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REPUBLIC OF SOUTH AFRICA

IFC International Finance Corporation
WORLD BANK GROUP
Creating Markets, Creating Opportunities

South African Green Finance Taxonomy

1st EDITION

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IN PARTNERSHIP WITH

Sida
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Contents

Document Purpose and Navigation

This document sets out the results of the work to date in developing the 1st Edition of the South African Green Finance Taxonomy for environmentally sustainable economic activities.

The document is comprised of the following parts:

Section	Description
Part A - About South Africa's Green Finance Taxonomy Project	Sets out the role of the South African Green finance taxonomy and provides Additional materials to consult describing additional context to the development and purpose of the taxonomy.
Part B - User Guidance and Application Navigation	Provides guidance on Determining Taxonomy Alignment and how to navigate taxonomy application.
Part C - Catalogue of Sectors and Activities, Basic Attributes, and Mapping to Environmental Objectives	Illustrates the sectors and activities that are recognised by the South African Green Finance Taxonomy. This section illustrates the environmental objectives that have been developed for each economic activity and further illustrates whether contributions to objectives are recognised as enabling other economic activities or if contributions are to the economic activities own performance.
Part D - Technical Screening Criteria	Provides the technical screening criteria that set the performance requirements for each economic activity. The Screening criteria for activities making a substantial contribution to climate change adaptation section provides screening criteria which are specific characteristics that can be used to determine whether an economic activity provides a substantial contribution to adaptation.
Part E - Appendices	The following Appendices provide the following additional technical screening criteria: • **Appendix A: Generic Criteria for DNSH to Climate Change Adaptation;** • **Appendix B: Technical Specification for Water Appliances;** • **Appendix C: Minimum Social Safeguards;** • **Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources;** • **Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration; and** • **Appendix F: Generic Criteria for DNSH to Pollution Prevention** **Appendix G: Listing of Technical Criteria and other Taxonomy Aspects Requiring Further Domestication Review and/or Development** serves to highlight the constituents of Edition 1 of the draft South African Green Finance Taxonomy (GFT 1st Edition) that are identified as requiring additional technical development, technical review and/or further stakeholder engagement.

About South Africa's Green Finance Taxonomy Project

South Africa's Green Finance Taxonomy project was developed by the Taxonomy Working Group, as part of South Africa's Sustainable Finance Initiative, chaired by National Treasury.

National Treasury published the draft Technical Paper on "Financing a Sustainable Economy" in May 2020 with the aim of unlocking access to sustainable finance and stimulating the allocation of capital to support a development-focused and climate-resilient economy. One of the recommendations of the paper is to "develop or adopt a taxonomy for green, social and sustainable finance initiatives, consistent with international developments, to build credibility, foster investment and enable effective monitoring and disclosure of performance".

A green finance taxonomy (GFT) is a classification system or catalogue that defines a minimum set of assets, projects, activities and sectors that are eligible to be defined as "green" in line with international best practice and national priorities. It can be used by investors, issuers, and other financial sector participants to track, monitor, and demonstrate the credentials of their green activities in a more confident and efficient way.

A Steering Committee and Working Groups were established to support the implementation of the Technical Paper recommendations. These include a Taxonomy Working Group chaired by National Treasury and including representatives from South Africa's Department of Forestry, Fisheries and the Environment (DFFE); Department of Monitoring and Evaluation (DPME); the Financial Sector Conduct Authority (FSCA); the Prudential Authority (PA); the Johannesburg Stock Exchange (JSE); Banking Association South Africa (BASA); Batseta (Council of Retirement Funds for South Africa); the Association for Savings and Investment South Africa (ASISA); and representatives from banks and retirement funds.

The initial phase of work for the Taxonomy Working Group is supported by the International Finance Corporation (IFC), part of the World Bank Group, through IFC's Green Bond Market Development program in partnership with SECO (Swiss State Secretariat for Economic Affairs) and Sida (Swedish International Development Cooperation Agency). It also benefits from global support from the IFC- facilitated Sustainable Banking Network (SBN).

National Business Initiative and the Carbon Trust were selected to carry out research, stakeholder consultation, and drafting on behalf of the Taxonomy Working Group for the first phase to (i) establish a governance structure and principles for the development and ongoing maintenance of a national sustainable finance taxonomy, and (ii) to develop an initial draft taxonomy for green and climate finance activities, leveraging existing international frameworks. This document contains the first edition of the South African Green Finance Taxonomy (GFT 1st Edition) and is complemented by further information regarding the governance structure under development.

The Taxonomy is intended to have a range of benefits. Amongst other things, it will

- Help the financial sector with clarity and certainty in selecting green investments in line with international best practice and South Africa's national policies and priorities.
- Reduce financial sector risks through enhanced management of environmental and social performance.
- Reduce the costs associated with labelling and issuing green financial instrument.,
- Unlock significant investment opportunities for South Africa in a broad range of green and climate-friendly assets.
- Support regulatory and supervision oversight of the financial sector.
- Provide a basis for regulators to align or reference green financial products.

International and multi-actor coordination regarding domestically-appropriate, internationally-compatibly taxonomies' development continues (vis-à-vis the rationale and needs for ambition, achievability, rigour, and flexibility, alongside the extent, pace and mechanics concerning alignment and harmonisation). There are several complex policy and economic aspects that remain to be resolved, but ever improved understanding of the challenges is being developed, and resolve and support for an equitable, resilient, low-carbon green economy continues to grow. In this context, the work of developing this first national Green Finance Taxonomy and the national dialogue that has been central to it, has itself contributed substantially to advancement of awareness more broadly, of our national and international role and possibilities for change.

Additional materials to consult

The **Final GFT** for South Africa has been developed through extensive engagement with South African stakeholders over the period March 2020 – March 2022. A summary of the development process, presentations, webinars, and other informative materials are available via the following link:

Taxonomy Working Group | South Africa Sustainable Finance Initiative

Complementing this document, several reports and briefings have been developed to provide additional context to the development, purpose and situation of the taxonomy, including:

- A project briefing report that introduces the project and describes the need and basis for a green finance taxonomy for South Africa, in the context of international and national green finance frameworks.
- A briefing paper on the relevance and extent of alignment between South Africa's Green Finance Taxonomy and the foundational EU Taxonomy.
- A briefing paper documenting the insights from and development process of the first South African Green Finance Taxonomy.
- A briefing paper documenting the process and result of developing a buildings entry for South Africa's Green Finance Taxonomy.

Acknowledgments

We gratefully acknowledge the tremendous work of the EU Technical Expert Group on Sustainable Finance in developing the landmark final report on the EU taxonomy published in March 2020[1] and the subsequent developments thereon. We have relied on this report to a significant extent, and its taxonomy and guidance – as well as ongoing updates, including the EU Taxonomy Climate Delegated Act – as the foundation for the approach of the South African Green Finance Taxonomy Draft. This is in line with consistent recommendations by the project advisors, local stakeholders, and international experts that South Africa should seek to adapt relevant international good practice to the extent appropriate, to facilitate alignment and harmonisation for the benefit of users and stakeholders.

Oversight for this project was provided by South African National Treasury, IFC and the Taxonomy Working Group, the members of whom we warmly thank for their engagement and contributions throughout the process. Work was carried out by the National Business Initiative (NBI) and Carbon Trust. Lead authors of the draft 1st edition are Christelle van Vuuren and Marc Coetzee of the Carbon Trust, with the close support of Steve Nicholls, Reitumetse Molotsoane, Alex McNamara and Bhavna Deonarain of NBI, who also coordinated fruitful stakeholder engagement for the project. We thank the staff of the oversight organisations for rich input and strategic guidance. They include Sarah McPhail, Lusanda Fani, Kolisang Molukanele and Vukile Davidson (National Treasury); and Louise Gardiner, Quyen Thuc Nguyen, Berit Lindholdt Lauridsen, Francisco Avendano, Ben Gaffney, and Karin Ireton (IFC).

Special thanks go to members of the Taxonomy Working Group, including those from the following organisations: the Johannesburg Stock Exchange (JSE), ABSA, the Development Bank of Southern Africa (DBSA), Batseta (Council of Retirement Funds for South Africa), Old Mutual, the Prudential Authority (PA), BNP Paribas, FirstRand and Rand Merchant Bank (RMB), the Banking Association South Africa (BASA), the Department of Planning, Monitoring and Evaluation (DPME), the Department of Forestry, Fisheries and the Environment (DFFE), the Association for Savings and Investment South Africa (ASISA), Standard Bank, the Industrial Development Corporation of South Africa (IDC), the South African Reserve Bank (SARB) and the Financial Sector Conduct Authority (FSCA).

This GFT 1st Edition and development process has also benefited greatly from a pilot test project kindly supported by the IFC and undertaken by 7 volunteer financial institutions who undertook to apply an earlier draft version in practical applications and report their insights to the development team. Their useful feedback has assisted in improving many elements of this draft first edition and supplementary materials.

Valuable inputs were also received during the public consultation process from a large and diverse group of stakeholders. We thank all who participated in the various discussions and contributed written and other feedback. In particular, we would like to thank Sean Kidney (Climate Bonds Initiative), and Nicole Martens, Alyssa Heath and Hazell Ransome (UN PRI) for invaluable insights from international practice.

[1] Technical Expert Group on Sustainable Finance, 2020. Final Report on EU Taxonomy. [Online] Available at https://ec.europa.eu/info/sites/info/files/business_economy_euro/banking_and_finance/documents/200309-sustainable-finance-teg-final-report-taxonomy_en.pdf [Accessed October 2020]

1 User Guidance and Application Navigation

1.1 Different taxonomy uses and users

Transitioning South Africa to an equitable, resilient, low-carbon green economy will require the range of economic actors each to act strategically and decidedly towards this in a coordinated manner. A taxonomy provides a common language and agreed methodologies for determining eligibility, which enable different economic actors to identify and respond to investment opportunities and needs that contribute positively to specified objectives - such as the transition to a green economy - and which can support these actors to coordinate their actions. Therefore, the taxonomy can be used as a risk management tool as well as a tool that helps direct and redirect finance to green activities by helping markets manage the impact of climate change.

Table 1 non-exhaustively identifies potential users of a Green Finance Taxonomy and the functional processes that a Green Finance Taxonomy could be integrated to.

Table 1: Potential users and uses of the taxonomy

User Group	***Example user***	***Typical user applications for the Green Finance Taxonomy* (World Bank, 2020)**
POLICY MAKERS & GOVERNMENT AGENCIES 	Includes law makers and government departments e.g. DFFE, DPME, SARS, National Treasury, Municipalities	• Develop policy and delegated acts/regulations • Measure and account for aligned financial flows at different economic levels and improve and align tracking systems • Identify areas of underinvestment relative to objectives • Facilitate aligned pipeline development • Align to or reference elements of the taxonomy, such as in the context of setting public measures and standards of labels for green financial products or green bonds and in reporting on economic, NDC and SDG monitoring purposes
FINANCIAL MARKET PARTICIPANTS AND REGULATORS 	Includes market participants offering financial products e.g. financial institutions, banks, investors, bond issuers, pension providers	• Identify financial and real economy investment opportunities that align to the taxonomy and criteria • Support investee engagement • Evaluate investment portfolios for taxonomic alignment and exposure • Evaluate new investments' taxonomic alignment • Evaluate existing products alignment, and originate and structure aligned new products • Design and shift investment and product policies and strategies • Expand data systems and disclosure to enable taxonomic evaluations, and advance diligence regarding impact and contribution alignment • Understand and compile disclosures concerning exposure, in terms of or in addition to regulatory requirements • Complement and align supervisory and regulatory measures, and support systemic monitoring
ASSET OWNERS 	Include non-financial companies and developers with non-financial reporting directives. e.g. mining houses and manufacturers	• Compile disclosures against the taxonomy regarding capital expenditure, operational expenditure and turnover • Support investor and capital markets engagement, to attract financing on the basis of being taxonomically and thematically aligned

1.2 User guidance application navigation

To assess whether an economic activity and related finance (or financial flow) is taxonomy-aligned, the following sections within this document should be referred to:

- For determining taxonomy-alignment of sectors, assets, and projects – refer to **Section 2 Determining Taxonomy alignment**
- For financial metrics that could be associated with taxonomy-aligned sectors, assets, and projects – refer to **Section 3 Determining Taxonomy-Aligned Finance**
- For impact reporting concerning taxonomy-aligned sectors, assets, and projects – refer **to Section 4 Sustainable Development Performance and Impact Reporting**
- For general, non-prescriptive guidance in overcoming anticipated application challenges – refer to **Section 5 General Challenges and Consideration in Applying the Taxonomy**

2 Determining Taxonomy Alignment

2.1 Differentiating economic activities and entities

Eligibility under the taxonomy should be assessed on an economic sector, asset and/or project basis within a company. Because of the taxonomy organisation in terms of economic activities, the evaluator may be required to consider and interpret:

- How a diversified entity is composed of multiple economic activities that generate value and/or have environmental impact. (See example in **Figure 1**)
- The value drivers or environmentally impactful activities that underpin an entity. (E.g., buildings performance for a hospital)

A key part of a taxonomy assessment includes defining what part of a corporate's activity can be defined as green, and how that activity relates to the whole; again, some interpretation may be needed and any assessment should be clear about the base assumptions made, including how value and entity designations have been assigned. Assessing a company's taxonomy-alignment will require:

1. First of all, an evaluation against principles and technical criteria, as set out in **section 2 Determining Taxonomy Alignment**, concluding on taxonomic alignment of the activity in question.
2. Then, it is strongly encouraged that the evaluation is undertaken in the context of financial flows, as in **Figure 1**. below. **Section 3 Determining Taxonomy-Aligned Finance** provides guidance for how to do this, and what financial metrics may be most relevant to the evaluation. Thereby, a breakdown by turnover (or revenue, when appropriate), or capital expenditure (capex) and, if relevant, operational expenditure (opex), is likely required. Typically, a company will report its turnover across a number of sub-sectors and/or economic activities; this concept is illustrated in in **Figure 1**. and disclosure discussed in greater detail in Section 3 Determining Taxonomy-Aligned Finance.

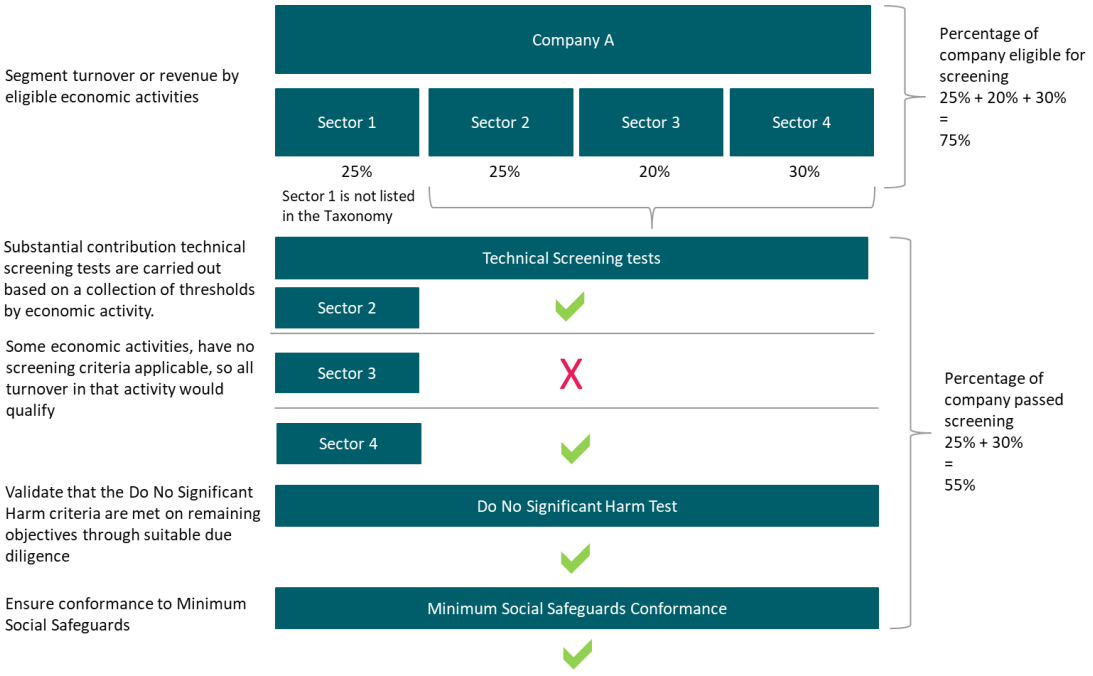


Figure 1: Example for determining taxonomy-aligned finance for a diversified entity (UNEP FI, 2021)[2]

[2] UNEP Finance Initiative, Testing the application of the EU Taxonomy to core banking products: High level recommendations, Online Available at https://www.ebf.eu/events/ebf_unepfi_conference/ [Accessed March 2021]

2.2 Process overview for evaluating an activity, asset or project as green

The seven-step process set out in **Figure 2** sets out the required actions for users for the evaluation process. The steps offer guidance that will help users determine taxonomy-alignment of the economic activity under consideration. The result is binary – either 'taxonomy-aligned' or "not". The guidance in this document provides details and requirements for evaluating alignment with the taxonomy criteria

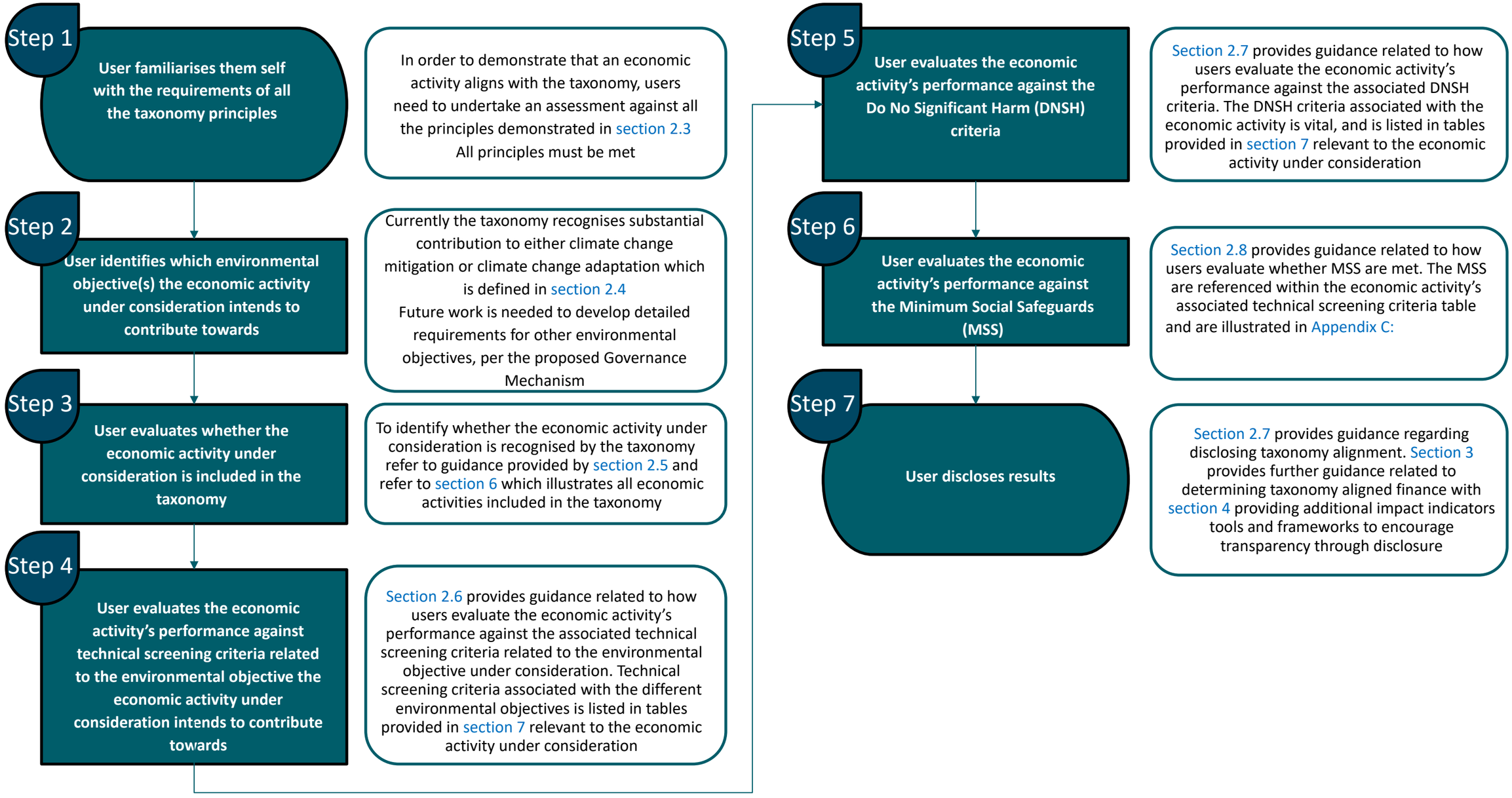


Figure 2: Process follow diagram for determining taxonomic alignment

2.3 Step 1: Familiarise yourself with all the principles of the taxonomy

The present coverage of the GFT 1st Edition enables classifying relevant activities into two categories of environmental objectives; namely those economic activities that make substantial contribution to:

- Climate change mitigation
- Climate change adaptation

Future expansions of coverage are anticipated to "fill-out" the specifications for the other four central environmental objectives; namely:

- Sustainable use of water and marine resources
- Pollution prevention
- Sustainable resource use and circularity
- Ecosystem protection and restoration

It is possible for an economic activity to make substantial contribution to more than one environmental objective; users are encouraged to identify all the pertinent objectives to which a contribution is made. Should substantial contribution be to an environmental objective for which technical criteria are not yet defined in the taxonomy technical standards, this "co-contribution" might be stated by the user, but it will not be possible to declare taxonomy-alignment on this, as yet.

To perform the classification, users are required to follow the principles provided by the Taxonomy to demonstrate that the economic activity under consideration, and all three principles must be met:

1. Principle 1: Contributes substantially ('Makes Significant Contribution', MSC) towards at least one environmental objective, being possible at this time to be assessed only in terms of Climate Change Mitigation and/or Climate Change Adaptation.[3]
2. Does no significant harm to any of the other taxonomy objectives ('Do No Significant Harm', DNSH).[4]
3. Meets minimum social standards (referred to as 'Minimum Social Safeguards', MSS).

The concept is illustrated in **Figure 3** as follows:

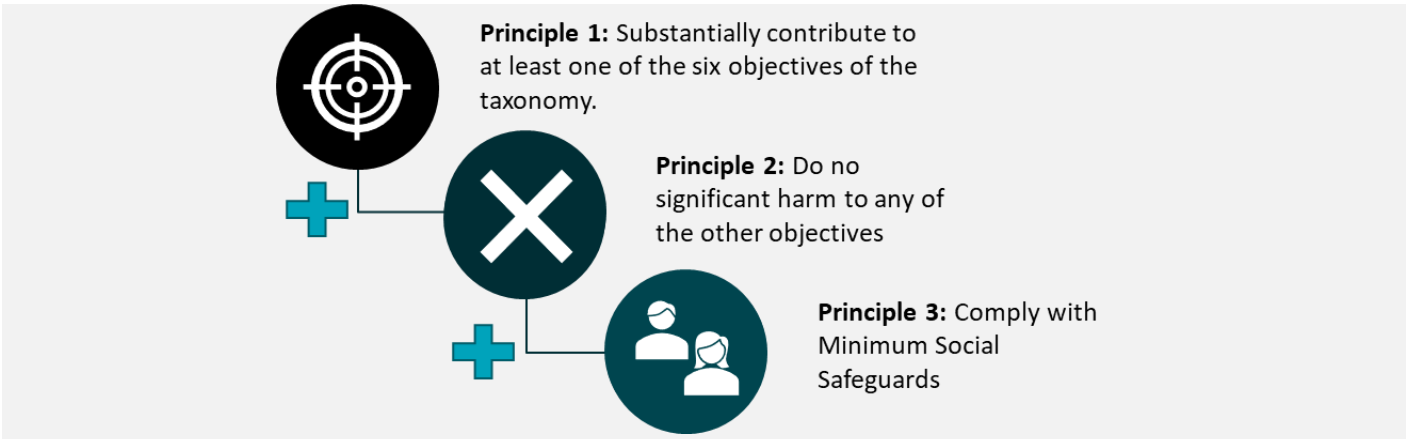


Figure 3: Principles of the Green Finance Taxonomy

[3] The technical definition for contributing substantially is contained in each relevant technical standard (the Technical Screening Criteria (TSC)) and the user must evaluate against these TSC to decide for *at least one* environmental objective.

[4] The technical definition for doing harm (or conversely not doing harm) is contained in each relevant technical standard (the Technical Screening Criteria (TSC)) and the user must evaluate against these TSC to decide, against *each* environmental objective defined.

2.4 Step 2: Principle 1 - Substantially contribute to at least one of the six objectives of the taxonomy

2.4.1 Identify to which objective the economic activity under consideration substantially contributes

To determine whether an economic activity is eligible, Taxonomy users need to evaluate whether the activity contributes substantially to at least one of the six objectives of the Taxonomy. The current Taxonomy provides TSC specific to economic activities that make substantial contribution to climate change mitigation and climate change adaptation (see **Figure 4** below).

Technical Screening Criteria related to the other taxonomy objectives have not yet been developed, therefore, substantial contribution to these objectives cannot be assessed using the current version of the taxonomy[5].

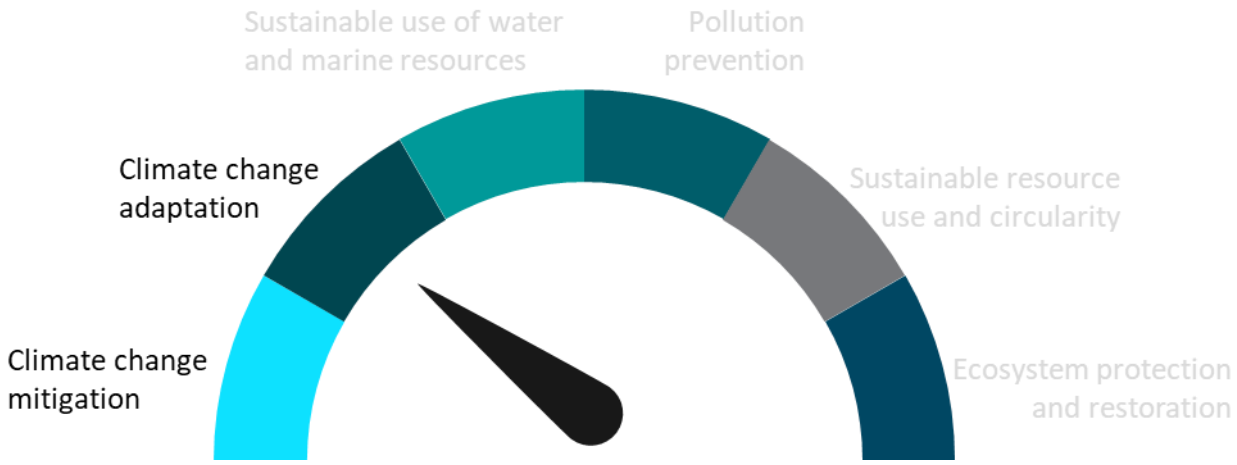


Figure 4: Taxonomy objectives

[5] In future taxonomy versions, further developments are anticipated to provide coverage for other environmental objectives, which will enable taxonomy-alignment assessment with respect making substantial contribution with regards these other environmental objectives.

As demonstrated in **Figure 5** and **Figure 6** below, the Taxonomy recognises two distinct types of substantial contribution applicable across climate change mitigation and climate change adaptation. These different types of Substantial Contribution are reflected in the TSC as:

1. Economic activities that make a substantial contribution based on their own performance. For example, an economic activity being performed in a way that is environmentally sustainable.
2. Enabling activities: economic activities that, by provision of their products or services, enable a substantial contribution to be made in other activities. For example, an economic activity that manufactures a component that improves the environmental performance of another activity.

2.4.2 Defining substantial contribution to climate change mitigation

An economic activity is considered to contribute substantially to the environmental objective of climate change mitigation where that activity substantially contributes to the stabilisation of greenhouse gas concentrations in the atmosphere at a level that prevents dangerous anthropogenic interference with the climate system by avoiding or reducing greenhouse gas emissions or enhancing greenhouse gas removals through any of the following means, including through process or product innovation, consistent with the long term temperature goal of the Paris Agreement[6]:

a) Generating, transmitting, storing, distributing or using renewable energy, including through using innovative technology with a potential for significant future savings or through necessary reinforcement or extension of the grid;
b) Improving energy efficiency except for power generation activities;
c) Increasing clean or climate-neutral mobility;
d) Switching to the use of sustainably sourced renewable materials;
e) Increasing the use of environmentally safe carbon capture and utilisation (CCU) and carbon capture and storage (CCS) technologies that deliver a net reduction in greenhouse gas emissions;
f) Strengthening land carbon sinks, including through avoided deforestation and forest degradation, restoration of forests, sustainable management and restoration of croplands, grasslands and wetlands, afforestation, and regenerative agriculture;
g) Establishing energy infrastructure required for enabling the decarbonisation of energy systems;
h) Producing clean and efficient fuels from renewable or carbon-neutral sources; and
i) Enabling any of the above.

[6] Namely as set out in Article 2, of "holding the increase in the global average temperature to well below 2°C and pursuing efforts to limit it to 1.5°C above pre-industrial levels".

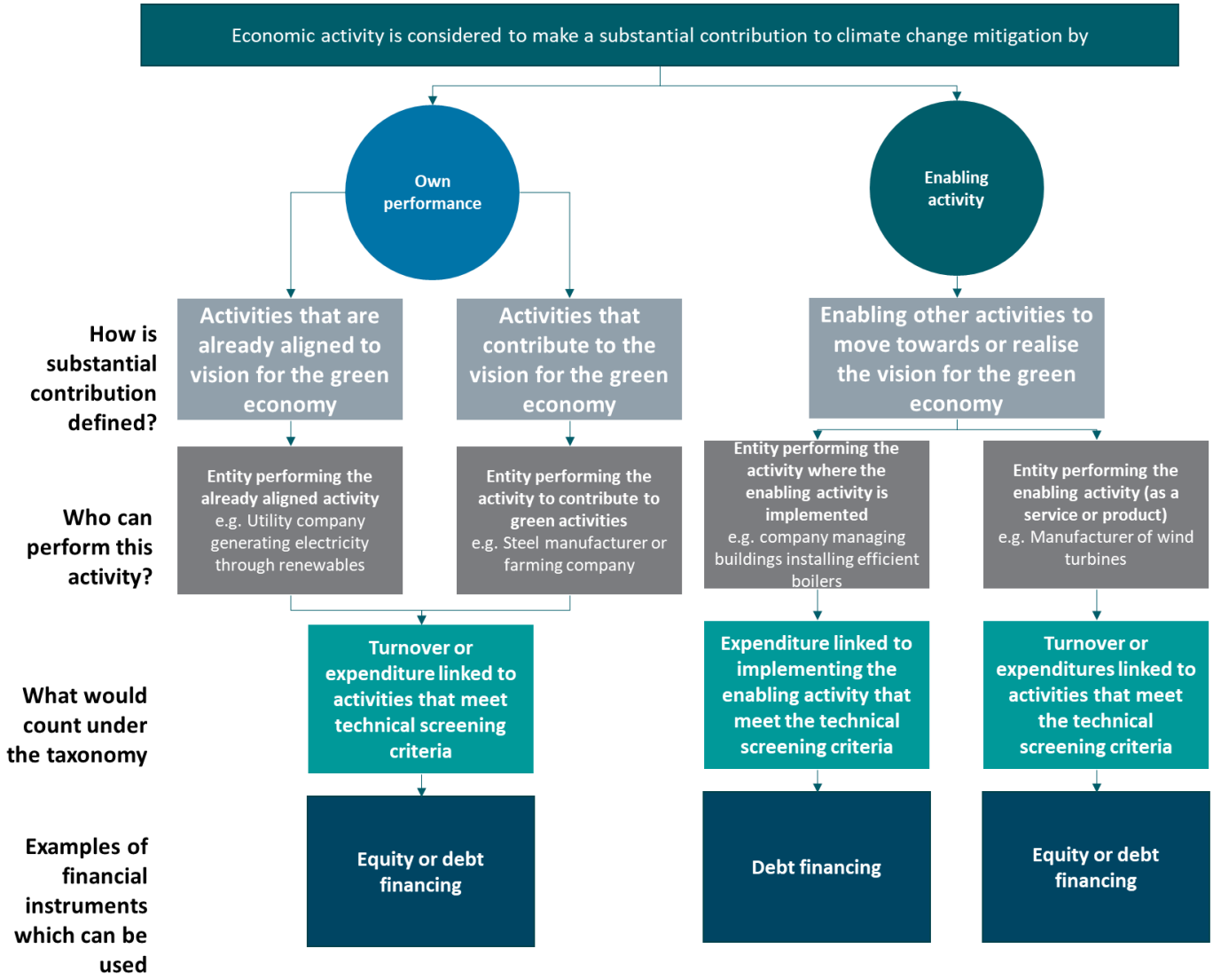


Figure 5: Activities making substantial contribution to climate change mitigation

An economic activity for which there is no technologically and economically feasible low carbon alternative, is considered to contribute substantially to climate change mitigation as it supports the transition to a low carbon economy by phasing out greenhouse gas emissions, in particular from solid fossil fuels, where that activity:

a) Has greenhouse gas emission levels that correspond to the best performance in the sector or industry;
b) Does not hamper the development and deployment of low-carbon alternatives; and
c) Does not lead to a lock-in in carbon-intensive assets considering the economic lifetime of those assets.

The listing of economic activities that align to these specifications and are currently known, are identified in **section 6 Catalogue of Sectors and Activities, Basic Attributes, and Mapping to Environmental Objectives** and techical screening criteria set out in **section 7 Technical Screening Criteria**. Further economic activities may be relevant, now and emerging in future, and the proposed Governance Mechanism will function to consider the expansion for these in future.

2.4.3 Defining substantial contribution to climate change adaptation

The starting point for the adaptation is the same as that for climate change mitigation. However, this does not indicate that these activities are more important than any other for climate change adaptation objectives. Below detail establishes a framework for understanding substantial contributions to climate change adaptation objectives. This definition is broadly consistent with that provided by the Intergovernmental Panel on Climate Change[7]. An economic activity is considered to contribute substantially to climate change adaptation where:

a) That economic activity includes adaptation solutions that either substantially reduce the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on that economic activity itself without increasing the risk of an adverse impact on other people, nature and assets; or where
b) That economic activity provides adaptation solutions that contribute substantially to preventing or reducing the risk of adverse impact or substantially reduces the adverse impact of the current and expected future climate on other people, nature or assets, without increasing the risk of an adverse impact on other people, nature and assets.

The adaptation solutions referred to in point (a) above must be assessed and prioritised using the best available climate projections and must, as a minimum, prevent or reduce:

i. The location-specific and context-specific adverse impact of climate change on the economic activity; or
ii. The adverse impact that climate change may have on the environment within which the economic activity takes place

[7] The IPCC provides the following definition of adaptation in their 5th Assessment Report: 'The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects'. IPCC (2014), 'Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change', Barros, V.R., C.B. Field, D.J. Dokken, M.D. Mastrandrea, K.J. Mach, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S.

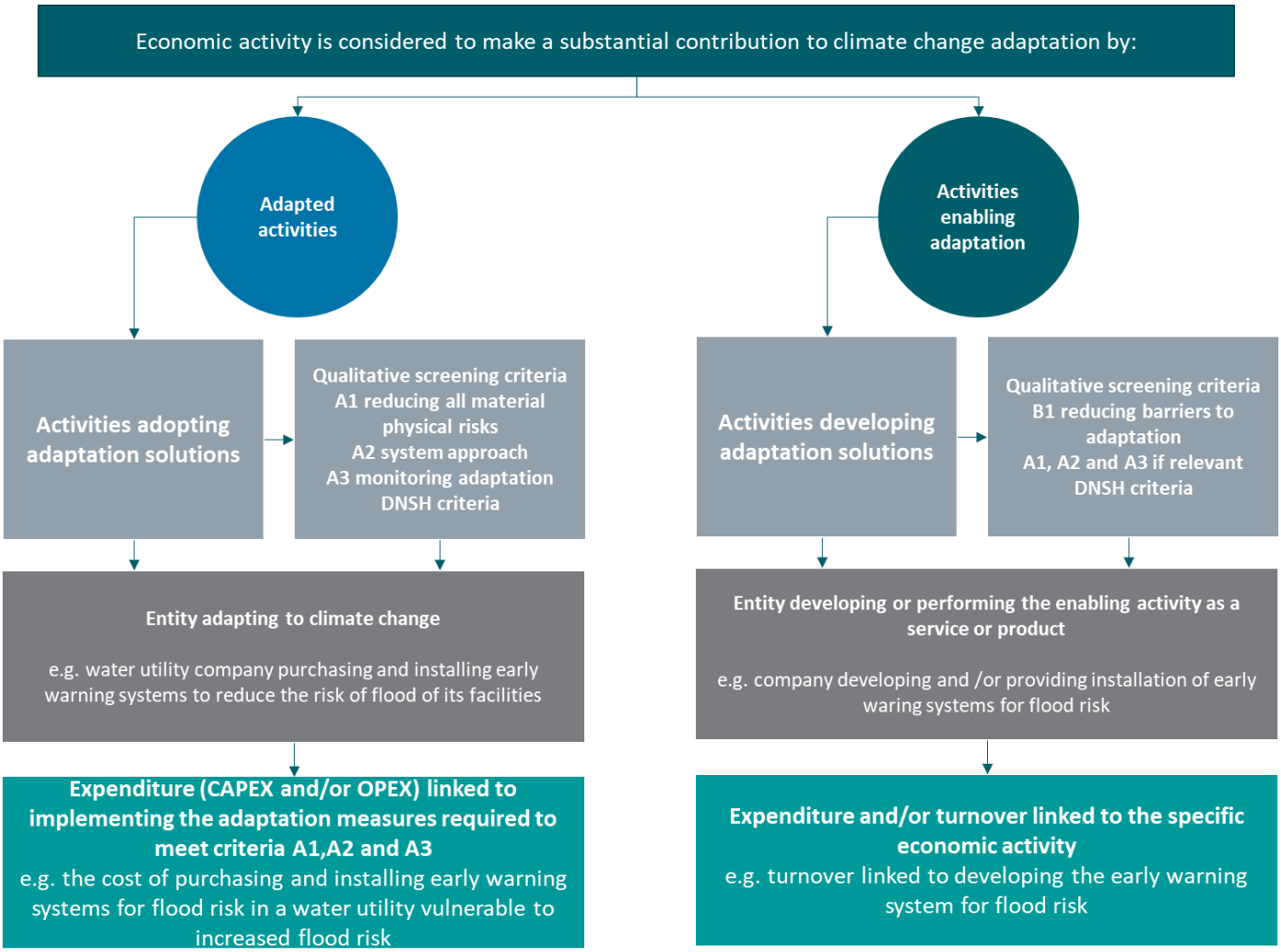


Figure 6: Activities making substantial contribution climate change adaptation

The adverse impact of climate change considered for the development of the Taxonomy include impact resulting from both chronic or slow onset climate-related hazards (such as average temperature increase and sea level rise) and rapid or acute climate related hazards (such as extreme rainfall, storm surges, flooding, and heat waves). Classification of climate related hazards are described under the classification of climate-related hazards section of this report.

Material physical climate risk is the risk of (financial and non-financial) losses occurring due to performance failures, performance delays or incomplete performance of an economic activity resulting from climate-related hazards. With that in mind, climate change adaptation comprises two types of substantial contribution to adaptation objectives:

1. **Adapted activities:** an economic activity is adapted were it reduces all material physical climate risks identified for the economic activity to the extent possible and on a best effort basis in alignment with criterion A (Table 2: Climate change adaptation criteria A); and/or
2. **Activities enabling adaptation of an economic activity:** the activity reduces all material physical climate risk in other economic activities and/or addresses systemic barriers to adaptation in alignment with criterion B (Table 3: Climate change adaptation criteria B), and is itself also adapted to physical climate risks.

Both types of activities must also meet the criteria for Do No Significant Harm to other environmental objectives and comply with minimum social safeguards established for the Taxonomy. Activities adapted to climate change and activities enabling adaptation of other economic activities provide a positive environmental impact by meeting a set of technical criteria for substantial contribution to adaptation and a set of criteria for doing no harm to other environmental objectives, whilst avoiding adverse impacts to people, asset and nature and preventing a lock-in of activities that undermine long-term environmental goals.

2.4.4 Guidance for substantial contributions to climate change adaptation

The following guidance is proposed to identify an economic activity that substantially contributes to climate change adaptation:

- **The economic activity reduces all material physical climate risk exposure.** In the case of an adapted economic activity, the activity integrates measures aimed at reducing all material physical climate risk exposure to that activity as identified through a vulnerability assessment of material risks posed by both current weather variability and expected future climate change. The assessment should take into account chronic and acute climate-related hazards and associated physical climate risks across a range of scenarios, and account for uncertainty. It should consider geographic and temporal scales that are deemed appropriate for the economic activity.
- In the case of an economic activity enabling adaptation, the activity reduces material risks to other economic activities and/or addresses systemic barriers to adaptation, for example through a dedicated asset, technology, service or product, and itself integrates measures aimed at reducing material risks where applicable (e.g. in the case of a dedicated asset).
- Furthermore: **The economic activity does not adversely affect adaptation efforts by others.** Economic activities and the measures taken to address the material climate risks facing those activities should be consistent with adaptation needs in the applicable sector or region, considering opportunities to build resilience outside of the premises of a single activity. Those measures should also not increase the risk of an adverse impact on other people, nature and assets in terms of hindering adaptation efforts by others for example by shifting impacts faced by others
- **The economic activity has adaptation-related outcomes that can be defined and measured using adequate indicators**. When possible, the outcomes of adaptation activities should be monitored and measured against defined indicators for adaptation results. If possible, updated assessments of physical climate risks should be undertaken at the appropriate frequency (e.g. every five or ten years) depending on the risks, the context and the availability of new information, technologies or approaches or policies and regulations.

2.5 Step 3: Meet applicable Technical Screening Criteria

2.5.1 Identify whether the economic activity under consideration is covered by the current version of the taxonomy

The Taxonomy catalogue of sectors and activities (**Catalogue of Sectors and Activities, Basic Attributes, and Mapping to Environmental Objectives**) identifies economic macro-sectors and the associated economic activities within those macro-sectors that are needed as part of the future South African green economy. Using the Taxonomy catalogue, users will be able to find the macro-sector that the economic activity under consideration would best relate to and then navigate to the economic activity which best matches that specific economic activity.

Another possible way to do this is to identify the SIC code related to the economic activity under consideration (SIC code listing) and match it to the SIC code of the economic activity within the catalogue. (SIC codes can cover broad activity and as a result match, a number of activities and, therefore, specific economic activity reference must be referred to when aligning specific economic activities to taxonomy activities).

After a match has been made, use the referenced section number provided in the catalogue to direct you to where the technical screening criteria related to that specific economic activity under consideration can be found. The concept is illustrated in **Figure 7** as follows:

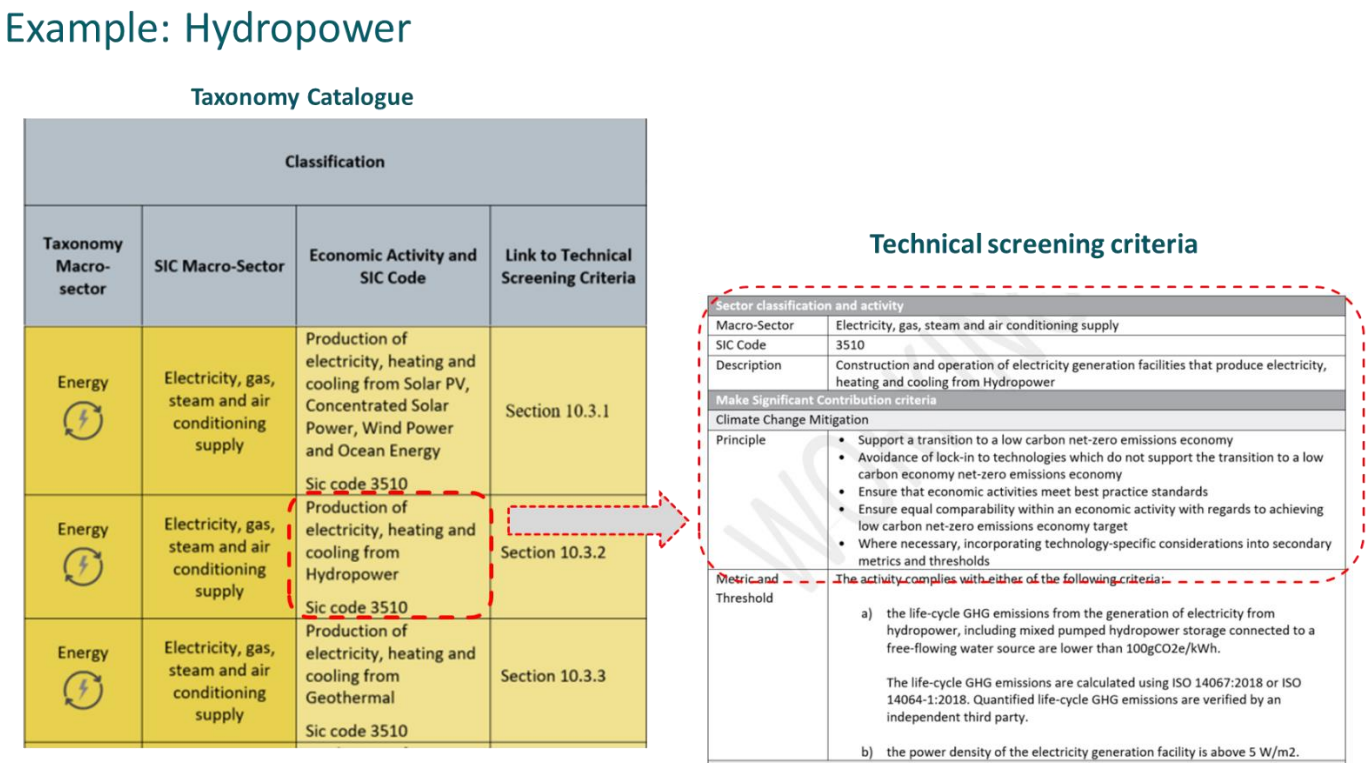


Figure 7: Navigation example using Taxonomy Catalogue to identify economic activity under consideration

If there is no economic activity that relates to the economic activity under consideration, this means that the economic activity does not yet exist in the current version of taxonomy or has been disqualified for its traits being inconsistent with development fundamentals. In either case, taxonomy-alignment assessment is not possible. In the case that the user is of the view that the activity is consistent with development fundamentals, it is recommended that an application is made to the designated agency (to be determined) for consideration and further development of the green finance taxonomy to provide extended coverage for the economic activity under consideration.

2.6 Step 4: Meet applicable Technical Screening Criteria

2.6.1 Evaluate performance against technical screening criteria

After a match has been made as per Step 3, refer to the make significant contribution criteria section of the table in alignment to the objective the economic activity intends to substantially contribute to. The current version of the taxonomy is limited to technical screening criteria for substantial contribution to climate change mitigation and climate change adaptation.

For each of the activities selected, technical screening criteria have been developed that include:

a) **Principles:** The underlying rationale for how the activity will result in a substantial contribution and/or avoidance of significant harm to the environmental objective in question.
b) **Metrics and Thresholds:** including both metrics and thresholds: The method(s) by which the environmental performance of the economic activity will be measured, including defining the boundary for this measurement and the qualitative or quantitative conditions which must be met to enable the performance of the activity in a way that is considered environmentally sustainable.

The principles, metrics and thresholds can be found under the make significant contribution criteria of each economic activity. The concept is illustrated in **Figure 8** as follows:

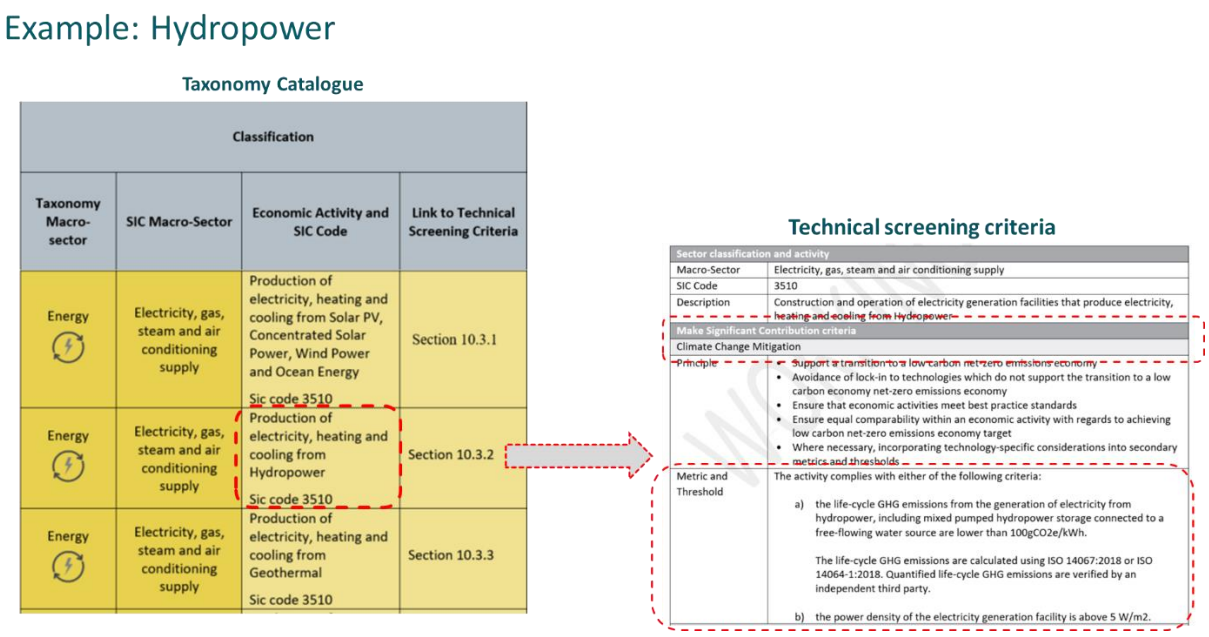


Figure 8: Navigation example illustrating an example of assessing substantial contribution to climate change mitigation

Using the information under this section, assess alignment to metrics and thresholds to determine whether the economic activity under consideration makes substantial contribution to the indented objective.

Testing alignment to the technical screening criteria requires quality and granular data. A combination of third-party data providers together with in-house research can ease the process. Examples include MSCI, ISS, Sustainalytics, FactSet, Trucost S&P, Carbon Delta, GS Sustain Taxonomy mapping tool and RepRisk. (MSCI, ISS, Sustainalytics, FactSet, Trucost, RepRisk)

If the economic activity under consideration meets the metrics and thresholds, this alignment should be reported transparently. If the economic activity under consideration does not meet the metrics and thresholds, the economic activity is not aligned to the taxonomy.

2.6.2 Screening criteria for activities making a substantial contribution to climate change adaptation

The screening criteria are specific characteristics that can be used to determine whether an economic activity provides a substantial contribution to adaptation. These screening criteria vary between 'adapted' activities and activities that enable adaptation.

Table 2: Climate change adaptation criteria A

Criterion	Description
A1: Reducing material physical climate risks	The economic activity must reduce all material physical climate risks to that activity to the extent possible and on a best effort basis.
A1.1	The economic activity integrates physical and non-physical measures aimed at reducing - to the extent possible and on a best effort basis - all material physical climate risks to that activity, which have been identified through a risk assessment.
A1.2	The above-mentioned assessment has the following characteristics: • considers both current weather variability and future climate change, including uncertainty; • is based on robust analysis of available climate data and projections across a range of future scenarios; • is consistent with the expected lifetime of the activity.
A2: Supporting system adaptation	The economic activity and its adaptation measures do not adversely affect the adaptation efforts of other people, nature and assets.
A2.1	The economic activity and its adaptation measures do not increase the risks of an adverse climate impact on other people, nature and assets, or hamper adaptation elsewhere. Consideration should be given to the viability of 'green' or 'nature-based-solutions' over 'grey' measures to address adaptation.
A2.3	The economic activity and its adaptation measures are consistent with sectoral, regional, and/or national adaptation efforts.
A3: Monitoring adaptation results	The reduction of physical climate risks can be measured.
A3.1	Adaptation results can be monitored and measured against defined indicators. Recognising that risk evolves over time, updated assessments of physical climate risks should be undertaken at the appropriate frequency where possible.

The table below describes the screening criteria for economic activities enabling adaptation.

Table 3: Climate change adaptation criteria B

Criterion	Description
B1. Supporting adaptation of other economic activities	The economic activity reduces material physical climate risk in other economic activities and/or addresses systemic barriers to adaptation. Activities enabling adaptation include, but are not limited to, activities that: Promote a technology, product, practice, governance process or innovative uses of existing technologies, products or practices (including those related to natural infrastructure); or, Remove information, financial, technological and capacity barriers to adaptation by others.
B1.1	The economic activity reduces or facilitates adaptation to physical climate risks beyond the boundaries of the activity itself. The activity will need to demonstrate how it supports adaptation of others through: • an assessment of the risks resulting from both current weather variability and future climate change, including uncertainty, that the economic activity will contribute to address based on robust climate data[8]; • an assessment of the effectiveness of the contribution of the economic activity to reducing those risks, considering the scale of exposure and the vulnerability to them
B1.2	In the case of infrastructure linked to an activity enabling adaptation, that infrastructure must also meet the screening criteria A1, A2 and A3.

[8] Climate risk hazards under different climate scenarios and for different areas can be identified using the risk tool within the Council for Scientific and Industrial Research's GreenBook (GreenBook)

2.6.3 Classification of climate-related hazards

The climate-related hazards considered are limited to the potential occurrence of a weather and climate-related natural physical event or trend[9]. The climate-related hazard classification comprises four major hazard groups, with hazards related to water, temperature, wind, and mass-movements. All groups include acute (extreme) and chronic (slow-onset) hazards, as adaptation must account for both rapid as well as gradual changes in the weather and climate to take the appropriate adaptation measures and avoid maladaptation[10].

This analysis focusses on the most important or significant hazards and is designed to guide the user to consider the most salient physical risks when mapping the sensitivities of a given sector. All secondary hazards[11] resulting from climate-related hazards (including but not limited to chemical, biological, ecological and epidemiological hazards) are excluded. It is however advisable to assess the risk of such secondary hazards and consider measures to address them for each economic activity.

Table 4: Classification of climate-related hazards

Climate related hazard type	Temperature related	Wind-Related	Water-related	Solid mass-related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation and/or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
			Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including dust and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire/veldfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	

9 IPCC, 2014, Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)]. IPCC, Geneva, Switzerland, 151 pp (https://www.ipcc.ch/site/assets/uploads/2018/02/SYR_AR5_FINAL_full.pdf, last visit 02/04/2019).

10 There are clearly linkages with disaster risk reduction in the effort of reducing physical climate risks resulting from extreme climate-related hazards. Geophysical and technological hazards are outside the domain of adaptation to climate change.

11 As an example, new biological pests or increased prevalence of existing pests can result from changing temperatures. Forests and agriculture are typically sensitive to warmer (minimum) temperatures and, in this example, their effects on pests. In this case, the changing prevalence of pests is a secondary hazard against which adaptation measures may be needed.

2.7 Step 5: Principle 2 - Do no significant harm to any of the other objectives

2.7.1 Evaluate performance against Do No Significant Harm Criteria of the other taxonomy objectives

Within the Technical Screening Criteria table of each economic activity, guidance regarding potential significant harm associated with economic activity is provided together with the criteria related to each objective.

The concept is illustrated in **Figure 9** as follows:

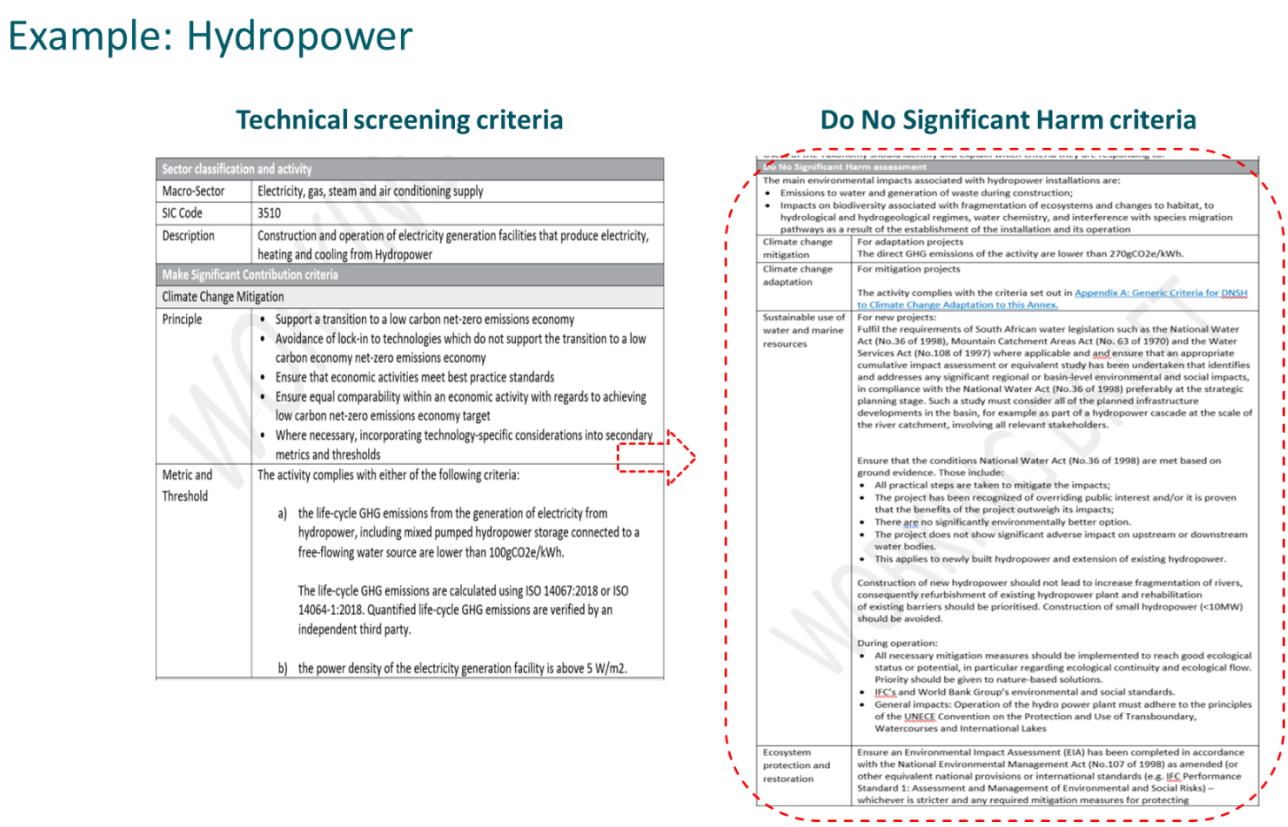


Figure 9: Navigation example illustrating Do No Significant Harm Criteria

Users need to assess performance against each of the 5 objective's Do No Significant Harm Criteria (excluding the objective that the economic activity under consideration intends to substantially contribute to) to be Taxonomy aligned. Additionally, recognition of an economic activity as taxonomy-aligned (and being effective in making its significant contribution) requires the activity to demonstrate climate change resilience. To demonstrate climate change resilience, physical climate risks that are material to the activity need to be identified from those listed within Table 4: Classification of climate-related hazards by performing a robust climate risk and vulnerability assessment.

Climate risk hazards under different climate scenarios and for different areas can be identified using the risk tool within the Council for Scientific and Industrial Research's GreenBook (GreenBook)[12]. **Figure 10** below visually illustrates the climate change vulnerability assessment process to be undertaken. The assessment is required to be proportionate to the scale of the activity and its expected lifespan, such that:

a) For investments into activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using downscaling of climate projections; and
b) For all other activities, the assessment is performed using high resolution, state-of-the-art climate projections across a range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 years climate projections scenarios for major investments.

Additionally, the economic operator is required to develop a plan to implement adaptation solutions to reduce material physical climate risks to the activity. Those adaptation solutions must 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. For existing activities and new activities using existing physical assets, the economic operator implements physical and non-physical solutions ('adaptation solutions'), over a period of time of up to five years, that reduce identified physical climate risks that are material to that activity. For new activities and existing activities using newly-built physical assets, the economic operator integrates the adaptation solutions that reduce the identified physical climate risks that are material to that activity at the time of design and construction and has implemented them before the start of operations.

If the economic activity under consideration does not meet the Do No Significant Harm Criteria, the economic activity is not aligned to the taxonomy. If the economic activity under consideration meets the Do No Significant Harm Criteria, this alignment should be transparently disclosed.

[12] CSIR. 2019. Green Book: *Adapting South African settlements to climate change*. Online Available at: www.greenbook.co.za

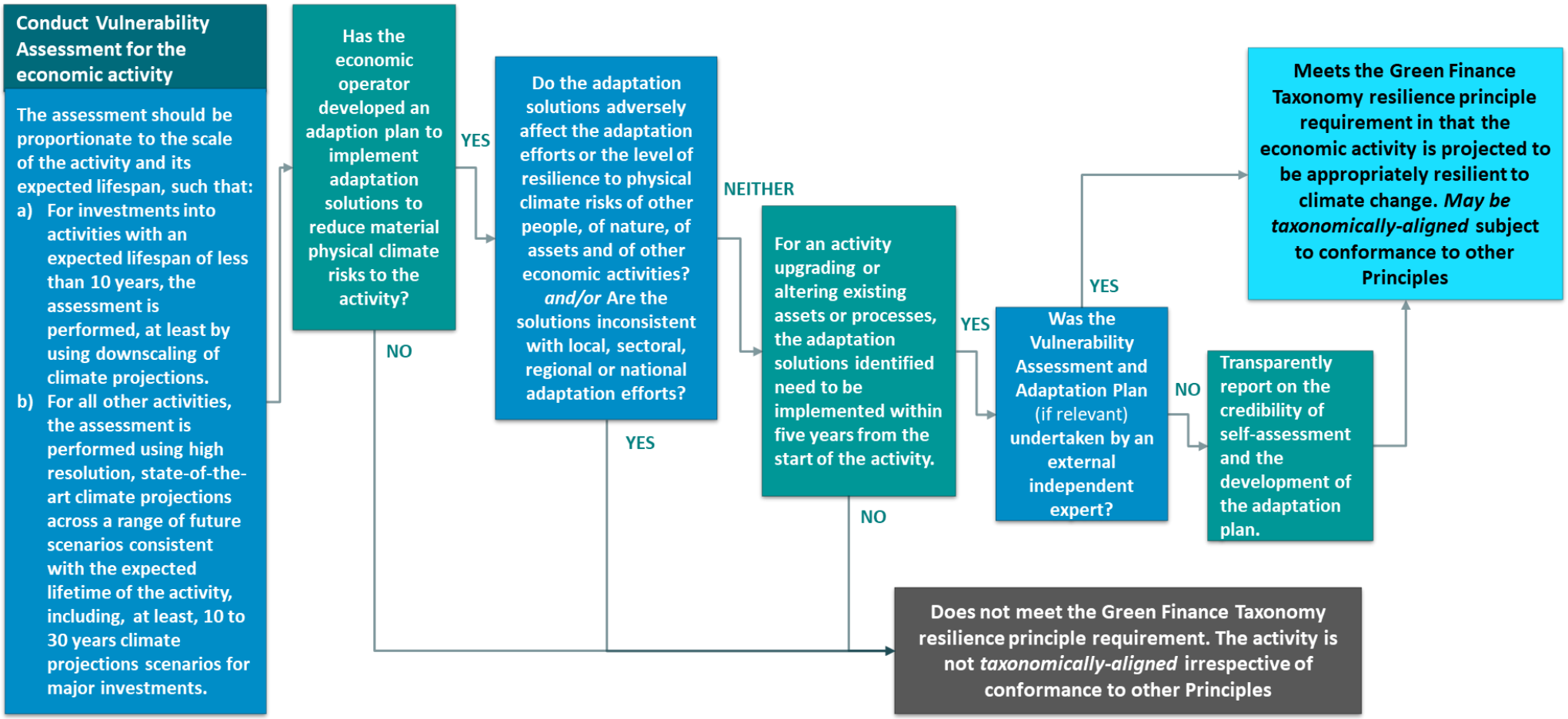


Figure 10: Climate change vulnerability assessment process

2.8 Step 6: Principle 3 - Comply with Minimum Social Safeguards

2.8.1 Evaluate compliance with Minimum Social Safeguards (MSS)

Companies and other issuers disclosing against the Taxonomy need to assess their compliance with MSS by ensuring implementation of policies, procedures and governance mechanisms that put into effect alignment with South African labour law and the standards in:

a) International Labour Organisation (ILO) core labour conventions;
b) OECD Guidelines on Multinational Enterprises (MNEs); and
c) UN Guiding Principles on Business and Human Rights

The concept is illustrated in **Figure 11** as follows:

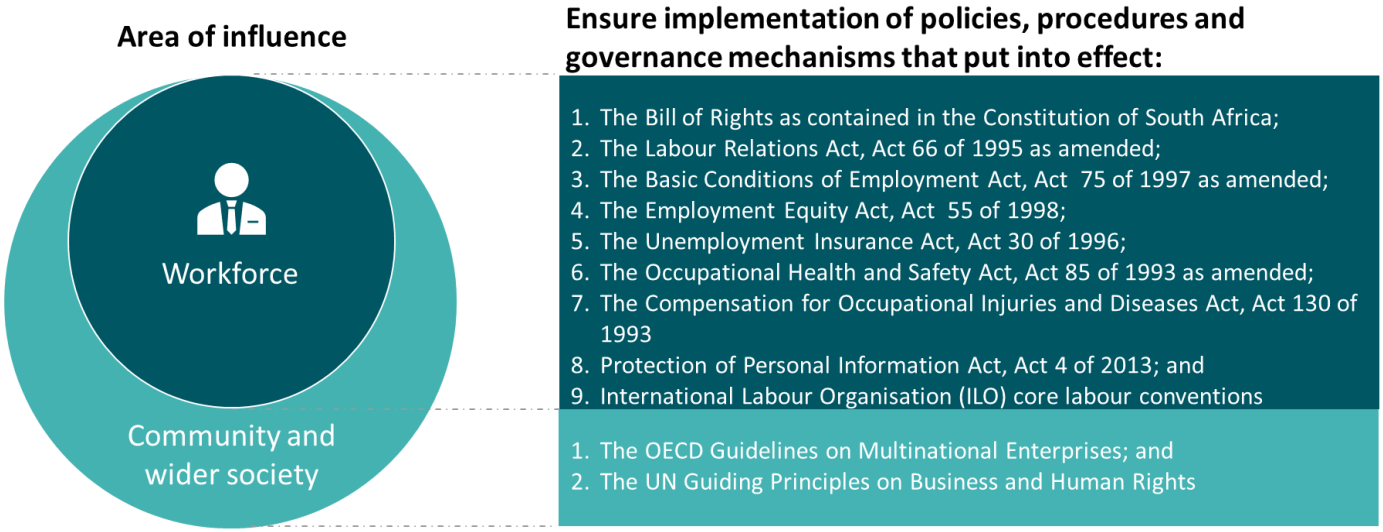


Figure 11: Minimum Social Safeguards

There are two areas of influence that need to be considered when ensuring alignment with policies, procedures and governance mechanisms that put into effect social risk management. The first is that the workforce employed by the company or issuer will need to comply with South African labour law. This includes:

1. The Bill of Rights as contained in the Constitution of South Africa
2. The Labour Relations Act, Act 66 of 1995 as amended
3. The Basic Conditions of Employment Act, Act 75 of 1997 as amended
4. The Employment Equity Act, Act 55 of 1998
5. The Unemployment Insurance Act, Act 30 of 1996
6. The Occupational Health and Safety Act, Act 85 of 1993 as amended
7. The Compensation for Occupational Injuries and Diseases Act, Act 130 of 1993
8. Protection of Personal Information Act, Act 4 of 2013

and should be explicitly included in a formalised policy or procedure documents held by the company or issuer.

Regarding the second area which relates to social impacts concerned with the community and wider society, the process for identification and management of social risks and impacts (those beyond labour, taxation and OHS compliance considerations) would include aspects related to robust social due diligence process. For example, company's and issuers have the responsibility to ensure engagement of service providers and development contractors that manage social risks and impacts sufficiently, and remains exposed if social controls are inadequate – even if the contractor is legally compliant.

To note that, although South African legal requirements are comprehensive, social risk and impacts are likely to be beyond that controlled when ensuring legal compliance alone – particularly in the social dimension which may be complex and highly sensitive to the local context. Scrutinising prospective service providers and development contractors for their governance and operational controls is an increasingly mainstream practice to ensure adequate social risk management. **Figure 12** represents six areas related to safeguarding due diligence that companies and issuers can consider.

Figure 12: Safeguard due diligence[13]

There are various other guideline materials and frameworks that provide guidance related to assessing social risk and adopting social due diligence process. Some examples of these include:

- OECD guidelines and due diligence guidance for Responsible Business Conduct (RBC);
- The Equator Principle EP4; and
- IFC performance Standards

Companies and issuers with such processes in place would be able to provide data that will assist in assessing compliance with the MSS.

Assessments that result in positive compliance with MSS should be transparently disclosed together with the associated supporting evidence.

As part of the first phase of the South African Green Finance Taxonomy development process, it is established that principles and standards for substantially contributing to social objectives is needed. However, at this time, necessary underpinning tools and data are in process of development but not yet suitable for pre-emptive integration. In addition, the project has focused on establishment of the foundational focus areas, with the ambition to expand the Taxonomy for further coverage, given necessary and appropriate resourcing, time, design, development, engagement, testing and coordination. The addition of social objectives and the identification of activities that are more socially conscionable are recommended for future development and integration.

[13] DFID 2018

2.9 Step 7: Conclude on taxonomic-alignment

2.9.1 Disclose results

If the economic activity under consideration fully conforms to steps 2 – 6, taxonomic-alignment can be declared. A declaration should include the final collective result with all supporting assessment results for each assessment as well as relevant supporting details and impact indicators.

At this time, reporting templates are not provided for this purpose. Users should consider international examples relevant to their purpose, or develop simple formats communicating all salient aspects of the evaluation process, key assumptions and results.

3 Determining Taxonomy-Aligned Finance

The financial aspects of taxonomy-aligned economic activities may be determined and disclosed. The following sections articulate guidance to do so for the economic activity under consideration, and in aggregate to determine alignment of portfolios. This guidance aligns strongly to that provided by the EU Technical Export Group (TEG) on Sustainable Finance in the TEG March 2020 report to the European Commission.

The taxonomy-alignment must be determined for the economic activity. Thereafter can the specification of the taxonomy-aligned finance be determined, based on the specifics outlined in **section 2 Determining Taxonomy alignment**. To note – there are differences in what finance metric may be recognised for different environmental objectives. Aggregate results as set out in **section 3.6 Determining portfolio or aggregate taxonomy-alignment** for portfolios of the respective finance metric is done "bottom-up" from the results of the individual economic activity results.

3.1 Geographic application of the taxonomy

The foundation of the GFT is the EU Taxonomy, which has been domesticated for South African considerations. At this time, international discussions and cooperation continue regarding regional inter-operability of taxonomies and the drivers and rationale for harmonisation, in an effort to provide standardised criteria and diligence requirements and avoid giving rise to fragmented or misaligned practices (whilst still ensuring the appropriate domestic economic activities are included and TSC are domesticated appropriately).

However, the GFT 1st Edition reflects only a single jurisdiction (i.e., South Africa) and its associated criteria are localised in recognition thereof, reflecting South Africa's sustainable economy vision and needs, as well as policy, legislation, regulations, and international commitments. Evaluating international investments in terms of the GFT 1st Edition may not be appropriate, given other jurisdictions respective circumstances and environmental objectives and needs. The intention is not at this time to apply the GFT 1st Edition extraterritorially, although users may find the taxonomy principles useful should they wish to do so. It is encouraged that international investment considers jurisdiction-appropriate taxonomies and applies diligence that is at least as strict in substance as the GFT 1st Edition.

3.2 Assessing non-conformance or default in terms of taxonomy-alignment

Currently, there is no regulating agency in South Africa concerning taxonomy-alignment, whether initial or on-going. The GFT 1st Edition is a voluntary tool, and its use is subject to the respective decisions and agreements between parties to transactions. Monitoring of performance and taxonomy-conformance default should be addressed contractually between parties.

3.3 Grandfathering

Grandfathering in this context refers to exemption that permits entities to continue to recognise taxonomy-alignment of economic activities that were definitively aligned (in all regards) with the taxonomy, before the implementation of new adjustments to the taxonomy laws. In this regard:

- Economic activities coming into being that demonstrate taxonomy-alignment with GFT 1st Edition but not subsequent revisions, would have continued coverage because of the grandfathering principle.
- As this is the GFT 1st Edition, for historic or existing programmes, it must be shown, directly or through alternative methods, that all the requirements of the GFT 1st Edition have been met.
- It is vital that disclosure statements indicate what version of the taxonomy alignment is reported in terms of. Moreover, new economic activities should not be evaluated against outdated taxonomy versions.

3.4 Using proxies

Numerous environmental performance standards exist and show close alignment with the requirements of the taxonomy. However, to be recognised as taxonomy-aligned, diligence concerning an economic activity must demonstrate alignment with all the requirements of the taxonomy. As such, the use of proxies must be shown to have completely addressed all requirements or must be supplemented to close diligence gaps.

In the instances where proxies show alignment, these proxies can be put forward to the governance mechanism for formal recognition as taxonomy aligned approaches.

3.5 Determining taxonomy-aligned financial metrics for an economic activity

In determining the taxonomy-aligned finance metrics and performance for an economic activity, the following guidance is pertinent:

- Table 5 provides specification for determining recognition of turnover, capital expenditure and operation expenditure, as well the differentiation in approach between different environmental objectives.
- **Figure 13** below provides an example depiction of how each of these financial metrics may be aggregated from asset level to company level.
- In terms of the example demonstrated in
- **Figure 13**, if an entity raises debt (bond or loan) for the project (which may be used to cover capital expenditure and/or operational expenditure), the debt would be considered taxonomy-aligned.

Where an economic activity makes substantial contribution to more than one environmental objective, the following approach should be applied:

- The reporter is encouraged to assess and disclose the fact economic activities contribute to different objectives.
- The reporter is encouraged to disclose the significance of finance that is taxonomy-aligned, perf environmental objective.
- When the reporter discloses the total taxonomy-aligned finance metrics, there should be no double-accounting. I.e., if an economic activity is taxonomically-aligned – whether making contribution to one or multiple environmental objectives – the financial alignment is counted only once when totals are reported.

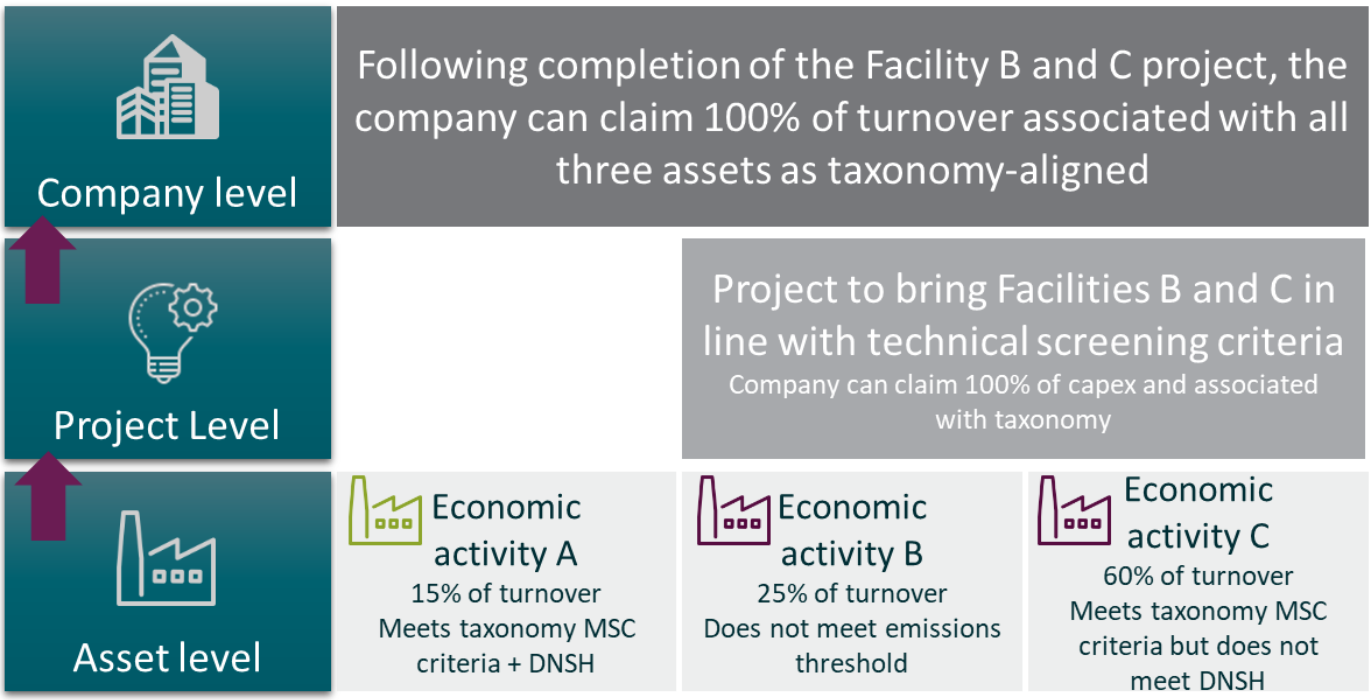


Figure 13: Example of how finance metrics may be determined from asset level to company level, for company level disclosure (EU Technical Expert Group on Sustainable Finance, 2020)

Eligibility under the Taxonomy should be assessed on an activity basis (as described in **section 2 Determining Taxonomy alignment**) rather than by entity. However, entity-level taxonomic-aligned operations and finance activity are useful metrics to investors, and guidance for the computation is included in **section 3.6 Determining portfolio or aggregate taxonomy-alignment**.

Table 5: Description of financial metrics for disclosure concerning taxonomy-aligned economic activities (EU Technical Expert Group on Sustainable Finance, 2020)

Financial Metric	*Definition*	*Use*	*Calculation approach of environmental objectives*	
			All environmental objectives excluding climate change adaptation	*Climate change adaptation*
Turnover	Net turnover means the amounts derived from the sale of products and the provision of services after deducting sales rebates and value added tax and other taxes directly linked to turnover. Overall turnover is equivalent to an activity's total revenues over some period of time. Turnover ratios are used by financial analysts to understand financial efficiency and profitability based on data found in financial statements.	The primary way of aggregating from an economic activity to a company level. Some companies may need to aggregate from asset to economic activity level. Turnover gives an indication of where a company currently is relative to the taxonomy. Turnover allows investors to report the % of their fund invested in taxonomy-aligned activities.	Can be counted where economic activity is taxonomy-aligned, making substantial contribution to the relevant MSC criteria of the environmental objective (not relevant to climate change adaptation) and relevant "Do No Significant Harm " (DNSH) criteria. Turnover from a taxonomy-aligned economic activity can be counted on the basis that it can reach a level of environmental performance that is aligned with envisioned end state of the relevant environmental objective.	Turnover can be recognised only for activities enabling adaptation. Turnover cannot be recognised for adapted activities at this stage. The rationale is that adapting to climate change is an ongoing process that may not be final at any stage. Further guidance on this may be available in future.
Capital Expenditure and Operational Expenditure	A capital expenditure (capex) is a payment for goods or services recorded, or capitalised, on the balance sheet instead of expensed on the income statement. Operating expenses (opex) are shorter-term expenses required to meet the ongoing operational costs of running a business.	Capex may provide a sense of a company's direction of travel. Aside from helping investors analyse a company's investment in its existing and new fixed assets, capital expenditures can give an indication of a company's strategy for improving environmental performance and resilience.	Can be counted where costs incurred (capex and, if relevant, opex) are part of a plan to meet taxonomy technical screening criteria for relevant MSC criteria of the environmental objective (not relevant to climate change adaptation) and relevant DNSH criteria.	Can be counted where costs incurred (capex and, if relevant, opex) are part of a plan to meet Taxonomy technical screening criteria for substantial contribution to climate change adaptation and relevant DNSH criteria.

3.6 Determining portfolio or aggregate taxonomy-alignment

Evaluating underlying economic activity taxonomic-alignment and aggregating the results is expected to be especially relevant to financial sector users. The following sections provide a series of graphical examples adapted from the EU Technical Expert Group (EU Technical Expert Group on Sustainable Finance, 2020) as guidance for aggregation considerations and computations for each of:

- Taxonomy-aligned company-level turnover (refer section 3.6.1 Process to evaluate company-level turnover taxonomy-alignment)
- Taxonomy-aligned equity fund exposure for equity investments in a portfolio (refer Section 3.6.2 Proportion of funds with underlying Taxonomy-aligned constituents – equity investments)
- Taxonomy-aligned debt fund exposure in debt and fixed income investments in a portfolio (refer Section 3.6.3 Proportion of funds with underlying Taxonomy-aligned constituents – fixed income (debt) investments)
- Taxonomy-aligned debt instrument fund constituents (refer Section 3.6.4 Process to evaluate green bond and green loan taxonomy-alignment)

In each application, where an economic activity underlying these computations makes substantial contribution to more than one environmental objective, the same guidance holds for disclosure concerning at the aggregate level, as does disclosure for each economic activity, as noted at the economic-activity level in Section 3.1. Notably:

- The reporter is encouraged to assess and disclose the contribution to different objectives.
- The reporter is encouraged to disclose the significance of finance that is taxonomically-aligned, per environmental objective.
- When the reporter discloses the total taxonomy-aligned finance metrics, there should be no double-accounting

3.6.1 Process to evaluate company-level turnover taxonomy-alignment

Figure 14 explains the five steps, and example application, to determine investment-level taxonomy-alignment of company turnover.

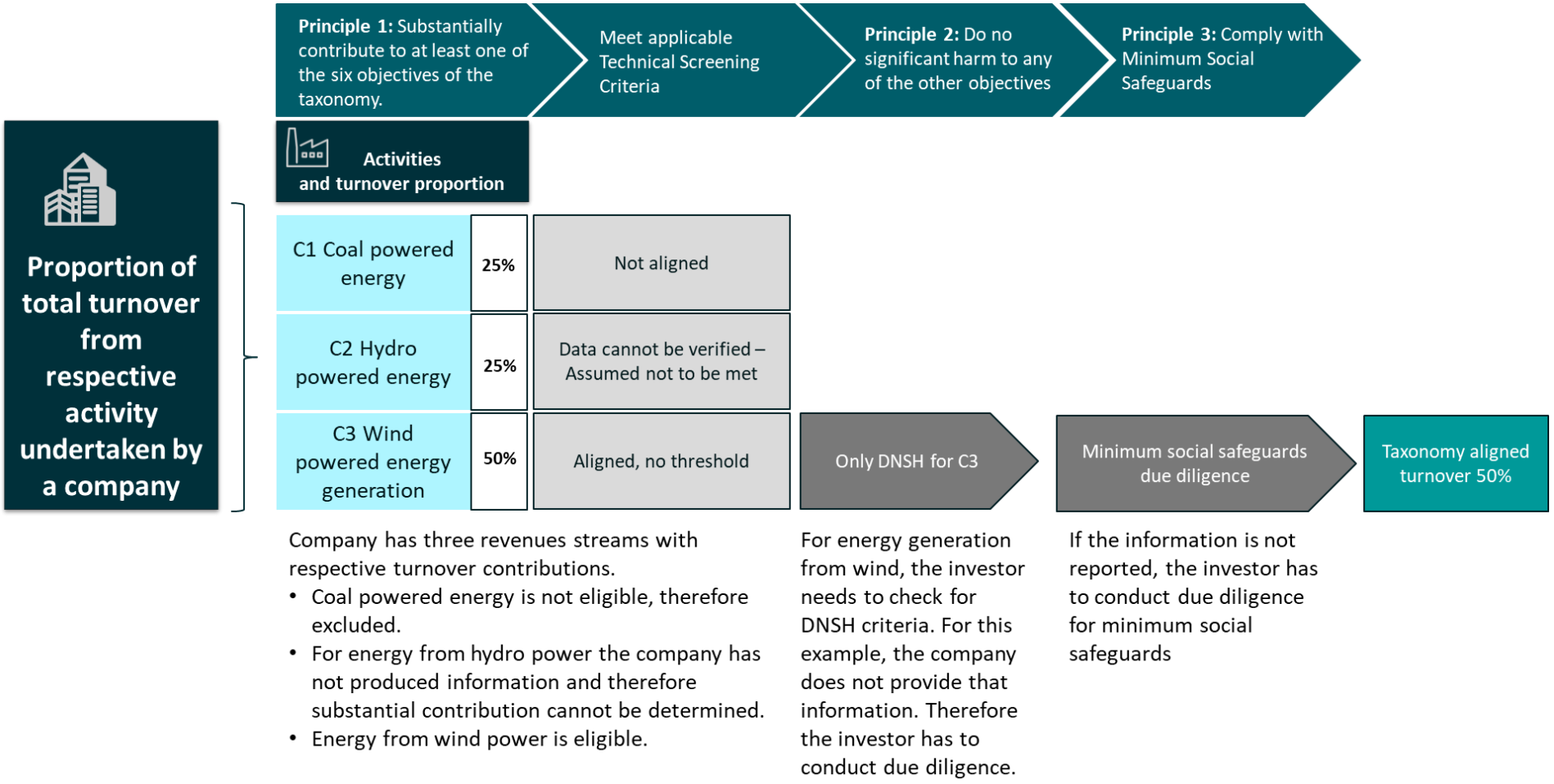


Figure 14: Five steps and example of how investment-level taxonomy-alignment of company turnover may be determined (EU Technical Expert Group on Sustainable Finance, 2020)

3.6.2 Proportion of funds with underlying Taxonomy-aligned constituents – equity investments

Company turnover is applied as the proxy for equity exposure to taxonomy-aligned economic activities in underlying investments.

demonstrates an example of company-level turnover combined with equity share enables computation of equity exposure in a fund to taxonomy-aligned economic activities.

While this computation relies on turnover, the EU Technical Expert Group notes that investors may wish to build a forward-looking portfolio and disclose the same information based on capex.

To be clear, taxonomy-alignment of a whole or part of a company requires determination of full-taxonomy alignment, including minimum social safeguards and climate resilience. It is possible that the investor is required to undertake due diligence to determine full taxonomy-alignment, if not disclosed by the investee.

3.6.3 Proportion of funds with underlying Taxonomy-aligned constituents – fixed income (debt) investments

The approach to computing taxonomy-alignment in a fixed income or debt fund takes into account the following:

- Accepted good practice concerning green bonds issuance requires transparency on and accountability regarding the Use of Proceeds. These requirements translate to the ability to determine and ensure taxonomy-alignment of investment to Green Bonds.
    - For the sake of the example, it is identified that 100% of the Green Bonds Use of Proceeds is for Issuer finance of eligible projects' capex or opex for economic activities that are taxonomy-aligned.
    - It is possible that the taxonomy does not provide coverage for an economic activity that the Issuer specifies for the bonds Use of Proceeds, in which instance the percentage taxonomy-alignment should be adjusted.
    - It is possible that a sustainability bond or similar is issued, and some portion of the Use of Proceeds is taxonomy-aligned environmentally focused projects, in which instance the percentage taxonomy-alignment should be adjusted.
    - There is not a distinction made as to whether a green bond issuer is private sector or public sector, provided that the bonds Use of Proceeds is evident.
    - It is proposed that the credentials of the bond should be verified as 'green'. Refer Section 3.6.4 Process to evaluate green bond and green loan taxonomy-alignment for further detail regarding green bonds.
- It is possible that a Corporate Issuer issues a vanilla bond and that an activity of the company is taxonomy-aligned. In this instance the computation for taxonomy-aligned turnover may be applied to determine the portion of the corporate bond that is taxonomy-aligned. (Refer Section 3.6.1 Process to evaluate company-level taxonomy-alignment).
- Public sector bonds that are not distinctly identified and verified as green bonds are presently to be computed as zero% taxonomy-aligned contribution, while further work is undertaken to determine an internationally accepted approach. Options noted by the EU Technical Expert Group (March 2020) as under consideration include:
    - "Alignment of national climate change mitigation targets with net zero by 2050, potentially supported via Nationally Defined Contributions (NDCs).
    - The sectoral contribution of Taxonomy-aligned economic activities to national GDP.
    - The sectoral contribution of Taxonomy-aligned economic activities in the form of tax receipts."

This is an area of potential update for the taxonomy in future.

To be clear, taxonomy-alignment of a whole or part of a debt-based instrument requires determination of full-taxonomy alignment, including minimum social safeguards and climate resilience of the underlying constituents. At present, it is not an express requirement to demonstrate climate resilience or minimum social safeguards in order to be verified as a green instrument. It is possible that the investor is required to undertake due diligence to determine full taxonomy-alignment, if not disclosed by the issuer.

The example and detail above apply equally for other forms of green debt, such as green loans.

Disclosure should provide clarity on the distinctions of the fund constituents in terms of proportion of taxonomy-alignment and instrument details, including:

- What part is for verified green debt
- What part is for private sector and public sector debt

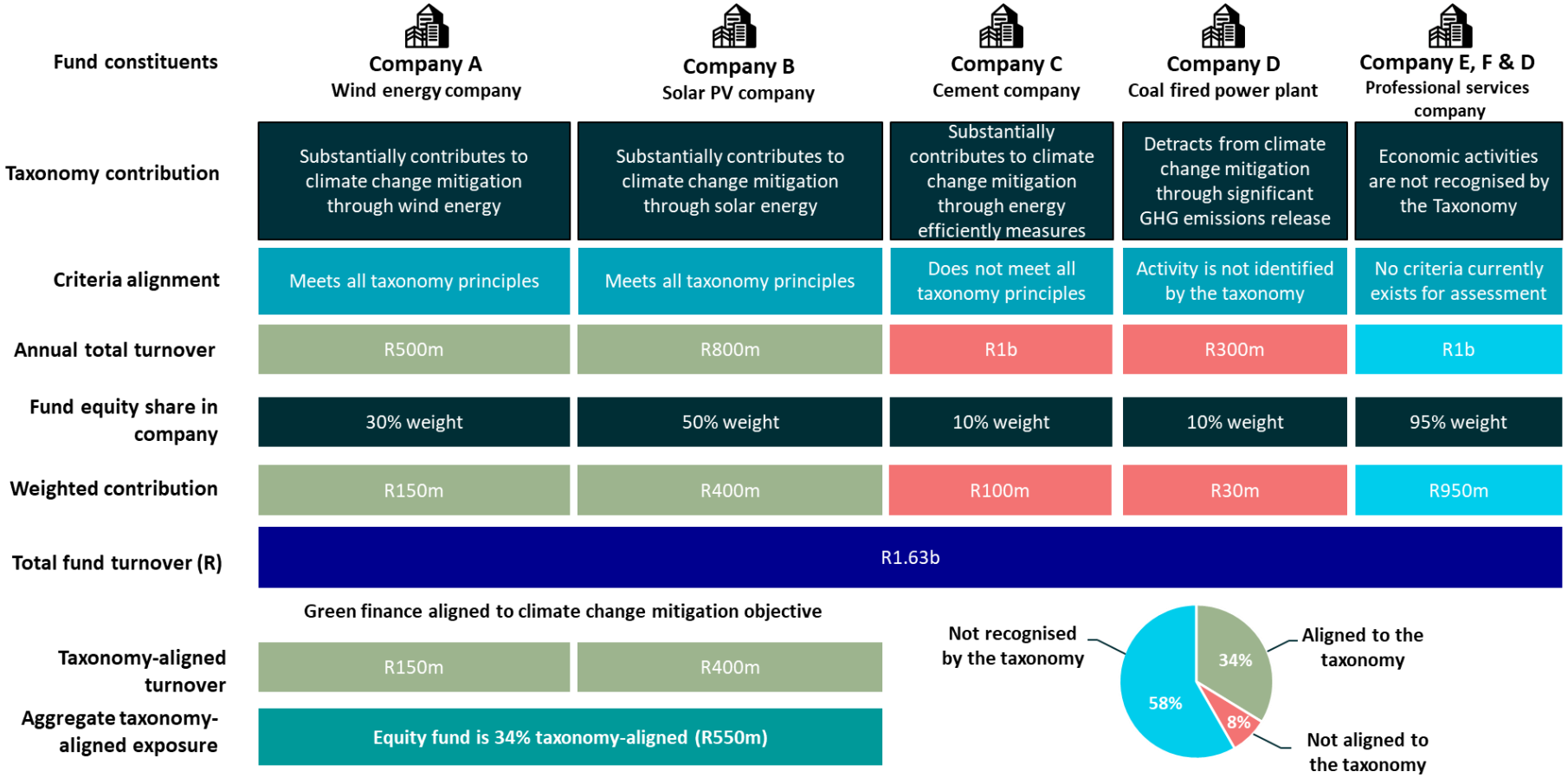


Figure 15: Application of the taxonomy to an equity portfolio from company level turnover and equity share (adapted from (EU Technical Expert Group on Sustainable Finance, 2020))

3.6.4 Process to evaluate green bond and green loan taxonomy-alignment

There is no present requirement for bond issuers or borrowers to disclose taxonomy-alignment, nor for investors or lenders/financiers. However, this information is expected to be useful to investors looking to understand the alignment for their investments and portfolio composition.

For both green bond issuers and green loan financiers, it is recommended that a process to verify the 'green credentials' of the respective transaction or offering is undertaken. Issuers and loan financiers may consider applying, as relevant for:

- Bonds
    - International Capital Market Association (ICMA) Green Bond Principles (GBP), as updated from time-to-time
    - ICMA Sustainability Bond Guidelines (SBG), as updated from time-to-time
    - ICMA Sustainability-Linked Bond Principles (SLBP), as updated from time-to-time;
- Loans
    - Joint issue by Loan Market Association (LMA), Loan Syndications and Trading Association (LSTA) and Asia Pacific Loan Market Association (APLMA) Green Loan Principles (GLP), as updated from time-to-time
    - Joint issue by Loan Market Association (LMA), Loan Syndications and Trading Association (LSTA) and Asia Pacific Loan Market Association (APLMA) Sustainability Linked Loan Principles (SLLP), as updated from time-to-time.

Other international credible frameworks and standards might also be applied, such as Climate Bond Initiative (CBI) Climate Bonds Standard, as updated from time-to-time.

These frameworks have similarities in expressed market requirements for best practice regarding the following processes, and it is recommended that issuers and loan financiers are aligned with respect:

- Use of Proceeds (refer Table 6 below for further recommendations)
- Process for Project Evaluation and Selection (refer Table 6 for further recommendations)
- Management of Proceeds Reporting (refer Table 6 for further recommendations)
- Verification – external review and verification are recommended, regarding conformance to a respective framework, taxonomic-alignment and associated environmental and social impact performance (respectively before and after as well as on-going during the term of the instrument).

Table 6: Additional evaluation and disclosure recommendations concerning taxonomy-alignment for debt instruments

Actor	Investor or Lender	Issuer or Borrower
Considerations concerning Use of Proceeds	The investor or lender should undertake suitable due diligence concerning the transaction to assure themselves of taxonomic-alignment of the underlying economic activity, project or asset	• In order to be taxonomy-aligned as a debt instrument (loan or bonds), the selection of projects should be done using this taxonomy. • Where only a proportion of the bond or loan is taxonomically-aligned, this should be disclosed (both the details of the taxonomically-aligned economic activities and the related finance portion)
Considerations concerning Process Evaluation	The investor or lender should undertake suitable due diligence concerning the transaction with regards the taxonomic-alignment evaluation process, the associated and the environmental and social impact performance specified.	• The issuer or borrower should apply the taxonomy as detailed in **Section 2** for each constituent project, asset or activity relevant to the transaction, to determine taxonomic-alignment • The issuer or borrower should clearly inform investors or lenders (respectively) of: ○ the evaluation process and the assessments to identify and manage potentially significant environmental risks ○ the taxonomic-alignment result ○ the associated environmental and social impact performance
Considerations concerning Reporting	A specific reporting process should outline qualitative and quantitative information about the Use of Proceeds. The key disclosure will be the percentage of expenditures in taxonomically- aligned economic activities – in other words, the percentage of a loan or bonds allocated to taxonomically-aligned projects or assets. Taxonomic-alignment evaluation should be undertaken ahead of the transaction (ex-ante reporting) and regularly during the term of the loan or bond (ex-post). Green default must be reported to lenders and investors by borrowers and issuers (as relevant) timeously, and proportion of taxonomy-alignment of the transaction must be adjusted. Regular ex-post reporting of environmental and social impact performance should be incorporated into disclosure.	

The guidance and recommendations of this section are intended to complement any specific requirements expressed by capital markets, regulators and applicable ESG frameworks or commitments, as relevant to products, transactions and participants.

4 Sustainable Development Performance and Impact Reporting

In the first instance, taxonomy-aligned economic activities will make a significant contribution to at least one environmental objective. It may also be that a taxonomy-aligned economic activity makes significant contribution to more than one environmental objective and has co-benefits and contributions in terms of multiple sustainable development dimensions.

In addition to disclosure concerning taxonomic-alignment and related finance, reporting on environmental, social and governance performance and impacts of taxonomy-aligned activities is anticipated to provide distinctly useful information to an array of interested stakeholders.

It is **also the intention of this taxonomy to encourage transparency through disclosure, and especially disclosure concerning social impact performance of taxonomically aligned activities**.

This document does not undertake to provide harmonised specification for environmental and social performance and impact indicators that should be disclosed alongside disclosure of taxonomic-alignment and related finance.

However, there are several developments referenced and reporters are encouraged to consult these resources to identify material impact indicators. These include the following as inexhaustive options, acknowledging also that different taxonomy users may have different requirements concerning activity-level, company-level and economy-level reporting objectives:

- International Capital Market Association, April 2020 (or as updated) *Harmonized Framework for Impact Reporting* [Online] Available at https://www.icmagroup.org/green-social-and-sustainability-bonds/impact-reporting/
- International Capital Market Association, June 2020 (or as updated) *Social Bonds Working Towards a Harmonized Framework for Impact Reporting* [Online] Available at https://www.icmagroup.org/green-social-and-sustainability-bonds/impact-reporting/
- International Capital Market Association, June 2020 (or as updated) *Green, Social and Sustainability Bonds: A High -Level Mapping to the Sustainable Development Goals* [Online] Available at *https://www.icmagroup.org/assets/documents/Regulatory/Green-Bonds/June-2020/Mapping-SDGs-to-Green-Social-and-Sustainability-Bonds-2020-June-2020-090620.pdf*
- World Economic Forum (WEF) September 2020 Measuring Stakeholder Capitalism Towards Common Metrics and Consistent Reporting of Sustainable Value Creation, White Paper [Online] Available at http://www3.weforum.org/docs/WEF_IBC_Measuring_Stakeholder_Capitalism_Report_2020.pdf
- Global Reporting Initiative (GRI) Standards, Various [Online] Available at https://www.globalreporting.org/how-to-use-the-gri-standards/resource-center/
- Sustainability Accounting Standards Board (SASB) Materiality Map [Online] Available at https://materiality.sasb.org/
- United Nations Department of Economic and Social Affairs Statistics Division, March 2020 *Global indicator framework for the Sustainable Development Goals and targets of the 2030 Agenda for Sustainable Development* [Online] Available at https://unstats.un.org/sdgs/indicators/indicators-list

There is a wealth of impact analysis tools and frameworks available from different organisations including United Nations Environment Programme Finance Initiative (UNEP FI) and World Business Council for Sustainable Development (WBCSD) amongst others to guide individual project impact evaluation if needed.

Suitable tools and indicator listings should be consulted, and further determination undertaken by the taxonomy user to identify the material impact indicators appropriate to be reported regarding the asset, project or activity.

5 General Challenges and Consideration in Applying the Taxonomy

5.1 Taxonomy application challenges

A major challenge in the application of the Taxonomy is related to aligning the types of investment or finance to a specific economic activity as identified by the Taxonomy. Part of this challenge is attributed to unspecified use of proceeds. For example, general credit facilities in the form of general-purpose loans or revolving credit facilities cover diverse corporate expenditures and are not solely related to specific investments, making alignment with taxonomic economic activities challenging. An additional significant challenge is the availability of quality data and information to assess alignment with TSC of the taxonomy. Granular data to evidence alignment with TSC is typically not publicly available data and in many instances can be complex and thereby requires sustainability expertise to adequately assess alignment.

5.2 Taxonomy application considerations

When a client receives financing that spans multiple Taxonomy classification categories, allocating total exposure to sector(s) associated with the Taxonomy becomes difficult and it may not be possible to classify the whole client as taxonomy-aligned. In such instances, it is advised to, as far as possible define investment, loan, credit facility or use of proceeds to a specific asset or to project level and thereby split the client's exposure across activities for the purpose of classification. Narrowing down the economic activities that are aligned to the Taxonomy at the beginning of the assessment would be beneficial. This may mean prioritising company activities based on materiality.

When investment, loan, credit facility or use of proceeds is not specified, classify exposure based on clients' business activities. Identify the nature of the intended or existing contribution of the transaction/funds and decide into which Taxonomy category the transaction, activity or company falls. The Taxonomy offers the choice between economic activities which substantially contribute to climate change mitigation or climate change adaptation and acknowledges economic activities which contribute through own performance or as an enabling activity. This helps to provide a specific focus to the assessment and minimises the time needed to carry it out.

Below illustrate three general considerations when applying the taxonomy:

- At first, start simple, by selecting specific investments where quality granular data is readily available. To understand the exact scope of each activity to identify the most suitable match, test on a smaller portion of the investment portfolio or for activities for which KPIs are available/comparable with Taxonomy criteria. This way you will start to become familiar with how the Taxonomy works and gain confidence in applying it to bigger investments.
- The information required by the taxonomy can be complex and it may be useful to involve sustainability expertise to assisting in the interpretation and the assessment of the data. Take a bottom-up approach to fairly assess company alignment with the Taxonomy. Where data is not available or unreliable, adopt a precautionary approach and be clear on data limitations.
- In general, adaptation-related information is more difficult to find than mitigation-related information, as carbon emissions data now have a significant track record. Therefore, projects making substantial contribution to climate change mitigation are more likely to have the data needed to test alignment to the taxonomy.

6 Catalogue of Sectors and Activities, Basic Attributes, and Mapping to Environmental Objectives

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
Agriculture, forestry and fisheries	Agriculture, forestry and fishing	Forestry and land Rehabilitation Sic code 203940	Section 7.1.1	⏱	⏱					✔	✔	✔		✔	✔
Agriculture, forestry and fisheries	Agriculture, forestry and fishing	Crop Production Sic code 01	Activity to be developed in future												
Agriculture, forestry and fisheries	Agriculture, forestry and fishing	Livestock Production Sic code 01	Activity to be developed in future												
Agriculture, forestry and fisheries	Agriculture, forestry and fishing	Ecosystem Conservation Sic code 9495	Activity to be developed in future												
Agriculture, forestry and fisheries	Agriculture, forestry and fishing	Fisheries and Aquaculture Sic code 03	Activity to be developed in future												
Agriculture, forestry and fisheries	Agriculture, forestry and fishing	Wildlife management Sic code 9495	Activity to be developed in future												
Agriculture, forestry and fisheries	Agriculture, forestry and fishing	Eco-Tourism Sic code 79	Activity to be developed in future												
Industry	Manufacturing	Manufacture of low carbon and resource efficiency technologies	Section 7.2.1	⊕	⏱					✔	✔	✔	✔	✔	✔

Key

⏱ Own performance ⊕ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
		No Specific SIC code													
Industry	Manufacturing	Manufacture of Cement Sic code 203940	Section 7.2.2	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Aluminium Sic code 2420	Section 7.2.3	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Iron and Steel and ferroalloys Sic code 24, 2410, 2420, 243	Section 7.2.4	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Hydrogen Sic code 2011	Section 7.2.5	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of other inorganic basic chemicals Sic code 202	Section 7.2.6	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of other organic basic chemicals Sic code 202	Section 7.2.7	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of fertilizers and nitrogen compounds Sic code 20120	Section 7.2.8	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of plastics in primary form Sic code 20130	Section 7.2.9	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Biomass, Biogas or Biofuels Sic code 35200	Activity to be developed in future												
Industry	Manufacturing	Manufacture of Glass Sic code 231	Activity to be developed in future												

Key

⏱ Own performance ⊕ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	**SIC Macro-Sector**	**Economic Activity and SIC Code**	**Link to Technical Screening Criteria**	**Climate change mitigation**	**Climate change adaptation**	**Sustainable use of water and marine resources**	**Sustainable resource use and circularity**	**Pollution prevention**	**Ecosystem protection and restoration**	**Climate change mitigation**	**Climate change adaptation**	**Sustainable use of water and marine resources**	**Sustainable resource use and circularity**	**Pollution prevention**	**Ecosystem protection and restoration**
Industry	Manufacturing	Manufacture of low carbon resources No specific SIC code	Activity to be developed in future												
Industry	Manufacturing	Pollution prevention and control Sic code 3900	Activity to be developed in future												
Industry	Manufacturing	Reuse, redistribution, refurbishment and recycling facilities No specific SIC code	Activity to be developed in future												
Industry	Other professional, scientific, and technical activities	Environmental services Sic code 7490	Activity to be developed in future												
Industry	Manufacturing	Remanufacturing of electromechanical products No specific SIC code	Activity to be developed in future												
Industry	Manufacturing	Eco-efficient products and processes No specific SIC code	Activity to be developed in future												
Industry	Mining and quarrying	Mining Platinum Sic code 07295	Activity to be developed in future												
Industry	Mining and quarrying	Mining Gold Sic code 07291	Activity to be developed in future												
Industry	Manufacturing	Manufacture of Paper Sic code 17010	Activity to be developed in future												
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from Solar PV, Concentrated Solar Power, Wind Power and Ocean Energy Sic code 3510	Section 7.3.1	⏱	⏱					✔	✔	✔	✔	✔	
Energy	Electricity, gas, steam and air	Production of electricity, heating	Section 7.3.2	⏱	⏱					✔	✔	✔		✔	✔

Key

⏱ Own performance ⊕ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
	conditioning supply	and cooling from Hydropower Sic code 3510													
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from Geothermal Sic code 3510	Section 7.3.3	⏱	⏱					✔	✔	✔		✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from Bioenergy Sic code 3510	Section 7.3.4	⏱	⏱					✔	✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Transmission and Distribution of Electricity Sic code 3510	Section 7.3.5	⏱ ⊕	⏱					✔	✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Storage of Electricity No specific SIC code	Section 7.3.6	⊕	⏱						✔		✔		✔
Energy	Electricity, gas, steam and air conditioning supply	Storage of Thermal Energy No specific SIC code	Section 7.3.7	⊕	⏱						✔		✔		
Energy	Electricity, gas, steam and air conditioning supply	Storage of Hydrogen No specific SIC code	Section 7.3.8	⊕	⏱						✔		✔		✔
Energy	Electricity, gas, steam and air conditioning supply	Transmission and distribution networks for renewable and low-carbon gases Sic code 35200, 49300	Section 7.3.9	⏱	⏱					✔	✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	District Heating/Cooling Distribution Sic code 35300	Section 7.3.10	⏱	⏱					✔	✔	✔		✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Installation and operation of Electric Heat Pumps	Section 7.3.11	⏱	⏱						✔	✔			

Key

⏱ Own performance ⊕ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
	(Construction, 43)	Sic code 35300													
Energy	Electricity, gas, steam and air conditioning supply	Production of Heating/Cooling using Waste Heat Sic code 35300	Section 7.3.12	⏱	⏱					✔	✔		✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from gravity potential energy No specific SIC code	Activity to be developed in future												
Water and Waste	Water, sewerage, waste and remediation	Water collection, storage, distribution treatment and supply Sic code 36000	Section 7.4.1	⏱	⏱						✔	✔			✔
Water and Waste	Water, sewerage, waste and remediation	Centralized wastewater treatment Sic code 37000	Section 7.4.2	⏱	⏱						✔			✔	✔
Water and Waste	Water, sewerage, waste and remediation	Anaerobic digestion of sewage sludge Sic code 37000	Section 7.4.3	⏱	⏱					✔	✔			✔	
Water and Waste	Water, sewerage, waste and remediation	Separate collection and transport of non-hazardous waste in source segregated fractions Sic code 38110	Section 7.4.4	⏱ ✚	⏱						✔		✔	✔	
Water and Waste	Water, sewerage, waste and remediation	Anaerobic digestion of bio-waste Sic code 38210	Section 7.4.5	⏱	⏱					✔	✔			✔	
Water and Waste	Water, sewerage, waste and remediation	Composting of bio-waste Sic code 38210	Section 7.4.6	⏱	⏱						✔			✔	

Key

⏱ Own performance ✚ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
Water and Waste	Water, sewerage, waste and remediation	Material recovery from non-hazardous waste Sic code 38210	Section 7.4.7	⏱	⏱					✔	✔				
Water and Waste	Water, sewerage, waste and remediation	Landfill gas capture and utilization Sic code 39000	Section 7.4.8	⏱	⏱					✔	✔			✔	
Water and Waste	Water, sewerage, waste and remediation	Direct Air Capture of CO2 Sic code 39	Section 7.4.9	⊕	⏱						✔	✔		✔	✔
Water and Waste	Water, sewerage, waste and remediation	Capture of Greenhouse Gas Emissions Sic code 39	Section 7.4.10	⊕	⏱					✔	✔	✔	✔	✔	✔
Water and Waste	Water, sewerage, waste and remediation	Transport of CO2 Sic code 39	Section 7.4.11	⊕	⏱					✔	✔	✔		✔	✔
Water and Waste	Water, sewerage, waste and remediation	Permanent Sequestration of Captured CO2 Sic code 39	Section 7.4.12	⏱	⏱					✔	✔	✔		✔	✔
Water and Waste	Manufacture of measuring, testing, navigating and control equipment	Water monitoring Sic code 2651	Activity to be developed in future												
Water and Waste	Water, sewerage, waste and remediation	Flood defence No specific SIC code	Activity to be developed in future												
Water and Waste	Water, sewerage, waste and remediation	Nature based solutions No specific SIC code	Activity to be developed in future												

Key

⏱ Own performance ⊕ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
Water and Waste	Water, sewerage, waste and remediation	Reuse, redistribution, refurbishment, recycling storage and handling infrastructure No specific SIC code	Activity to be developed in future												
Water and Waste	Water, sewerage, waste and remediation	Water saving, recycling and reuse technologies No specific SIC code	Activity to be developed in future												
Water and Waste	Water, sewerage, waste and remediation	Pollution prevention and control Sic code 3900	Activity to be developed in future												
Water and Waste	Water, sewerage, waste and remediation	Handling and Preparation No specific SIC code	Activity to be developed in future												
Water and Waste	Water, sewerage, waste and remediation	Water treatment No specific SIC code	Activity to be developed in future												
Transportation	Transportation and storage	Commuter road, passenger rail and freight rail transport Sic code 49110, 49120, 49210	Section 7.5.1	⏱	⏱					✔	✔		✔	✔	
Transportation	Construction	Infrastructure for low carbon transport Sic code 42100, 42900	Section 7.5.2	⊕	⏱					✔	✔	✔	✔	✔	✔
Transportation	Transportation and storage	Passenger cars, road commercial vehicles and road freight transport Sic code 49229, 49300	Section 7.5.3	⏱	⏱					✔	✔		✔	✔	
Transportation	Transportation and storage	Inland passenger and freight water transport	Section 7.5.4	⏱	⏱					✔	✔	✔	✔	✔	✔

Key

⏱ Own performance ⊕ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
		Sic code 50210, 50220													
Transportation	Transportation and storage	Aviation Sic code 5110	Activity to be developed in future												
ICT	Information and communications	Data processing, hosting and related activities Sic code 6311	Section 7.6.1	⏱						✔				✔	✔
ICT	Information and communications	Data-driven solutions for GHG emission reductions Sic code 63110	Section 7.6.2	⊕						✔			✔	✔	
Construction	Construction	Construction of new buildings Sic code 41000	Section 7.7.1	⏱	⏱					✔	✔	✔	✔	✔	✔
Construction	Construction	Building renovation Sic code 41000	Section 7.7.2	⏱	⏱					✔	✔	✔	✔	✔	✔
Construction	Construction	Individual measures and professional services Sic code 43	Section 7.7.3	⏱						✔				✔	
Construction	Real Estate Activities	Acquisition and ownership Sic code 68	Section 7.7.4	⏱						✔				✔	✔
Construction	Construction	Sustainable cities/resilient infrastructure No specific SIC code	Activity to be developed in future												
Construction	Construction	Spatial Planning SIC code 7110	Activity to be developed in future												
Enabling activities	Enabling activities, system resilience & innovation	Non-life insurance Sic code 6512	Section 7.8.1		⏱						✔				

Key

⏱ Own performance ⊕ Enabling activity ✔ Criteria developed ☐ Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
Enabling activities ▼▲	Enabling activities, system resilience & innovation	R&D and innovation SIC code 72	Activity to be developed in future												
Enabling activities ▼▲	Enabling activities, system resilience & innovation	Early warning systems No specific SIC code	Activity to be developed in future												
Enabling activities ▼▲	Enabling activities, system resilience & innovation	Disaster risk prevention No specific SIC code	Activity to be developed in future												
Enabling activities ▼▲	Enabling activities, system resilience & innovation	Sustainability certifications SIC code 7120	Activity to be developed in future												
Enabling activities ▼▲	Enabling activities, system resilience & innovation	Value chain activities No specific SIC code	Activity to be developed in future												
Enabling activities ▼▲	Enabling activities, system resilience & innovation	Capacity building No specific SIC code	Activity to be developed in future												
Enabling activities ▼▲	Enabling activities, system resilience & innovation	Technological solutions SIC code 712	Activity to be developed in future												
Enabling activities ▼▲	Enabling activities, system resilience & innovation	Public events SIC code 8230	Activity to be developed in future												
Social Resilience	Education	Education SIC code 85	Activity to be developed in future												

Key

Own performance Enabling activity Criteria developed Criteria to be developed in future

Classification				Environmental Contributions											
				Make substantial contribution						Do No Significant Harm					
Taxonomy Macro-sector	SIC Macro-Sector	Economic Activity and SIC Code	Link to Technical Screening Criteria	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration	Climate change mitigation	Climate change adaptation	Sustainable use of water and marine resources	Sustainable resource use and circularity	Pollution prevention	Ecosystem protection and restoration
Social Resilience	Education	Skill development SIC code 85	Activity to be developed in future												
Social Resilience	Professional, scientific and technical activities	Knowledge management SIC code 74	Activity to be developed in future												

Key

Own performance Enabling activity Criteria developed Criteria to be developed in future

7 Technical Screening Criteria

7.1 Agriculture, Forestry and Fisheries

7.1.1 Forestry and Land Rehabilitation

Sector classification and activity	
Macro-Sector	Agriculture, forestry and fishing
SIC Code	02
Description	Forestry and Land Rehabilitation includes: Afforestation Afforestation is defined as the establishment of forest through planting and/or deliberate seeding on land that, until then, was under a different land use, implies a transformation of land use from non-forest to forest[14] in accordance with the Food and Agriculture Organisation of the United Nations ('FAO') definition of afforestation[15], where forest means a land matching the forest definition as set out in The National Forests Act (No. 84 of 1998). Reforestation Reforestation is defined as the re-establishment of forest through planting and/or deliberate seeding on land classified as forest. It implies no change of land use, includes planting/seeding of temporarily un-stocked forest areas as well as planting/seeding of areas with forest cover. It includes coppice from trees that were originally planted or seeded[16]. The FAO FRA definition of reforestation excludes natural regeneration. However, the Taxonomy recognises the importance of natural regeneration to the increased carbon sink and stock potential provided by forests in general. It is therefore included explicitly within this context in line with the FAO FRA definition of naturally regenerating forest[17]. In the context of the Taxonomy, the category 'reforestation' applies in cases following extreme events (wind throws, fires etc.), and not as part of normal, legally binding obligation to reforest after harvesting. Existing forest management The Taxonomy defines forest management as management of the land which is reported as forest, in accordance with the Climate Bonds Initiative's Forestry and Land Conservation & Restoration Criteria. This includes using forests and forest land in a way, and at a rate, that maintains their biodiversity, productivity, regeneration capacity, vitality and their potential to fulfil, now and in the future, relevant ecological, economic and social functions, at local, national, and global levels, and that does not cause damage to other ecosystems. Conservation forestry That in which the 'primary designated management objective' (FAO FRA definition) is that of conservation. Specifically, those forests where the management objectives are 'conservation of biodiversity' or 'social services' based on the FAO FRA definitions[18].

14 Source: FAO, Global Forest Resources Assessment, 2020

15 Establishment of forest through planting or deliberate seeding on land that, until then, was under a different land use, implies a transformation of land use form non-forest to forest, FAO Global Resources Assessment 2020. Terms and definitions (version of [adoption date]: http://www.fao.org/3/I8661EN/i8661en.pdf).

16 Source: FAO, Global Forest Resources Assessment, 2020.

17 Forest predominantly composed of trees established through natural regeneration.

18 Source: FAO, Global Forest Resources Assessment, 2020

	Rehabilitation, Restoration The Taxonomy defines rehabilitation/restoration as any intentional activity that initiates or accelerates the recovery of an ecosystem from a degraded state[19]
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Afforestation should increase carbon sinks of above and below ground carbon in comparison to a counterfactual with no conversion to forest. • Forestry activity must be certified by the Forest Stewardship Council • Species selection requires that no introduction of invasive species may occur where such species may disrupt genetic diversity or that are not suitable for current or projected future ecological conditions[20] • Mandatory application of South African Sustainable Forest Development Policy including: o Identify and apply forest management practices that increase existing carbon stocks in alignment with the Environmental Guidelines for Commercial Forestry Plantations in South Africa, however allowing for application of other similar approaches, that recognise local specificities and conditions, while maintaining or improving soil quality, and biodiversity; o Maintain or improve the long-term capacity of the forest and land to deliver multiple services (e.g. ecosystem services, timber production, etc.); o Do not convert high carbon stock land (i.e. primary forest, peatlands, wetlands, and grasslands) which has this status in or after January 2010[21]; o Carry out harvesting activities in compliance with The National Forests Act, 1998 (Act 84 of 1998), and the Forestry Laws Amendment Act, 2005 (Act 35 of 2005); o Regenerate harvested forests. • Establish a verified baseline GHG balance of relevant carbon pools at the beginning of the afforestation/reforestation activity; • Demonstrate application of the Climate Bonds Initiative's Forestry and Land Conservation & Restoration Criteria.
Metric and Threshold	• Application of the Climate Bonds Initiative's Forestry and Land Conservation & Restoration Criteria is demonstrated and disclosed at 10-year intervals through a forest management plan (or equivalent) that shall be reviewed by an independent third-party certifier and/or competent authorities. • Verified GHG balance baseline is calculated for above-ground carbon pools, based on growth-yield curves for species per m3/year/ha, carbon convertible. Calculating the GHG balance baseline requires knowledge of the area, the species and number of trees (in case of afforestation and reforestation). Using the growth-yield curves, information will be given on the annual increment in m3/year/ha, which can be used for the basis of the GHG balance. The methodology is consistent with the approach in the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories (IPCC Guidelines), it recommends recalculation of the amount of carbon sequestered; 1 ton of biomass representing approximately 0,5 ton of carbon. Further one ton of carbon equals 44/12 = 3.67 tons of carbon dioxide. • Above ground Carbon stocks shall increase above carbon baseline over a period of not less than 20 years. Changes in carbon stocks should be disclosed based on growth yield curves in 10-year intervals through a forest management plan (or

19 Source: FAO, Unasylva, Forest and landscape restoration (referencing the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services, IPBES).

20 'The decision on whether or not a certain vegetation type can be use should include consideration of the species involved. FSC certification is sufficient evidence that this requirement has been met.

21 January 2010 was selected as a cutoff date as this accommodates most major certification or standards requirements for "no deforestation."

	equivalent instrument[22]) that shall be reviewed by an independent third-party certifier and/or competent authorities[23].
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation Users of the Taxonomy should identify and explain which criteria they are responding to. The activity itself can be made climate-resilient through different measures, such as: Use of early warning systems or wildfire/veldfire control measures (to reduce damages due to wildfires/veldfires enhanced by heat waves); Use of regeneration material (species and ecotypes) less sensitive to strong wind or timely management of seedling stand and timely thinning (to reduce damage to forest stands from increased wind); Use of species and ecotypes less susceptible to drought or diversification of species and ecotypes (to minimise tree losses due to lack of water availability).	
Do No Significant Harm assessment	
Key environmental aspects span across all other five objectives and are summarized as follows: Ability of forests to adapt to a changing climate and ensure the long-term ability of the forests to sequester carbon; Impact on water resources as well as on water quality; Pollution to water, air, and soil, and risks associated from the use of pesticides and fertilizer; Impacts on biodiversity and ecosystems from intensification and conversion of land of high ecological value to forests and illegal logging. The "Do No Significant Harm" (DNSH) criteria below should be considered in combination with the South African Sustainable Forest Development Policy requirements of the forest mitigation Taxonomy (criterion 1). The criteria can be informed by applying forest certification using independent third-party schemes that are regularly audited. Compliance shall be reported through a forest management plan (or equivalent) as per criterion 3 of the forest mitigation Taxonomy.	
Climate change mitigation	For adaptation projects Forests are an unusual economic sector in which they provide a substantial carbon sink, and that significant harm for forest climate change mitigation include where an (adaptation) activity leads to a significant long-term reduction of the carbon sink. It is therefore important to maintain the forest area and thus forest carbon stocks and sink potential over the long-term. The principles for ensuring mitigation proofed adaptation activities are that adaptation responses should: Not undermine the long-term ability of the forests to sequester carbon Not undermine the long-term maintenance of existing forest carbon sinks, both above and below ground Determines the need for management systems to be in place at forest sourcing area level to ensure that carbon stocks and sinks levels in the forest are maintained, or strengthened over the long term.
Climate Change Adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	Take measures to ensure sustained or improved long term conservation status at the landscape level[24].

22 Landscape management level may be used to emphasize that the goal may be to perform at a scale above the single forest stand. Absence of landscape management access will in turn require disclosure at the single forest stand. The Forest Taxonomy leaves to forest owners and companies to explain, document on which level they report.

23 This threshold should apply considering the following force majeure clause: underperformance resulting from natural disturbance can be excluded from impacting on the achievement of the thresholds and will not result in non-compliance with the Taxonomy criteria.

24 Landscape management level may be used to emphasize that the goal to preserve conservation status for different species is at a scale above the single forest stand.

	In designated conservation areas, actions should be demonstrated to be in line with the conservation objectives for those areas. Biodiversity impact measurement and accounting guidance is provided by the Biological Diversity Protocol[25]. The prevention and control of alien invasive species must be managed in accordance with the National Environmental Management Act, 1998 (Act No.107 of 1998) and the National Environmental Management: Biodiversity (Act 10 of 2004) the Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983) (CARA) and the Forest Stewardship Council. No conversion of habitats specifically sensitive to biodiversity loss or of high conservation value such as grasslands and any high carbon stock area (e.g. peat lands and wetlands), and areas set aside for the restoration of such habitats in line with national legislation. Develop a forest management plan (or equivalent) that includes provisions for maintaining biodiversity[26]. Evaluate the ecosystem service provision with the aim to not decrease the amount and quality of ecosystem services provided. Forests are monitored and protected to prevent illegal logging, in compliance with national laws. Promote close-to-nature forestry or similar concepts depending on the local requirements and limitations. Ensuring the maintenance and improvement of physical, chemical and biological quality of the soil. Promoting biodiversity-friendly practices that enhance forests' natural processes. Excluding the conversion of high-biodiverse ecosystems into less biodiverse ones. Ensuring the diversity of associated habitats and species linked to the forest. Ensuring the diversity of stand structures and maintenance or enhancing of mature stage stands and dead wood. Excluding the use or release of invasive alien species. Excluding the use of non-native species unless it can be demonstrated that: ○ the use of the forest reproductive material leads to favourable and appropriate ecosystem conditions (such as climate, soil criteria and vegetation zone, forest fire resilience); ○ the native species currently present on the site are not anymore adapted to projected climatic and pedo-hydrological conditions.
Pollution prevention	Minimise the use of pesticides and favour alternative approaches or techniques, such as non-chemical alternatives to pesticides, in line with the Agricultural Pests Act (No.36 of 1983) and the Pesticide Management Policy for South Africa. With exception of occasions that this is needed to control pest and diseases outbreaks. Adapt the use of fertilizers to what is needed to prevent leeching of nutrients to waters. Take well documented and verifiable measures to avoid the use of active ingredients that are listed in the Stockholm Convention, the Rotterdam Convention, the Montreal Protocol on Substances that Deplete the Ozone Layer, or that are listed as classification Ia or Ib in the WHO recommended Classification of Pesticides by Hazard; Prevent pollution of water and soil in the forest concerned and undertake clean up measures when it does happen. Use of chemicals must adhere to the National Environmental Management Act, 1998 (Act No.107 of 1998), the Hazardous Substances Act, 1973 (Act No.15 of 1973) and the Occupational Health and Safety Act No.85 of 1993.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

25 Available at https://www.nbbnbdp.org/uploads/1/3/1/4/131498886/bdp_final_080321.pdf

26 This criterion should be considered in combination with criterion 3 of the mitigation criteria to disclose through a forest management plan (or equivalent).

7.2 Industry

7.2.1 Manufacture of low carbon and resource efficiency technologies

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	No specific SIC code
Description	Manufacture of low carbon and resource efficiency technologies • Manufacturing of products, key components, and machinery that are essential for eligible renewable energy technologies • Manufacture of eligible low carbon transport vehicles, fleets and vessels. • Manufacture of eligible energy efficiency equipment • Manufacture of other low carbon technologies that result in substantial GHG emission reductions in other sectors of the economy (including private households)
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The manufacture of low carbon technologies that result in substantial GHG emission reductions in other sectors of the economy (including private households) provided that product related emissions are at least the level of best available techniques i.e. a factory that produces electric cars, but burns coal is not eligible.
Metric and Threshold	1. Manufacture of products, key components and machinery that are essential for eligible renewable energy technologies (Geothermal Power, Hydropower, Concentrated Solar Power (CSP), Solar Photovoltaic (PV), Solar thermal energy for district heat production, Wind energy, Ocean energy, bioenergy technologies that meet the conversion efficiency requirements and green hydrogen and hydrogen electrolysis installation[27]) 2. Manufacture of low carbon transport vehicles and their respective key components, fleets and vessels meeting the following criteria is eligible: Passenger cars, light commercial vehicles, Category M_1 and N_1: • Until 31 December 2025: vehicles with tailpipe emission intensity of max 50 g CO_2/km (WLTP). This also includes zero tailpipe emission vehicles (e.g. electric, hydrogen). • From 1 January 2026 onwards: only vehicles with emission intensity of 0g CO_2/km (WLTP). For category L vehicles: • Zero tailpipe emission vehicles (incl. hydrogen, fuel cell, electric). Heavy Duty Vehicles: N2 and N3 vehicles: • Zero direct emission heavy-duty vehicles that emits less than 1g CO_2/kWh (or 1g CO_2/km for certain N2 vehicles); • low-emission heavy-duty vehicles with specific direct CO_2emissions of less than 50% of the reference CO_2 emissions of all vehicles in the same sub-group. Rail Fleets: • Zero direct emissions trains Urban, suburban and interurban passenger land transport fleets • Zero direct emissions land transport fleets (e.g. light rail transit, metro, tram, trolleybus, bus and rail) Water transport • Zero direct emissions waterborne vessels.

[27] Hydrogen electrolysis installation will be part of the taxonomy if it shows a considerable level of green electricity consumption and shows a pathway towards an increased share of green electricity over the years to come

	• until 31 December 2025, are hybrid vessels using at least 50% of zero direct (tailpipe) CO_2 emission fuel mass or plug-in power for their normal operation; 3. Manufacture of the following products (with thresholds where appropriate) for energy efficient equipment for buildings and their key components is eligible: • Installation of Building Management Systems (BMS) • High efficiency windows (U-value better than 0.7 W/m2K) • High efficiency doors (U-value better than 1.2 W/m2K) • Insulation products with low thermal conductivity (lambda lower or equal to 0.045 W/mK), external cladding with U-value at or lower than 0.5 W/m2K and roofing systems with U-value at or lower than 0.3 W/m2K) • Hot water fittings (e.g. taps, showers) that are rated in the top class of the Water Efficiency Labelling and Standards (WELS) scheme. • Household appliances (e.g. washing machines, dishwashers) rated in the top available class according to South African Energy Efficiency Labelling[28] • High efficiency lighting appliances rated in the highest energy efficiency class that is in the energy efficiency label (or higher classes) according to South African Energy Efficiency Labelling • Presence and daylight controls for lighting systems • Highly efficient space heating and domestic hot water systems rated in the highest energy efficiency class significantly populated in the energy efficiency label (or higher classes) according to South African Energy Efficiency Labelling • Highly efficient cooling and ventilation systems rated in the highest energy efficiency class significantly populated in the energy efficiency label or higher classes according to South African Energy Efficiency Labelling • Heat pumps compliant with the criteria for heat pumps given in the energy section of the taxonomy • Façade and roofing elements with a solar shading or solar control function, including those that support the growing of vegetation • Energy-efficient building automation and control systems for commercial buildings. • Zoned thermostats and devices for the smart monitoring of the main electricity loads for residential buildings, and sensoring equipment, e.g. motion control. Products for heat metering and thermostatic controls for individual homes connected to district heating systems and individual flats connected to central heating systems serving a whole building. 4. The manufacture of low carbon technologies and their key components that result in substantial GHG emission reductions in other sectors of the economy (including private households) is eligible if they demonstrate substantial higher net GHG emission reductions compared to the best performing alternative technology/ product/ solution available on the market on the basis of a recognised/standardised cradle-to-cradle carbon footprint assessment (e.g. ISO 14067, 14040, Environmental Product Declaration (EPD) or Product Environmental Footprint (PEF)) validated by a third party.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from the manufacture of low carbon technologies is associated with: The (potential) use of toxic substances and generation of toxic wastes (both at the manufacturing stage as well as at other stages of the product/equipment lifecycle); and	

[28] A Guide for Energy Efficiency Labelling

The potential for polluting emissions to air, water and soil from the manufacturing process.	
Climate Change mitigation	For adaptation projects GHG Emissions from manufacturing economic activities that are either (1) proven to be aligned with an internationally recognised method for determining low carbon transition pathway or (2) that are at or lower than the average global emissions (based on emission performance standard determined by internationally recognised data) for that economic activity. The purpose of this approach is to ensure that there is a strong signal to the manufacturing sector to ambitiously improve energy efficiency and reduce emissions.
Climate Change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	Compliance with the National Environmental Management Air Quality Act (Act 39 of 2004), National Environmental Management Waste Act (Act 59 of 2008), Hazardous Substance Act (Act 15 of 1973), The Carbon Tax Act 2019 and Occupational Health and Safety Act (Act 86 of 1993).
Sustainable resource use and circularity	The activity assesses availability of and, where feasible, adopts techniques that support: a) reuse and use of secondary raw materials and re-used components in products manufactured; b) design for high durability, recyclability, easy disassembly and adaptability of products manufactured; c) waste management that prioritises recycling over disposal, in the manufacturing process.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.2.2 Manufacture of Cement

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	23940
Description	Manufacture of cement
Make Significant Contribution criteria	
- Climate Change Mitigation	
Objective	The manufacturing of cement is associated with significant CO_2 emissions. Minimising process emissions through energy efficiency improvements and switch to alternative fuels and electricity with lower emissions than grid electricity promoting the reduction of the clinker to cement ration and the use of alternative clinkers and binders can contribute to the mitigation objective. Mitigation measures should be incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions.
Metric and Threshold	The activity manufactures one of the following: a. grey cement clinker where the specific GHG emissions[29] are lower than 0.722[30] tCO_2e per tonne of grey cement clinker; b. cement or alternative hydraulic binder, from grey clinker, where the specific GHG emissions[29] from the clinker and cement or alternative binder production are lower than 0.469[31] tCO_2e per tonne of cement or alternative binder manufactured; Where CO_2 emitted from the manufacturing process is captured, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Section 7.4.11 and 7.4.12 of this Annex.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from cement manufacturing is associated with: • Polluting emissions to air associated to the consumption of fossil fuels and calcinations reaction in the cement kiln; • Water consumption at production facilities located in water-stressed areas; • Potential for soil and groundwater contamination associated with the handling and storage of (hazardous) wastes used as fuel substitute ('secondary' fuels) in the cement production process;	
Climate change mitigation	For adaptation projects Greenhouse gas emissions from the cement production processes are: a. for grey cement clinker, lower than 0.816[32] tCO_2e per tonne of grey cement clinker;

29 Emissions boundary includes all processes directly or indirectly linked to the production of grey cement clinker are included.

30 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Commission Implementing Regulation (EU) 2021/447 of 12 March 2021 determining revised benchmark values for free allocation of emission allowances for the period from 2021 to 2025 pursuant to Article 10a(2) of Directive 2003/87/EC of the European Parliament and of the Council, (OJ L 87, 15.3.2021, p. 29).

31 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) for grey cement clinker as set out in the Annex to the Implementing Regulation (EU) 2021/447, multiplied by the clinker to cement ratio of 0,65.

32 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

	b. for cement or alternative hydraulic binder, from grey clinker, lower than 0.530[33] tCO_2e per tonne of cement or alternative binder manufactured.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management. For manufacture of cement employing hazardous wastes as alternative fuels, measures are in place to ensure the safe handling of waste.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Taxonomy users disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

[33] Reflecting the median value of the installations in 2016 and 2017 (t ^{CO2} equivalents/t) of the data collected for grey cement clinker in the context of establishing the Commission Implementing Regulation (EU) 2021/447, multiplied by the clinker to cement ratio (0.65), determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC

7.2.3 Manufacture of Aluminium

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	2420
Description	Manufacture of Aluminium
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The manufacturing of aluminium is a highly energy intensive process. The CO_2 emissions related to the production of aluminium are primarily scope 2 emissions as defined by the Greenhouse Gas Protocol (i.e. from the generation of the electricity used). Aluminium manufacturing should rely on low carbon electricity and reduced direct emissions. Furthermore, all aluminium recycling is eligible due to significantly lower emissions than primary production. Mitigation measures should be incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions.
Metric and Threshold	The activity manufactures one of the following: a. primary aluminium where the economic activity complies with two of the following criteria until 2025 and with all of the following criteria after 2025: i. the GHG emissions do not exceed 1.484[34] tCO2 per ton of aluminium manufactured[35]: ii. the average carbon intensity for the indirect GHG emissions[36] does not exceed 100g CO2e/kWh; iii. the electricity consumption for the manufacturing process does not exceed 15.5 MWh/t Al. b. secondary aluminium.
- Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
- The main potential significant harm to other environmental objectives from the manufacture of aluminium is associated with: • The potential for significant air emission impacts: perfluorocarbons, fluoride gases, polycyclic aromatic hydrocarbons (PAHs), and particulate matter (e.g. unused cryolite). Hydrogen fluorides can be toxic to vegetation; • The toxic, corrosive and reactive nature of waste generated by the used linings (cathodes) from the electrolytic cells (known as spent pot lining (SPL)). Dissolved fluorides and cyanides from the SPL material can create significant environmental impacts including groundwater contamination and pollution of local watercourses; • The ability (or lacking thereof) of aluminium manufacturing plants to incorporate aluminium scrap (including scrap from their own manufacturing processes) in the production process; and • The potential to impact ecosystems as a result of the land footprint of the site and from polluting emissions.	
Climate change mitigation	For adaptation projects

34 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

35 The aluminium manufactured is the unwrought non alloy liquid aluminium produced from electrolysis

36 Indirect greenhouse gas emissions are the life-cycle greenhouse gas emissions produced from the generation of the electricity used for the manufacturing of primary aluminium.

	The activity manufactures one of the following: a. primary aluminium where the economic activity complies with two of the following criteria until 2025 and with all of the following criteria[37]137 after 2025: i. the GHG emissions do not exceed 1.604[38] tCO2 per ton of aluminium manufactured[39]; ii. the indirect GHG emissions do not exceed 270g CO2e/kWh; iii. the electricity consumption for the manufacturing process does not exceed 15.5 MWh/t Al; b. secondary aluminium.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	Emissions to air (e.g. sulphur dioxide - SO2, nitrogen oxide - NOx, particulate matter, Total Organic Carbon (TOC), dioxins, mercury (Hg), hydrogen chloride (HCL), hydrogen fluoride (HF), Total Fluoride, and (PFCs) polyfluorinated hydrocarbons (PFCs)) are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach and are in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management. No significant cross-media effects occur.
Sustainable resource use and circularity	- N/A
- Comply with Minimum Social Safeguards	
- Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

37 Combined to a single threshold resulting in the sum of direct and indirect emissions, calculated as the median value of the data collected in the context of establishing the EU ETS industrial benchmarks for the period of 2021-2026 and calculated in accordance with the methodology for setting the benchmarks set out in Directive 2003/87/EC plus the substantial contribution to climate change mitigation criterion for electricity generation (100gCO2/kWh) multiplied by the average energy efficiency of aluminium manufacturing (15.5 MWh/t Al).

38 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

39 The aluminium manufactured is the unwrought non alloy liquid aluminium produced from electrolysis.

7.2.4 Manufacture of Iron, Steel and Ferroalloys

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	24 2410 Manufacture of basic iron and steel 2420 Manufacture of basic precious and other non-ferrous metals 243 Casting of metals
Description	- Manufacture of Iron, Steel and Ferroalloys
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Manufacturing of iron and steel at the level of performance achieved by best performing plants is considered to make a substantial contribution to climate change mitigation. Furthermore, secondary production of steel (i.e. using scrap steel) is considered due to significantly lower emissions than primary steel production. Mitigation measures should be incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions

Metric and Threshold	- The activity manufactures one of the following:
	a) iron and steel with GHG emissions lower than the following values applied to the different manufacturing process steps:
	i. hot metal = 1.331[40] tCO_2e/t product;
	ii. sintered ore = 0.163[41] tCO_2e/t product;
	iii. coke (excluding lignite coke) = 0.144[42] tCO_2e/t product;
	iv. iron casting = 0.299[43] tCO_2e/t product;
	v. electric Arc Furnace (EAF) high alloy steel = 0.266[44] tCO_2e/t product;
	vi. electric Arc Furnace (EAF) carbon steel = 0.209[45] tCO_2e/t product.
	b) steel in electric arc furnaces (EAFs) producing EAF carbon steel or EAF high alloy steel, and where the steel scrap input relative to product output is not lower than:
	i. 70 % for the production of high alloy steel;
	ii. 90 % for the production of carbon steel.
	- Where CO_2 emitted from the manufacturing process is captured, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in Section 7.4.11 and 7.4.12 of this Annex.

Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from iron and steel production is associated with:	

40 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

41 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

42 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

43 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

44 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

45 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

• Emissions to air from coke-making and smelting operations, especially particulate matter (dust), oxides of nitrogen, sulphur dioxide, carbon monoxide, chlorides, fluorides, volatile organic compounds, polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzo- dioxins/furans, and heavy metals; • Emissions to water of hydrocarbons and suspended solids; • Water consumption for quenching and cooling operations in water stressed areas; • The potential to impact local ecosystems and biodiversity due to the polluting emissions (if not properly mitigated) and due to the large land footprint of the operations and associated ancillary activities; and • Wastes and by products from the coking and smelting operations including, tar and benzole.	

Climate change mitigation	For adaptation projects
	The activity manufactures one of the following:
	c) iron and steel with GHG emissions lower than the following values applied to the different manufacturing process steps:
	i. hot metal = 1.443[46] tCO_2e/t product;
	ii. sintered ore = 0.242[47] tCO_2e/t product;
	iii. coke (excluding lignite coke) = 0.237[48] tCO_2e/t product;
	iv. iron casting = 0.390[49] tCO_2e/t product;
	v. electric Arc Furnace (EAF) high alloy steel = 0.360[50] tCO_2e/t product;
	vi. electric Arc Furnace (EAF) carbon steel = 0.276[51] tCO_2e/t product.
	d) steel in electric arc furnaces (EAFs) producing EAF carbon steel or EAF high alloy steel, and where the steel scrap input relative to product is:
	i. 70 % for the production of high alloy steel;
	ii. 90 % for the production of carbon steel.

Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources .
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic Criteria for DNSH to Pollution Prevention.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Taxonomy users disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

46 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

47 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

48 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

49 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

50 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

51 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

7.2.5 Manufacture of Hydrogen

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	2011
Description	Manufacture of Hydrogen
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The manufacturing of hydrogen is a highly carbon-intensive activity within the chemical industry. Reducing the emissions from the manufacturing activity itself can positively contribute to the mitigation objectives.
Metric and Threshold	The activity complies with the life-cycle GHG emissions savings requirement of 73.4% for hydrogen [resulting in 3tCO2eq/tH2] and 70% for hydrogen-based synthetic fuels relative to a fossil fuel comparator of 94g CO2e/MJ. Life cycle GHG emissions savings are calculated using the methodology referred to in ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emission savings are verified by an independent third party. Where the CO_2 emitted from the manufacturing process is captured, the CO_2 is transported and stored underground, in accordance with the technical screening criteria set out in in Section 3.4.11 and 3.4.12.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from the manufacture of hydrogen is, in practical terms, inseparable from the potential for significant harm created by the hydrocarbon refining activity more generally and is associated with: • Polluting emissions to air (in the case of hydrogen production via electrolysis, there is an indirect environmental impact associated with the generation of electricity); • Water used for cooling might lead to local resource depletion, dependent of the local scarcity of water resources; and • The generation of wastes (e.g. spent catalysts and by-products of the various physical and chemical treatment processes used in purifying the hydrogen produced via hydrocarbon processing).	
Climate change mitigation	For adaptation projects The activity complies with the life cycle GHG emissions savings requirement of 70 % relative to a fossil fuel comparator of 94g CO_2e/MJ Life cycle GHG emissions savings are calculated using the methodology referred to in ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emission savings are verified by an independent third party.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.

Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic Criteria for DNSH to Pollution Prevention.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.2.6 Manufacture of other inorganic basic chemicals

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	202
Description	• Manufacture of carbon black • Manufacture of disodium carbonate (soda ash) • Manufacture of chlorine
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Reducing the emissions from the manufacturing of carbon black and soda ash and improving energy efficiency and switching to low carbon electricity[52] in the manufacturing of chlorine can positively contribute to the climate change mitigation objective. Mitigation measures should be incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions
Metric and Threshold	For carbon black GHG emissions from the carbon black production processes are lower than 1.141[53] tCO_2e per tonne of product. For disodium carbonate GHG emissions from the disodium carbonate production processes are lower than 0.789[54] tCO_2e per tonne of product. For chlorine Electricity consumption for electrolysis and chlorine treatment is equal or lower than 2.45 MWh per tonne of chlorine. Average life-cycle GHG emissions of the electricity used for chlorine production is at or lower than 100 g CO_2e/kWh. Life-cycle GHG emissions are calculated using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from the manufacture of carbon black, soda ash and chlorine is associated with: • The generation of process effluents (e.g. calcium chloride in aqueous solution), by products and wastes with the potential to pollute groundwater and surface water bodies as well as soils;	

52 See page 40 https://dechema.de/dechema_media/Downloads/Positionspapiere/Technology_study_Low_carbon_energy_and_feedstock_for_the_European_chemical_industry-p-20002750.pdf

53 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

54 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

• Polluting emissions to air, especially volatile organic compounds (VOC) and dust; • The use of water in water stressed areas for cooling purposes; • Process water effluents which can contain oxidizing agents; • The use of water in water stressed areas; • The generation of wastes: • Impacts on ecosystems and biodiversity from the disposal of wastes and by-products (primarily calcium carbonate, gypsum, sodium chloride and calcium chloride, although there can be trace amounts of toxic materials such as mercury, cadmium, arsenic and zinc depending on the source of the raw materials (e.g. limestone) for the production process) which create 'waste beds'.	
Climate change mitigation	For carbon black adaptation projects Greenhouse gas emissions from the carbon black production processes are lower than 1.615[55] tCO_2e per tonne of product. For disodium carbonate adaptation projects Greenhouse gas emissions from the disodium carbonate production processes are lower than 0.866[56] tCO_2e per tonne of product. For chlorine adaptation projects Electricity consumption for electrolysis and chlorine treatment is equal or lower than 2,45 MWh per tonne of chlorine. Average direct greenhouse gas emissions of the electricity used for chlorine production is at or lower than 270 g CO_2e/kWh.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic Criteria for DNSH to Pollution Prevention.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Taxonomy users disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

55 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

56 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

7.2.7 Manufacture of other organic basic chemicals

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	202

Description	Manufacture of:
	High volume chemicals:
	• acetylene
	• ethylene
	• propylene
	• butadiene
	• hydrogen
	
	Aromatics:
	• Mixed alkylbenzenes, mixed alkylnaphthalenes other than HS 2707 or 2902
	• Cyclohexane
	• Benzene
	• Toluene
	• o-Xylene
	• p-Xylene
	• m-Xylene and mixed xylene isomers
	• Ethylbenzene
	• Cumene
	• Biphenyl, terphenyls, vinyltoluenes, other cyclic hydrocarbons excluding cyclanes, cyclenes, cycloterpenes, benzene, toluene, xylenes, styrene, ethylbenzene, cumene,naphthalene, anthracene
	• Benzol (benzene), toluol (toluene) and xylol (xylenes)
	• Naphthalene and other aromatic hydrocarbon mixtures (excluding benzole, toluole, xylole)
	• Vinyl chloride
	• Styrene
	• Ethylene oxide
	• Monoethylene glycol
	• Adipic acid
	• Organic chemicals, which fall under the following:
	  ○ Saturated acyclic monocarboxylic acids and their derivatives
	  ○ Unsaturated monocarboxylic, cyclanic, cyclenic or cycloterpenic acyclic polycarboxylic acids and their derivatives
	  ○ Aromatic polycarboxylic and carboxylic acids with additional oxygen functions; and their derivatives, except salicylic acid and its salts

Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The manufacturing of organic chemicals is associated with significant CO_2 emissions. Minimizing process emissions and promoting the manufacturing of organic chemicals with renewable feedstock can contribute to the mitigation objective. Mitigation measures should be incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions
Metric and Threshold	GHG emissions from the organic basic chemicals production processes are lower than: a. for HVC: 0.693[57] tCO_2e/t of HVC;

57 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

	b. for aromatics: 0.0072[58] tCO_2e/t of aromatic; c. for vinyl chloride: 0.171[59] tCO_2e/t of vinyl chloride; d. for styrene: 0.419[60] tCO_2e/t of styrene; e. for ethylene oxide/ethylene glycols: 0.314[61] tCO_2e/t of ethylene oxide/glycol; f. for adipic acid: 0.32[62] tCO_2e /t of adipic acid. Where the organic chemicals in scope are produced wholly or partially from renewable feedstock, the life-cycle GHG emissions of the manufactured chemical, manufactured wholly or partially from renewable feedstock, are lower than the life-cycle GHG emissions of the equivalent chemical manufactured from fossil fuel feedstock. Life-cycle GHG emissions are calculated using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. Food or feed crops are not used as bio-based feedstock for the manufacture of organic basic chemicals.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to the environment from the production of other organic chemicals is associated with: • polluting emissions to air and water from the production process; • vulnerable ecosystems might be damaged by the construction and/or operation of the production facilities; • the use of water resources for production purposes (e.g. cooling water) in water stressed areas; and • the generation of hazardous wastes.	
Climate change mitigation	For adaptation projects GHG emissions from the organic chemicals production processes are lower than: a. for HVC: 0,851[63] tCO_2e/t of HVC; b. for aromatics: 0,03[64] tCO_2e/t of aromatic; c. for vinyl chloride: 0,268[65] tCO_2e/t of vinyl chloride; d. for styrene: 0,564[66] tCO_2e/t of styrene;

58 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

59 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

60 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

61 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

62 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

63 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

64 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

65 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

66 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

	e. for ethylene oxide/ethylene glycols: 0,489[67] tCO_2e/t of ethylene oxide/glycol; f. for adipic acid: 0,76[68] tCO_2e/t of adipic acid. g. Where the organic chemicals in scope are produced wholly or partially from renewable feedstock, the life-cycle GHG emissions of the manufactured chemical, manufactured wholly or partially from renewable feedstock, are lower than the life-cycle GHG emissions of the equivalent chemical manufactured from fossil fuel feedstock
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic Criteria for DNSH to Pollution Prevention.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

[67] Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

[68] Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

7.2.8 Manufacture of fertilizers and nitrogen compounds

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	20120
Description	Manufacture of: • Anhydrous ammonia • Nitric acid
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The manufacturing of ammonia and nitric acid is highly carbon-intensive. Therefore, reducing the emissions from the manufacturing activity itself can positively contribute to the mitigation objective. Mitigation measures should be incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions.
Metric and Threshold	Ammonia is produced from hydrogen that complies with the technical screening criteria set out in Section 7.2.5 of this Annex. GHG emissions from the manufacture of nitric acid are lower than 0,038[69] tCO_2e per tonne of nitric acid.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to the environment from the production of nitric acid or ammonia production is associated with: • Polluting emissions to air (especially nitrogen oxides (NOx), and ammonia (NH3)) from the production process; • Vulnerable ecosystems might be damaged by the construction and/or operation of the production facilities. • The use of water resources for production purposes (especially for cooling processes) in water stressed areas; and • The generation of hazardous wastes (e.g. spent catalyst material).	
Climate change mitigation	For adaptation projects The manufacturing of anhydrous ammonia has greenhouse gas emissions lower than 1,948[70] tCO_2e per tonne of anhydrous ammonia. GHG emissions from the manufacture of nitric acid are lower than 0,184[71] tCO_2e per tonne of nitric acid.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.

69 Reflecting the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.

70 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

71 Reflecting the median value of the installations in 2016 and 2017 (t CO2 equivalents/t) of the data collected in the context of establishing the Commission Implementing Regulation (EU) 2021/447, determined on the basis of verified information on the greenhouse gas efficiency of installations reported pursuant to Article 11 of Directive 2003/87/EC.

Sustainable use of water and marine resources	- The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	- The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	- The activity complies with the criteria set out in Appendix F: Generic Criteria for DNSH to Pollution Prevention. -
Sustainable resource use and circularity	- N/A
- Comply with Minimum Social Safeguards	
- Taxonomy users disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.2.9 Manufacture of plastics in primary form

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	20130
Description	Manufacture of plastics in primary form
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The manufacturing of plastics is associated with significant life cycle CO_2 emissions. There are many types of plastics which are used in the production of multiple end products. The Taxonomy seeks to avoid including manufacture of products that do not have a positive impact in mitigation. Disposable plastic products are highly energy inefficient and undermine efforts to contribute to mitigation. In this context, plastic manufacturing should be considered when at least 90% of the final plastic is not used for single use consumer products. This should be confirmed from science based research/studies etc. Mitigation measures should be incorporated into a single investment plan within a determined time frame (5 or 10 years) that outlines how each of the measures in combination with others will in combination enable the activity to meet the threshold defined below actions.
Metric and Threshold	The plastic in primary form is one of the following: a. fully manufactured by mechanical recycling of plastic waste; b. fully manufactured by chemical recycling of plastic waste and the life-cycle GHG emissions of the manufactured plastic, excluding any calculated benefit from the production of fuels, are lower than the life-cycle GHG emissions of the equivalent primary plastic manufactured from fossil fuel feedstock. Life-cycle GHG emissions are calculated using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. c. derived wholly or partially from renewable feedstock[72] and its life-cycle GHG emissions are lower than the life-cycle GHG emissions of the equivalent plastics in primary form manufactured from fossil fuel feedstock. Life-cycle GHG emissions are calculated using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. Food or feed crops are not used as bio-based feedstock for the manufacture of plastic in primary form.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to the environment from the production of plastics in primary form is associated with: • polluting emissions to air and water from the production process; • vulnerable ecosystems might be damaged by the construction and/or operation of the production facilities;	

72 Renewable feedstock refers to biomass, industrial bio-waste or municipal bio-waste.

• the use of water resources for production purposes (e.g. cooling water) in water stressed areas); and • the generation of hazardous wastes.	
Climate change mitigation	For adaptation projects The plastic in primary form is one of the following: a. fully manufactured by mechanical recycling of plastic waste; b. fully manufactured by chemical recycling of plastic waste where the life-cycle greenhouse gas emissions of the manufactured plastic, excluding any calculated benefit from the production of fuels, are lower than the life-cycle greenhouse gas emissions of the equivalent primary plastic manufactured from fossil fuel feedstock. Life-cycle greenhouse gas emissions are calculated using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. c. derived wholly or partially from renewable feedstock[73] where the life-cycle greenhouse gas emissions of the manufactured plastic in primary form, manufactured wholly or partially from renewable feedstock, is lower than the life-cycle greenhouse gas emissions of the equivalent plastics in primary form manufactured from fossil fuel feedstock. Life-cycle greenhouse gas emissions are calculated using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic Criteria for DNSH to Pollution Prevention.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

[73] Renewable feedstock refers to biomass, industrial bio-waste or municipal bio-waste.

7.3 Energy

7.3.1 Production of electricity, heating and cooling from Solar PV, Concentrated Solar Power, Wind Power and Ocean Energy

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	3510
Description	Construction and operation of electricity generation facilities that produce electricity, heating and cooling from Solar Photovoltaic, Concentrated Solar Power (CSP), Wind Power and Ocean Energy
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Support a transition to a low carbon net-zero emissions economy • Avoidance of lock-in to technologies which do not support the transition to a low carbon economy net-zero emissions economy • Ensure that economic activities meet best practice standards • Ensure equal comparability within an economic activity with regards to achieving low carbon net-zero emissions economy target • Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds
Metric and Threshold	For Solar PV The activity generates electricity using solar PV technology. For CSP The activity generates electricity using CSP technology. For Wind power The activity generates electricity from wind power. For Ocean energy The activity generates electricity from ocean energy.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from the installation and operation of photovoltaic (PV) panels relate to: • The PV installation siting: impacts on ecosystems and biodiversity if built in a designated conservation area or other areas with important ecosystem and biodiversity value. • The impacts from the production and end-of-life management of the PV systems and its component/materials: potentially significant environmental impacts are associated with the sourcing/production of materials and components of PV systems (see 'Manufacture of low carbon and resource efficiency technologies' for DNSH criteria) The main potential significant harm to other environmental objectives from CSP is associated with: • the construction of the installation and the substantial land-take associated with the installation • impacts to birdlife from the high temperatures generated by the plant • impacts of the cooling system on water resources In spite of the crucial contribution of wind energy to mitigating climate change, there may be conflicts arising between its deployment and nature conservation at a local level. The main environmental exposures to be considered as a Do No Significant Harm (DNSH) criteria, in the most stringent sense, include: • Underwater noise created in the installation of bottom-fixed offshore wind turbines; • The composite waste generated from both on- and offshore wind turbine blades at the end of their lifetime;	

• The possible disturbance, displacement or collision of birds and bats by the construction and operation of wind farms • The possible deterioration of water ecosystem associated to the construction of offshore wind farms • The possible visual impacts created by landscape change in the installation of wind turbines The main potential significant harm to other environmental objectives from ocean energy is associated with: • Construction, deployment, operation and maintenance of ocean energy installations can impact on marine ecosystems and biodiversity • Pollution from lubricants and anti-fouling paints and emissions from maintenance and inspection vessels	
Climate change mitigation	For Solar PV, CSP, Wind power and Ocean energy adaptation projects N/A
Climate change adaptation	For Solar PV, CSP, Wind power and Ocean energy mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	For Solar PV, CSP, Wind power and Ocean energy The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	For Solar PV, CSP technology, Wind power and Ocean energy The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	For Solar PV N/A For CSP N/A For Wind power N/A For Ocean Energy • Measures in place to minimise toxicity of anti-fouling paint and biocides which implements the International Convention on the Control of Harmful Anti-fouling Systems on Ships • Use of chemicals must adhere to the National Environmental Management Act, 1998 (Act No.107 of 1998), the Hazardous Substances Act, 1973 (Act No.15 of 1973) and the Occupational Health and Safety Act No.85 of 1993.
Sustainable resource use and circularity	For PV, CSP, Wind Power and Ocean Energy • The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.3.2 Production of electricity, heating and cooling from Hydropower

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	3510
Description	Construction and operation of electricity generation facilities that produce electricity, heating and cooling from Hydropower
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Support a transition to a low carbon net-zero emissions economy • Avoidance of lock-in to technologies which do not support the transition to a low carbon economy net-zero emissions economy • Ensure that economic activities meet best practice standards • Ensure equal comparability within an economic activity with regards to achieving low carbon net-zero emissions economy target • Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds
Metric and Threshold	The activity complies with either of the following criteria: a) the electricity generation facility is a run-of-river plant and does not have an artificial reservoir b) the life-cycle GHG emissions from the generation of electricity from hydropower, including mixed pumped hydropower storage connected to a free-flowing water source are lower than 100gCO_2e/kWh. The life-cycle GHG emissions are calculated using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. c) the power density of the electricity generation facility is above 5 W/m2.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main environmental impacts associated with hydropower installations are: • Emissions to water and generation of waste during construction; • Impacts on biodiversity associated with fragmentation of ecosystems and changes to habitat, to hydrological and hydrogeological regimes, water chemistry, and interference with species migration pathways as a result of the establishment of the installation and its operation	
Climate change mitigation	For adaptation projects The direct GHG emissions of the activity are lower than 270gCO_2e/kWh.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	For new projects: Fulfil the requirements of South African water legislation such as the National Water Act (No.36 of 1998), Mountain Catchment Areas Act (No. 63 of 1970) and the Water Services Act (No.108 of 1997) where applicable and and ensure that an appropriate cumulative impact assessment or equivalent study has been undertaken that identifies and addresses any significant regional or basin-level environmental and social impacts, in compliance with the National Water Act (No.36 of 1998) preferably at the strategic planning stage. Such a study must consider all of the planned infrastructure developments in the basin, for example as part of a hydropower cascade at the scale of the river catchment, involving all relevant stakeholders.

	Ensure that the conditions National Water Act (No.36 of 1998) are met based on ground evidence. Those include: • All practical steps are taken to mitigate the impacts; • The project has been recognized of overriding public interest and/or it is proven that the benefits of the project outweigh its impacts; • There are no significantly environmentally better option. • The project does not show significant adverse impact on upstream or downstream water bodies. • This applies to newly built hydropower and extension of existing hydropower. Construction of new hydropower should not lead to increase fragmentation of rivers, consequently refurbishment of existing hydropower plant and rehabilitation of existing barriers should be prioritised. Construction of small hydropower (<10MW) should be avoided. During operation: • All necessary mitigation measures should be implemented to reach good ecological status or potential, in particular regarding ecological continuity and ecological flow. Priority should be given to nature-based solutions. • IFC's and World Bank Group's environmental and social standards. • General impacts: Operation of the hydro power plant must adhere to the principles of the UNECE Convention on the Protection and Use of Transboundary, Watercourses and International Lakes
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.3.3 Production of electricity, heating and cooling from Geothermal

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	3510
Description	Construction and operation of electricity generation facilities that produce electricity, heating and cooling from Geothermal
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Support a transition to a low carbon net-zero emissions economy • Avoidance of lock-in to technologies which do not support the transition to a low carbon economy net-zero emissions economy • Ensure that economic activities meet best practice standards • Ensure equal comparability within an economic activity with regards to achieving low carbon net-zero emissions economy target • Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds
Metric and Threshold	Any electricity, heating and cooling generation technology or cogeneration technology can be included in the taxonomy if it can be demonstrated, using an ISO 14067 or a GHG Protocol Product Lifecycle Standard-compliant Product Carbon Footprint (PCF) assessment, that the life cycle impacts for producing 1 kWh of electricity are below the declining threshold. A full PCF or GHG lifecycle assessment shall be applied, using project specific-data where relevant, and shall be subjected to review. Declining threshold: Facilities operating at life cycle emissions at or lower than 100g CO_2e/kWh, declining to net-0gCO_2e/kWh by 2050, are eligible. • This threshold will be reduced every periodically 5 years in line with a South Africa's net-zero CO_2e in 2050 trajectory-climate mitigation target • Assets and activities must meet the threshold at the point in time when taxonomy approval is sought For activities which operate beyond 2050, it must be technically feasible to reach net-zero emissions in scope 1 emissions. For a given investment or activity to be compatible with this trajectory, its average emissions over its physical lifetime, or 40 years (whichever is shorter), must be lower than the threshold.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
- The main potential significant harm to other environmental objectives from Production of electric energy from high-enthalpy geothermal system is associated with: • Non-condensable geothermal gases with specific environmental threats, such as H_2S, CO_2, and CH_4, are often released from flash-steam and dry-steam power plants. Binary plants ideally represent closed systems and no steam is emitted. • Possible emissions to surface and underground water	
Climate change mitigation	For adaptation projects If the activity operates at above the threshold for substantial contribution to climate change mitigation, there should be: • no increase in emissions intensity of the activity as a result of the adaptation; and • no activity can have emissions intensity above the average emissions intensity of all electricity generation facilities in the respective region.

	DNSH to mitigation is considered as avoidance of activities which would compromise South Africa's net zero by 2050 climate mitigation target. Activities which operate below the 100g threshold provide a significant contribution, and that activities that operate above the regional average of 475g would cause significant harm[74]. Therefore, while activities below this 475g threshold are not considered to be providing a substantial contribution, they are also not considered to be doing significant harm.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	• Use of chemicals must adhere to the National Environmental Management Act, 1998 (Act No.107 of 1998), the Hazardous Substances Act, 1973 (Act No.15 of 1973) and the Occupational Health and Safety Act No.85 of 1993. • Discharges to water bodies should comply with individual license conditions for specific operations as governed by the National Water Act (No.36 of 1998), where applicable. Emissions to air: the operations of high-enthalpy geothermal energy systems should ensure that adequate abatement systems are in place to comply with the National Environmental Management Air Quality (Act 39 of 2004) including but not limited to <1 µg/Nm3 Hg. • Thermal anomalies associated with the discharge of waste heat should not exceed 3°K for groundwater environments or 1.5°K for surface water environments, respectively.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

74 IEA, 2019. https://www.iea.org/reports/global-energy-co2-status-report-2019/emissions

7.3.4 Production of electricity, heating and cooling from Bioenergy

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	3510
Description	Construction and operation of electricity generation facilities that produce electricity, heating and cooling from Bioenergy (Biomass, Biogas and Biofuels)
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Support a transition to a low carbon net-zero emissions economy • Avoidance of lock-in to technologies which do not support the transition to a net-zero emissions economy • Ensure that economic activities meet best practice standards • Ensure equal comparability within an economic activity with regards to achieving low carbon net-zero emissions economy target • Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds
Metric and Threshold	Production of electricity, heating and cooling from biofuels shall be assessed in relation to the relative fossil fuel comparator. Facilities operating above 80% of GHG emissions-reduction in relation to the relative fossil fuel comparator increasing to 100% by 2050, are eligible. This threshold will be reduced every periodically 5 years in line a South Africa's net-zero CO_2e in 2050 trajectory climate mitigation target. Assets and activities must meet the threshold at the point in time when taxonomy approval is sought. For activities which go beyond 2050, it must be technically feasible to reach net-zero emissions. For Anaerobic Digestion of Biowaste and Sewage Sludge, refer to activities 7.4.3 and 7.4.5 respectively. Any other anaerobic digestion of organic material (not covered under sections 7.4.3 and 7.4.5) is eligible provided that: • methane leakage from relevant facilities (e.g. for biogas production and storage, energy generation, digestate storage) is controlled by a monitoring plan. - the digestate produced is used as fertiliser/s oil improver • directly or after composting or any other treatment
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The key environmental aspects to be taken into account when investing in this activity are the impact on local water (consumption and sewage), the fulfilment of the applicable waste and recycling criteria, the SO2, NOx dust and other emissions control and the avoidance of direct impacts on sensitive ecosystems, species or habitats. Intelligent pathways for cascading use are environmentally superior and preferable to single use.	
Climate change mitigation	For adaptation projects If the activity operates at above the threshold for substantial contribution to climate change mitigation, there should be: • no increase in emissions intensity of the activity as a result of the adaptation; and • no activity can have emissions intensity above the average emissions intensity of all electricity generation facilities in the respective region. DNSH to mitigation is considered as avoidance of activities which would compromise South Africa's net zero by 2050 climate mitigation target. Activities which operate

	below the 100g threshold provide a significant contribution, and that activities that operate above the regional average of 475g would cause significant harm[75]. Therefore, while activities below this 475g threshold are not considered to be providing a substantial contribution, they are also not considered to be doing significant harm.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management concerning the activity in question or other techniques that provide for an equivalent level of environmental protection. Emissions in mg/Nm³ (for biomass in large combustion plants: SO2, NOx, dust, CO, Mercury, HCl, HF; for biomass and for liquid biofuels in medium combustion plants: SO2, NOx, dust, for biogas in medium combustion plants: SO2, NOx) • In case of Anaerobic digestion (AD) plants treating over 100 t/day. Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management concerning the activity in question or other techniques that provide for an equivalent level of environmental protection. • In case of AD, emissions to air (e.g. SOx, NOx) after combustion of biogas are controlled, abated (when needed) and within the limits set by national legislation illustrated above. • In case of AD, the resulting digestate meets the requirements for fertilising materials in the Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act no. 36 of 1947)
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

75 IEA, 2019. https://www.iea.org/reports/global-energy-co2-status-report-2019/emissions

7.3.5 Transmission and distribution of Electricity

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	3510
Description	Construction and operation of transmission Systems that transport the electricity on the extra high-voltage and high-voltage interconnected System. Construction and operation of distribution Systems that transport electricity on high-voltage, medium-voltage and low-voltage distribution Systems. Construction and operation of interconnections that transport electricity between separate systems.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Support the integration of renewable energy into the power grid • Support the transition from carbon-intensive energy supply, via electrification and parallel development of low carbon power generation capacity • Support of grid management technology used for integrating low carbon emission generation and demand side energy savings • Decreases direct emissions from transmission and distribution (T&D) infrastructure

Metric and Threshold	All electricity transmission and distribution infrastructure or equipment in systems which are on a trajectory to full decarbonisation* are eligible, except for infrastructure that is dedicated to creating a direct connection, or expanding an existing direct connection between a power production plant that is more CO_2 intensive than 100 gCO_2e/kWh, measured on a LCE basis, and a substation or network.
	
	* A System is deemed to be on a trajectory to full decarbonisation if either
	• more than 67% of newly connected generation capacity in the System is below the generation threshold value of 100 gCO_2e/kWh measured on a PCF basis, over a rolling five-year period; or
	• The average System grid emissions factor is below the threshold value of 100 gCO_2e/kWh measured on a PCF basis, over a rolling five-year average period
	
	These criteria will be subject to regular review, in line with reviews of generation threshold values and progress to decarbonisation.
	
	The following T&D grid related activities are eligible, irrespective of whether the system is on a pathway to full decarbonisation:
	• Direct connection, or expansion of existing direct connection, of low carbon electricity generation below the threshold of 100 gCO_2e/kWh declining to 0g CO_2e/kWh in 2050, measured on a PCF basis, to a substation or network.
	• EV charging stations and supporting electric infrastructure for the electrification of transport, subject to taxonomy eligibility under the transport section.
	• Equipment and infrastructure where the main objective is an increase of the generation or use of renewable electricity generation
	• Equipment to increase the controllability and observability of the electricity system and enable the development and integration of renewable energy sources, this includes:
	  ○ Sensors and measurement tools (including meteorological sensors for forecasting renewable production)
	  ○ Communication and control (including advanced software and control rooms, automation of substations or feeders, and voltage control capabilities to adapt to more decentralised renewable infeed)
	• Equipment to carry information to users for remotely acting on consumption
	• Equipment to allow for exchange of renewable electricity between users
	• Interconnectors between transmission systems are eligible, provided that one of the systems is eligible.

	Definitions and Notes: • A system is defined as the transmission or distribution network control area of the network or system operator(s) where the activity takes place. • The annual average System grid emissions factor is calculated as the total annual emissions from power generation, divided by the total annual net electricity production in that System. • The rolling five-year (average) period used in determining compliance with the thresholds shall be based on historic data, and shall be include the year for which the most recent data is available. • Transmission Systems may include generation capacity connected to subordinated Distribution Systems. • Distribution Systems subordinated to a Transmission System that is deemed to be on a trajectory to full decarbonisation may also be deemed to be on a trajectory to full decarbonisation. • To determine eligibility, it is possible to consider a System covering multiple control areas which are interconnected and with significant energy exchanges between them. In such a case, the weighted average emissions factor across all included control areas is used to determine eligibility, and individual subordinated transmission or distribution systems within this System will not be required to demonstrate compliance separately. • It is possible for a System to become ineligible after having previously been eligible. In Systems that become ineligible, no new T&D activities are eligible from that moment onward, until the system is again in compliance with the threshold (except for those activities which are always eligible, see above). Activities in subordinated Systems may still be eligible, if these subordinated Systems meet the criteria of this Taxonomy. • A direct connection or expansion of an existing direct connection to production plants includes infrastructure that is indispensable to carry the associated electricity from the power generating facility to a substation or network.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The impacts of transmission and distribution lines are a function of the spatial alignment of the grid, the structures and conductors required for various voltages, the extent to which pre-existing corridors are used, and how the transmission and distribution lines are operated and maintained. The most common environmental impacts of electricity transmission and distribution infrastructure are visual, ecosystem and land use. In the cases of underground offshore electricity lines, water and marine resources may be impacted.	
Climate change mitigation	For adaptation projects Direct connections to generation units shall be below the average emission intensity of all electricity generation facilities in the region
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	Underground power lines: • Avoid routings with heavy impact on marine and terrestrial ecosystems (proven by an EIA) and adhere to National Environmental Management Act (No.107 of 1998) as amended or IFC General EHS Guidelines for construction site activities follow, whichever is stricter.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration. Underground power lines:

	Avoid routings with heavy impact on marine and terrestrial ecosystems (proven by an EIA), UNESCO World Heritage Sites and Critical Biodiversity Areas (CBAs) and follow the principles of IFC General EHS Guidelines for construction site activities.
Pollution prevention	Overground high voltage lines: • For construction site activities these are to adhere to National Environmental Management Act (No.107 of 1998) as amended and follow the principles of IFC General Environmental, Health, and Safety Guidelines. • Respect applicable norms and regulations to limit impact of electromagnetic radiation on human health. Do not use PCBs Polyclorinated Biphenyls.
Sustainable resource use and circularity	State ambition to maximise recycling at end of life based on BAT at time of decommissioning (e.g. through contractual agreements with recycling partners, reflection in financial projections or official project documentation).
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

Further adaptation guidance

The table below illustrates the typical sensitivities of this activity to climate-related hazards. Relevant climate-related hazard will be location and context specific and should be identified through a climate risk assessment as indicated in screening criteria A1 of Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation.

Temperature-related	Wind-related	Water-related	Solid mass - related
Chronic			
• Changing temperature • Heat stress • Temperature variability	• Changing wind patterns	• Changing precipitation patterns and types • Sea level rise	• Coastal erosion • Soil erosion • Solifluction
Acute			
• Heat wave • Cold wave/frost • Wildfire/veldfire	• Cyclone, hurricane, typhoon • Storm • Tornado	• Drought • Extreme precipitation • Flood	• Avalanche • Landslide • Subsidence

7.3.6 Storage of Electricity

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	No specific SIC code
Description	Construction and operation of facilities that store electricity and return it at a later time, in the form of electricity.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Power grid stabilisation: making best use of excess electricity • The effective utilisation of peak electricity generation • Enabling the integration of low-carbon electricity • Back-up power capabilities
Metric and Threshold	Currently all electricity storage activities are eligible under the Taxonomy, subject to regular review. Eligibility criteria for Demand Side Management (load shifting) activities are available under the transmission & distribution of electricity criteria. However, hydropower pumped storage shall comply with the criteria for Section 7.3.2 Production of electricity, heating and cooling from Hydropower.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The electricity storage activities differ considerably in their physical, chemical and biological bases and forms, which result in divergent environmental impacts in each case.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	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.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	A waste management plan is in place and ensures maximal reuse or recycling at end of life in accordance with the waste hierarchy, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
Comply with Minimum Social Safeguards	
Taxonomy users disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.3.7 Storage of Thermal Energy

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	No specific SIC code
Description	Construction and operation of facilities that store thermal energy, and return it at a later time, in the form of thermal energy or other energy vectors
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Power grid stabilisation: making best use of excess electricity • The effective utilisation of peak electricity generation • Enabling the integration of low-carbon electricity • Back-up power capabilities
Metric and Threshold	Currently all thermal energy storage is eligible under the Taxonomy (including Thermal Energy Storage (UTES) or Aquifer Thermal Energy Storage (ATES)), subject to regular review.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The electricity storage activities differ considerably in their physical, chemical and biological bases and forms, which result in divergent environmental impacts in each case.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	For Aquifer Thermal Energy 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.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.3.8 Storage of Hydrogen

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	No specific SIC code
Description	Construction and operation of facilities that store hydrogen, and return it at a later time, in the form of hydrogen or other energy vectors
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Power grid stabilisation: making best use of excess electricity • The effective utilisation of peak electricity generation
Metric and Threshold	The activity is one of the following: a) construction of hydrogen storage facilities. b) Conversion of existing underground gas storage facilities into storage facilities dedicated to hydrogen-storage; c) operation of hydrogen storage facilities where the hydrogen stored in the facility meets the criteria for manufacture of hydrogen set out in Section 7.2.5 of this Annex.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The electricity storage activities differ considerably in their physical, chemical and biological bases and forms, which result in divergent environmental impacts in each case.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	N/A
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	Comply with the National Environmental Management Waste Act (Act 59 of 2008)
Sustainable resource use and circularity	A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.3.9 Transmission and distribution networks for renewable and low-carbon gases

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	35200 49300
Description	Repurposing of gas networks for the distribution of gaseous fuels through a system of mains. Repurposing of gas networks for long-distance transport of renewable and low-carbon gases by pipelines. Construction or operation of transmission and distribution pipelines dedicated to the transport of hydrogen or other low-carbon gases. Low-carbon gases include biogas/biomethane and hydrogen produced from hydrogen that complies with the technical screening criteria set out in Section 7.2.5
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Significant GHG emissions reductions by reducing leakage and increasing the volume of hydrogen and other low-carbon gases used in the system
Metric and Threshold	1. The activity consists in one of the following: a) construction or operation of new transmission and distribution networks dedicated to hydrogen or other low-carbon gases; b) conversion/repurposing of existing natural gas networks to 100 % hydrogen; and c) retrofit of gas transmission and distribution networks, where the main purpose is the integration of hydrogen and other low-carbon gases, including any gas transmission or distribution network activity, which enables the network to increase the blend of hydrogen or other low carbon gasses in the gas system; 2. The activity includes leak detection and repair of existing gas pipelines and other network elements to reduce methane leakage.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from retrofit and operation of existing gas distribution and supply networks that allow for the use of hydrogen and other low-carbon gas systems are associated with: • Retrofitting phase of the network: all aspects have to be considered that are usually connected with construction like terrestrial habitat alteration, loss of valuable ecosystems, land consumption, overburden disposal, negative impacts on biodiversity, emissions of particles and NOx, noise and hazardous materials. For larger projects an EIA should be done. • Operation phase: Leakages should be kept at a minimum. Underground networks can have an impact on ground water systems and on local ecosystems.	
Climate change mitigation	For adaptation projects The repurposing does not increase gas transmission and distribution capacity. The repurposing does not extend the lifespan of the networks beyond their pre-retrofit projected lifespan, unless the network is dedicated to hydrogen or other low-carbon gases.
Climate change adaptation	For mitigation projects

	The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources .
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	Fans, compressors, pumps and other equipment used which is covered comply, where relevant, with the top class requirements of the energy label, and with implementing regulations and represent the best available technology.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.3.10 District Heating/Cooling Distribution

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	35300
Description	Construction and operation of pipelines and associated infrastructure for distribution of heating and cooling, ending at the sub-station or heat exchanger.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Support a transition to a low carbon net-zero emissions economy • Avoidance of lock-in to technologies which do not support the transition to a low carbon economy net-zero emissions economy • Ensure that economic activities meet best practice standards • Ensure equal comparability within an economic activity with regards to achieving low carbon-net-zero emissions economy target • Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds • Support the installation and operation of energy efficiency upgrades
Metric and Threshold	Construction and operation of pipelines and associated infrastructure for distributing heating and cooling is currently eligible, if the system uses at least 50% renewable energy or 50% waste heat or 75% cogenerated heat or 50% of a combination of such energy and heat. The following activities are always eligible: • Modifications to lower temperature regimes • Advanced pilot systems (control and energy management systems, Internet of Things)
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
Key environmental aspects to be considered for the investments in Distribution of District Level Heating and Cooling are summarised as follow: • For the construction of the mains, the potential significant harms to the environmental objectives are constituted by the typical potential harms connected to construction of facilities in general. This includes inter alia, terrestrial habitat alteration, loss of valuable ecosystem, land consumption, overburden disposal, negative effects on biodiversity, emissions of particles and NOx, noise and hazardous materials. • For the operation of the district heating networks, potential significant impacts are considered low. They relate mainly to the potential impact of underground district heating networks on drinking water/ground water systems and local ecosystems through corrosion products from corrosion of the distribution system elements and applied water additives that may be non-biodegradable.	
Climate change mitigation	For adaptation projects The direct greenhouse gas emissions of the activity are lower or equal to 475 gCO_2e/KWh. DNSH to mitigation is considered as avoidance of activities which would compromise South Africa's net zero by 2050 climate mitigation target.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.

Pollution prevention	A minimum requirement is the implementation and adherence to a recognised environmental management system (ISO 14001 or equivalent)
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.3.11 Installation and operation of Electric Heat Pumps

<table>
<tr><th colspan="2">Sector classification and activity</th></tr>
<tr><td>Macro-Sector</td><td>Electricity, gas, steam and air conditioning supply</td></tr>
<tr><td>SIC Code</td><td>35300</td></tr>
<tr><td>Description</td><td>Installation and operation of electric heat pumps</td></tr>
<tr><th colspan="2">Make Significant Contribution criteria</th></tr>
<tr><td colspan="2">Climate Change Mitigation</td></tr>
<tr><td>Objective</td><td>• Support a transition to a low carbon net-zero emissions economy
• Avoidance of lock-in to technologies which do not support the transition to a low carbon economy net-zero emissions economy
• Ensure that economic activities meet best practice standards
• Ensure equal comparability within an economic activity with regards to achieving low carbon net-zero emissions economy target
• Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds
• Electric heat pumps have no direct emissions and can increase the use of low carbon electricity with a high coefficient of performance.</td></tr>
<tr><td>Metric and Threshold</td><td>Currently, installation and operation of electric heat pumps is eligible, if:
• Refrigerant threshold: GWP ≤ 675; and
• A minimum requirement is the implementation and adherence to a recognised environmental management system (ISO 14001 or equivalent)</td></tr>
<tr><td colspan="2">Climate Change Adaptation</td></tr>
<tr><td colspan="2">Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation.
Users of the Taxonomy should identify and explain which criteria they are responding to.</td></tr>
<tr><th colspan="2">Do No Significant Harm assessment</th></tr>
<tr><td colspan="2"></td></tr>
<tr><td>Climate change mitigation</td><td>N/A</td></tr>
<tr><td>Climate change adaptation</td><td>For mitigation projects

The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.</td></tr>
<tr><td>Sustainable use of water and marine resources</td><td>The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.</td></tr>
<tr><td>Ecosystem protection and restoration</td><td>N/A</td></tr>
<tr><td>Pollution prevention</td><td>For air to air heat pumps with rated capacity of 12kW or below, indoor and outdoor sound power levels are required to adhere to the thresholds set in the below table

<table>
<tr><td colspan="2">Rate capacity ≤ 6 kW</td><td colspan="2">6 < Rated capacity ≤12 kW</td></tr>
<tr><td>Indoor sound power level in dB(A)</td><td>Outdoor sound power level in dB(A)</td><td>Indoor sound power level in dB(A)</td><td>Outdoor sound power level in dB(A)</td></tr>
<tr><td>60</td><td>65</td><td>65</td><td>70</td></tr>
</table>
</td></tr>
<tr><td>Sustainable resource use and circularity</td><td>The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
A waste management plan is in place and ensures maximal reuse, remanufacturing or recycling at end of life, including through contractual agreements with waste management partners, reflection in financial projections or official project documentation.</td></tr>
<tr><th colspan="2">Comply with Minimum Social Safeguards</th></tr>
</table>

Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.

7.3.12 Production of Heating/Cooling using Waste Heat

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	35300
Description	Production of heating and cooling using Waste Heat
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• Support a transition to a low carbon net-zero emissions economy • Avoidance of lock-in to technologies which do not support the transition to a low carbon economy net-zero emissions economy • Ensure that economic activities meet best practice standards • Ensure equal comparability within an economic activity with regards to achieving low carbon net-zero emissions economy target • Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds
Metric and Threshold	The activity produces heating/cooling from waste heat.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
Key environmental aspects to be considered for the production of heat/cool using waste heat are generally moderate and should mostly be covered by considerations at the heat / cool source.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	N/A
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	A minimum requirement is the implementation and adherence to a recognised environmental management system (ISO 14001 or equivalent)
Sustainable resource use and circularity	The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability and that are easy to dismantle and refurbish.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4 Water and Waste

7.4.1 Water collection, storage, distribution treatment and supply

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	36000
Description	Water collection, storage, distribution, treatment and supply with high energy efficiency of the system.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Substantial contribution to GHG emissions savings through low specific energy consumption in the water collection, treatment and supply system. By 2025 the feasibility of Option 2, in particular with regard to the intended incentive for substantial energy efficiency improvements in water supply systems, will be assessed.
Metric and Threshold	The front-to-end water collection, storage, distribution, treatment and supply system is eligible provided that it's performance in terms of energy consumption per cubic meter of final water supply is high or substantially improved. Eligibility is demonstrated by adherence to one of two optional thresholds: • Option 1: The front-to-end water supply, storage and distribution system has a high degree of energy efficiency characterized by an average energy consumption of the system (including abstraction, treatment and distribution) of 0.5 kwh per cubic meter billed/unbilled authorized water supply or less[76]. • Option 2: The energy efficiency of the front-to-end water supply storage and distribution system is increased substantially by decreasing the average energy consumption of the system by at least 20% (including abstraction, treatment and distribution; measured in kwh per cubic meter billed/unbilled authorized water supply); Or • by closing the gap between the actual leakage of the water supply storage and distribution network and a given target value of low leakage by at least 20%. The unit of measurement is the Infrastructure Leakage Index (ILI)[77], the target value of low leakage is an ILI of 1.5.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm linked to this activity is related to: • water abstraction; • possible detrimental effects to ecosystems. Compliance with the National Environmental Management Act (No.107 of 1998) as amended as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.

76 Value of 0.5 according to the European benchmarking. Public Report IB2017 in https://www.waterbenchmark.org/documents/Public-documents.

77 The Infrastructure Leakage Index (ILI) is calculated as current annual real losses (CARL) / unavoidable annual real losses (UARL). See Canfora P., Antonopoulos I. S., Dri M., Gaudillat P., Schönberger H. (2019), "Best Environmental Management Practice for the Public Administration Sector". JRC Science for Policy Report EUR 29705 EN.

Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	N/A
- **Comply with Minimum Social Safeguards**	
- Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.2 Centralized wastewater treatment

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	37000
Description	Treatment of wastewater in centralized systems (including collection and wastewater treatment plants), substituting treatment systems causing high GHG emissions (e.g. onsite sanitation, anaerobic lagoons).
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Net GHG emission reduction through centralization of wastewater treatment thus substituting decentralized sanitation systems with higher GHG emissions.
Metric and Threshold	Construction or extension of centralized wastewater systems including collection (sewer network) and treatment is eligible, provided that: • the new wastewater treatment substitutes more GHG emission intensive wastewater treatment systems (such as pit latrines, septic tanks, anaerobic lagoons etc.). No threshold applies.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm linked to this activity is related to: • emissions to water from wastewater treatment; • combined sewer overflow in case of heavy rainfall; • sewage sludge treatment; • possible detrimental effects to ecosystems. Compliance with the National Environmental Management Act (No.107 of 1998) as amended as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration. •
Pollution prevention	• Ensure emissions to water are in alignment with the National Environmental Management Air Quality (Act 39 of 2004) • Implement appropriate measures to avoid and mitigate combined sewer overflow in case of heavy rainfall, such as Nature-based solutions, separate rainwater collection systems, retention tanks and / or treatment of the first flush. • Ensure sewage sludge is managed/used (e.g. anaerobic digestion, land application) according to National Water Act (No.36 of 1998) and the National Environmental Management Act (No.107 of 1998) as amended
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.3 Anaerobic digestion of sewage sludge

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	37000
Description	Treatment of sewage sludge in wastewater treatment plants or in other dedicated installation with the resulting production and utilization of biogas.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Net GHG emission reduction from sewage sludge treatment through the capture and utilization of the generated biogas in various forms and applications, often displacing fossil fuels.
Metric and Threshold	1. A monitoring plan is in place for methane leakage at the facility. 2. The produced biogas is used directly for the generation of electricity or heat, or upgraded to bio-methane for injection in the natural gas grid, or used as vehicle fuel or as feedstock in chemical industry.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm linked to this activity is related to: • emissions to air, soil and water from the operation of the anaerobic digestion plant which may lead to emissions of pollutants that have significant impacts on human respiratory systems and on ecosystems through acidification and/or eutrophication. The most relevant emissions are resulting from the sludge storage as well as from the subsequent combustion of biogas, such as sulphur dioxide, nitrous oxide and particulates; • the subsequent use of the resulting digestate as fertiliser / soil improver which may also result in soil and water pollution due to contaminants in the digestate. Compliance with the National Environmental Management Act (No.107 of 1998) as amended as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	For adaptation projects Methane leakages from relevant facilities (e.g. for biogas production and storage, energy generation, digestate storage) is controlled by a monitoring plan.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	• Emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach and are in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management • Emissions to air (e.g. SOx, NOx) after combustion of biogas are controlled, abated (when needed) and within the limits set by National Environmental Management Air Quality (Act 39 of 2004) • If the resulting digestate is intended for use as fertiliser / soil improver, it must meet the Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act,

	1947 (Act no. 36 of 1947) and its nitrogen content (with tolerance level ±25 %) is communicated to the buyer or the entity in charge of taking off the digestate.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.4 Separate collection and transport of non-hazardous waste in source segregated fractions

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	38110
Description	Separate collection and transport of non-hazardous waste in single or comingled fractions aimed at preparing for reuse and/or recycling.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Net GHG emission reductions through reuse and high quality recycling of waste, which are enabled by the separate collection and transport of source-segregated non-hazardous waste fractions. Reuse and recycling activities reduce GHG emissions by displacing alternative waste management options (e.g. landfilling and incineration) and alternative raw material sourcing options with higher GHG emission intensity.
Metric and Threshold	Separate collection and transport of non-hazardous waste is eligible provided that source segregated waste (in single or co-mingled fractions) is separately collected with the aim of preparing for reuse and/or recycling. No threshold applies.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm linked to this activity is related to: • emissions of collection vehicles that cause harm to human health and the environment; • mixing source segregated waste fractions that could impair subsequent material recovery and recycling. Compliance with the National Environmental Management Act (No.107 of 1998) as amended-as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	N/A
Pollution prevention	N/A
Sustainable resource use and circularity	Avoid mixing different source segregated waste fractions in waste storage and transfer facilities.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.5 Anaerobic digestion of bio-waste

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	38210
Description	- Treatment of separately collected bio-waste through anaerobic digestion in dedicated plants with the resulting production and utilization of biogas and digestate.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	- Net GHG emission reduction through • avoidance of GHG emissions compared to alternative options for bio-waste management; • controlled production and utilization of biogas in various forms and applications, often displacing fossil fuels; • production and use of digestate as fertiliser/soil improver[78], displacing synthetic fertilisers and increasing carbon sequestration in soils.
Metric and Threshold	- Anaerobic digestion of bio-waste is eligible provided that (cumulative): a) the bio-waste is source segregated and collected separately; b) methane leakage from relevant facilities (e.g. for biogas production and storage, energy generation, digestate storage) is controlled by a monitoring plan c) the produced biogas is used directly for the generation of electricity and/or heat, or upgraded to bio-methane for injection in the natural gas grid, or used as vehicle fuel (e.g. as bioCNG) or as feedstock in chemical industry (e.g. for production of H2 and NH3); d) the digestate produced is used as fertiliser/soil improver – directly or after composting or any other treatment; e) in dedicated bio-waste treatment plants, bio-waste shall constitute a major share of the input feedstock (at least 70%, measured in weight, as an annual average). Co-digestion is eligible only with a minor share (up to 30% of the input feedstock) of advanced bioenergy feedstock. If energy crop feedstock is used (with a minor share up to 30%) it shall comply with the National Environmental Management Act (No.107 of 1998) as amended, the National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the Gas Act (Act 48 of 2001).
- Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
- The main potential significant harm linked to this activity is related to: • emissions to air, soil and water from the operation of the anaerobic digestion plant which may lead to emissions of pollutants that have significant impacts on human respiratory systems and on ecosystems through acidification and/or eutrophication. The most relevant emissions are resulting from the sludge storage as well as from the subsequent combustion of biogas, such as sulphur dioxide, nitrous oxide and particulates; • the subsequent use of the resulting digestate as fertiliser / soil improver which may also result in soil and water pollution due to contaminants in the digestate. - Compliance with the National Environmental Management Act (No.107 of 1998) as amended as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	Methane leakages from relevant facilities (e.g. for biogas production and storage, energy generation, digestate storage) is controlled by a monitoring plan.

[78] Bio-waste comprises biodegradable garden and park waste, food and kitchen waste from households, offices, restaurants, wholesale, canteens, caterers and retail premises and comparable waste from food processing plants.

Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	• In the case of Anaerobic digestion (AD) plants treating over 100 t/day. Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management concerning the activity in question or other techniques that provide for an equivalent level of environmental protection. • Emissions to air (e.g. SOx, NOx) after combustion of biogas are controlled, abated (when needed) and within the limits set by National Environmental Management Air Quality (Act 39 of 2004) • If the resulting digestate is intended for use as fertiliser / soil improver, it must meet the requirements for fertilising materials in the Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act no. 36 of 1947) the national rules on fertilisers/soil improvers for agricultural use.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.6 Composting of bio-waste

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	38210
Description	- Treatment of separately collected bio-waste through composting (aerobic digestion) in dedicated facilities with the resulting production and utilization of compost.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	- Net GHG emission reduction through avoidance of GHG emissions compared to alternative options for bio-waste management and from the production of compost that can be used as fertiliser/soil improver displacing synthetic fertilisers and peat (e.g. in horticulture).
Metric and Threshold	- Composting of bio-waste is eligible provided that (cumulative): • the bio-waste is source segregated and collected separately; • anaerobic digestion is not a technically and economically viable alternative; • the compost produced is used as fertiliser/soil improver[79]. - No threshold applies.
- Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
- The main potential significant harm linked to this activity is related to: • emissions to air, soil and water from the operation of the plant; • the use of the resulting compost as fertiliser / soil improver which may also result in soil and water pollution due to contaminants in the compost. - Compliance with the National Environmental Management Act (No.107 of 1998) as amended as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	Ensure an Environmental Impact Assessment (EIA) has been completed in accordance with the National Environmental Management Act (No.107 of 1998) as amended where relevant and any required mitigation measures for protecting biodiversity/eco-systems, in particular UNESCO World Heritage and Key Biodiversity Areas, have been implemented. For sites/operations located in or near to biodiversity-sensitive areas, ensure that an appropriate assessment has been conducted in compliance with the provisions of the National Environmental Management Biodiversity Act (Act 10 of 2004).
Pollution prevention	• In case of composting plants treating over 75 t/day. Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act

[79] Bio-waste comprises biodegradable garden and park waste, food and kitchen waste from households, offices, restaurants, wholesale, canteens, caterers and retail premises and comparable waste from food processing plants.

	39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management concerning the activity in question or other techniques that provide for an equivalent level of environmental protection. • The site has a system in place that prevents leachate reaching groundwater. • The resulting compost meets the requirements for fertilising materials in the Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act no. 36 of 1947)
Sustainable resource use and circularity	N/A
- **Comply with Minimum Social Safeguards**	
- Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.7 Material recovery from non-hazardous waste

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	38210
Description	Sorting and processing of separately collected non-hazardous waste streams into secondary raw materials involving a mechanical transformation process.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Net GHG emission reduction enabled through material recovery of separately collected non-hazardous waste streams thanks to the subsequent substitution of virgin materials with secondary raw materials having lower embedded GHG emissions.
Metric and Threshold	Material recovery from separately collected non-hazardous waste is eligible provided that: • it produces secondary raw materials suitable for substitution of virgin materials in production processes; • at least 50%, in terms of weight, of the processed separately collected non-hazardous waste is converted into secondary raw materials.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
Compliance with the National Environmental Management Act (No.107 of 1998) as amended as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	For adaptation projects N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	N/A
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.8 Landfill gas capture and utilization

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	39000
Description	Landfill gas capture and utilization in permanently closed landfills using new (or supplementary) dedicated technical facilities and equipment installed during or post landfill closure.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Net GHG emission reduction through the capture and utilization of landfill gas in various forms and applications, often displacing fossil fuels. By 2025 the feasibility of the principle, in particular with regard to the intended incentive to close landfills should be assessed.
Metric and Threshold	Collection and utilization of landfill gas is eligible provided that (cumulative): • the landfill has not been opened after [date of entry into force of Taxonomy); • the landfill (or landfill cell) where the system is newly installed (or extended and / or retrofitted) is permanently closed and is not taking further waste; • the produced landfill gas is used directly for the generation of electricity and/or heat, or upgraded to bio-methane for injection in the natural gas grid, or used as vehicle fuel (e.g. as bioCNG) or as feedstock in chemical industry (e.g. for production of H2 and NH3); • methane emissions from the landfill and leakages from the landfill gas collection and utilization facilities are controlled by a monitoring plan. No threshold applies.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm linked to this activity is related to the emissions resulting from the energetic utilization of landfill gas, such as sulphur dioxide, nitrous oxide and particulates. Compliance with the National Environmental Management Act (No.107 of 1998) as amended as well as local water management strategies and plans is a minimum requirement.	
Climate change mitigation	For adaptation projects Methane leakages from relevant facilities (e.g. for biogas production and storage, energy generation, digestate storage) is controlled by a monitoring plan.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	N/A
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	• Emissions to air (e.g. SOx, NOx) after combustion of landfill gas are controlled, abated (when needed) and within the limits set by the National Environmental Management Air Quality (Act 39 of 2004)

Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.9 Direct Air Capture of CO_2

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	39
Description	Direct Air Capture of CO_2
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• The activity provides substantial contribution to achieving net-zero GHG emissions; • The activity reduces net GHG emissions from economic activities and GHG concentrations in the atmosphere; • The activity leads to significant emissions reductions compared to Business as Usual (BAU); • Ensure there is sufficient sequestration capacity available to meet the rate of capture of CO_2; and • Emissions captured from Direct Air Capture cannot be attributed towards meeting the threshold of another economic activity in the Taxonomy.
Metric and Threshold	As direct air capture is energy-intensive, energy usage needs to be based on a low emission energy source. As a result, the overall life cycle emissions for scope 1 and 2 must be no more than 20% of the quantity of CO_2 removed to realise an 80% reduction in emissions.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main environmental impacts associated with the capture of greenhouse gas emissions are due to chemicals/technologies used to capture carbon.	
Climate change mitigation	N/A
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	Fulfil the requirements of South African water legislation such as the National Water Act (No.36 of 1998), Mountain Catchment Areas Act (No. 63 of 1970) and the Water Services Act (No.108 of 1997) where applicable. Identify and manage risks related to water quality and/or water consumption at the appropriate level. Where water use/conservation management plans are required by South African legislation, these plans are to be developed in consultation with relevant stakeholders.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.10 Capture of Greenhouse Gas Emissions

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	39
Description	Capture of Greenhouse Gas emissions
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• The activity provides substantial contribution to achieving net-zero GHG emissions target by 2050; • The activity reduces net GHG emissions from economic activities and GHG concentrations in the atmosphere; • The activity leads to significant emissions reductions compared to Business as Usual (BAU); and • Ensure there is sufficient sequestration capacity available to meet the rate of capture of CO_2e
Metric and Threshold	Capture of greenhouse gas emissions is currently eligible provided that: • It enables the economic activity to operate under its respective threshold; and • It shows that the captured CO_2 will be offloaded to a Taxonomy eligible CO_2 transportation operation and permanent sequestration facility. This criterion is subject to regular review.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main environmental impacts associated with Capture of greenhouse gas emissions are due to chemicals/technologies used to capture carbon.	
Climate change mitigation	For adaptation projects Leakage factor of 1% of emissions on the basis that leakage of supposedly stored CO_2 is significantly harmful.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	A minimum requirement is the implementation and adherence to a recognised environmental management system (ISO 14001 or equivalent); Follow all the requirements of National Environmental Management Act (No.107 of 1998) as amended and in particular: • Select solvents based on environmental impact criteria and conducting full chemical risk assessments; • Prevent release during operation by implementing permanent leakage detection systems; • Avoid loss of ammonia; and • Minimize the formation of secondary aerosol and the production of tropospheric ozone.
Sustainable resource use and circularity	• Select solvents based on environmental impact criteria and conducting full chemical risk assessments. • Avoid hazardous waste from the amine solvent.

	• Limit for nitrosamine concentration is 0.1 ppt.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.11 Transport of CO_2

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	39
Description	Transport of captured CO_2 by rail, ship and pipeline
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• The activity provides substantial contribution to achieving net-zero GHG emissions target by 2050; • The activity reduces net GHG emissions from economic activities and GHG concentrations in the atmosphere; • The activity leads to significant emissions reductions compared to Business as Usual (BAU); and • Ensure there is sufficient sequestration capacity available to meet the rate of capture of CO_2e
Metric and Threshold	Transport modalities that contribute to the transport of CO_2 to eligible permanent sequestration sites are eligible, only if the asset operates below the leakage/tonne of CO_2 threshold. Leakage/tonne of CO_2 transported from head(s) of the transport network to injection point(s) is <0.5%, and the CO_2 is delivered to a taxonomy-eligible permanent sequestration site or to other transport modalities which lead directly to an eligible permanent sequestration site are eligible. Assets or activities that enable carbon capture and utilisation (CCU) will deem all the connected elements of an existing transport network ineligible. Assets which increase the flexibility and management of an existing network, without expanding the network to include carbon capture and use activities is eligible. This criterion is subject to regular review.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main environmental impacts associated with Sequestration of CO_2 are due to: • Construction phase of the transport network: all aspects have to be considered that are usually connected with construction, like terrestrial habitat alteration, loss of valuable ecosystems, land consumption, overburden disposal, negative impacts on biodiversity, emissions of particles and NOx, noise and hazardous materials. An EIA should be done. • Operation phase: Leakages should be kept at a minimum. Underground networks can have an impact on ground water systems and on local ecosystems.	
Climate change mitigation	For adaptation projects Leakage factor of 1% of emissions on the basis that leakage of supposedly stored CO_2 is significantly harmful.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.

Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.4.12 Permanent Sequestration of Captured CO_2

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	39
Description	Permanent Sequestration of captured CO_2
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• The activity provides substantial contribution to achieving net-zero GHG emissions target by 2050; • The activity reduces net GHG emissions from economic activities and GHG concentrations in the atmosphere; • The activity leads to significant emissions reductions compared to Business as Usual (BAU); and • Ensure there is sufficient sequestration capacity available to meet the rate of capture of CO_2e
Metric and Threshold	Operation of a permanent CO_2 storage facility is eligible if the facility complies with ISO 27914:2017 for geological storage of CO_2. These requirements are subject to periodical review.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main environmental impacts associated with Sequestration of CO_2 are due to: • The risk of leakage; and • The long-term lack of geological containment of the reservoirs, central issues regarding the monitoring and the interrelation of carbon with physical, chemical and geological conditions in the reservoir is still a debated argument, however the safety of CO_2 storage may be assured with the implementation of specific rules and requirements.	
Climate change mitigation	For adaptation projects Leakage factor of 1% of emissions on the basis that leakage of supposedly stored CO_2 is significantly harmful.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	Follow all the requirements of National Environmental Management Act (No.107 of 1998) as amended and in particular: • The implementation and adherence to a recognised environmental management system (ISO 14001, or equivalent); • Prevent release during operation by implementing mobile and constant detection leakage detection systems.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.5 Transportation

7.5.1 Commuter road, passenger rail and freight rail transport

Sector classification and activity	
Macro-Sector	Transportation and storage
SIC Code	49110 Passenger rail transport 49120 Freight rail transport 49210 Commuter transport
Description	Passenger Rail Transport (Interurban) Freight rail Transport Urban and suburban passenger land transport (public transport)
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Demonstrate substantial GHG emission reduction by: • Increasing the number of low- and zero emission fleets, and improving fleet efficiency; • Improving efficiency of the overall transport/mobility system; and • Increasing substitution of fossil fuels with sustainable alternative and net-zero carbon fuels
Metric and Threshold	For Commuter road The direct (tailpipe) CO_2 emissions of the vehicles are zero. For Passenger rail The activity complies with one or both of the following criteria: a) the trains and passenger coaches have zero direct (tailpipe) CO_2 emissions; b) the trains and passenger coaches have zero direct tailpipe CO_2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode). For Freight Rail 1. The activity complies with one or both of the following criteria: a) the trains and wagons have zero direct tailpipe CO_2 emission; b) the trains and wagons have zero direct tailpipe CO_2 emission when operated on a track with necessary infrastructure, and use a conventional engine where such infrastructure is not available (bimode). 2. The trains and wagons are not dedicated to the transport of fossil fuels.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from the operation of rail transport activities are attributed to air pollution, noise and vibration, water use. Direct emissions of air pollutants are not an issue of concern in the case of electrified rail, but only where (very efficient) diesel or hybrid engines would meet the CO_2e-threshold defined to ensure substantial mitigation of GHG emissions.	
Climate change mitigation	For commuter road adaptation projects The activity does not include purchasing vehicles with CO_2 emissions higher than average for the category. For passenger rail adaptation projects N/A For freight rail adaptation projects

	The trains and wagons are not dedicated to the transport of fossil fuels.
Climate change adaptation	For commuter road, passenger tail and freight rail mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	N/A
Ecosystem protection and restoration	N/A
Pollution prevention	For commuter road 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. For passenger rail and freight rail Minimise noise and vibrations of rolling stock, thresholds in line with the Environmental Conservation Act (Act 73 or 1989) and the Occupational Health and Safety Act (Act 85 of 1993).
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. For passenger rail and freight rail Measures are in place to manage waste in accordance with the waste hierarchy, in particular during maintenance.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.5.2 Infrastructure for low carbon transport

Sector classification and activity	
Macro-Sector	Transportation and storage
SIC Code	42100 Infrastructure for low carbon transport (land) 42900 Infrastructure for low carbon transport (water)
Description	For climate change mitigation projects • Infrastructure for personal mobility, cycling logistics - construction, modernisation, maintenance and operation of infrastructure for personal mobility, including the construction of roads, motorways bridges and tunnels and other infrastructure that are dedicated to pedestrians and bicycles, with or without electric assist. • Infrastructure for rail transport - construction, modernisation, operation and maintenance of railways and subways as well as bridges and tunnels, stations, terminals, rail service facilities, safety and traffic management systems including the provision of architectural services, engineering services, drafting services, building inspection services and surveying and mapping services and the like as well as the performance of physical, chemical and other analytical testing of all types of materials and products. • Infrastructure enabling low-carbon road transport and public transport - construction, modernisation, maintenance and operation of infrastructure that is required for zero tailpipe CO2 operation of zero-emissions road transport, as well as infrastructure dedicated to transhipment, and infrastructure required for operating urban transport. • Infrastructure enabling low carbon water transport - construction, modernisation, operation and maintenance of infrastructure that is required for zero tailpipe CO2 operation of vessels or the port's own operations, as well as infrastructure dedicated to transhipment. • Low carbon airport infrastructure - Construction, modernisation, maintenance and operation of infrastructure that is required for zero tailpipe CO2 operation of aircraft or the airport's own operations, as well as for provision of fixed electrical ground power and preconditioned air to stationary aircraft. For climate change adaptation projects The economic activity is focuses on physical and non-physical solutions that reduce physical climate risks and include • Infrastructure for water transport - Construction, modernisation and operation of waterways, harbour and rivers works, pleasure ports, locks, dams and dykes and other, including the provision of architectural services, engineering services, drafting services, building inspection services and surveying and mapping services and the like as well as the performance of physical, chemical and other analytical testing of all types of materials and products and excludes project management activities related to civil engineering works. • The economic activities in this category exclude dredging of waterways.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Demonstrate substantial GHG emission reduction by <u>enabling</u> an: • Increasing the number of low- and zero emission fleets, and improving fleet efficiency • Improving efficiency of the overall transport/mobility system
Metric and Threshold	Infrastructure for personal mobility, cycling logistics

	The infrastructure that is constructed and operated is dedicated to personal mobility or cycle logistics: pavements, bike lanes and pedestrian zones, electrical charging and hydrogen refuelling installations for personal mobility devices. Infrastructure for rail transport 1. The activity complies with one of the following criteria: a) the infrastructure is either: i. electrified trackside infrastructure and associated subsystems: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems; ii. new and existing trackside infrastructure and associated subsystems where there is a plan for electrification as regards line tracks, and, to the extent necessary for electric train operations, as regards sidings, or where the infrastructure will be fit for use by zero tailpipe CO2 emission trains within 10 years from the beginning of the activity: infrastructure, energy, on-board control-command and signalling, and trackside control-command and signalling subsystems; b) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods; c) infrastructure and installations are dedicated to the transfer of passengers from rail to rail or from other modes to rail. 2. The infrastructure is not dedicated to the transport or storage of fossil fuels. Infrastructure enabling low-carbon road transport and public transport 1. The activity complies with one of the following criteria: a) the infrastructure is dedicated to the operation of vehicles with zero tailpipe CO2 emissions: electric charging points, electricity grid connection upgrades, hydrogen fuelling stations or electric road systems (ERS); b) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods; c) the infrastructure and installations are dedicated to urban and suburban public passenger transport, including associated signalling systems for metro, tram and rail systems. 2. The infrastructure is not dedicated to the transport or storage of fossil fuels. Infrastructure enabling low carbon water transport 1. The activity complies with one of the following criteria: a) the infrastructure is dedicated to the operation of vessels with zero direct (tailpipe) CO2 emissions: electricity charging, hydrogen-based refuelling; b) the infrastructure is dedicated to the performance of the port's own operations with zero direct (tailpipe) CO2 emissions; c) the infrastructure and installations are dedicated to transhipping freight between the modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods. 2. The infrastructure is not dedicated to the transport or storage of fossil fuels. Low carbon airport infrastructure 1. The activity complies with one of the following criteria: a) the infrastructure is dedicated to the operation of aircraft with zero tailpipe CO2 emissions: electricity charging and hydrogen refuelling; b) the infrastructure is dedicated to the provision of fixed electrical ground power and preconditioned air to stationary aircrafts;

	c) the infrastructure is dedicated to the zero direct emissions performance of the airport's own operations: electric charging points, electricity grid connection upgrades, hydrogen refuelling stations. 2. The infrastructure is not dedicated to the transport or storage of fossil fuels.
Climate Change Adaptation	
For infrastructure for water transport, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from infrastructure activities are attributed to noise and vibration pollution, water contamination, waste generation and impacts on biodiversity (habitat and wildlife) and land use consumption with ecosystem impacts specifically: • Contamination of water during construction and unsustainable use of water during construction and operations • Unsustainable use of resources during constructions, e.g. generation of high amount of waste, no recycling/reuse of construction waste • Noise pollution can be relevant for both rolling stock and railway infrastructure as noise can be generated by both rolling stock and poor conditions of rail tracks. • Construction of infrastructure can cause significant harm when taking place in protected areas or areas of high biodiversity values outside protected areas. • Infrastructure can cause fragmentation and degradation of the natural and urban landscape due to the "barrier" effects of the infrastructure and can involve risks of wildlife accidents caused by collisions. Railway infrastructure (in particular tunnels) can cause change and degradation of hydromorphological conditions of water bodies and therefore have impacts on aquatic ecosystems.	
Climate change mitigation	Infrastructure for personal mobility, cycling logistics adaptation projects N/A Infrastructure for rail transport, Infrastructure enabling low-carbon road transport and public transport, Infrastructure enabling low carbon water transport and Low carbon airport infrastructure adaptation projects adaptation projects The infrastructure is not dedicated to transportation or storage of fossil fuels. In case of new infrastructure or major renovation, the infrastructure has been climate proofed in accordance with the appropriate climate proofing practice that includes carbon footprinting and clearly defined shadow cost of carbon. Such carbon footprinting covers scope 1-3 emissions, and demonstrates that the infrastructure does not lead to additional relative greenhouse gas emissions, calculated on the basis of conservative assumptions, values and procedures.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	For mitigation and adaptation projects The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	For mitigation and adaptation projects The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration. For Infrastructure enabling low-carbon road transport and public transport projects Invasive plants are appearing very often along transport infrastructure and are sometimes even spread duo to transport infrastructure, which might negatively impact

	natural ecosystems (e.g. natural fauna). Care should be taken not to spread any invasive plants through proper maintenance. Wildlife collisions is a problem and should be considered. Solutions developed for should be applied for the detection and avoidance of potential traps that may cause the unnecessary death of animals. Mitigation options exist and different types of measures can be beneficial for wildlife, such as: • Wildlife warning systems combined with heat sensors can reduce the number of collisions. • Fences along areas with high strike risk. • Viaducts, tunnels, overpasses and bridges, etc. • Warning signals that are triggered by approaching traffic, particularly in areas of high strike risk.
Pollution prevention	For mitigation and adaptation projects • Minimise noise and vibrations thresholds in line with the Environmental Conservation Act (Act 73 or 1989) and the Occupational Health and Safety Act (Act 85 of 1993). • Minimise noise, dust, emissions pollution during construction / maintenance works.
Sustainable resource use and circularity	For mitigation and adaptation projects Re-use parts and use recycled material during the renewal, upgrade and construction of infrastructure. At least 70% (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material generated on the construction site must be prepared for re-use, recycling and other material recovery, including backfilling operations using waste to substitute other materials. At least 70 % (by weight) of the non-hazardous construction and demolition waste (excluding naturally occurring material) generated on the construction site is prepared for reuse, recycling and other material recovery, including backfilling operations using waste to substitute other materials, in accordance with the waste hierarchy. Operators limit waste generation in processes related to construction and demolition taking into account best available techniques and using selective demolition to enable removal and safe handling of hazardous substances and facilitate reuse and high-quality recycling by selective removal of materials, using available sorting systems for construction and demolition waste.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.5.3 Passenger cars, road commercial vehicles and road freight transport

Sector classification and activity	
Macro-Sector	Transportation and storage
SIC Code	49229 Passenger cars, light commercial vehicles and category L vehicles 49300 Freight transport services by road
Description	Passenger cars, light commercial vehicles and category L vehicles Freight transport services by road
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Demonstrate substantial GHG emission reduction by: • Increasing the number of low- and zero emission fleets, and improving fleet efficiency • Increasing substitution of fossil fuels with sustainable alternative and net-zero carbon fuels
Metric and Threshold	For heavy-duty vehicles • Zero direct emission heavy-duty vehicles are eligible. • Low-emission heavy-duty vehicles with specific direct CO_2 emissions of less than 50% of the reference CO_2 emissions of all vehicles in the same sub-group are eligible. • Dedicated vehicles solely using advanced biofuels or renewable liquid and gaseous transport fuels of non-biological origin and as well as low indirect land-use change-risk biofuels. • Fleets of vehicles dedicated to transport fossil fuels or fossil fuels blended with alternative fuels are not eligible.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from the operation of urban and suburban passenger land transport (public transport) are summarised as follows: • Direct emissions to air from the exhaust gases of internal combustion engine: nitrogen oxides (NOx), total hydrocarbon (THC), non-methane hydrocarbons (NMHC), carbon monoxide (CO), particulate matter (PM) and particle number, and from tyre abrasion and brakes friction and noise emissions; • Indirect emissions to air from the production of fuels and energy carriers. However, this is out of the control of vehicles manufacturers and operators. • Waste generation (hazardous and non-hazardous) during maintenance and end-of-life of the vehicle. • Recycling of materials in order to reduce consumption of critical raw materials and impact on ecosystems and natural capital. The manufacture of vehicles, particularly batteries, is part of the scope of the sub-group "Manufacture of low carbon transport vehicles, equipment and infrastructure"	
Climate change mitigation	For passenger cars and light commercial vehicle adaption projects, motor vehicles emissions[80] are lower that 95gCO_2/km for cylinder capacity not exceeding 3000 cm² For heavy-duty vehicle adaptation projects i. The vehicles are not dedicated to the transport of fossil fuels. ii. The vehicles are with specific direct CO_2 emissions equal to or lower than the reference CO_2 emissions of all vehicles in the same sub-group.
Climate change adaptation	For mitigation projects

[80] Emissions calculated according to the methodology indicated in the SARS environmental levy on carbon dioxide emissions of motor vehicles https://www.sars.gov.za/wp-content/uploads/Legal/SCEA1964/LAPD-LPrim-Tariff-2012-11-Schedule-No-1-Part-3D.pdf

<table>
<tr><td></td><td>The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.</td></tr>
<tr><td>Sustainable use of water and marine resources</td><td>N/A</td></tr>
<tr><td>Ecosystem protection and restoration</td><td>N/A</td></tr>
<tr><td>Pollution prevention</td><td>• Passenger and commercial vehicles must comply with the emission thresholds for clean light-duty vehicles in the below table

<table><tr><td>Vehicle categories</td><td colspan="2">Until 31 December 2025</td><td colspan="2">From 1 Jan 2026</td></tr><tr><td></td><td>CO_2 g/km</td><td>Real driving Emissions (RDE) as a percentage of emission limits</td><td>CO_2 g/km</td><td>Real driving Emissions (RDE) as a percentage of emission limits</td></tr><tr><td>- M1</td><td>- 50</td><td>- 80%</td><td>- 0</td><td>- n.a.</td></tr><tr><td>- M2</td><td>- 50</td><td>- 80%</td><td>- 0</td><td>- n.a.</td></tr><tr><td>- M3</td><td>- 50</td><td>- 80%</td><td>- 0</td><td>- n.a.</td></tr></table>
• Minimise noise and vibrations thresholds in line with the Environmental Conservation Act (Act 73 or 1989) and the Occupational Health and Safety Act (Act 85 of 1993).</td></tr>
<tr><td>Sustainable resource use and circularity</td><td>a) Vehicles of categories M1 and N1 are both of the following: reusable or recyclable to a minimum of 85 % by weight;
b) reusable or recoverable to a minimum of 95 % by weight.

Measures are in place to manage waste both in the use phase (maintenance) and the end-of-life of the fleet, including through reuse and recycling of batteries and electronics (in particular critical raw materials therein), in accordance with the waste hierarchy and in compliance with the National Environmental Management Waste Act (Act 59 of 2008).</td></tr>
<tr><td colspan="2">- Comply with Minimum Social Safeguards</td></tr>
<tr><td colspan="2">- Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.</td></tr>
</table>

7.5.4 Inland passenger and freight water transport

Sector classification and activity	
Macro-Sector	Transportation and storage
SIC Code	50210 Inland passenger water transport 50220 Inland freight water transport
Description	Inland passenger water transport Inland freight water transport
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Demonstrate substantial GHG emission reduction by: • Increasing the number of low- and zero emission fleets, and improving fleet efficiency • Increasing substitution of fossil fuels with sustainable alternative and net-zero carbon fuels • Improvement in efficiency of the overall transport/mobility system
Metric and Threshold	• Zero direct emissions inland waterway vessels are eligible subject to review every 5 years • Dedicated vessels solely using biofuels or renewable liquid and gaseous transport fuels. In addition, for an investment in new vessels, only vessels with efficiency corresponding to direct emissions below 95g CO_2 e /pkm (including biogenic CO_2) are eligible. Eligibility should be reviewed latest by 2025. • Other Inland waterways vessels are eligible if direct emissions are below 50 gCO_2e emissions per passenger kilometre (gCO_2e/pkm) (or 92.6 g per passenger nautical mile (gCO_2e/pnm)). Eligibility should be reviewed in 2025. • Vessels that are dedicated to the transport of fossil fuels or any blended fossil fuels are not eligible even if meeting the criteria above
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from the operation of inland passenger and freight water transport are summarised as follows: • Direct emissions to air of carbon oxide (CO), hydrocarbons (HC), nitrogen oxides (NOx), and particulate matter (PM), as well as noise emissions. • Waste generation (hazardous and non-hazardous) during maintenance and end-of-life of the vessel. • Direct and indirect emission of pollutants in water.	
Climate change mitigation	For adaptation projects Emissions performance threshold of 95g CO_2 e /pkm should not be exceeded. Fleets dedicated to the transport of fossil fuels are ineligible
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity should not lead to releases of ballast water containing aquatic invasive species
Pollution prevention	Compliance with the National Environmental Management Air Quality Act (Act 39 of 2004).

Sustainable resource use and circularity	Compliance with national legislation on hazardous waste generation, management and treatment during both the use and the end-of-phase of a vessel.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.6 ICT

7.6.1 Data processing, hosting and related activities

Sector classification and activity	
Macro-Sector	Information and communications
SIC Code	6311
Description	Storage, manipulation, management, movement, control, display, switching, interchange, transmission or reception of diversity of data through data centres, including edge computing. Data centres include the following equipment: • ICT equipment and services; • cooling; • data centre power equipment; • data centre power distribution equipment; • data centre building; • monitoring systems-
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Data centres implementing a comprehensive set of energy efficiency practices are considered to make a substantial contribution to climate change mitigation.
Metric and Threshold	The data centre implements the practices - including relevant optional ones where reasonable - described in international Best Practice Guidelines for Data Centre Energy Efficiency "such as European Code of Conduct for Data Centre Energy Efficiency (JRC) or in CEN/CENELEC guide documents such as CLC TR50600-99-1 and CLC TR50600-99-2".
Do No Significant Harm assessment	
The main DNSH risks are related to life-cycle considerations, from manufacturing of equipment to disposal.	
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration.
Pollution prevention	N/A
Sustainable resource use and circularity	When electrical and electronic equipment reaches its end of service, the waste electrical and electronic equipment is collected and managed by an authorised operator and treated according to the waste hierarchy. Ensure alignment with National Environmental Management Waste Act (Act 59 of 2008), in particular, extended producer responsibility obligations.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.6.2 Data-driven solutions for GHG emission reductions

Sector classification and activity	
Macro-Sector	Information and communications
SIC Code	63110
Description	Development and/or use of ICT solutions that are aimed at collecting, transmitting, storing data and at its modelling and use when these activities are exclusively aimed at the provision of data and analytics for decision making (by the public and private sector) enabling GHG emission reductions.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Data-driven solutions for GHG emission reductions are considered to make a substantial contribution to climate change mitigation because of the emissions reductions they enable.
Metric and Threshold	N/A
Do No Significant Harm assessment	
Activities falling in this category are mostly based on small-scale data processing and storage, with negligible physical impacts.	
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	N/A
Ecosystem protection and restoration	N/A
Pollution prevention	N/A
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.7 Construction

7.7.1 Construction of new buildings

Sector classification and activity	
Macro-Sector	Construction
SIC Code	41000
Description	Construction of new buildings. This relates to activities under SIC codes construction of buildings.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The construction of new buildings designed to minimise energy use and carbon emissions throughout the lifecycle can make a substantial contribution to climate change mitigation by saving large part of the energy and carbon emissions that would be associated with conventionally designed buildings. Condition for non-eligibility: to avoid lock-in and undermining the climate mitigation objective, the construction of new buildings designed for the purpose of extraction, storage, transportation, or manufacture of fossil fuels is not eligible. Coal, liquid fuel and gas companies, operational facilities and infrastructure are therefore not eligible. Use of alternative schemes as proxies, established schemes such as 'green building' certifications or building regulations and standards may be used as alternative proof of eligibility. The organisation responsible for the scheme will be able to apply for official recognition of its scheme by presenting evidence that a specific level of certification/regulation can be considered equivalent (or superior) to the taxonomy mitigation and DNSH threshold for the relevant climatic zone and building type. The official recognition of a scheme is confirmed and identified through inclusion in the relevant metrics and thresholds as an alternative approach in future taxonomy updates (as relevant).
Metric and Threshold **Top-level**	Constructions of new buildings for which the ambition is to meet a '**net zero'** or **'top-level'**, definition: 1. Self-reported performance: 1. Energy demand performance resulting from the construction of a building in kWh/m^2/annum, is maximised (>40% lower than the Energy Used Intensity (EUI) stipulated in the latest version of SANS 10400-XA for the relevant occupancy class of the building), incorporating maximised energy demand management measures. 2. Use of on-site (for site sizing) and off-site renewables are maximised (to 100% renewable energy sourcing in total). 3. No fossil based back-up power is utilised where possible If not independently certified as part of a recognised scheme (as below), full performance evidence to be provided with demonstration of internal performance management and reporting controls, signed by a delegated authority, disclosed to investors and clients. 2. Alternately, the energy performance is certified for: 1. IFC EDGE Zero Carbon or 2. GBCSA Net Zero (Carbon Level 1, modelled), with substantive evidence that the requirements have been met: 1. >40% EUI threshold and maximised peak energy demand management measures 2. Maximised on-site and off-site renewables 3. No fossil-based back-up power or 3. GBCSA Green Star Level 5 or better New Build with substantive evidence that 40% threshold has been met within the Energy category or 4. Other certification schemes that have been provided official recognition, confirmed and identified through the scheme inclusion in these metrics and thresholds as an alternative approach in future taxonomy updates.

	3. In either case 1 or 2, renewable energy generated on-site must be maximised in the first instance (including incorporation of storage), whereafter the purchase of off-site renewable energy is undertaken to make up 100% renewables supplied to the building. Off-site renewables may be sourced through a variety of approaches, including market instruments provided the contributions from market instruments are fully traceable, independently verified, meet the Greenhouse Gas Protocol Scope 2 Quality Criteria[81] and details disclosed to investors and clients. 4. For commercial building larger than 2000 m^2, public building larger than 1000 m^2 and other building types (considered in aggregate for developments) larger than 5000 m^2 [82], upon completion, the building resulting from the construction undergoes testing for air-tightness, thermal integrity and thermal management practices, and any deviation in the levels of performance set at the design stage or defects in the building envelope are disclosed to investors and clients. 5. For commercial building larger than 2000 m^2, public building larger than 1000 m^2 and other building types (considered in aggregate for developments) larger than 5000 m^2 [83], the life cycle Global Warming Potential (GWP) of the building resulting from the construction has been calculated for each stage in the life cycle, efforts to minimise this performance element is detailed, and the performance and efforts are disclosed to investors and clients. 6. Where credible regulatory and/or voluntary carbon offsets are applied beyond the measures listed above, these must be sourced from the South African national registry or credible international offset registries providing access to verified carbon credits under standards endorsed by the International Carbon Reduction & Offset Alliance (ICROA)[84]. Details to be disclosed to investors and clients.
Metric and Threshold **Mid-level**	Constructions of new buildings for which the ambition is to meet a **'mid-level'**, definition: 1. Self-reported performance: Energy demand resulting from the construction of a building in kWh/m^2/annum, is a minimum of 40% lower than the Energy Used Intensity (EUI) stipulated in the latest version of SANS 10400-XA for the relevant occupancy class of the building. If not independently certified as part of a recognised scheme (as below), full performance evidence to be provided with demonstration of internal performance management and reporting controls, signed by a delegated authority, disclosed to investors and clients. 2. Alternately, the energy performance is certified for: 1. IFC EDGE Advanced (Level 2), with substantive evidence that the requirements have been met: 1. Maximised on-site and off-site renewables 2. No fossil-based back-up power or 2. GBCSA Net Zero (Carbon Level 1, modelled), with substantive evidence that the requirements have been met: 1. >40% EUI threshold and maximised peak energy demand management measures 2. Maximised on-site and off-site renewables 3. No fossil-based back-up power or

[81] As set out at https://ghgprotocol.org/scope_2_guidance.

[82] For residential buildings, the testing is made for a representative set of dwelling/apartment types.

[83] For residential buildings, the calculation and disclosure are made for a representative set of dwelling/apartment types.

[84] Available at: https://www.icroa.org/standards

	3. GBCSA Green Star Level 5 or better New Build, with substantive evidence that the requirements have been met: 1. that 40% threshold has been met within the Energy category 2. Maximised on-site and off-site renewables 3. No fossil-based back-up power where possible or 4. Other certification schemes that have been provided official recognition, confirmed and identified through the scheme inclusion in these metrics and thresholds as an alternative approach in future taxonomy updates. 3. In either case 1 or 2, on-site renewable energy generation should be maximised (for site sizing), with details disclosed to investors and clients. 4. Consideration of on-site storage feasibility must be made, and rationale provided for storage sizing selected (including if none). This is to be disclosed to investors and clients. 5. For commercial building larger than 2000 m^2, public building larger than 1000 m^2 and other building types (considered in aggregate for developments) larger than 5000 m^2 [85], upon completion, the building resulting from the construction undergoes testing for air-tightness, thermal integrity and thermal management practices, and any deviation in the levels of performance set at the design stage or defects in the building envelope are disclosed to investors and clients.
Metric and Threshold **Entry-level**	Constructions of new buildings for which the ambition is to meet a **'entry-level'**, definition: 1. Self-reported performance: energy demand resulting from the construction of a building in kWh/m^2/annum, is a minimum of 20% lower than the Energy Used Intensity (EUI) stipulated in the latest version of SANS 10400-XA for the relevant occupancy class of the building. If not independently certified as part of a recognised scheme (as below), full performance evidence to be provided with demonstration of internal performance management and reporting controls, signed by a delegated authority, disclosed to investors and clients. 2. Alternately, the energy performance is certified for: 1. IFC EDGE Certified (Level 1) or 2. GBCSA Green-Star Level 4 or better rating New Build, with substantive evidence the 20% threshold has been met or 3. Other certification schemes that have been provided official recognition, confirmed and identified through the scheme inclusion in these metrics and thresholds as an alternative approach in future taxonomy updates. Alternately, and only applicable to residential buildings of any type, on-site renewable energy generation has been installed (asset finance not to be double counted). This includes, for low-income, and social housing, solar water heaters (SWHs).
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential for significant harm to the other environmental objectives associated with the construction of new buildings is determined by: 1. Lack of resistance to extreme weather events (including flooding), and lack of resilience to future temperature increases in terms of internal comfort conditions. 2. Excessive water consumption due to inefficient water appliances and/or poor water use amenities design. 3. Landfill and/or incineration of construction and demolition waste that could be otherwise recycled/reused.	

[85] For residential buildings, the testing is made for a representative set of dwelling/apartment types.

4. A failure to operationalise strategic national waste management practices. 5. Failure to design for disassembly and increased circularity. 6. Through materials use and operations, increased emissions of VOCs and formaldehyde. 7. Presence of asbestos and/or substances of very high concern in the building materials. 8. Presence of hazardous contaminants in the soil of the building site. 9. Inappropriate building location: impacts on ecosystems if built on greenfield and especially if in a conservation area or high biodiversity value area. 10. Indirect damage to ecosystems due to the use of materials and products originating from virgin sources that are not sustainably managed (refers to forestry and mining, for instance.)	
Climate change mitigation	For adaptation projects The building must comply with all applicable mandatory South African National Standard 204 regulations regarding energy performance. To avoid lock-in and undermining the climate mitigation objective, the construction of new buildings designed for the purpose of extraction, storage, transportation, or manufacture of fossil fuels is not eligible for the Taxonomy. Buildings' design must accommodate support for alternative transportation modes appropriate to the intended users of the building. Refer to GBCSA Green Star SA – Existing Building Performance scoring for Alternative Transportation.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	Where installed, the specified water use for the following water appliances are attested by product datasheets and/or a building certification in accordance with the technical specifications laid down per: EDGE Water Efficiency measures GBCSA Energy Water Performance Tool (EWP) A GBCSA Green Star certification that incorporates a Water Rating result above 'Industry Average' as determined by the current version of the Energy Water Performance Tool, is acceptable for demonstrating this DNSH requirement is met. An IFC EDGE Level 1 certification is acceptable for demonstrating this DNSH requirement is met. To avoid impact from the construction site, activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The new construction must not be built on protected natural areas, such as land designated as UNESCO World Heritage and Critical Biodiversity Areas (CBAs), or equivalent as defined by National Environmental Management Biodiversity Act (Act 10 of 2004), UNESCO and / or the International Union for Conservation of Nature (IUCN) under the following categories: Category Ia: Strict Nature Reserve Category Ib: Wilderness Area Category II: National Park Buildings that are associated supporting infrastructure to the protected natural area, such as visitor centres, museums or technical facilities are exempted from this criterion. The new construction must not be built on arable or greenfield land of recognised high biodiversity value and land that serves as habitat of endangered species (flora and fauna) listed on the IUCN Red List. At least 50% 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.

	Buildings' design must prioritise avoidance of environmental impacts to sensitive landscapes and include hard surfaces and building exterior maintenance practices that reduce the environmental impact and improve ecological value. Refer to GBCSA Green Star SA – Existing Building Performance scoring for Land Use and Ecology Category, and Emissions Category.
Pollution prevention	It is ensured that building components and materials do not contain asbestos and the use of chemicals adhere to the National Environmental Management Act, 1998 (Act No. 107 of 1998), the Hazardous Substances Act, 1973 (Act No. 15 of 1973) and the Occupational Health and Safety Act No. 85 of 1993. Building components and materials used in the construction that may come into contact with occupiers[86] emit less than 0,06 mg of formaldehyde per m³ of material or component and less than 0,001 mg of categories 1A and 1B carcinogenic volatile organic compounds per m³ of material or component, upon testing in accordance with CEN/TS 16516522 and ISO 16000-3523 or other comparable standardised test conditions and determination methods[87]. A GBCSA Green Star certification that provides evidence that VOC and Formaldehyde credits are pursued, is acceptable for demonstrating this DNSH requirement is met.
Sustainable resource use and circularity	The building should minimise waste from construction or destruction going to landfill and maximise reuse and/or recycling of materials. Under this green building's definition, 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 re-use or sent for recycling or other material recovery, including backfilling operations that use waste to substitute other materials. Disposal of waste must be compliant with the requirements of the NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO. 59 OF 2008) Building designs and construction techniques support circularity and demonstrate, with reference to ISO 20887 or other standards for assessing the ease of disassembly for reuse of materials or adaptability of buildings, how they are designed to be more resource efficient, adaptable, flexible and dismantlable to enable reuse and recycling. Building design that provides for recycling during operation is required. Refer to GBCSA Green Star SA – Existing Building Performance Scoring Materials Category.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

[86] Applying to paints and varnishes, ceiling tiles, floor coverings, including associated adhesives and sealants, internal insulation and interior surface treatments, such as those to treat damp and mould.

[87] The emissions thresholds for carcinogenic volatile organic compounds relate to a 28-day test period.

7.7.2 Building renovation and major refurbishment

Sector classification and activity	
Macro-Sector	Construction
SIC Code	41000
Description	Building renovation: this relates to activities under SIC codes 41000 construction of buildings
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The renovation of existing buildings to improve their energy performance makes a substantial contribution to climate change mitigation by reducing energy consumption and GHG emissions for the remaining operational phase of the buildings, and by avoiding emissions that would be associated with the construction of new buildings. The detailed technical screening criteria for MSC climate change mitigation are similar for renovation as for new build, given that the same end performance is the objective. Additional DNSH details apply for renovations. Condition for non-eligibility: to avoid lock-in and undermining the climate mitigation objective, the renovation of buildings occupied for the purpose of extraction, storage, transportation or manufacture of fossil fuels is not eligible. Use of alternative schemes as proxies, established schemes such as 'green building' certifications or building regulations and standards may be used as alternative proof of eligibility. The organisation responsible for the scheme will be able to apply for official recognition of its scheme by presenting evidence that a specific level of certification/regulation can be considered equivalent (or superior) to the taxonomy mitigation and DNSH threshold for the relevant climatic zone and building type. The official recognition of a scheme is confirmed and identified through inclusion in the relevant metrics and thresholds as an alternative approach in future taxonomy updates (as relevant).
Metric and Threshold **Top-level**	Major renovations for buildings for which the ambition is to meet a '**net zero'** or **'top-level'**, definition: 1. Self-reported performance: 1. Energy demand improvement through energy efficiency and demand management measures resulting from the renovation of a building in kWh/m^2/annum, is maximised for the relevant occupancy class of the building. 2. The renovation incorporates and maximises (to 100% in total) use of on-site (for site sizing) and off-site renewables. 3. The renovation eliminates fossil based back-up power. If not independently certified as part of a recognised scheme (as below), full performance evidence to be provided with demonstration of internal performance management and reporting controls, signed by a delegated authority, disclosed to investors and clients. 2. Alternately, the energy performance is certified for: 1. IFC EDGE Zero Carbon or 2. GBCSA Net Zero (Carbon Level 1, modelled), with substantive evidence that the requirements have been met: 1. Maximising energy efficiency. 2. Maximised on-site and off-site renewables. 3. No fossil-based back-up power. or 3. GBCSA Net Zero or GBCSA Green Star Level 5 or better certification, with substantive evidence that the requirements have been met: 1. Maximising energy efficiency. 2. Maximised on-site and off-site renewables. 3. No fossil-based back-up power. or

	4. Other certification schemes that have been provided official recognition, confirmed and identified through the scheme inclusion in these metrics and thresholds as an alternative approach in future taxonomy updates. 3. In either case, the renovation should incorporate renewable energy generation on-site, which must be maximised in the first instance (including incorporation of storage), whereafter the purchase of off-site renewable energy is undertaken to make up 100% renewables supplied to the building. Off-site renewables may be sourced through a variety of approaches, including market instruments provided the contributions from market instruments are fully traceable, independently verified, meet the Greenhouse Gas Protocol Scope 2 Quality Criteria[88] and details disclosed to investors and clients. 4. For commercial building larger than 2000 m^2, public building larger than 1000 m^2 and other building types (considered in aggregate for developments) larger than 5000 m^2 [89], upon completion of the renovation, the building undergoes testing for air-tightness, thermal integrity and thermal management practices, and results and performance implications are disclosed to investors and clients. 5. For commercial building larger than 2000 m^2, public building larger than 1000 m^2 and other building types (considered in aggregate for developments) larger than 5000 m^2 [90], the life cycle Global Warming Potential (GWP) of the building (absolute and change due to the renovation; operational and decommissioning phases) resulting from the renovation has been calculated, efforts to minimise this performance element particular for the renovation materials is detailed, and the performance and efforts are disclosed to investors and clients. 6. Where credible regulatory and/or voluntary carbon offsets are applied beyond the measures listed above, these must be sourced from the South African national registry or credible international offset registries providing access to verified carbon credits under standards endorsed by the International Carbon Reduction & Offset Alliance (ICROA)[91]. Details to be disclosed to investors and clients.
Metric and Threshold **Mid-level**	Major renovations for buildings for which the ambition is to meet a '**mid-level'**, definition: 1. Self-reported performance: energy demand resulting from the renovation of a building in kWh/m^2/annum, the Energy Used Intensity (EUI) is improved by 40% from building baseline, and peak energy demand measures are introduced towards maximisation of these. If not independently certified as part of a recognised scheme (as below), full performance evidence to be provided with demonstration of internal performance management and reporting controls, signed by a delegated authority, disclosed to investors and clients. 2. Alternately, the energy performance is certified for: 1. IFC EDGE Advanced (Level 2) or 2. GBCSA Net Zero (Carbon Level 1, modelled) or Green Star Level 5 or better certification, with substantive evidence that 40% threshold from building baseline requirement has been met, as well as improved peak energy demand management measures or

[88] As set out at https://ghgprotocol.org/scope_2_guidance.

[89] For residential buildings, the testing is made for a representative set of dwelling/apartment types.

[90] For residential buildings, the calculation and disclosure are made for a representative set of dwelling/apartment types.

[91] Available at: https://www.icroa.org/standards

	3. Other certification schemes that have been provided official recognition, confirmed and identified through the scheme inclusion in these metrics and thresholds as an alternative approach in future taxonomy updates. 3. In either case 1 or 2, the renovation should incorporate maximised on-site renewable energy generation (for site sizing), with details disclosed to investors and clients. 4. Consideration of incorporation of on-site storage through the renovation must be made, and rationale provided for storage sizing selected (including if none). This is to be disclosed to investors and clients. 5. For buildings larger than 5000 m^2 [92], upon completion of the renovation, the building undergoes testing for air-tightness, thermal integrity and thermal management practices, and results and performance implications are disclosed to investors and clients.
Metric and Threshold **Entry-level**	Major renovations for buildings for which the ambition is to meet a '**entry-level'**, definition: 1. Self-reported performance: energy demand resulting from the renovation of a building in kWh/m^2/annum, the Energy Used Intensity (EUI) is improved by 20% from building baseline. If not independently certified as part of a recognised scheme (as below), full performance evidence to be provided with demonstration of internal performance management and reporting controls, signed by a delegated authority, disclosed to investors and clients. 2. Alternately, the energy performance is certified for: 1. IFC EDGE Certified (Level 1) or 2. GBCSA Net Zero or GBCSA Green-Star Level 4 or better rating. In either case with substantive evidence the 20% threshold from building baseline requirement has been met or 3. Other certification schemes that have been provided official recognition, confirmed and identified through the scheme inclusion in these metrics and thresholds as an alternative approach in future taxonomy updates. 3. Alternately, and only applicable to residential buildings of any type, on-site renewable energy generation has been installed as part of the renovation (asset finance not to be double counted). This includes, for low-income, and social housing, solar water heaters (SWHs) introduction to structures.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The main potential for significant harm to the other environmental objectives associated with the renovation of existing buildings is determined by: 1. Lack of resistance to extreme weather events (including flooding), and lack of resilience of to future temperature increases in terms of internal comfort conditions. 2. Excessive water consumption due to inefficient water appliances and/or poor water use amenities design. 3. Landfill and/or incineration of construction and demolition waste that could be otherwise recycled/reused. 4. A failure to operationalise strategic national waste management practices. 5. Failure to design for disassembly and increased circularity. 6. Through materials use and operations, increased emissions of VOCs and formaldehyde. 7. Presence of asbestos and/or substances of very high concern in the building materials.	

[92] For residential buildings, the testing is made for a representative set of dwelling/apartment types.

8. Presence of hazardous contaminants in the soil of the building site. 9. Inappropriate building location: impacts on ecosystems if built on greenfield and especially if in a conservation area or high biodiversity value area. 10. Indirect damage to ecosystems due to the use of materials and products originating from virgin sources that are not sustainably managed (refers to forestry and mining, for instance.)	
Climate change mitigation	For adaptation projects The measures adopted to improve the resilience of the building must not increase the rates of operational carbon emissions of the building. Exceptions are allowed if it can be demonstrated that increase in emissions is necessary to carry out the measures, and there is a positive trade-off. To avoid lock-in and undermining the climate mitigation objective, the renovation of buildings designed for the purpose of extraction, storage, transportation, or manufacture of fossil fuels is not eligible for the Taxonomy. Such use cases to be phased out and buildings repurposed as appropriate, for which renovations to improve performance as detailed above ought to be undertaken. Buildings' design must accommodate support for alternative transportation modes appropriate to the intended users of the building. Refer to GBCSA Green Star SA – Existing Building Performance scoring for Alternative Transportation.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	Where installed, the specified water use for the following water appliances are attested by product datasheets, a building certification, in accordance with the technical specifications laid down per EDGE Water Efficiency measures A GBCSA Green Star certification that incorporates a Water Rating result above 'Industry Average' as determined by the current version of the Energy Water Performance Tool, is acceptable for demonstrating this DNSH requirement is met. An IFC EDGE Level 1 certification is acceptable for demonstrating this DNSH requirement is met. To avoid impact from the construction site, activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	N/A
Pollution prevention	It is ensured that building components and materials do not contain asbestos and the use of chemicals adhere to the National Environmental Management Act, 1998 (Act No. 107 of 1998), the Hazardous Substances Act, 1973 (Act No. 15 of 1973) and the Occupational Health and Safety Act No. 85 of 1993 Building components and materials used in the construction that may come into contact with occupiers emit less than 0,06 mg of formaldehyde per m^3 of material or component and less than 0,001 mg of categories 1A and 1B carcinogenic volatile organic compounds per m^3 of material or component, upon testing in accordance with CEN/TS 16516522 and ISO 16000-3523 or other comparable standardised test conditions and determination methods . A GBCSA Green Star certification that provides evidence that VOC and Formaldehyde credits are pursued, is acceptable for demonstrating this DNSH requirement is met.
Sustainable resource use and circularity	The building should minimise waste from renovation waste going to landfill and maximise reuse and/or recycling of materials. Under this green building's definition, 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 re-use or sent for recycling or other material recovery, including backfilling operations that use waste to substitute other materials.

	Disposal of waste must be compliant with the requirements of the NATIONAL ENVIRONMENTAL MANAGEMENT: WASTE ACT, 2008 (ACT NO. 59 OF 2008) Building renovation plans and techniques support circularity and demonstrate, with reference to ISO 20887[93] or other standards for assessing the ease of disassembly for reuse of materials or adaptability of buildings, how they are designed to be more resource efficient, adaptable, flexible and dismantlable to enable reuse and recycling.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

[93] ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance.

7.7.3 Individual measures and professional services

Sector classification and activity	
Macro-Sector	Construction
SIC Code	43
Description	Individual measures and professional services. this relates to activities under SIC codes 43 Specialised construction activities
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	Individual measures contribute to climate change mitigation by reducing energy use and carbon emissions for the operational phase of the building. Professional services are a necessary support and validation mechanism, especially for building renovation. The investment linked to the individual measure(s) must be aimed at improving energy performance and/or reduction of carbon emissions. The motivation can be demonstrated through an energy audit, an Energy Performance Certificate (EPC) or any other transparent and proportionate method.
Metric and Threshold	There are no defined metrics across the individual measures and professional services. The following individual measures are eligible if compliant with minimum requirements set for individual components and systems in the applicable national regulations. a. Addition of insulation to the existing envelope components, such as external walls, roofs (including green roofs), lofts, basements and ground floors (including measures to ensure air-tightness, measures to reduce the effects of thermal bridges and scaffolding) and products for the application of the insulation to the building envelope (mechanical fixings, adhesive). b. Replacement of existing windows with new energy efficient windows. c. Replacement of existing external doors with new energy efficient doors. d. installation and replacement of heating, ventilation and air-conditioning (HVAC) and water heating systems, including equipment related to district heating and cooling services, with highly efficient technologies; e. Replacement of inefficient boiler or stove with highly efficient condensing boiler. The following individual measures are eligible if specific requirements are met: f. Replacement of old pumps with efficient circulating pumps g. Installation of efficient LED lighting appliances and systems. h. installation of low water and energy using kitchen and sanitary water fittings which comply with technical specifications set out in Appendix B: Technical Specification for Water Appliances and, in case of shower solutions, mixer showers, shower outlets and taps, have a max water flow of 6 L/min or less attested by an existing label in the market. The following individual measures are eligible: i. Installation of zoned thermostats, smart thermostat systems and sensoring equipment, e.g. motion and day light control. j. Installation of Building Management Systems (BMS) and Energy Management Systems (EMS). k. Installation of charging stations for electric vehicles. l. Installation of smart meters for gas, heat, cool and electricity. m. Installation of façade and roofing elements with a solar shading, solar reflectivity or solar control function, including those that support the growing of vegetation. The following individual measures are eligible if installed on-site as building services: n. Installation of solar photovoltaic systems (and the ancillary technical equipment). o. Installation of solar hot water panels (and the ancillary technical equipment). p. Installation, maintenance, repair and upgrade of heat pumps contributing to the targets for renewable energy in heating and cooling. q. Installation of wind turbines (and the ancillary technical equipment). r. Installation of solar transpired collectors (and the ancillary technical equipment). s. Installation of thermal or electric energy storage units (and the ancillary technical equipment). t. Installation of High Efficiency Micro CHP (combined heat and power) plant u. Installation of heat exchanger/recovery systems.

	The following professional services are eligible: v. Technical consultations (energy consultants, Green Star accredited professionals, EDGE experts, energy simulation, project management, production of EPC, dedicated training, etc.) linked to the individual measures mentioned above. w. Accredited energy audits and building performance assessments (EDGE auditors). x. Energy Management Services. y. Energy Performance Contracts. z. Energy Services provided by Energy Service Companies (ESCOs)
Do No Significant Harm assessment	
The main potential for significant harm to the other environmental objectives associated with individual measures is determined by: • Excessive water consumption due to inefficient water appliances. • The handling of building components that are likely to contain substances of concern (e.g. asbestos containing materials) and of any hazardous construction and demolition waste arising from the building renovation; • Ensuring the future possibility of reusing and recycling building component and materials through careful selection of components/materials that prioritises recyclable materials and avoids hazardous substances.	
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	Any potential risks to the good status or the good ecological potential of bodies of water, including surface water and groundwater, or to the good environmental status of marine waters from the researched technology, product or other solution are evaluated and addressed.
Ecosystem protection and restoration	N/A
Pollution prevention	It is ensured that building components and materials do not contain asbestos and the use of chemicals adhere to the National Environmental Management Act, 1998 (Act No.107 of 1998), the Hazardous Substances Act, 1973 (Act No.15 of 1973) and the Occupational Health and Safety Act No.85 of 1993. In case of addition of thermal insulation to the existing building envelope: a building survey must be carried out in accordance with national legislation by a competent specialist with training in asbestos surveying and in identification of other materials containing substances of concern. Any stripping of lagging that contains or is likely to contain asbestos, breaking or mechanical drilling or screwing and/or removal of insulation board, tiles and other asbestos containing materials shall be carried out by appropriately trained personnel, with health monitoring before, during and after the works, in accordance with national legislation.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.7.4 Acquisition and ownership

Sector classification and activity	
Macro-Sector	Construction
SIC Code	68
Description	Building acquisition and ownership: this activity relates to SIC code “Real estate activities”.
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	The acquisition of buildings designed to minimise energy use and carbon emissions throughout the lifecycle instead of lower-performing ones can make a substantial contribution to climate change mitigation objectives. While specific data on embodied carbon and thus carbon emissions from the full lifecycle is still limited and needs to be further generated, the acquisition of buildings designed to minimise energy use and carbon emissions during the use phase can already make an important contribution by directing users towards high-performing properties and by sending signals to markets about the need to lift the overall energy performance of the whole stock. For large non-residential buildings (i.e., buildings with an effective rated output for heating systems or systems for combined space heating, ventilation and cooling of over 290 kW, or buildings with floor area[94] over 1000 m2), an additional requirement is introduced to ensure that these buildings are operated efficiently, and that actual energy and carbon savings are delivered each year. Condition for non-eligibility: to avoid lock-in and undermining the climate mitigation objective, the acquisition and ownership of buildings for the purpose of extraction, storage, transportation or manufacture of fossil fuels are not eligible. Use of alternative schemes as proxies established schemes such as ‘green building’ certifications or building regulations and standards may be used as alternative proof of eligibility, provided that this is verified by a third party accredited verification body. The organisation responsible for the scheme will be able to apply for official recognition of its scheme by presenting evidence that a specific level of certification/regulation can be considered equivalent (or superior) to the taxonomy mitigation and DNSH threshold for the relevant climatic zone and building type.
Metric and Threshold	• For buildings built before 31 December 2020, the building has at least Energy Performance Certificate (EPC) class A. • At this time, no standard is yet agreed for buildings built after 31 December 2020, which is an area of taxonomy development in future. • In addition to the above requirements, where the building is a large non-residential building (with an effective rated output for heating systems, systems for combined space heating and ventilation, air-conditioning systems or systems for combined air-conditioning and ventilation of over 290 kW) it is efficiently operated through energy performance monitoring and assessment.
Do No Significant Harm assessment	
The main potential for significant harm to the other environmental objectives associated with the acquisition of buildings is determined by: • Lack of resistance to extreme weather events (including flooding), and lack of resilience of to future temperature increases in terms of internal comfort conditions. • Excessive water consumption due to inefficient water appliances. • Presence of asbestos and/or substances of very high concern in the building materials. • Presence of hazardous contaminants in the soil of the building site. • Inappropriate building location: impacts on ecosystems if built on greenfield and especially if in a conservation area or high biodiversity value area.	
Climate change mitigation	- For Adaptation projects - Criteria to be developed in future
Climate change adaptation	- For mitigation projects - The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.

[94] Measured according to the IPSM 1 definition, see https://ipmsc.org/

Sustainable use of water and marine resources	- N/A
Ecosystem protection and restoration	- The building must not be built on protected natural areas, such as land designated as Natura 2000, UNESCO World Heritage and Critical Biodiversity Areas (CBAs), or equivalent as defined by UNESCO and / or the International Union for Conservation of Nature (IUCN) under the following categories: • Category Ia: Strict Nature Reserve • Category Ib: Wilderness Area • Category II: National Park - - Buildings that are associated supporting infrastructure to the protected natural area, such as visitor centres, museums or technical facilities are exempted from this criterion. - - The building must not be built on arable or greenfield land of recognised high biodiversity value and land that serves as habitat of endangered species (flora and fauna) listed on the European Red List and / or the IUCN Red List. - 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.
Pollution prevention	- N/A
Sustainable resource use and circularity	- N/A
Comply with Minimum Social Safeguards	
- Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

7.8 Enabling Activities, System Resilience & Innovation

7.8.1 Non-life insurance

Sector classification and activity	
Macro-Sector	Enabling activities, system resilience & innovation
SIC Code	6512
Description	Non-life Insurance for activities and/or assets that are covered by the Taxonomy. Insurance against climate-related hazards identified as: Temperature related • Heat stress, heat wave • Cold wave, frost • Temperature variability • Permafrost thaw • Wildfire/veldfire Wind related • Changing wind patterns • Cyclone, hurricane, typhoon • Storm, including blizzard, dust and sand storm • Tornado Water related • Changing/Heavy Precipitation patterns and types (Rain, Hail, Snow / Ice) • Hydrologic variability • Ocean acidification • Saline intrusion • Sea level rise • Drought • Flood (Coastal, Fluvial, Pluvial, Groundwater • Glacial Lake Outburst Solid Mass related • Coastal Erosion • Soil degradation • Soil erosion • Solifluction • Avalanche • Landslide • Subsidence • Sand accretion Such insurance represents an important element for climate change adaptation since it does not only support risk sharing but is also working throughout the risk management cycle (identify, analyse, plan, implement and evaluate) and the disaster management cycle (prevent and protect, prepare, respond and recover). Non-life insurance undertakings and activities potentially eligible for Taxonomy alignment include classes of non-life insurance. The Groups of non-life insurance lines of business potentially eligible are: • Motor vehicle liability insurance • Other motor insurance • Marine, aviation and transport insurance • Fire and other damage to property insurance • General Liability insurance
Make Significant Contribution criteria	
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	

Do No Significant Harm assessment
The specific activity or activities being insured must meet the DNSH criteria for those activities. That is, the non-life insurer (i.e. the primary insurance product provider) is required to validate that the activity and/or asset being insured is compliant with the relevant DNSH thresholds for the activity under cover.
Comply with Minimum Social Safeguards
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.

Example of contributions

The table below provides examples of how non-life insurance can contribute to reduce physical climate risk of EU Taxonomy economic activities.

Climate-related hazards	**Associated physical climate risk**	**How does the activity contribute to reduce physical climate risks**
Temperature-related Wind-related Water related Solid mass-related	Damages and disruption to natural and built environment	Insurance against climate-related hazard contributes to reduce physical climate risk by: offering standard non-life insurance products against climate-related hazards; offering multi-peril (yield) crop insurance against both annual yield variations in addition to extreme climate-related hazards; incentivising adaptation behaviour, for example where insurers would offer premium discounts for homeowners who take steps to protect their houses from wildfires/ veldfires; offering risk engineering expertise to their customers with proactive risk improvement action management programs or by sharing their expertise with new projects; using insurers' data and knowledge in developing zoning and building code regulations, standards and construction requirements and local adaptation plans. Insurers often have good information on which areas are at high risk and which measures can lower risk. This information is often used in designing zoning, flood defences, building code regulations and prioritising

Climate-related hazards	Associated physical climate risk	How does the activity contribute to reduce physical climate risks
		related adaptation investments; developing innovative risk transfer mechanisms as part of broader risk management solutions to help under-insured or uninsured communities to meet the challenges of a changing climate (for example the Caribbean Catastrophe Risk Insurance Facility or the African Risk Capacity); requiring minimum building standards, or adherence to build-back-better principles, differentiated by risk level, as a standard element of insurance contracts; developing online tools or early warning methods to allow people to detect risks to property from floods, storms and other climate related hazards; helping improve natural catastrophe models for different climate-related hazards.

8 Screening Criteria for Activities Making a Substantial Contribution to Climate Change Adaptation

The screening criteria are specific characteristics that can be used to determine whether an economic activity provides a substantial contribution to adaptation. These screening criteria vary between 'adapted' activities and activities that enable adaptation.

Criterion	Description
A1: Reducing material physical climate risks	The economic activity must reduce all material physical climate risks to that activity to the extent possible and on a best effort basis.
A1.1	The economic activity integrates physical and non-physical measures aimed at reducing - to the extent possible and on a best effort basis - all material physical climate risks to that activity, which have been identified through a risk assessment.
A1.2	The above-mentioned assessment has the following characteristics: • considers both current weather variability and future climate change, including uncertainty; • is based on robust analysis of available climate data and projections across a range of future scenarios; • is consistent with the expected lifetime of the activity.
A2: Supporting system adaptation	The economic activity and its adaptation measures do not adversely affect the adaptation efforts of other people, nature and assets.
A2.1	The economic activity and its adaptation measures do not increase the risks of an adverse climate impact on other people, nature and assets, or hamper adaptation elsewhere. Consideration should be given to the viability of 'green' or 'nature-based-solutions' over 'grey' measures to address adaptation.
A2.3	The economic activity and its adaptation measures are consistent with sectoral, regional, and/or national adaptation efforts.
A3: Monitoring adaptation results	The reduction of physical climate risks can be measured.
A3.1	Adaptation results can be monitored and measured against defined indicators. Recognising that risk evolves over time, updated assessments of physical climate risks should be undertaken at the appropriate frequency where possible.

The table below describes the screening criteria for economic activities enabling adaptation.

Criterion	Description
B1. Supporting adaptation of other economic activities	The economic activity reduces material physical climate risk in other economic activities and/or addresses systemic barriers to adaptation. Activities enabling adaptation include, but are not limited to, activities that: Promote a technology, product, practice, governance process or innovative uses of existing technologies, products or practices (including those related to natural infrastructure); or, Remove information, financial, technological and capacity barriers to adaptation by others.
B1.1	The economic activity reduces or facilitates adaptation to physical climate risks beyond the boundaries of the activity itself. The activity will need to demonstrate how it supports adaptation of others through: • an assessment of the risks resulting from both current weather variability and future climate change, including uncertainty, that the economic activity will contribute to address based on robust climate data; • an assessment of the effectiveness of the contribution of the economic activity to reducing those risks, taking into account the scale of exposure and the vulnerability to them
B1.2	In the case of infrastructure linked to an activity enabling adaptation, that infrastructure must also meet the screening criteria A1, A2 and A3.

List of Acronyms and Abbreviations

Asia Pacific Loan Market Association	APLMA
Association for Savings and Investment South Africa	ASISA
Banking Association South Africa	BASA
Capital Expenditure	Capex
Carbon capture and storage	CCS
Carbon capture and utilisation	CCU
Critical Biodiversity Areas	CBA
Climate Bond Initiative	CBI
Department of Forestry, Fisheries and Environment	DFFE
Department of Planning, Monitoring and Evaluation	DPME
Do No Significant Harm	DNSH
Energy Performance Certificate	EPC
Energy Service Companies	ESCOs
European Union Technical Export Group	EU TEG
Financial Sector Conduct Authority	FSCA
Food and Agriculture Organisation	FAO
Global Reporting Initiative	GRI
Green Bond Principles	GBP
Green Loan Principles	GLP
Green Finance Taxonomy	GFT
Gross Domestic Product	GDP
International Capital Market Association	ICMA
International Finance Corporation	IFC
International Labour Organization	ILO
International Union for Conservation of Nature	IUCN
Johannesburg Stock Exchange	JSE
Key Performance Indicators	KPI
Loan Market Association	LMA

Loan Syndications and Trading Association	**LSTA**
Minimum Social Safeguards	**MSS**
Multinational Enterprises	**MNEs**
Nationally Determined Contribution	**NDC**
Operational Expenditure	**Opex**
Organisation for Economic Co-operation and Development	**OECD**
Prudential Authority	**PA**
Responsible Business Conduct	**RBC**
Solar Photovoltaics	**Solar PV**
South African Revenue Services	**SARS**
Sustainability Accounting Standards Board	**SASB**
Sustainability Bond Guidelines	**SBP**
Sustainability-Linked Bond Principles	**SLBP**
Sustainability Linked Loan Principles	**SLLP**
Sustainable Development Goal	**SDG**
Sustainable Finance Taxonomy	**SFT**
Technical Screening Criteria	**TSC**
United Kingdom Partnering for Accelerated Climate Transitions	**UK PACT**
United Nations	**UN**
United Nations Environment Programme	**UNEP**
United Nations Environment Programme Finance Initiative	**UNEP FI**
United Nations Educational, Scientific and Cultural Organization	**UNESCO**
World Business Council for Sustainable Development	**WBCSD**
World Economic Forum	**WEF**

Glossary of Terms

Adaptation	Refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts
Afforestation	The establishment of forest through planting and/or deliberate seeding on land that, until then, was under a different land use, implies a transformation of land use from non-forest to forest
Biodiversity	The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable
Carbon Sequestration	The long-term removal, capture, or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric CO2 pollution and to mitigate or reverse climate change
Carbon Sink	A forest, ocean, or other natural environment viewed in terms of its ability to absorb carbon dioxide from the atmosphere
Carbon Stock	The amount of carbon that has been sequestered from the atmosphere and is now stored within the forest ecosystem, mainly within living biomass and soil, and to a lesser extent also in dead wood and litter
Climate Change	Refers to a change in the state of the climate that can be identified (e.g. by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use
Deforestation	The removal of a forest or stand of trees from land that is then converted to non-forest use
Economic Activity	A process that, based on inputs, leads to the manufacture of a good or the provision of a service
Equity	The ownership of assets that may have debts or other liabilities attached to them
Green Finance Taxonomy	An official classification or catalogue that defines a minimum set of assets, projects, and sectors that are eligible to be defined as "green" in line with international best practice and national priorities
Greenhouse Gases	Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and re-emit infrared radiation, and includes carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6)
Mitigation	Avoiding and reducing emissions of heat-trapping greenhouse gases into the atmosphere to prevent the planet from warming to more extreme temperatures
Paris Agreement	The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016
Reforestation	The re-establishment of forest through planting and/or deliberate seeding on land classified as forest
Regenerative Agriculture	A conservation and rehabilitation approach to food and farming systems
Renewable Feedstock	Biomass, industrial bio-waste or municipal bio-waste
Threshold	The magnitude or intensity that must be exceeded for a certain reaction, phenomenon, result, or condition to occur or be manifested
Turnover	Net turnover means the amounts derived from the sale of products and the provision of services after deducting sales rebates and value added tax and other taxes directly linked to turnover

Appendix A: Generic Criteria for DNSH to Climate Change Adaptation

I. Criteria

Criteria	
New activity and/or activity upgrading or altering existing assets or processes	The physical climate risks that are material to the activity have been identified from those listed in the table in II Classification of climate-related hazards of this Appendix by performing a robust climate risk and vulnerability assessment. The assessment is proportionate to the scale of the activity and its expected lifespan, such that: c) for investments into activities with an expected lifespan of less than 10 years, the assessment is performed, at least by using downscaling of climate projections; d) for all other activities, the assessment is performed using high resolution, state-of-the-art climate projections across a range of future scenarios consistent with the expected lifetime of the activity, including, at least, 10 to 30 years climate projections scenarios for major investments. 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. For activity upgrading or altering existing assets or processes, the adaptation solutions identified need to be implemented within five years from the start of the activity.

II. Classification of climate-related hazards

The climate-related hazards considered are limited to the potential occurrence of a weather and climate-related natural physical event or trend. The climate-related hazard classification comprises four major hazard groups, with hazards related to water, temperature, wind, and mass-movements. Climate risk hazards under different climate scenarios and for different areas can be identified using the risk tool within the Council for Scientific and Industrial Research's GreenBook (GreenBook)[95]. All groups include acute (extreme) and chronic (slow-onset) hazards, as adaptation must account for both rapid as well as gradual changes in the weather and climate to take the appropriate adaptation measures and avoid maladaptation.

This analysis focusses on the most important or significant hazards and is designed to guide the user to consider the most salient physical risks when mapping the sensitivities of a given sector.

All secondary hazards resulting from climate-related hazards (including but not limited to chemical, biological, ecological and epidemiological hazards) are excluded. It is however advisable to assess the risk of such secondary hazards and consider measures to address them for each economic activity.

[95] CSIR. 2019. Green Book: *Adapting South African settlements to climate change*. Online Available at: www.greenbook.co.za

Climate related hazard type	Temperature related	Wind-Related	Water-related	Solid mass- related
Chronic	Changing temperature (air, freshwater, marine water)	Changing wind patterns	Changing precipitation patterns and types (rain, hail, snow/ice)	Coastal erosion
	Heat stress		Precipitation and/or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
			Saline intrusion	Solifluction
			Sea level rise	
			Water stress	
Acute	Heat wave	Cyclone, hurricane, typhoon	Drought	Avalanche
	Cold wave/frost	Storm (including blizzards, dust and sandstorms)	Heavy precipitation (rain, hail, snow/ice)	Landslide
	Wildfire/veldfire	Tornado	Flood (coastal, fluvial, pluvial, ground water)	Subsidence
			Glacial lake outburst	

Appendix B: Technical Specification for Water Appliances

Criteria
1. The flow rate is recorded at the standard reference pressure 3 -0/+ 0,2 bar or 0,1 -0/+0,02 for products limited to low pressure. 2. The flow rate at the lower pressure 1,5 -0/+ 0,2 bar is ≥ 60 % of the maximum available flow rate. 3. For mixer showers, the reference temperature is 38 ± 1˚C. 4. Where the flow has to be lower than 6 L/min, it complies with the rule set out in point 2. 5. For taps the procedure described in clause 10.2.3 of EN 200 is followed, with the following exceptions: a) for taps that are not limited to low pressure applications only: apply a 3 -0/+ 0,2 bar pressure to both the hot and the cold inlets, alternatively; b) for taps that are limited to low pressure applications only: apply a 0,4 -0/+0,02 bar pressure to both the hot and the cold inlets and fully open the flow control.

Appendix C: Minimum Social Safeguards

Criteria
Companies and other issuers disclosing against the Taxonomy need to assess compliance with: 1. The Bill of Rights as contained in the Constitution of South Africa; 2. The Labour Relations Act, Act 66 of 1995 as amended; 3. The Basic Conditions of Employment Act, Act 75 of 1997 as amended; 4. The Employment Equity Act, Act 55 of 1998; 5. The Unemployment Insurance Act, Act 30 of 1996; 6. The Occupational Health and Safety Act, Act 85 of 1993 as amended; 7. The Compensation for Occupational Injuries and Diseases Act, Act 130 of 1993; and 8. Protection of Personal Information Act, Act 4 of 2013. As well as the standards in: 1. International Labour Organisation (ILO) core labour conventions; 2. The OECD Guidelines on Multinational Enterprises; and 3. The UN Guiding Principles on Business and Human Rights.

Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources

Criteria
Ensure legal compliance by fulfilling the requirements of South African water legislation which includes but is not limited to the National Water Act (No.36 of 1998), Mountain Catchment Areas Act (No. 63 of 1970), the National Environmental Management: Integrated Coastal Management Act (No.24 of 2008), the Marine Living Resources Act, 1998 and the Water Services Act (No.108 of 1997) where applicable. Identify and manage risks related to water quality and/or water consumption at the appropriate level and in alignment with the latest National Water Resources Strategy. Where water use/conservation management plans are required by South African legislation, these plans are to be developed in consultation with relevant stakeholders.

Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration

Criteria
Ensure legal compliance by ensuring an Environmental Impact Assessment (EIA) has been completed in accordance with the South African environmental legislation such as National Environmental Management Act (No.107 of 1998) as amended or other equivalent national provisions or international standards (e.g. IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks) whichever is stricter and any required mitigation measures for protecting biodiversity/eco-systems, in particular UNESCO World Heritage and Key Biodiversity Areas, have been implemented where relevant. For sites/operations located in or near to biodiversity-sensitive areas, ensure that an appropriate assessment has been conducted in compliance with the provisions of National Environmental Management Biodiversity Act (Act 10 of 2004) or other equivalent national provisions or international standards (e.g. IFC Performance Standard 6) – whichever is stricter based on the conservation objectives of the protected area. For such sites/operations, ensure that: • a site-level biodiversity management plan exists and is implemented in alignment with the IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; • all necessary mitigation measures are in place to reduce the impacts on species and habitats; and • a robust, appropriately designed and long-term biodiversity monitoring and evaluation programme exists and is implemented.

Appendix F: Generic Criteria for DNSH to Pollution Prevention

Criteria
Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with South African environmental legislation such as National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management. And no significant cross-media effects occur.

Appendix G: Listing of Technical Criteria and other Taxonomy Aspects Requiring Further Domestication Review and/or Development

This section serves to highlight the constituents of the 1st Edition of the South African Green Finance Taxonomy (GFT) that are identified as requiring additional technical development, technical review and/or further stakeholder engagement.

The process for doing so and for finalising, approving and incorporating changes to taxonomy constituents is to be dictated by the South African Green Finance Taxonomy governance process, to be established.

This listing of developmental aspects may be supplemented in future, as taxonomy development and maintenance processes identify further changes, additions and removals, per the South African Green Finance Taxonomy governance process, to be established.

The constituents for additional work are identified on the following basis.

Updates to international green finance taxonomy foundations

The foundation of the draft GFT document is the detail and guidance provided by the final report on EU Sustainable Finance Taxonomy, developed by the Technical Expert Group (TEG) on Sustainable Finance.

The European Commission has since released an update to the EU Taxonomy in November 2020, the Taxonomy Delegated Regulation (DR) (Link to Taxonomy Delegated Regulation of Nov 2020) and a further update, the EU Taxonomy Climate Delegated Act (DA) in April 2021 (Link to EU Taxonomy Climate Delegated Act of April 2021), updating EU Sustainable Finance Taxonomy of March 2020 upon which the GFT document was initially adopted and adapted. The updated changes include:

- Addition of new economic activities and associated criteria
- Removal of economic activities
- Renaming economic activities
- Wording updates
- Adjustments to technical screening criteria

The project team has processed these changes as follows:

- Identified the updates made in the latest April update.
- Evaluated the appropriateness of new economic activities identified in the DA, for the South African draft. By-and-large, these have been identified as relevant. The process has not yet been undertaken to incorporate these additional activities into the Draft, and make domestication adjustments. These new economic activities are listed in this document in **Table 8**.
- Evaluated the basis for removal of economic activities. Particular economic activities have been removed from the Draft and are identified as requiring input to consider whether these should be retained. These removed economic activities are listed in this document in **Table 7**.
- Renamed economic activities have been reviewed and adjustments made to enhance alignment and user accessibility.
- Wording adjustments and editorial details have been incorporated.
- Updated the draft criteria contained in this document to the DA, where the DA has seen structural, technical and editorial changes from the TEG.
- Researched, evaluated and incorporated adjustments to domesticate the changed DA criteria for South African application and regulation. This latter process is indicated in **Table 7**. Therefore, this 1st Edition (March 2022) is a hybrid presentation of TEG, DR and DA criteria, as the merits of each change are evaluated and the change to DA is considered for domestication requirements.

Critical to note, the following economic activities have been removed from the latest release of the DA:

- Growing of perennial crops and growing of non-perennial crops (collectively called 'Crop Production' in the GFT)
- Livestock Production (retains the same name in the GFT)
- Electricity generation from gaseous and liquid fuels (called 'Production of electricity, heating and cooling from gas' in the GFT)
- Manufacture of biogas and biofuels for use in transport and of bioliquids (called 'Manufacture of Biomass, Biogas or Biofuels'

Challenges with Gas and Agricultural Management Practices, in international green finance taxonomy development

After further consideration and review, the project team has decided to relocate certain economic activities and/or technical standards from the 1st Edition of the GFT (effectively removing them for the time being) to the 'Economic activities relocated from the Draft Version of the GFT requiring further consideration' section of this document. These economic activities and/or technical standards are temporarily placed on this listing, and are for further consideration and stakeholder engagement concerning their inclusion or exclusion in future versions of the GFT, as well as the details of associated technical specifications. Specifically:

- Economic activity 'Production of electricity, heating and cooling from gas' has been removed and relocated from this version of the GFT, given challenges associated with this economic activity. Natural gas is a fossil fuel and may have a role to play as a transition fuel, as it is considered to play a role in achieving South Africa's decarbonisation objectives. As such, it is considered appropriate to include it for consideration in the development of a future transition taxonomy. The transition taxonomy is to be developed under a follow-on project planned for March 2021 – August 2022 (the project is detailed in the 'Expanding the South African Green Finance Taxonomy and embedding its use' section of this document.)
- Economic activities 'Crop production, Livestock production and Manufacture of Biomass, Biogas or Biofuels' has been retained in this version of the GFT, however its technical standard has been relocated from the GFT for future development. Therefore this economic activity is identified in this version of the GFT as 'for future development'. Challenges regarding agricultural management practices, impact on climate, biodiversity and land use specifically related to 'crop production and livestock production', have emerged and illustrate the need to further consider the technical screening criteria of these economic activities, so that they can be further developed and refined in future. Economic activities identified in the Draft Green Finance Taxonomy, without international example to domesticate

As part of the first phase of the South African Green Finance Taxonomy project, a process was undertaken to identify economic activities aligned to a definition of a Green Economy vision for South Africa according to a framework evaluating compatibility, or pathways to compatibility. This process identified a number of economic activities consistent with the vision that did not have comparable economic activities in the EU Sustainable Finance Taxonomy, developed by the Technical Expert Group (TEG) on Sustainable Finance.

These economic activities have been identified in the Draft Green Finance Taxonomy. The development of technical criteria for these economic activities has not yet been undertaken. These identified but undeveloped economic activities are listed in **Table 9.**

Transition taxonomic components

As part of the first phase of the South African Green Finance Taxonomy development process, it is established that principles and standards for Transition Finance are needed. However, at this time, necessary underpinning tools and data are in process of development but not yet suitable for pre-emptive integration. In addition, the project has focused on the establishment of the foundational focus areas, with the ambition to expand the Taxonomy for further coverage, given necessary and appropriate resourcing, time, design, development, engagement, testing and coordination.

Future developments

Expanding the South African Green Finance Taxonomy and embedding its use

Catalysing the much-needed economy-wide investment to respond to climate change and unlocking the needed finance for the solutions to achieve deep decarbonisation and equitable transition, remains challenging. An essential tool that can help economic actors allocate capital in a way that is more consistent with the vision for a development-focused, climate-resilient economy, is a taxonomy that strongly encompasses social and socio-economic development objectives, and provides coverage for finance classification challenges in economic transition.

With the support of the SA UK PACT (Partnering for Accelerated Climate Transitions) programme, the project 'Expanding the South African Green Finance Taxonomy and embedding its use' will undertake the critically important work to expand and embed the Green Finance Taxonomy (GFT).

Such an expanded and embedded GFT offers a way to tie the financial sector back to the real economy by providing a clear set of definitions for what "counts" towards sustainability in South Africa. Through its contribution to reasonable certainty and to transparency, it places the spotlight on the financial sector to align its activities with sincerity.

The project, led by National Business Initiative and supported by the Carbon Trust, will continue to work with the financial sector, industry associations, regulators and national and sub-national government throughout. It will also learn from and work bilaterally with others working on similar taxonomy developments across the world, as knowledge and understanding grows and challenges with taxonomies are better understood. The project will also develop roadmaps and provide practical implementation support and knowledge building, to enable the adoption of the resulting expanded GFT by financial actors and non-financial actors, in both the private and the public sectors.

The project is planned to be delivered during March 2021 –August 2022 and will build on the foundations laid by the initial phase of work supported by IFC, part of the World Bank Group, through IFC's Green Bond Market Development program in partnership with SECO (Swiss State Secretariat for Economic Affairs) and Sida (Swedish International Development Cooperation Agency). It also benefits from global support from the IFC-facilitated Sustainable Banking Network (SBN).

Technical criteria developmental constituents

Table 7: Economic activities indicating inputs required

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
3.1 Agriculture, Forestry and Fisheries	3.1.1 Forestry and Land Rehabilitation	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included these activities into one section under Forestry and Land Rehabilitation.
3.1 Agriculture, Forestry and Fisheries	3.1.2 Crop Production	Removed	• Refer to Section 'Crop production' for details regarding the economic activity and its associated screening criteria and consult governance mechanism to proposed technical standards for inclusion into the taxonomy	Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included these activities into one section under Crop production.
3.1 Agriculture, Forestry and Fisheries	3.1.3 Livestock Production	Removed	• Refer to Section 'Livestock production' for details regarding the economic activity and its associated screening criteria and consult governance mechanism to proposed technical standards for inclusion into the taxonomy	
3.2 Industry	3.2.1 Manufacture of low carbon and resource efficiency technologies	Leverages TEG criteria. Consider DA updates and further domestication	• Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context • Consider SA water performance benchmarks for hot water fittings	Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included these activities into one section under Manufacture of low carbon and resource efficiency technologies.
3.2 Industry	3.2.2 Manufacture of Cement	Updated/unchanged. Consider further technical adjustment	Consider metrics and thresholds associated with economic activity – this includes thresholds related to GHGs that reflect the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Commission Implementing Regulation (EU) 2021/447 of 12 March 2021 determining revised benchmark values for free	

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
			allocation of emission allowances for the period from 2021 to 2025 pursuant to Article 10a(2) of Directive 2003/87/EC of the European Parliament and of the Council. This includes emissions associated with clinker and cement or alternative binder production that reflect the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) for grey cement clinker as set out in the Annex to the Implementing Regulation (EU) 2021/447, multiplied by the clinker to cement ratio of 0,65.	
3.2 Industry	3.2.3 Manufacture of Aluminum	Updated/unchanged. Consider further technical adjustment	Consider metrics and thresholds associated with economic activity – this includes thresholds related to the production of primary aluminium where the sum of direct GHG emissions and indirect GHG emissions (tCO_2e per tonne of product) that reflect emissions performance in alignment with the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.	
3.2 Industry	3.2.4 Manufacture of Iron, Steel and Ferroalloys	Updated/unchanged not requiring update	Consider metrics and thresholds associated with economic activity – this includes: vii. hot metal (tCO_2e/t product) viii. sintered ore (tCO_2e/t product) ix. coke (excluding lignite coke) (tCO_2e/t product) x. iron casting (tCO_2e/t product) xi. electric Arc Furnace (EAF) high alloy steel (tCO_2e/t product) xii. electric Arc Furnace (EAF) carbon steel (tCO_2e/t product) which refers that threshold performances reflect the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447	

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
3.2 Industry	3.2.5 Manufacture of Hydrogen	Updated/unchanged not requiring update		
3.2 Industry	3.2.6 Manufacture of other inorganic basic chemicals	Updated/unchanged. Consider further technical adjustments	Consider metrics and thresholds associated with economic activity – this includes thresholds related to the production of carbon black and disodium carbonate where GHG emissions performance reflects the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.	
3.2 Industry	3.2.7 Manufacture of other organic basic chemicals	Updated/unchanged. Consider further technical adjustments	Consider metrics and thresholds associated with economic activity – this includes: xiii. for HVC (tCO_2e/t of HVC); xiv. for aromatics (tCO_2e/t of aromatic) xv. for vinyl chloride (tCO^2e/t of vinyl chloride); xvi. for styrene (tCO_2e/t of styrene); xvii. for ethylene oxide/ethylene glycols (tCO_2e/t of ethylene oxide/glycol) which refers that threshold performances reflect the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447	
3.2 Industry	3.2.8 Manufacture of fertilizers and nitrogen compounds	Updated/unchanged. Consider further technical adjustments	Consider metrics and thresholds associated with economic activity – particularly GHG emissions from the manufacture of ammonia and nitric acid reflect performance with the average value of the 10% most efficient installations in 2016 and 2017 (t CO2 equivalents/t) as set out in the Annex to the Implementing Regulation (EU) 2021/447.	
3.2 Industry	3.2.9 Manufacture of plastics in primary form	Updated/unchanged not requiring update		
3.3 Energy	3.3.1 Production of electricity, heating and cooling from	Updated/unchanged not requiring update		Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
	Solar PV, Concentrated Solar Power, Wind Power and Ocean Energy			these activities into one section under Production of electricity, heating and cooling from Solar PV, Concentrated Solar Power, Wind Power and Ocean Energy.
3.3 Energy	3.3.2 Production of electricity, heating and cooling from Hydropower	Updated/unchanged not requiring update		
3.3 Energy	3.3.3 Production of electricity, heating and cooling from Geothermal	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.3 Energy	3.3.4 Production of electricity, heating and cooling from Gas	Removed	Consult governance mechanism to proposed technical standards for inclusion into the transition chapter of the extended Green Finance Taxonomy	
3.3 Energy	3.3.4 Production of electricity, heating and cooling from Bioenergy	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.3 Energy	3.3.5 Manufacture of Biomass, Biogas or Biofuels	Removed	Refer to Section 'Manufacture of biomass, Biogas, or Biofuels' for details regarding the economic activity and its associated screening criteria and consult governance mechanism to proposed technical standards for inclusion into the taxonomy	
3.3 Energy	3.3.6 Transmission and distribution of Electricity	Leverages TEG criteria. Consider DA updates	• Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context • Consult governance mechanism to proposed eco design transformer criteria	
3.3 Energy	3.3.7 Storage of Electricity	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
3.3 Energy	3.3.8 Storage of Thermal Energy	Updated/unchanged not requiring update		
3.3 Energy	3.3.9 Storage of Hydrogen	Updated/unchanged not requiring update		
3.3 Energy	3.3.10 Transmission and distribution networks for renewable and low-carbon gases	Updated/unchanged not requiring update		
3.3 Energy	3.3.11 District Heating/Cooling Distribution	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.3 Energy	3.3.12 Installation and operation of Electric Heat Pumps	Updated/unchanged not requiring update		
3.3 Energy	3.3.13 Production of Heating/Cooling using Waste Heat	Updated/unchanged not requiring update		
3.4 Water and Waste	3.4.1 Water collection, storage, distribution treatment and supply	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	Economic activity has been renamed in Taxonomy Delegated Act
3.4 Water and Waste	3.4.2 Centralized wastewater treatment	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	Economic activity has been renamed in Taxonomy Delegated Act
3.4 Water and Waste	3.4.3 Anaerobic digestion of sewage sludge	Updated/unchanged not requiring update		
3.4 Water and Waste	3.4.4 Separate collection and transport of non-	Updated/unchanged not requiring update		

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
	hazardous waste in source segregated fractions			
3.4 Water and Waste	3.4.5 Anaerobic digestion of bio-waste	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.4 Water and Waste	3.4.6 Composting of bio-waste	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.4 Water and Waste	3.4.7 Material recovery from non-hazardous waste	Updated/unchanged not requiring update		
3.4 Water and Waste	3.4.8 Landfill gas capture and utilization	Updated/unchanged not requiring update		
3.4 Water and Waste	3.4.9 Direct Air Capture of CO_2	Economic activity removed from Taxonomy Delegated Act	To consider continued applicability of Draft entry	
3.4 Water and Waste	3.4.10 Capture of Anthropogenic Emissions	Economic activity removed from Taxonomy Delegated Act	To consider continued applicability of Draft entry	
3.4 Water and Waste	3.4.11 Transport of CO_2	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.4 Water and Waste	3.4.12 Permanent Sequestration of Captured CO_2	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	Economic activity has been renamed in DA
3.5 Transportation	3.5.1 Commuter road, passenger rail and freight rail transport	Leverages TEG criteria. Consider DA updates	• Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context • Substantial climate change mitigation contribution criteria related to vehicles of category M1 and N1 are	Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included these activities into one section under

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
			not indicated due to the absence of South African specific vehicle emissions regulations and standards. Consult governance mechanism to proposed technical standards for inclusion into the taxonomy	Commuter road, passenger rail and freight rail transport.
3.5 Transportation	3.5.2 Infrastructure for low carbon transport	Updated/unchanged not requiring update		Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included these activities into one section under Infrastructure for low carbon transport
3.5 Transportation	3.5.3 Passenger cars, road commercial vehicles and road freight transport	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included these activities into one section under Passenger cars, commercial vehicles and freight transport
3.5 Transportation	3.5.4 Inland passenger and freight water transport	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	Separating economic activities as per DA into standalone sections. The Green Finance Taxonomy has included these activities into one section under Inland passenger and freight water transport
3.6 ICT	3.6.1 Data processing, hosting and related activities	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.6 ICT	3.6.2 Data-driven solutions for GHG emission reductions	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.7 Construction	3.7.3 Individual measures and professional services	Leverages TEG criteria. Consider DA updates	• Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	
3.7 Construction	3.7.4 Acquisition and ownership	Leverages TEG criteria. Consider DA updates	• Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and	

Taxonomy Macro-Sector	Taxonomy Economic activity	Status	Considerations	Other adjustments to consider
			domestication of current economic activity to South African context	
3.8 Enabling activities, system resilience & innovation	3.8.1 Non-life insurance	Leverages TEG criteria. Consider DA updates	Refer to economic activity as illustrated in Taxonomy Delegated Act and consider suitability and domestication of current economic activity to South African context	

Table 8: Economic activities adjusted and added to the EU Taxonomy Climate Delegated Act and not yet contained in the Draft Green Finance Taxonomy

The details of the below economic activities have not been evaluated in the context of South Africa and on that basis have not been included in GFT at this stage. Stakeholders are asked to consider the suitability and domestication of these economic activities to the South African context for inclusion into the GFT.

Taxonomy Delegated Act Macro-Sector	Taxonomy Economic activity	Input required
Economic activities with climate change mitigation and climate change adaption criteria		
Environmental protection and restoration activities	Restoration of Wetlands	Refer to economic activity as illustrated in EU Taxonomy Climate Delegated Act and consider suitability and domestication of current economic activity to South African context (Link to EU Taxonomy Climate Delegated Act of April 2021)
Manufacturing	Manufacture of Renewable Energy technologies	
Manufacturing	Manufacture of equipment for the production of hydrogen and use of hydrogen	
Manufacturing	Manufacture of batteries	
Water supply, sewerage, waste management and remediation	Renewal of water collection, treatment and supply systems	
Water supply, sewerage, waste management and remediation	Renewal of waste water collection and treatment	
Energy	Electricity generation from renewable non-fossil gaseous and liquid fuels	
Energy	Cogeneration of heat/cool and power from renewable non-fossil gaseous and liquid fuels	
Energy	Production of heat/cool from renewable non-fossil gaseous and liquid fuels	
Transport	Operation of personal mobility devices	
Transport	Retrofitting of inland water passenger and freight transport	
Transport	Sea and coastal freight water transport	
Transport	Sea and coastal passenger water transport	
Transport	Retrofitting of sea and coastal freight and passenger water transport	
Construction and real estate activities	Installation, maintenance and repair of charging stations for electric vehicles in buildings (and parking spaces attached to buildings)	
Professional, scientific and technical activities	Close to market research, development and innovation	
Professional, scientific and technical activities	Research, development and innovation for direct air capture of CO2	
Professional, scientific and technical activities	Professional services related to energy performance of buildings	
Professional, scientific and technical activities	Research, development and innovation related to nature based solutions for adaptation	
Economic activities with climate change adaption criteria only		
Information and communication	Computer programming, consultancy and related activities	
Information and communication	Programming and broadcasting activities	

Taxonomy Delegated Act Macro-Sector	Taxonomy Economic activity	Input required
Professional scientific and technical activities	Engineering activities and related technical consultancy dedicated to adaptation to climate change	
Professional scientific and technical activities	Close to market research, development and innovation	
Financial and insurance activities	Reinsurance	
Education	Education	
Human health and social work activities	Residential care activities	
Arts, entertainment and recreation	Creative, arts and entertainment activities	
Arts, entertainment and recreation	Libraries, archives, museums and cultural activities	
Arts, entertainment and recreation	Motion picture, video and television programme production, sound recording and music publishing activities	

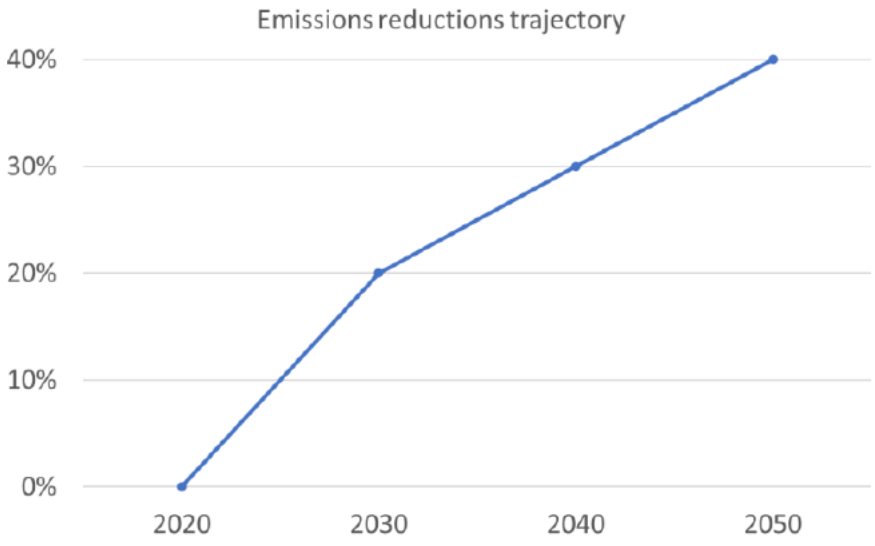
Table 9: Economic activities identified for the South African Green Finance Taxonomy without technical criteria developed to date

Taxonomy Segment	Taxonomy Economic activity	Status	Inputs required
Economic activities with climate change mitigation and climate change adaption criteria			
Agriculture, forestry, fisheries and land use	Ecosystem Conservation	No technical criteria	Technical criteria development process, per South African Green Finance Taxonomy governance process
Agriculture, forestry, fisheries and land use	Fisheries and Aquaculture	No technical criteria	
Agriculture, forestry, fisheries and land use	Wildlife management	No technical criteria	
Agriculture, forestry, fisheries and land use	Eco-Tourism	No technical criteria	
Agriculture, forestry, fisheries and land use	Livestock production	No technical criteria	
Agriculture, forestry, fisheries and land use	Crop production	No technical criteria	
Industry	Manufacture of Glass	No technical criteria	
Industry	Manufacture of low carbon resources	No technical criteria	
Industry	Pollution prevention and control	No technical criteria	
Industry	Reuse, redistribution, refurbishment and recycling facilities	No technical criteria	
Industry	Environmental services	No technical criteria	
Industry	Remanufacturing of electromechanical products	No technical criteria	
Industry	Eco-efficient products and processes	No technical criteria	
Industry	Biodegradables	No technical criteria	
Industry	Mining Platinum	No technical criteria	
Industry	Mining Gold	No technical criteria	
Industry	Manufacture of Paper	No technical criteria	
Transport	Commuter road, passenger rail and freight rail transport	Requires substantial climate change mitigation contribution criteria to be developed for M1 and N1 vehicles. Substantial contribution criteria for heavy duty vehicles have been developed	

Taxonomy Segment	Taxonomy Economic activity	Status	Inputs required
Energy	Production of electricity, heating and cooling from gravity potential energy	No technical criteria	
Energy	Manufacture of Biomass, Biogas or Biofuels	No technical criteria	
Water and Waste	Water monitoring	No technical criteria	
Water and Waste	Flood defence	No technical criteria	
Water and Waste	Nature based solutions	No technical criteria	
Water and Waste	Reuse, redistribution, refurbishment, recycling storage and handling infrastructure	No technical criteria	
Water and Waste	Water saving, recycling and reuse technologies	No technical criteria	
Water and Waste	Pollution prevention and control	No technical criteria	
Water and Waste	Handling and Preparation	No technical criteria	
Water and Waste	Water treatment	No technical criteria	
Transportation	Aviation	No technical criteria	
Construction	Spatial Planning	No technical criteria	
Enabling activities, system resilience & innovation	R&D and innovation	No technical criteria	
Enabling activities, system resilience & innovation	Early warning systems	No technical criteria	
Enabling activities, system resilience & innovation	Disaster risk prevention	No technical criteria	
Enabling activities, system resilience & innovation	Sustainability certifications	No technical criteria	
Enabling activities, system resilience & innovation	Value chain activities	No technical criteria	
Enabling activities, system resilience & innovation	Capacity building	No technical criteria	
Enabling activities, system resilience & innovation	Technological solutions	No technical criteria	
Enabling activities, system resilience & innovation	Public events	No technical criteria	
Social Resilience	Education	No technical criteria	
Social Resilience	Skill development	No technical criteria	
Social Resilience	Knowledge management	No technical criteria	

Economic activities excluded from the 1st Edition SA GFT for further future consideration

Crop production

Sector classification and activity	
Macro-Sector	Agriculture, forestry and fishing
SIC Code	01 011 Growing of non-perennial crops 012 growing of perennial crops
Description	Crop Production
Make Significant Contribution criteria	
Climate Change Mitigation	
Principle	Both of the principles set out here must be fulfilled: 1. Demonstrate substantial avoidance or reduction of GHG emissions from production and related practices; and 2. Maintain existing sinks and increase sequestration (up to saturation point) in above- and below-ground carbon stocks.
Metric and Threshold	**1) Avoid or reduce GHG emissions (including those from inputs used on the farm) through the application of appropriate management practices.** This can be demonstrated in either of the following ways: • The essential management practices are deployed consistently over the applicable crop production area each year OR • Reduction in GHG emissions (gCO_2e) in line with the following trajectory  For example, a 20% reduction in GHG emissions would be required by 2030 compared to emissions in 2020, and a 30% emissions reduction would be required by 2040 compared to 2020 **2) Maintain and increase existing carbon stocks for a period of not less than 20 years through the application of appropriate management practices.** This can be demonstrated in either of the following ways: • The essential management practices are deployed consistently over the applicable crop area each year OR • Above and below ground carbon stocks (tC/ha) to be increased progressively over a minimum 20-year period

	* Noting the following exception: For soils specifically, where it can be demonstrated that saturation levels have been reached, no further increase in carbon content is expected. In this case, existing levels should be maintained. **3) Production is not undertaken on land that had any of the following status in or after 2010[96] and no longer has that status:** a) Wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year; b) Continuously forested areas, namely land spanning more than 0.1 hectares with trees higher than 2 metres and a canopy cover of between 10 and 30 %, or trees able to reach those thresholds in situ; c) Peatland, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil. **Methodological notes:** For those demonstrating compliance with the essential management practices: • The essential management practices are described in the table below. All essential practices will need to be deployed, except where particular practices can be demonstrated to be not applicable to that farm holding given the particular biophysical conditions at that farm holding. • In respect of the essential practice relating to the GHG assessment, this assessment should be done using tools that cover all relevant emissions on the farm associated with production, as well as emissions associated with energy and fuel use (see below for relevant GHG categories). If it can be demonstrated that no carbon assessment tool is currently accessible to farmers in a given location (either because of language or lack of access to farm advisory support), this practice may be omitted in the first instance. The assessment, however, becomes mandatory within a five year period. The assessment is a self-assessment using an appropriate tool, no independent audit or verification of the GHG assessment is required. • To demonstrate compliance with all other essential practices, it will be necessary to establish a farm sustainability management plan which describes the management practices being deployed - taking into account crop husbandry requirements, farm pedo-climatic conditions - and their coverage on the farm. To prepare the farm sustainability management plan a carbon calculator can be used, or the plan can also be prepared using other nutrient decision-support tools. For those demonstrating compliance with GHG thresholds: • To demonstrate compliance with the quantitative GHG thresholds it will be necessary to establish a Carbon stock and GHG emission baseline for the farm (see below for relevant GHG categories). It will be against such baseline data that emission reductions of Carbon increases can be measured. A carbon audit is necessary in order to also assess where action is needed, and this must be accompanied by a carbon management plan to set out the management practices that will deliver the GHG emissions reduction/ carbon sequestration. This carbon management plan is part of the broader farm sustainability plan. • Assurance should be sought on the likely replanting of crops to promote the permanence of carbon sequestration trends. It is recognised stage crops with a potential fallow/ restoration period between will lead to a reduction in carbon stocks and some emissions. With this in mind, the objective is to ensure overall maintenance of carbon stocks and/ or upward trends in sequestration are sought over multiple rotations. For all users: • Calculations of carbon stocks and GHG emissions levels should include the following, though it is recognised that in practice, the scope of GHG counted will be subject to the technical capabilities of the GHG accounting tools being used: - CO_2 emissions and removals in above ground biomass - CO_2 emissions and removals in below ground biomass and soils - N_2O emissions from exposed soils, fertiliser application, and those embedded in fertiliser production and fertiliser application - CH_4 emissions from livestock (enteric fermentation and manure management) and some soils (e.g. wetlands)

[96] January 2010 was selected as a cutoff date as this accommodates most major certification or standards requirements for "no deforestation."

	- CO_2 emissions from fuel and electricity use • Emissions, sinks and management practices are all to be audited at 3-year intervals to confirm ongoing compliance with these requirements. • In the case of force majeure: emissions resulting from natural disturbance can be excluded from impacting on the achievement of the thresholds and will not affect the application of these requirements or result in non-compliance with these criteria.

Management category	**Essential management practice**	**GHG ↓**	**C-Seq ↑**	**Co-benefits**
Farm GHG assessment	Undertake a GHG assessment of sources of emissions and sinks on the farm. Existing and verified tools should be used. No auditing of the GHG assessment is required.	✔	✔	✔
Crop choice and cover (to increase carbon sequestration in soil, reduce fertilizer need, and N20 emissions)	Sowing of cover/catch crops using a locally appropriate species mixture with at least 1 legume and reducing bare soil to the point of having a living plant coverage index of at least 75% at farm level per year.	✔	✔	✔
Soil management (in order to prevent soil erosion and carbon losses from soils)	Prevent soil compaction (frequency and timing of field operations should be planned to avoid traffic on wet soil; tillage operation should be avoided or strongly reduced on wet soils; stock density should be reduced on wet soils; stock density should be reduced to avoid compaction, especially on wet soils).	✔		✔
	Management of carbon-rich soils • Avoiding deep ploughing on carbon-rich soils • Avoiding row crops • Maintaining a shallower water table – peat • Maintaining a shallower water table – arable	✔		✔
	Avoid water logging and compaction where land is drained	✔	✔	✔
	Maintain and preserve permanent grassland	✔		
	No burning of arable stubble except where authority has granted an exemption for plant health reasons.	✔	✔	✔
Nutrient management (in order to reduce N_20 emissions)	Nutrient management plan to optimize fertilization and improve nitrogen use efficiency. The plan should be based on soil testing, estimating of crops nutrient requirements, recording of nutrient applications, considering field characteristics and soil type, estimating soil nitrogen supply, and where applicable analysis of manure nutrient content prior to application. In addition, it is required that a low emission N-application technology is used (e.g. slurry injection, incorporating manure in the soil within 2 hours of spreading) and fertilizer spreaders which have low coefficient of variation (synthetic fertilizer and farmyard manure (e.g. placing N in the soil via injection), combined with calibration of spreaders.			
Structural elements with mitigation benefit (in order to increase C sequestration)	Conversion of low productivity land (e.g. along field edges) into woodland to increase C sequestration and protect against soil erosion.		✔	✔
Waste management	Minimize post-harvest loss	✔		
Energy use	Where energy emissions represent greater than 20% of total emissions from non-perennial crop production activity, these emissions should be reduced appropriately for the term of the investment, in line with the trajectory outlined in the above	✔		

	section i.e. by at least 10% compared to a 2020 baseline for a 5 year investment period, 20% compared to a 2020 baseline for a 10 year investment period to 2030, and 30% compared to a 2020 baseline for a 20 year investment period – with pro-rata adjustments for investments of intermediate durations			

Climate Change adaptation

Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation.
Users of the Taxonomy should identify and explain which criteria they are responding to.

Do No Significant Harm assessment

Key environmental aspects to be considered for investments in growing of perennial crops span across all other five objectives and are summarized as follows:

- Ability of farming systems to adapt to a changing climate;
- Impact on water quantity, water quality and water ecosystems;
- Impacts on air quality;
- Inefficiencies in the production system including nutrient management;
- Pollutant and nutrient run-off and leaching;
- Impacts on habitats and species, e.g. through conversion of areas, intensification of existing arable land, and invasive alien species.

Note that areas of environmental risk are highly geographically variable. Guidance should be sought from the relevant competent national or regional authority to identify areas or issues of importance and relevance within the area or project concerned.

Climate Change Mitigation	For adaptation projects • The preservation and sustainable development of agricultural land as a natural resource • No burning of arable stubble except where authority has granted an exemption for plant health reasons. • Appropriate protection of wetland or peatland and no conversion of continuously forested areas or land spanning more than 0.1 hectares with trees higher than 2m and a canopy cover of between 10 & 30% or able to reach those thresholds in situ • Fulfil the requirements of; National Environmental Management Act (No.107 of 1998) as amended, the Conservation of Agricultural Resources Act (No 43 of 1983), the National Environmental Management Biodiversity Act (No 10 of 2004), National Environmental Management Protected Areas Act (No 57 of 2003) and National Water Act (No 36 of 1998). • Minimum land management under tillage to reduce risk of soil degradation including on slopes. • No bare soil in most sensitive period of the year to prevent erosion and loss of soils.
Climate Change Adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	Fulfil the requirements of South African water legislation such as the National Water Act (No.36 of 1998), Mountain Catchment Areas Act (No. 63 of 1970) and the Water Services Act (No.108 of 1997) where applicable. Identify and manage risks related to water quality and/or water consumption at the appropriate level. Where water use/conservation management plans are required by South African legislation, these plans are to be developed in consultation with relevant stakeholders.
Ecosystem protection and restoration	• Activities ensure the protection of soils to prevent erosion and run-off into water courses/bodies and to maintain soil organic matter. • Activities do not lead to the conversion, fragmentation or unsustainable intensification of high-nature-value land, wetlands, forests, or other areas of high-biodiversity value[97]. This includes highly biodiverse grassland spanning more than one hectare that is:

[97] Areas of high-biodiversity-value can be defined in National Environmental Management: Biodiversity Act 10 of 2004 and are set out in the National Biodiversity Assessment 2018

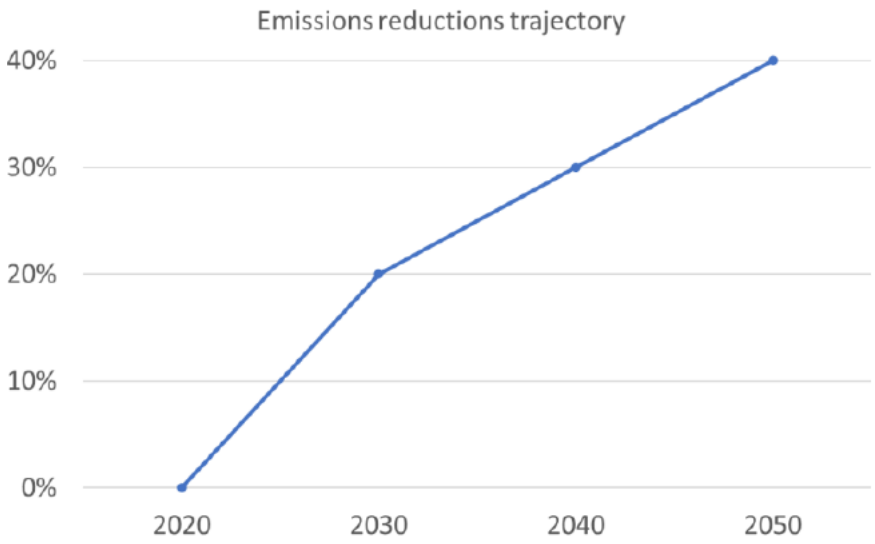
	ii. natural, namely grassland that would remain grassland in the absence of human intervention and that maintains the natural species composition and ecological characteristics and processes; or iii. non-natural, namely grassland that would cease to be grassland in the absence of human intervention and that is species-rich and not degraded and has been identified as being highly biodiverse by the relevant competent authority. • Activities should not[98]: - result in a decrease in the diversity or abundance of species and habitats of conservation importance or concern; - contravene existing management plans or conservation objectives. • Where activities involve the production of novel non-native or invasive alien species, their cultivation should be subject to an initial risk assessment and on-going monitoring in order to ensure that sufficient safeguards are in place to prevent escape to the environment. • The prevention and control of alien invasive species must be managed in accordance with the National Environmental Management Act, 1998 (Act No.107 of 1998) and the National Environmental Management: Biodiversity (Act 10 of 2004) and the Conservation of Agricultural Resources Act, 1983 (Act No 43 of 1983) (CARA).
Pollution prevention	• Activities ensure that nutrients (fertilisers) and plant protection products (e.g. pesticides and herbicides) are targeted in their application (in time and area treated) and are delivered at appropriate levels (with preference to sustainable biological, physical or other non-chemical methods if possible) and with appropriate equipment and techniques to reduce risk and impacts of pesticide use on human health and the environment (e.g. water and air pollution) and the loss of excess nutrients[99]. • The use only of plant protection products with active substances that ensure high protection of human and animal health and the environment. Use must adhere to the National Environmental Management Act (No.107 of 1998) as amended, the Hazardous Substances Act, 1973 (Act No.15 of 1973) and the Occupational Health and Safety Act No.85 of 1993.
Sustainable resource use and circularity	• Activities should minimise raw material use per unit of output, including energy through increased resource use efficiency[100]. • Activities should minimise the loss of nutrients (in particular nitrogen and phosphate) leaching out from the production system into the environment. • Activities should use residues and by-products the production or harvesting of crops to reduce demand for primary resources, in line with good agricultural practice
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards	

[98] Consistent with the National Environmental Management: Biodiversity Act 10 of 2004

[99] See the sustainable use of pesticides within the Pesticide Management Policy for South Africa

[100] The criterion refers to "unit of output" to allow for production efficiency increases where raw material use may not decline

Livestock production

Sector classification and activity	
Macro-Sector	Agriculture, forestry and fishing
SIC Code	014
Description	Livestock production
Make Significant Contribution criteria	
Climate Change Mitigation	
Principle	1. Demonstrate substantial avoidance or reduction of GHG emissions from livestock production (including animal management, storage and processing of manure and slurry, and management of permanent grasslands) 2. Maintain existing sinks and increase sequestration (up to saturation point) of carbon in permanent grassland. Where livestock production does not include permanent grassland, only principle 1 applies. Permanent grassland is land used to grow grasses or other herbaceous forage, either naturally (self-seeded including 'rough grazing') or through cultivation (sown), and which is more than five years old.
Metric and Threshold	**1) Avoid or reduce GHG emissions (including those from inputs used on the farm) through the application of appropriate management practices.** This can be demonstrated in either of the following ways: • The essential management practices are deployed consistently over the applicable livestock crop production area each year OR • Reduction in GHG emissions (gCO_2e) in line with the following trajectory • Reduction in GHG emissions (gCO_2e) in line with the following trajectory  For example, a 20% reduction in GHG emissions would be required by 2030 compared to emissions in 2020, and a 30% emissions reduction would be required by 2040 compared to 2020. **2) Maintain and increase existing carbon stocks for a period of not less than 20 years through the application of appropriate management practices.** This can be demonstrated in either of the following ways: • The essential management practices are consistently deployed over the applicable permanent grassland area each year OR

	• Above and below ground carbon stocks (tC/ha) to be increased progressively over a 20-year period * Noting the following exception: For soils specifically, where it can be demonstrated that saturation levels have been reached, no further increase in carbon content is expected. In this case, existing levels should be maintained. **3) Production is not undertaken on land that had any of the following status in or after 2010[101] and no longer has that status:** a) Wetlands, namely land that is covered with or saturated by water permanently or for a significant part of the year; b) Continuously forested areas, namely land spanning more than 0.1 with trees higher than 2 metres and a canopy cover of between 10 and 30 %, or trees able to reach those thresholds in situ; c) Peatland, unless evidence is provided that the cultivation and harvesting of that raw material does not involve drainage of previously undrained soil. **Methodological notes:** For those demonstrating compliance with the essential management practices: • The essential management practices are described in the table below. All essential practices will need to be deployed, except where particular practices can be demonstrated to be not applicable to that farm holding given the particular biophysical conditions at that farm holding. • In respect of the essential practice relating to the GHG assessment, this assessment should be done using tools that cover all relevant emissions on the farm associated with production, as well as emissions associated with energy and fuel use (see below for relevant GHG categories). If it can be demonstrated that no carbon assessment tool is currently accessible to farmers in a given location (either because of language or lack of access to farm advisory support), this practice may be omitted in the first instance. The assessment, however, becomes mandatory within a five year period. The assessment is a self-assessment using an appropriate tool, no independent audit or verification of the GHG assessment is required. • To demonstrate compliance with all other essential practices, it will be necessary to establish a farm sustainability management plan which describes the management practices being deployed - taking into account crop husbandry requirements, farm pedo-climatic conditions - and their coverage on the farm. To prepare the farm sustainability management plan a carbon calculator can be used, or the plan can also be prepared using other nutrient decision-support tools. - For those demonstrating compliance with GHG thresholds: • To demonstrate compliance with the quantitative GHG thresholds it will be necessary to establish a Carbon stock and GHG emission baseline for the farm (see below for relevant GHG categories). It will be against such baseline data that emission reductions of Carbon increases can be measured. A carbon audit is necessary in order to also assess where action is needed, and this must be accompanied by a carbon management plan to set out the management practices that will deliver the GHG emissions reduction/ carbon sequestration. This carbon management plan is part of the broader farm sustainability plan. - For all users: • Calculations of carbon stocks and GHG emissions levels should include the following, though it is recognised that in practice, the scope of GHG counted will be subject to the technical capabilities of the GHG accounting tools being used: - CO_2 emissions and removals in above ground biomass - CO_2 emissions and removals in below ground biomass and soils - N_2O emissions from exposed soils, fertiliser application, and those embedded in fertiliser production and fertiliser application - CH_4 emissions from livestock (enteric fermentation and manure management) and some soils (e.g. wetlands) - CO_2 emissions from fuel and electricity use

[101] January 2010 was selected as a cutoff date as this accommodates most major certification or standards requirements for "no deforestation."

	• Emissions, sinks and management practices are all to be audited at 3-year intervals to confirm ongoing compliance with these requirements. • In the case of force majeure: emissions resulting from natural disturbance can be excluded from impacting on the achievement of the thresholds and will not affect the application of these requirements or result in non-compliance with these criteria.

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Management category	Essential management practice	GHG	C-Seq	Co-benefits
Farm GHG assessment	Undertake a GHG assessment of sources of emissions and sinks on the farm. Existing and verified tools should be used. No auditing of the GHG assessment is required.	✔	✔	✔
Animal Health Planning	Better health planning and management (develop a health management plan, improve hygiene & supervision at parturition, improve maternal nutrition in late gestation to increase offspring survival, improve fertility management, selection for improving both methane and ammonia emission efficiency).	✔		
Animal Feeding	Feed additives: certain compounds, such as dietary fats, nitrate, 3-NOP, can reduce enteric CH4 emissions of ruminants. They need to be administered by mixed into the feed, and the dosage needs to be set accurately in order to avoid some potential negative health effects on the livestock. It is usually not feasible to apply these for the periods when the livestock is grazing.	✔		
	Precision and multi-phase feeding techniques, where the nutrient requirements of groups of animals (or individual animals) are targeted in feed formulation. This can reduce nitrogen excretion and subsequent N_2O emissions from manure, and also increase feed efficiency in general (reducing the feed related upstream emissions).	✔		
	Feed imported to the farm must be sourced responsibly and must demonstrate that the production of feed did not take place in deforested areas with high carbon stock or high biodiversity value[102].	✔ *	✔ *	
Manure Management	Cooling of liquid manure. CH_4 emissions from liquid manure increase with temperature. The slurry can be stored at a lower (ambient) temperature by using animal houses where the manure is collected in an outside pit rather than in the house. Note: Bundle all manure storage measures with low emission spreading	✔		
	Covering and sealing slurry and farm-yard manure storage to reduce gaseous losses of ammonia (and related indirect N_2O) and also CH_4 emissions. A wide choice of technological solutions is available from short lifetime plastic film covers to retrofitted or purpose built rigid covers.	✔		✔
	Separating solids from slurry: via mechanical or chemical ways the liquid part (rich in N) of the slurry (and also digestate from AD) can be separated from the solid part (rich in phosphorous and volatile solids).	✔		

[102] This would require that where imported or 'bought-in' from outside the region, that it is drawn from certified feed supply chains. For example, the Round Table on Responsible Soy (RTRS) provides certification for production and for chain of custody (traceability through the supply chain). Other certification for other crops/ feedstocks standards exists.

	Composting and applying solid manure	✔	✔	
	Slurry acidification is achieved by adding strong acids to the slurry to achieve a pH of 4.5-6.8 – this reduces CH_4 and NH_3 emissions considerably. There are three main types of technology based on the stage at which the acid is added to the slurry: in the livestock house, in the storage tank, or before field application. The slurry tank and the spreading equipment needs to be designed to withstand the acidic liquid, and precautions particularly while handling the strong acids are needed to minimize the risk of accidents. A better monitoring of the storage is also advisable to reduce the risk of slurry spillage to a minimum.	✔		
	Apply low-emission application technology for slurry and manure	✔	✔	
Permanent grassland management	Pasture renovation (when productivity declines, reseed the pasture)	✔	✔	
	Remove animals from very wet fields to reduce compaction	✔		✔
	Maintain and preserve permanent grassland	✔	✔	✔
	No ploughing of permanent grassland	✔	✔	✔
Soil management	No burning of arable stubble except where authority has granted an exemption for plant health reasons.	✔		
Energy use	Where energy emissions represent more than 20% of total emissions from livestock production activity, these emissions should be reduced appropriately for the term of the investment, in line with the trajectory outlined in the above section i.e. by at least 10% compared to a 2020 baseline for a 5 year investment period, 20% compared to a 2020 baseline for a 10 year investment period to 2030, and 30% compared to a 2020 baseline for a 20 year investment period – with pro-rata adjustments for investments of intermediate durations	✔		

Note: * benefits also delivered to other sectors, e.g. forest where deforestation has been avoided.

Climate Change adaptation

Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation.
Users of the Taxonomy should identify and explain which criteria they are responding to.

Do No Significant Harm assessment

- The activity livestock production captures a distinct set of sub-activities that would include intensive and extensive forms of livestock rearing, as well as the management of permanent grassland. These come with different key environmental aspects that need to be considered for investments in this sector, summarised as follows:
  - Ability of farming systems to adapt to a changing climate;
  - Impact on water quantity, water quality and water ecosystems, incl. waste water treatment from intensive rearing;
  - Manure treatment;
  - Emissions of pollutants (such as methane, ammonia, dust, odour, noise) to air, water and soil, in particular in the case of intensive rearing;
  - Impact on habitats and species.
-
- To note that areas of environmental risk are highly geographically variable. Guidance should be sought from the relevant competent national or regional authority to identify areas or issues of importance and relevance within the area or project concerned.

Climate change mitigation	For adaptation projects

	• Maintain and preserve permanent grassland • No burning of arable stubble except where authority has granted an exemption for plant health reasons. • Appropriate protection of wetland or peatland and no conversion of continuously forested areas or land spanning more than 0.1 hectares with trees higher than 2m and a canopy cover of between 10 & 30% or able to reach those thresholds in situ • Fulfil the requirements of; National Environmental Management Act (No.107 of 1998) as amended, the Conservation of Agricultural Resources Act (No 43 of 1983), the National Environmental Management Biodiversity Act (No 10 of 2004), National Environmental Management Protected Areas Act (No 57 of 2003) and National Water Act (No 36 of 1998). • Minimum land management under tillage to reduce risk of soil degradation including on slopes. • No bare soil in most sensitive period of the year to prevent erosion and loss of soils.
Climate change Adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	- Fulfil the requirements of South African water legislation such as the National Water Act (No.36 of 1998), Mountain Catchment Areas Act (No. 63 of 1970) and the Water Services Act (No.108 of 1997) where applicable. Identify and manage risks related to water quality and/or water consumption at the appropriate level. Where water use/conservation management plans are required by South African legislation, these plans are to be developed in consultation with relevant stakeholders.
Ecosystem protection and restoration	• Activities ensure the protection of soils to prevent erosion and run-off into water courses/bodies and to maintain soil organic matter. • Activities do not lead to the conversion, fragmentation or unsustainable intensification of high-nature-value land, wetlands, forests, or other areas of high-biodiversity value[103]. This includes highly biodiverse grassland spanning more than one hectare that is: iv. natural, namely grassland that would remain grassland in the absence of human intervention and that maintains the natural species composition and ecological characteristics and processes; or v. non-natural, namely grassland that would cease to be grassland in the absence of human intervention and that is species-rich and not degraded and has been identified as being highly biodiverse by the relevant competent authority. • Activities should not[104]: - result in a decrease in the diversity or abundance of species and habitats of conservation importance or concern; - contravene existing management plans or conservation objectives. - lead to overgrazing other forms of degradation of grasslands.
Pollution prevention	• Activities ensure that nutrients (fertilisers) and plant protection products (e.g. pesticides and herbicides) are targeted in their application (in time and area treated) and are delivered at appropriate levels (with preference to sustainable biological, physical or other non-chemical methods if possible) to reduce risk and impacts of pesticide use on human health and the environment (e.g. water and air pollution) and the loss of excess nutrients through leaching, volatilisation or oxidisation[105]. • The use only of plant protection products with active substances that ensure high protection of human and animal health and the environment. Use of chemicals must adhere to the National Environmental Management Act, 1998 (Act No.107 of 1998), the Hazardous Substances Act, 1973 (Act No.15 of 1973) and the Occupational Health and Safety Act No.85 of 1993.Ensure emissions to air, water and soil are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental

[103] Areas of high-biodiversity-value can be defined as set out in National Environmental Management: Biodiversity Act 10 of 2004 and are set out in the National Biodiversity Assessment 2018

[104] Consistent with the National Environmental Management: Biodiversity Act 10 of 2004

[105] See the sustainable use of pesticides within the Pesticide Management Policy for South Africa

	Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management for the Intensive Rearing of Poultry or Pigs, and by using similar emission reducing techniques for dairy farming; • Ensure that mitigation and emission reduction techniques for feeding and housing of livestock and for manure storage and processing are applied, guidance is provided in the UNECE Framework Code for Good Agricultural Practice for Reducing Ammonia; • Where manure is applied to the land, activities should comply with the limit of 170kg nitrogen application per hectare per year, or alternatively, the derogated threshold where one has been set.
Sustainable resource use and circularity	• Activities should use residues and by-products and take any other measures to minimise primary raw material use per unit of output, including energy[106]. • Activities should minimise the loss of nutrients from the production system into the environment.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards	

[106] The criterion refers to "unit of output" to allow for production efficiency increases where raw material use may not decline.

Production of electricity, heating and cooling from gas

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	3510
Description	Construction and operation of electricity generation facilities that produce electricity, heating and cooling from Gas Combustion (not exclusive to natural gas)
Make Significant Contribution criteria	
Climate Change Mitigation	
Principle	• Support a transition to a low carbon net-zero emissions economy • Avoidance of lock-in to technologies which do not support the transition to a low carbon economy net-zero emissions economy • Ensure that economic activities meet best practice standards • Ensure equal comparability within an economic activity with regards to achieving low carbon net-zero emissions economy target • Where necessary, incorporating technology-specific considerations into secondary metrics and thresholds
Metric and Threshold	1. Life-cycle GHG emissions from the generation of electricity using gaseous and liquid fuels are lower than 100gCO_2e/kWh. Life-cycle GHG emissions are calculated based on project-specific data, where available using ISO 14067:2018 or ISO 14064-1:2018. Quantified life-cycle GHG emissions are verified by an independent third party. 2. Where facilities incorporate any form of abatement (including carbon capture or use of decarbonised fuels) that abatement activity complies with the criteria set out in the relevant Section of this Annex, where applicable. Where the CO_2 emitted from the electricity generation is captured as a way to meet the emissions limit set out in point 1 of this Section, the CO_2 is transported and stored underground in a way that meets the technical screening criteria for transport of CO_2 and storage of CO_2 set out in under the Transport of CO_2 economic activity and the Permanent Sequestration of Captured CO_2 economic activity respectively. 3. The activity meets either of the following criteria: a) at construction, measurement equipment for monitoring of physical emissions, such as methane leakage is installed or a leak detection and repair program is introduced; b) at operation, physical measurement of emissions are reported and leak is eliminated.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation. Users of the Taxonomy should identify and explain which criteria they are responding to.	
Do No Significant Harm assessment	
The key environmental aspects to be taken into account when investing in this activity are the impact on local water (consumption and sewage), the fulfilment of the applicable waste and recycling criteria, the NOx and CO emissions control in line with Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) and the avoidance of direct impacts on sensitive ecosystems, species or habitats.	
Climate change mitigation	For adaptation projects The direct GHG emissions of the activity are lower than 270gCO_2e/kWh.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	Fulfil the requirements of South African water legislation such as the National Water Act (No.36 of 1998), Mountain Catchment Areas Act (No. 63 of 1970) and the Water Services Act (No.108 of 1997) where applicable. Identify and manage risks related to water quality and/or water consumption at the appropriate level. Where water use/conservation management plans are required by South African legislation, these plans are to be developed in consultation with relevant stakeholders.

Ecosystem protection and restoration	Ensure an Environmental Impact Assessment (EIA) has been completed in accordance with the National Environmental Management Act (No.107 of 1998) as amended (or other equivalent national provisions or international standards (e.g. IFC Performance Standard 1: Assessment and Management of Environmental and Social Risks) – whichever is stricter and any required mitigation measures for protecting biodiversity/eco-systems, in particular UNESCO World Heritage and Key Biodiversity Areas, have been implemented. For sites/operations located in or near to biodiversity-sensitive areas, ensure that an appropriate assessment has been conducted in compliance with the provisions of National Environmental Management Biodiversity Act (Act 10 of 2004) (or other equivalent national provisions or international standards (e.g. IFC Performance Standard 6) – whichever is stricter based on the conservation objectives of the protected area. For such sites/operations, ensure that: • a site-level biodiversity management plan exists and is implemented in alignment with the IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; • all necessary mitigation measures are in place to reduce the impacts on species and habitats; and • a robust, appropriately designed and long-term biodiversity monitoring and evaluation programme exists and is implemented.
Pollution prevention	Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management concerning the activity in question or other techniques that provide for an equivalent level of environmental protection.
Sustainable resource use and circularity	N/A
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards	

Manufacture of Biomass, Biogas or Biofuels

<table>
<tr><th colspan="2">Sector classification and activity</th></tr>
<tr><td>Macro-Sector</td><td>Electricity, gas, steam and air conditioning supply</td></tr>
<tr><td>SIC Code</td><td>35200</td></tr>
<tr><td>Description</td><td>Manufacture of Biogas or Biofuels</td></tr>
<tr><th colspan="2">Make Significant Contribution criteria</th></tr>
<tr><td colspan="2">Climate Change Mitigation</td></tr>
<tr><td>Objective</td><td>• Reduce the risk of Indirect Land Use Change (iLUC)
• Manufacture of all biomass, biogas or biofuels should deliver robust climate benefits compared to fossil fuels</td></tr>
<tr><td>Metric and Threshold</td><td>Manufacture of Biomass, Biogas and Biofuels is eligible if:
• Sourcing of feedstock is produced in an environmentally sustainable way and therefore promotes climate resilience. Two Criteria are applicable for sourcing of feedstock with eligibility determined by conformance to either of the below criteria.
• GHG emission threshold for different asset types, activities meet specific GHG emissions thresholds.

Sourcing of feedstock criteria

Criteria 1 - Feedstocks used are certified under one of the following, pre-approved best practice standards:
• Rountable on Sustainable Biomaterials (RSB)
• Rountable on Responsible Soy (RTRS)
• Forest Stewardship Council (FSC)
• International Sustainability and Carbon Certification (ISCC) Plus

Activity will no longer be deemed eligible should certification of feedstocks lapse.

Criteria 2 – Feedstocks are certified under a standard or a similar scheme where user can prove the standard has sufficient requirements and thus is robust. In cases where certification of feedstock inputs under one of the pre-approved best practice standards is not a viable option, user will be able to demonstrate to the verifiers compliance with the criteria using other standard or certification scheme.

Under this option, users are required to provide evidence that the proposed standard/scheme they use has sufficient requirement about environmental impacts and governance. This means the user needs to check the proposed standard against areas to be considered for determining the robustness of best practice standards indicated in the below section.

GHG emission criteria

For facilities producing biomass/biofuel as a final product, including liquid biofuel, solid and gaseous biomass for heating and co-generation, and biofuel for transport, the biomass/biofuel produced needs to meet specific GHG emissions thresholds in terms of gCO_2e/MJ as indicated in the below table.

For heating/cooling, and co-generation (Combined heat and power, CHP) facilities using biofuel/biomass, the biofuel/biomass being used need to meet specific GHG emissions thresholds in terms of gCO_2e/MJ (as indicated in the below table) and the facilities are required to achieve energy conversion efficiency of 80%. Note that CHP facilities need to meet requirement when they are in CHP mode.
-
<table>
<tr><th>Asset type</th><th>Thresholds for biofuel/biomass produced/used (primary energy)</th><th>Energy efficiency thresholds</th></tr>
<tr><td>Facilities producing liquid biofuel, solid
and gaseous biomass for heating and cogeneration</td><td>16.0 gCO_2e/MJ</td><td>N/A</td></tr>
</table>
</td></tr>
</table>

Facilities producing biofuel for transport	18.8gCO_2e/MJ	N/A
Heating/cooling, and co-generation facilities using biofuel/biomass	16.0 gCO_2e/MJ	80%

To demonstrate they meet these thresholds, users are required to conduct a life cycle assessment (LCA) of GHG emissions from their bioenergy.

The scope of the LCA should include:

- Feedstock production
- Feedstock processing
- Biofuel/bioenergy production
- Biofuel storage and blending
- Intermediate and final transport steps: transportation of feedstock to processing facilities to fuel production facilities, and transportation of fuel to the point of consumption
- Direct and indirect land use

For facilities producing both biomass-based products for energy purpose (power and heat), and for non-energy use (such as food and feed ingredients, pharmaceuticals, chemicals, materials and minerals), users are required to allocate GHG emissions to the biomass for energy purpose based on energy content of the biomass-based products. For such facilities, only the biomass for energy purpose needs to meet the GHG emissions thresholds detailed in the table above. That is, at this time, there is no additional GHG emissions thresholds for biomass products for non-energy use. However, users of these criteria are reminded that if biomass products for energy use accounts for less than 50% of feedstock inputs then the facility is does not meet the criteria.

For Anaerobic Digestion of Biowaste and Sewage Sludge, refer to activities 7.4.3 and 7.4.5 respectively.

Any other anaerobic digestion of organic material (not covered under sections 7.4.3 and 7.4.5 is eligible provided that:

- methane leakage from relevant facilities (e.g. for biogas production and storage, energy generation, digestate storage) is controlled by a monitoring plan. - the digestate produced is used as fertiliser/s oil improver
- directly or after composting or any other treatment

Areas to be considered for determining the robustness of best practice standards

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Environmental	Priority areas protection The area of land to be utilized does not contain, and is not suspected of containing, primary forest or High Conservation Value (HCV) areas. The land area is not being converted from native ecosystems, such as forests to a plantation or other land use.
	GHG emissions Efforts are made on the farm to reduce fossil fuel emissions and increase carbon sequestration. Techniques can include soil carbon management, restoration of native vegetation, and eliminating in-field burning practices.
	Indirect land use Possible unintended consequences of indirect land use change have been assessed and show that the crop generates low indirect land use change risks (e.g., produced from agricultural waste/byproducts, produced on degraded lands, or production is integrated with food production).
	Chemical use Agrochemicals are properly used on site, judiciously and in a targeted fashion using available expertise. There is no use of hazardous agrochemicals listed as Classification I or II in the World Health Organization's Recommended Classification of Pesticides by Hazard. Agrochemicals are prepared and applied by trained personnel with appropriate protective gear and in accordance with the law and producer guidelines - and not by children or pregnant women. Potential impacts on local communities of chemical run-off and spraying are assessed and managed.
	Pest management

	An Integrated Pest Management (IPM) plan is developed and implemented, ideally incorporating biological controls. An Integrated Weed Management plan is developed and implemented, ideally including cultural and biological controls, appropriate rates of pre- and post-emergent applications, and appropriate altering of active ingredients.
	Nutrient management A Nutrient Management Plan focused on optimal uptake and minimal loss of nutrients has been developed and is implemented. The plan can include: soil and foliage testing (regularly and especially prior to fertilizer applications), use of variable rate technologies for fertilizer application, crop rotation, and use of cover crops and filter strips.
	Soil management A Soil Management Plan is developed and implemented with a focus on soil productivity, including retention of soil biomass levels, soil structure, salinity, pH, and carbon sequestration. The plan can outline crop and geographically appropriate practices such as no-till, only planting on suitable slopes, use of cover crops, crop rotation, tree hedges, and contour planting, etc. The plan should also include adequate protection of riparian areas.
	Water management A complete assessment of water resource requirements and discharge impacts should be conducted, taking into consideration crop needs, soil water holding capacity, hydrological conditions, downstream human and environmental needs and uses, and impacts that the water use and discharge will have on the watershed, community health, and regional ecology. This is especially important in water stressed areas. A Water Management Plan is in place that addresses relevant risks and includes concrete measures to protect ground water or local water bodies.
	Genetic diversity management Species selection e.g. no introduction of invasive alien species that disrupt native genetic diversity, or that are not suitable for current or projected future ecological conditions.
	Sustainable resource extraction Resources are managed to prevent overexploitation.
	Waste management Minimising waste from spoilage, utilisation of by products, maximisation of waste to energy opportunities.
Governance	Compliant with ISEAL's code of good practice
	Multi-stakeholder in involvement in standard development process
	Multi-stakeholder participation in the standards system
	Scientific input in development of standard
	Transparency in public reporting
	Transparency in communication of the standards documents and processes
	Complaints and appeals process
	Regular reviews and revisions of the standard
	Standard gives accreditation
	Stakeholder consultation in certification and auditing process
	Audits required annually
	Audit sample size specified
	Sanction mechanisms in place
	Training of auditors
	Training opportunities for users of the standard

Climate Change Adaptation

Depending on the primary objective of the activity, refer to Section 8 Screening criteria for activities making a substantial contribution to climate change adaptation.
Users of the Taxonomy should identify and explain which criteria they are responding to.

Do No Significant Harm assessment

The key environmental aspects to be taken into account when investing in this activity are the impact on local water (consumption and sewage), the fulfilment of the applicable waste and recycling criteria, and the avoidance of direct impacts on sensitive ecosystems, species or habitats.
For biomass feedstocks refer to criteria under 7.1.

Climate change mitigation	For adaptation projects If the activity operates at above the threshold for substantial contribution to climate change mitigation, there should be: • no increase in emissions intensity of the activity as a result of the adaptation; and • no activity can have emissions intensity above the average emissions intensity of all electricity generation facilities in the respective region. DNSH to mitigation is considered as avoidance of activities which would compromise South Africa's net zero by 2050 climate mitigation target. Activities which operate below the 100g threshold provide a significant contribution, and that activities that operate above the regional average of 475g would cause significant harm[107]. Therefore, while activities below this 475g threshold are not considered to be providing a substantial contribution, they are also not considered to be doing significant harm.
Climate change adaptation	For mitigation projects The activity complies with the criteria set out in Appendix A: Generic Criteria for DNSH to Climate Change Adaptation.
Sustainable use of water and marine resources	The activity complies with the criteria set out in Appendix D: Generic Criteria for DNSH to Sustainable use of Water and Marine Resources.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic Criteria for DNSH to Ecosystem Protection and Restoration. In case of Anaerobic digestion (AD) plants treating over 100 t/day. Ensure emissions to air and water are based on the application of the Best Practicable Environmental Option (BPEO) principle informed by the Best Available Technology/Technique (BAT) approach in alignment with National Environmental Management Air Quality (Act 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management concerning the activity in question or other techniques that provide for an equivalent level of environmental protection. In case of AD, emissions to air (e.g. SOx, NOx) after combustion of biogas are controlled, abated (when needed) and within the limits set by national legislation illustrated above. In case of AD, the resulting digestate meets the requirements for fertilising materials in the Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act no. 36 of 1947).
Pollution prevention	For biogas production: apply a gas-tight cover on the digestate storage.
Sustainable resource use and circularity	For biogas production: the resulting digestate meets the requirements for fertilising materials in the Fertilizer, Farm Feeds, Agricultural Remedies and Stock Remedies Act, 1947 (Act no. 36 of 1947) for agricultural use or the conditions established by the competent authority for safe use.
Comply with Minimum Social Safeguards	
Companies and other issuers disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards	

[107] IEA, 2019. https://www.iea.org/reports/global-energy-co2-status-report-2019/emissions

national treasury
Department:
National Treasury
REPUBLIC OF SOUTH AFRICA

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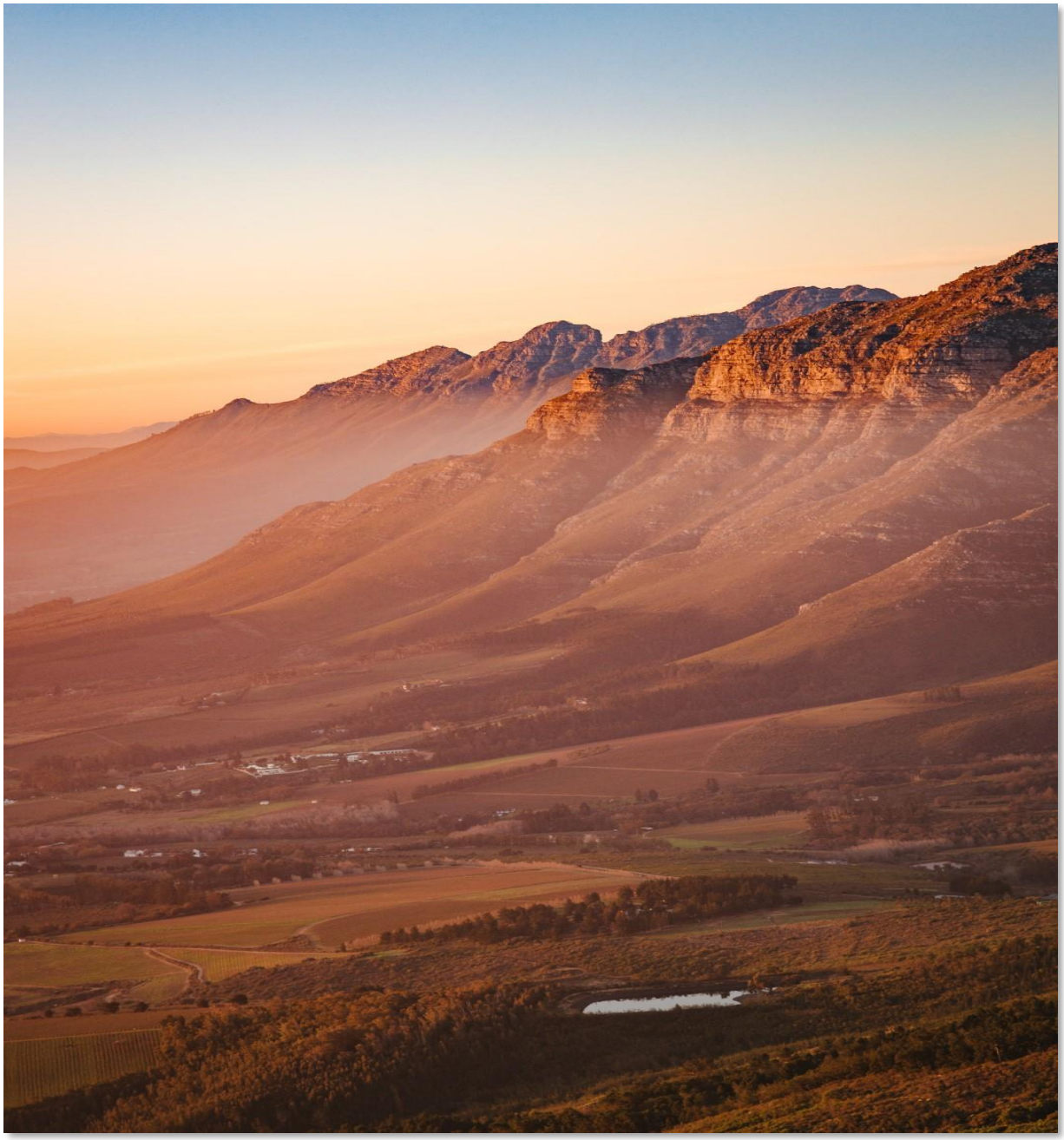

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