance Standard 6. For example, land use changes or the loss of natural buffer areas such as wetlands, mangroves, and upland forests that mitigate the effects of natural hazards such as flooding, landslides, and fire, may result in increased vulnerability and community safety-related risks and impacts. The diminution or degradation of natural resources, such as adverse impacts on the quality, quantity, and availability of freshwater, may result in health-related risks and impacts. Where appropriate and feasible, the client will identify those risks and potential impacts on priority ecosystem services that may be exacerbated by climate change. Adverse impacts could be avoided, and if these impacts are unavoidable, the client will minimise them and implement mitigation measures in accordance with paragraphs 24 and 25 of Performance Standard 6. With respect to the use of and loss of access to provisioning services, clients will implement mitigation measures in accordance with paragraphs 25–29 of Performance Standard 5.</p> <p>Community Exposure to Disease</p> <p>Para 9 The client will avoid or minimise the potential for community exposure to water-borne, water-related, and vector-borne diseases, and communicable diseases that could result from project activities, taking into consideration differentiated exposure and higher sensitivity of vulnerable groups. Where specific diseases are endemic in communities in the project area of influence, the client is encouraged to explore opportunities during the project life-cycle to improve environmental conditions that could help minimise their incidence.</p> <p>Para 10 The client will avoid or minimise transmission of communicable diseases that may be associated with the influx of temporary or permanent project labour.</p> <p>Emergency Preparedness and Response</p> <p>Para 11 In addition to the emergency preparedness and response requirements described in Performance Standard 1, the client will also assist and collaborate with the affected communities, local government agencies, and other relevant parties, in their preparations to respond effectively to emergency situations, especially when their participation and collaboration are necessary to respond to such emergency situations. If local government agencies have little or no capacity to respond effectively, the client will play an active role in preparing for and responding to emergencies associated with the project. The client will document its emergency preparedness and response activities, resources, and responsibilities, and will disclose appropriate information to affected communities, relevant government agencies, or other relevant parties.</p>

#	Dimensions	Related metrics
1.4	Freedom of association and collective bargaining	<p>Performance Standard 2: Labour and Working Conditions</p> <p>Paras 13 In countries where national law recognises workers' rights to form and to join workers' organisations of their choosing without interference and to bargain collectively, the client will comply with national law. Where national law substantially restricts workers' organisations, the client will not restrict workers from developing alternative mechanisms to express their grievances and protect their rights regarding working conditions and terms of employment. The client could not seek to influence or control these mechanisms.</p> <p>Paras 14 In either case described in paragraph 13 of this Performance Standard, and where national law is silent, the client will not discourage workers from electing worker representatives, forming or joining workers' organisations of their choosing, or from bargaining collectively, and will not discriminate or retaliate against workers who participate, or seek to participate, in such organisations and collective bargaining. The client will engage with such workers' representatives and workers' organisations, and provide them with information needed for meaningful negotiation in a timely manner. Workers' organisations are expected to fairly represent the workers in the workforce.</p>
1.5	Discrimination	<p>Performance Standard 2: Labour and Working Conditions</p> <p>Paras 15 The client will not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The client will base the employment relationship on the principle of equal opportunity and fair treatment and will not discriminate with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. The client will take measures to prevent and address harassment, intimidation, and/or exploitation, especially in regard to women. The principles of non-discrimination apply to migrant workers.</p> <p>Paras 16 In countries where national law provides for non-discrimination in employment, the client will comply with national law. Where national laws are silent on non-discrimination in employment, the client will meet this Performance Standard. In circumstances where national law is inconsistent with this Performance Standard, the client is encouraged to carry out its operations consistent with the intent of paragraph 15 above without contravening applicable laws.</p> <p>Paras 17 Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job will not be deemed as discrimination.</p>

#	Dimensions	Related metrics
1.6	Employment conditions, including, among others, working hours and remuneration	Performance Standard 2: Labour and Working Conditions
		Human Resources Policies and Procedures
		Paras 8 The client will adopt and implement human resources policies and procedures appropriate to its size and workforce that set out its approach to managing workers consistent with the requirements of this Performance Standard and national law.
		Para 9 The client will provide workers with documented information that is clear and understandable, regarding their rights under national labour and employment law and any applicable collective agreements, including their rights related to hours of work, wages, overtime, compensation, and benefits upon beginning the working relationship and when any material changes occur.
		Working Conditions and Terms of Employment
		Para 10 Where the client is a party to a collective bargaining agreement with a workers' organisation, such agreement will be respected. Where such agreements do not exist, or do not address working conditions and terms of employment, the client will provide reasonable working conditions and terms of employment.
		Para 11 The client will identify migrant workers and ensure that they are engaged on substantially equivalent terms and conditions to non-migrant workers carrying out similar work.
		Para 12 Where accommodation services are provided to workers covered by the scope of this Performance Standard, the client will put in place and implement policies on the quality and management of the accommodation and provision of basic services. The accommodation services will be provided in a manner consistent with the principles of non-discrimination and equal opportunity. Workers' accommodation arrangements could not restrict workers' freedom of movement or of association.
		Retrenchment
		Paras 18 Prior to implementing any collective dismissals, the client will carry out an analysis of alternatives to retrenchment. If the analysis does not identify viable alternatives to retrenchment, a retrenchment plan will be developed and implemented to reduce the adverse impacts of retrenchment on workers. The retrenchment plan will be based on the principle of non-discrimination and will reflect the client's consultation with workers, their organisations, and, where appropriate, the government, and comply with collective bargaining agreements if they exist. The client will comply with all legal and contractual requirements related to notification of public authorities, and provision of information to, and consultation with, workers and their organisations.

#	Dimensions	Related metrics
5	Indigenous rights	Para 19 The client could ensure that all workers receive notice of dismissal and severance payments mandated by law and collective agreements in a timely manner. All outstanding back pay and social security benefits and pension contributions and benefits will be paid (i) on or before termination of the working relationship to the workers, (ii) where appropriate, for the benefit of the workers, or (iii) payment will be made in accordance with a timeline agreed through a collective agreement. Where payments are made for the benefit of workers, workers will be provided with evidence of such payments.
		Grievance Mechanism
		Para 20 The client will provide a grievance mechanism for workers (and their organisations, where they exist) to raise workplace concerns. The client will inform the workers of the grievance mechanism at the time of recruitment and make it easily accessible to them. The mechanism could involve an appropriate level of management and address concerns promptly, using an understandable and transparent process that provides timely feedback to those concerned, without any retribution. The mechanism could also allow for anonymous complaints to be raised and addressed. The mechanism could not impede access to other judicial or administrative remedies that might be available under the law or through existing arbitration procedures, or substitute for grievance mechanisms provided through collective agreements.
		Performance Standard 7: Indigenous Peoples
		Paras 8-22: Rights to land, culture, and participation in decision-making.
5.1	Land acquisition and involuntary resettlement	Performance Standard 5: Land Acquisition and Involuntary Resettlement
6	Cultural heritage	Paras 8-32: Minimising involuntary resettlement and ensuring fair compensation.
		Performance Standard 8: Cultural Heritage
		Paras 6-16: Safeguarding cultural heritage affected by business activities.

#	Dimensions	Related metrics
7	Gender Equality	<p>Performance Standard 2: Labour and Working Conditions</p> <p>Paras 15 The client will not make employment decisions on the basis of personal characteristics unrelated to inherent job requirements. The client will base the employment relationship on the principle of equal opportunity and fair treatment and will not discriminate with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. The client will take measures to prevent and address harassment, intimidation, and/or exploitation, especially in regard to women. The principles of non-discrimination apply to migrant workers.</p> <p>Paras 23 The client will provide a safe and healthy work environment, taking into account inherent risks in its particular sector and specific classes of hazards in the client's work areas, including physical, chemical, biological, and radiological hazards, and specific threats to women. The client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring in the course of work by minimising, as far as reasonably practicable, the causes of hazards. In a manner consistent with good international industry practice, as reflected in various internationally recognised sources including the World Bank Group Environmental, Health and Safety Guidelines, the client will address areas that include the (i) identification of potential hazards to workers, particularly those that may be life-threatening; (ii) provision of preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances; (iii) training of workers; (iv) documentation and reporting of occupational accidents, diseases, and incidents; and (v) emergency prevention, preparedness, and response arrangements. For additional information related to emergency preparedness and response refer to Performance Standard 1.</p>

GRI's Sustainability Reporting Standards

#	Pillars	Related metrics
1	Human Rights	
1.1	Child Labour	ESRS S2-2 ESRS S2-3 ESRS S2-5
1.2	Forced Labour	ESRS S2-2 ESRS S2-3 ESRS S2-5
1.3	Health and Safety	ESRS-S1-11
1.4	Freedom of association and collective bargaining	ESRS-S1-2 ESRS-S1-22 ESRS-S1-23
1.5	Discrimination	ESRS-S1-18 ESRS-S1-25
1.6	Employment conditions, including, among others, working hours and remuneration	ESRS G1-6 ESRS-S1-14 ESRS-S1-17
2	Bribery/corruption	ESRS G2-3 ESRS G2-5 ESRS G2-6 ESRS G2-7

