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Creating Markets, Creating Opportunities

CARBON TRUST

NBI
National Business Initiative

WORKING DRAFT
Draft Green Finance Taxonomy

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IN PARTNERSHIP WITH

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SWEDISH INTERNATIONAL
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Federal Department of Economic Affairs,
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Contents

About South Africa's Green Finance Taxonomy Project

South Africa's 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 is 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. 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 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 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.

The **Draft Version** of such a taxonomy for South Africa has been developed through extensive engagement with South African stakeholders over the past year. Presentations, webinars, and other materials are available via the following link: https://sustainablefinanceinitiative.org.za/taxonomy-working-group-oct/

The Taxonomy will have a range of benefits. Among 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.

Purpose of this document

This document is a working draft that describes the **Draft Version of a national Green Finance Taxonomy for South Africa.**

It is divided into three main sections:

- The **Matrix** provides high-level view of eligible activities under each sector.
- The **Catalogue** indicates basic attributes of the activities identified in the matrix, and maps the environmental objectives of each activity.
- The **Technical Screening Criteria** give in-depth information on the attributes and requirements for each eligible activity, including principles, metrics, and thresholds for substantial contribution to climate change mitigation and climate change adaptation.

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]. We have relied on this report, its taxonomy, and its 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, in order to facilitate alignment and harmonisation for the benefit of users and stakeholders.

Oversight was provided by National Treasury, IFC, and the Taxonomy Working Group. Work was carried out by National Business Initiative (NBI) and Carbon Trust. Lead authors of the Draft Version are Christelle van Vuuren and Marc Coetzee of Carbon Trust. We thank the staff of the oversight organisations for rich input and strategic guidance. They include Sarah McPhail, Lusanda Fani, Kolisang Molukanele (National Treasury); Louise Gardiner, Quyen Thuc Nguyen, Berit Lindholdt Lauridsen, Francisco Avendano, Ben Gaffney, and Karin Ireton (IFC); Steve Nicholls, Reitumetse Molotsoane, Alex McNamara, and Bhavna Deonarain (NBI).

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).

Valuable inputs were also received during the consultation process. We thank all who participated in the various discussions. In particular, we would like to thank Sean Kidney (Climate Bonds Initiative), and Nicole Martens (PRI) for invaluable insights from international best practice.

Updates to international green finance taxonomy foundations

[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]

The foundation of the South African Green Finance Taxonomy (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 would like to make specific reference to the following economic activities that 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)

After further consideration and review, the project team has decided to relocate certain economic activities and/or technical standards from this version of the GFT (effectively removing them for the time being) to the '**Listing of developmental aspects (June 2021)**' document under Section '**Economic activities relocated from Draft Version GFT requiring further consideration'**. 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 – February 2022 (the project is detailed in Section '**Expanding the South African Green Finance Taxonomy and embedding its use'** in the '**Listing of developmental aspects (June 2021)**' document.)
- Economic activity 'crop production and livestock production' 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.

Stakeholders are specifically called to provide feedback regarding the decisions to remove these from the draft pending further consideration. The project development team will review and consider all stakeholder comments and feedback received through the consultation process.

1 Matrix of covered sectors and activities

Agriculture, forestry, fisheries and land use	Industry	Industry	Energy	Energy	Water and Waste	Water and Waste	Transportation	ICT	Construction	Enabling activities, system resilience & innovation	Social Resilience
Forestry and land Rehabilitation Section 3.1.1 Sic code 02	**Manufacture of low carbon and resource efficiency technologies** Section 3.2.1 No Specific SIC code	**Manufacture of low carbon resources** Activity to be developed in future	**Production of electricity, heating and cooling from Solar PV, Concentrated Solar Power, Wind Power and Ocean Energy** Section 3.3.1 Sic code 3510	**Storage of Thermal Energy** Section 3.3.8 No Specific SIC code	**Water collection, storage, distribution treatment and supply** Section 3.4.1 Sic code 36000	**Permanent Sequestration of Captured CO_2** Section 3.4.12 Sic code 39	**Commuter road, passenger rail and freight rail transport** Section 3.5.1 Sic code 49110, 49120, 49210	**Data processing, hosting and related activities** Section 3.6.1 Sic code 6311	**Construction of new buildings** Section 3.7.1 Sic code 41000	**Non-life insurance** Section 3.8.1 Sic code 6512	**Education** Activity to be developed in future
Crop Production Activity to be developed in future	**Manufacture of Cement** Section 3.2.2 Sic code 20292	**Pollution prevention and control** Activity to be developed in future	**Production of electricity, heating and cooling from Hydropower** Section 3.3.2 Sic code 3510	**Storage of Hydrogen** Section 3.3.9 No Specific SIC code	**Centralised wastewater treatment** Section 3.4.2 Sic code 37000	**Water monitoring** Activity to be developed in future	**Infrastructure for low carbon transport** Section 3.5.2 Sic code 42100, 42900	**Data-driven solutions for GHG emission reductions** Section 3.6.2 Sic code 63110	**Building renovation** Section 3.7.2 Sic code 41000	**R&D and innovation** Activity to be developed in future	**Skill development** Activity to be developed in future
Livestock Production Activity to be developed in future	**Manufacture of Aluminium** Section 3.2.3 Sic code 2420	**Reuse, redistribution, refurbishment and recycling facilities** Activity to be developed in future	**Production of electricity, heating and cooling from Geothermal** Section 3.3.3 Sic code 3510	**Transmission and distribution networks for renewable and low-carbon gases** Section 3.3.10 Sic code 35200, 49300	**Anaerobic digestion of sewage sludge** Section 3.4.3 Sic code 37000	**Flood defence** Activity to be developed in future	**Passenger cars, road commercial vehicles and road freight transport** Section 3.5.3 Sic code 49229, 49300		**Individual measures and professional services** Section 3.7.3 Sic code 43	**Early warning systems** Activity to be developed in future	**Knowledge management** Activity to be developed in future
Ecosystem Conservation Activity to be developed in future	**Manufacture of Iron, Steel and ferroalloys** Section 3.2.4 Sic code 24, 2410, 2420, 243	**Environmental services** Activity to be developed in future	**Production of electricity, heating and cooling from Bioenergy** Section 3.3.4 Sic code 3510	**District Heating/Cooling Distribution** Section 3.3.11 Sic code 35300	**Separate collection and transport of non-hazardous waste in source segregated fractions** Section 3.4.4 Sic code 38110	**Nature based solutions** Activity to be developed in future	**Inland passenger and freight water transport** Section 3.5.4 Sic code 50210, 50220		**Acquisition and ownership** Section 3.7.4 Sic code 68	**Disaster risk prevention** Activity to be developed in future	
Fisheries and Aquaculture Activity to be developed in future	**Manufacture of Hydrogen** Section 3.2.5 Sic code 2011	**Remanufacturing of electromechanical products** Activity to be developed in future	**Manufacture of Biomass, Biogas or Biofuels** Section 3.3.5 Sic code 35200	**Installation and operation of Electric Heat Pumps** Section 3.3.12 Sic code 35300	**Anaerobic digestion of bio-waste** Section 3.4.5 Sic code 38210	**Reuse, redistribution, refurbishment, recycling storage and handling infrastructure**	**Aviation** Activity to be developed in future		**Sustainable cities/resilient infrastructure** Activity to be developed in future	**Sustainability certifications** Activity to be developed in future	

Agriculture, forestry, fisheries and land use	Industry	Industry	Energy	Energy	Water and Waste	Water and Waste	Transportation	ICT	Construction	Enabling activities, system resilience & innovation	Social Resilience
						Activity to be developed in future					
Wildlife management Activity to be developed in future	**Manufacture of other inorganic basic chemicals** Section 3.2.6 Sic code 202	**Eco-efficient products and processes** Activity to be developed in future	**Transmission and Distribution of Electricity** Section 3.3.6 Sic code 3510	**Production of Heating/Cooling using Waste Heat** Section 3.3.13 Sic code 35300	**Composting of bio-waste** Section 3.4.6 Sic code 38210	**Water saving, recycling and reuse technologies** Activity to be developed in future			**Spatial Planning** Activity to be developed in future	**Value chain activities** Activity to be developed in future	
Eco-Tourism Activity to be developed in future	**Manufacture of other organic basic chemicals** Section 3.2.7 Sic code 202	**Biodegradables** Activity to be developed in future	**Storage of Electricity** Section 3.4.6 No specific SIC code	**Production of electricity, heating and cooling from gravity potential energy** Activity to be developed in future	**Material recovery from non-hazardous waste** Section 3.4.7 Sic code 38210	**Pollution prevention and control** Activity to be developed in future				**Capacity building** Activity to be developed in future	
	Manufacture of fertilizers and nitrogen compounds Section 3.2.8 Sic code 20120	**Mining Platinum** Activity to be developed in future			**Landfill gas capture and utilization** Section 3.4.8 Sic code 39000	**Handling and Preparation** Activity to be developed in future				**Technological solutions** Activity to be developed in future	
	Manufacture of plastics in primary form Section 3.2.9 Sic code 20130	**Mining Gold** Activity to be developed in future			**Direct Air Capture of CO_2** Section 3.4.9 Sic code 39	**Water treatment** Activity to be developed in future				**Public events** Activity to be developed in future	
	Manufacture of Glass Activity to be developed in future	**Manufacture of Paper** Activity to be developed in future			**Capture of Anthropogenic Emissions** Section 3.4.10 Sic code 39						
					Transport of CO_2 Section 3.4.11 Sic code 39						

2 Catalogue of covered sectors and activities, basic attributes and mapping to environmental objectives

Key

Own performance | Transition activity | 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	SIC Activity	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	⏱	⏱					✔	✔	✔		✔	✔
Industry	Manufacturing	Manufacture of low carbon and resource efficiency technologies	⊕ »	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Cement	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Aluminium	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Iron and Steel and ferroalloys	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of Hydrogen	⏱	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of other inorganic basic chemicals	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of other organic basic chemicals	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of fertilizers and nitrogen compounds	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Industry	Manufacturing	Manufacture of plastics in primary form	⏱	⏱					✔	✔	✔	✔	✔	✔

Key

Own performance | Transition activity | 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	SIC Activity	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
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	⏱	⏱						✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from Hydropower	⏱ »	⏱					✔	✔	✔		✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from Geothermal	⏱ »	⏱					✔	✔	✔		✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from Bioenergy	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Manufacture of Biomass, Biogas or Biofuels	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Transmission and Distribution of Electricity	⏱ ⊕	⏱					✔	✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Storage of Electricity	⊕	⏱						✔		✔		✔
Energy	Electricity, gas, steam and air conditioning supply	Storage of Thermal Energy	⊕	⏱						✔		✔		
Energy	Electricity, gas, steam and air	Storage of Hydrogen	⊕	⏱						✔		✔		✔

Key

Own performance | Transition activity | 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	SIC Activity	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													
Energy	Electricity, gas, steam and air conditioning supply	Transmission and distribution networks for renewable and low-carbon gases	⏱	⏱					✔	✔	✔	✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	District Heating/Cooling Distribution	⏱	⏱					✔	✔	✔		✔	✔
Energy	Electricity, gas, steam and air conditioning supply (Construction,43)	Installation and operation of Electric Heat Pumps	⏱	⏱						✔	✔			
Energy	Electricity, gas, steam and air conditioning supply	Production of Heating/Cooling using Waste Heat	⏱	⏱					✔	✔		✔	✔	✔
Energy	Electricity, gas, steam and air conditioning supply	Production of electricity, heating and cooling from gravity potential energy							✔	✔	✔		✔	✔
Water and Waste	Water, sewerage, waste and remediation	Water collection, storage, distribution treatment and supply	⏱	⏱						✔	✔			✔
Water and Waste	Water, sewerage, waste and remediation	Centralized wastewater treatment	⏱	⏱						✔			✔	✔
Water and Waste	Water, sewerage, waste and remediation	Anaerobic digestion of sewage sludge	⏱	⏱					✔	✔			✔	

Key

Own performance | Transition activity | 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	SIC Activity	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	Separate collection and transport of non-hazardous waste in source segregated fractions	⏱	⏱						✔		✔	✔	
Water and Waste	Water, sewerage, waste and remediation	Anaerobic digestion of bio-waste	⏱	⏱					✔	✔			✔	
Water and Waste	Water, sewerage, waste and remediation	Composting of bio-waste	⏱	⏱						✔			✔	
Water and Waste	Water, sewerage, waste and remediation	Material recovery from non-hazardous waste	⏱	⏱					✔	✔				
Water and Waste	Water, sewerage, waste and remediation	Landfill gas capture and utilization	⏱	⏱					✔	✔			✔	
Water and Waste	Water, sewerage, waste and remediation	Direct Air Capture of CO_2	⊕	⏱						✔	✔		✔	✔
Water and Waste	Water, sewerage, waste and remediation	Capture of Anthropogenic Emissions	⊕	⏱					✔	✔	✔	✔	✔	✔
Water and Waste	Water, sewerage, waste and remediation	Transport of CO_2	⊕	⏱					✔	✔	✔		✔	✔
Water and Waste	Water, sewerage, waste and remediation	Permanent Sequestration of Captured CO_2	⏱	⏱					✔	✔	✔		✔	✔

Key

Own performance | Transition activity | 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	SIC Activity	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
Transportation	Transportation and storage	Commuter road, passenger rail and freight rail transport	⏱ »	⏱					✔	✔		✔	✔	
Transportation	Construction	Infrastructure for low carbon transport	⊕	⏱					✔	✔	✔	✔	✔	✔
Transportation	Transportation and storage	Passenger cars, road commercial vehicles and road freight transport	⏱ »	⏱					✔	✔		✔	✔	
Transportation	Transportation and storage	Inland passenger and freight water transport	⏱ »	⏱					✔	✔	✔	✔	✔	✔
ICT	Information and communications	Data processing, hosting and related activities	⏱ »						✔				✔	✔
ICT	Information and communications	Data-driven solutions for GHG emission reductions	⊕						✔			✔	✔	
Construction	Construction	Construction of new buildings	⏱	⏱					✔	✔	✔	✔	✔	✔
Construction	Construction	Building renovation	⏱ »	⏱					✔	✔	✔	✔	✔	✔
Construction	Construction	Individual measures and professional services	⏱						✔				✔	
Construction	Real Estate Activities	Acquisition and ownership	⏱ »						✔				✔	✔

Key

Own performance | Transition activity | 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**	**SIC Activity**	**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	Non-life insurance		⏱						✔				

3 Technical screening criteria

3.1 Agriculture, Forestry and Fisheries

3.1.1 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[2] 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[3]. 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[4]. 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[5]. Rehabilitation, Restoration

[2] Source: FAO, Global Forest Resources Assessment, 2020
[3] Source: FAO, Global Forest Resources Assessment, 2020.
[4] Forest predominantly composed of trees established through natural regeneration.
[5] Source: FAO, Global Forest Resources Assessment, 2020

	The Taxonomy defines rehabilitation/restoration as any intentional activity that initiates or accelerates the recovery of an ecosystem from a degraded state[6]
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
	• Mandatory application of South African Sustainable Forest Development Policy including:
	  ○ 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;
	  ○ Maintain or improve the long-term capacity of the forest and land to deliver multiple services (e.g. ecosystem services, timber production, etc.);
	  ○ Do not convert high carbon stock land (i.e. primary forest, peatlands, wetlands, and grasslands) which has this status in or after January 2010[7];
	  ○ 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);
	  ○ 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 and increase of carbon sinks from above and below-ground carbon over time, supported by and disclosed through a forest management plan (or equivalent) at 10-year intervals, that shall be reviewed by an independent third-party certifier and/or competent authorities.

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 (as described in Criteria 4). • 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 equivalent instrument[8]) that shall be reviewed by an independent third-party certifier and/or competent authorities (as described in Criteria 4)[9].

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

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

[8] 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.

[9] 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.

Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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 control measures (to reduce damages due to wildfires 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 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	• Take measures to ensure sustained or improved long term conservation status at the landscape level[10] • In designated conservation areas, actions should be demonstrated to be in line with the conservation objectives for those areas. • The prevention and control of alien invasive species must be managed in accordance with the National Environmental Management Act, 1998 (Act No.107

[10] 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.

	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[11] • 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; • Select native species or species, varieties, ecotypes and provenance of trees that adequately provide the necessary resilience to climate change, natural disasters and the biotic, pedologic and hydrologic condition of the area concerned, as well as the potential invasive character of the species under local conditions, current and projected climate change.
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.	

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

3.2 Industry

3.2.1 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
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[12]) 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.

[12] 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 European Water Label Scheme • Household appliances (e.g. washing machines, dishwashers) rated in the top available class according to South African Energy Efficiency Labelling[13] • 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 4 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	

[13] A Guide for Energy Efficiency Labelling

• The potential for polluting emissions to air, water and soil from the manufacturing process. Depending on the product/equipment being manufactured, there may, also be issues with respect to the embodied carbon and the demand for certain metals and materials (e.g. rare earth metals) which are in limited supply and may have significant environmental impact issues associated with the mining phase.	
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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.2.2 Manufacture of Cement

Sector classification and activity	
Macro-Sector	Manufacturing
SIC Code	20292
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, 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 are lower than 0.722[14] tCO_2e per tonne of grey cement clinker; b. cement or alternative hydraulic binder, from grey clinker, where the specific GHG emissions[15] from the clinker and cement or alternative binder production are lower than 0.469[16] 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 3.4.11 and 3.4.12 of this Annex.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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[17] tCO_2e per tonne of grey cement clinker; b. for cement or alternative hydraulic binder, from grey clinker, lower than 0.530[18] 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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

[14] 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).

[15] Calculated in accordance with Regulation (EU) 2019/331.

[16] 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.

[17] 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.

[18] 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

	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.	

3.2.3 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 (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[19] tCO2 per ton of aluminium manufactured[20]: ii. the average carbon intensity for the indirect GHG emissions[21] 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 4 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:	

[19] 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.
[20] The aluminium manufactured is the unwrought non alloy liquid aluminium produced from electrolysis
[21] 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 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 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[22]137 after 2025: i. the GHG emissions do not exceed 1.604[23] tCO2 per ton of aluminium manufactured[24]; 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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	

[22] 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).

[23] 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.

[24] The aluminium manufactured is the unwrought non alloy liquid aluminium produced from electrolysis.

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

3.2.4 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[25] tCO_2e/t product;
	ii. sintered ore = 0.163[26] tCO_2e/t product;
	iii. coke (excluding lignite coke) = 0.144[27] tCO_2e/t product;
	iv. iron casting = 0.299[28] tCO_2e/t product;
	v. electric Arc Furnace (EAF) high alloy steel = 0.266[29] tCO_2e/t product;
	vi. electric Arc Furnace (EAF) carbon steel = 0.209[30] 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 3.4.11 and 3.4.12 of this Annex.

Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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.	

[25] 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.
[26] 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.
[27] 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.
[28] 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.
[29] 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.
[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 Implementing Regulation (EU) 2021/447.

Do No Significant Harm assessment	
The main potential significant harm to other environmental objectives from iron and steel production is associated with: • 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[31] tCO_2e/t product;
	ii. sintered ore = 0.242[32] tCO_2e/t product;
	iii. coke (excluding lignite coke) = 0.237[33] tCO_2e/t product;
	iv. iron casting = 0.390[34] tCO_2e/t product;
	v. electric Arc Furnace (EAF) high alloy steel = 0.360[35] tCO_2e/t product;
	vi. electric Arc Furnace (EAF) carbon steel = 0.276[36] 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic criteria for DNSH to pollution prevention to this Annex.
Sustainable resource use and circularity	N/A

[31] 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.
[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.
[33] 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.
[34] 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.
[35] 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.
[36] 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.

Comply with Minimum Social Safeguards
Taxonomy users disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.

3.2.5 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 of this Annex.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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 to this Annex.
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 to this Annex.

Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic criteria for DNSH to pollution prevention to this Annex.
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.	

3.2.6 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[37] 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[38] tCO_2e per tonne of product. For disodium carbonate GHG emissions from the disodium carbonate production processes are lower than 0.789[39] 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.

[37] 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

[38] 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.

[39] 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.

	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 4 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; • 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[40] 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[41] 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.

[40] 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.

[41] 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.

Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic criteria for DNSH to pollution prevention to this Annex.
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.	

3.2.7 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[42] tCO_2e/t of HVC; b. for aromatics: 0.0072[43] tCO_2e/t of aromatic; c. for vinyl chloride: 0.171[44] tCO_2e/t of vinyl chloride; d. for styrene: 0.419[45] tCO_2e/t of styrene; e. for ethylene oxide/ethylene glycols: 0.314[46] tCO_2e/t of ethylene oxide/glycol; f. for adipic acid: 0.32[47] 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 4 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[48] tCO_2e/t of HVC;

[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.
[46] 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.
[47] 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.
[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.

	b. for aromatics: 0,03[49] tCO_2e/t of aromatic; c. for vinyl chloride: 0,268[50] tCO_2e/t of vinyl chloride; d. for styrene: 0,564[51] tCO_2e/t of styrene; e. for ethylene oxide/ethylene glycols: 0,489[52] tCO_2e/t of ethylene oxide/glycol; f. for adipic acid: 0,76[53] 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic criteria for DNSH to pollution prevention to this Annex.
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.	

3.2.8 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	

[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.
[52] 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.
[53] 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.

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 3.2.5 of this Annex. GHG emissions from the manufacture of nitric acid are lower than 0,038[54] tCO_2e per tonne of nitric acid.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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[55] tCO_2e per tonne of anhydrous ammonia. GHG emissions from the manufacture of nitric acid are lower than 0,184[56] 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
Pollution prevention	The activity complies with the criteria set out in Appendix F: Generic criteria for DNSH to pollution prevention to this Annex.

[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.
[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.

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.	

3.2.9 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[57] 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	

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

<table>
<tr><td colspan="2">Depending on the primary objective of the activity, refer to Section 4 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><td colspan="2">Do No Significant Harm assessment</td></tr>
<tr><td colspan="2">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;
• the use of water resources for production purposes (e.g. cooling water) in water stressed areas); and
• the generation of hazardous wastes.</td></tr>
<tr><td>Climate change mitigation</td><td>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[58] 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.</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 to this Annex.</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 to this Annex.</td></tr>
<tr><td>Ecosystem protection and restoration</td><td>The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.</td></tr>
<tr><td>Pollution prevention</td><td>The activity complies with the criteria set out in Appendix F: Generic criteria for DNSH to pollution prevention to this Annex.</td></tr>
<tr><td>Sustainable resource use and circularity</td><td>N/A</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>

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

3.3 Energy

3.3.1 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 4 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 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 to this Annex.
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 to this Annex.
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 to this Annex.
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.	

3.3.2 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 4 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 to this Annex.
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 to this Annex.
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.	

3.3.3 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 4 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[59]. 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.

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

	• 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.	

3.3.4 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 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	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. Facilities must use feedstocks which meet the criteria under 3.3.5 Manufacture of Biomass, Biogas or Biofuels. 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 3.4.3 and 3.4.5 respectively. Any other anaerobic digestion of organic material (not covered under sections 3.4.3 and 3.4.5) 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 4 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[60]. 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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/Nm^3 (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)

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

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.	

3.3.5 Manufacture of Biomass, Biogas or Biofuels

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	35200
Description	Manufacture of Biogas or Biofuels
Make Significant Contribution criteria	
Climate Change Mitigation	
Objective	• 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
Metric and Threshold	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.

Asset type	Thresholds for biofuel/biomass produced/used (primary energy)	Energy efficiency thresholds
Facilities producing liquid biofuel, solid and gaseous biomass for heating and cogeneration	16.0 gCO_2e/MJ	N/A
Facilities producing biofuel for transport	18.8 gCO_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 3.4.3 and 3.4.5respectively.

Any other anaerobic digestion of organic material (not covered under sections 3.4.3and 3.4.5) 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

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 4 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 3.1.1.

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[61]. 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex. 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

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

	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	
Taxonomy users disclosing against the Taxonomy must comply with the criteria set out in Appendix C: Minimum Social Safeguards.	

3.3.6 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. • Installation of T&D transformers that comply with the Tier 2 (2021) requirements from Regulation 548/2014 on the eco-design of small, medium and large power transformers and, for medium power transformers with highest voltage for equipment not exceeding 36 kV, with AAA0 level requirements on no-load losses set out in standard EN 50588-1. • 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: o Sensors and measurement tools (including meteorological sensors for forecasting renewable production) o 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 4 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 to this Annex.
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 to this Annex. 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 4 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	• Cyclone, hurricane, typhoon • Storm • Tornado	• Drought • Extreme precipitation • Flood	• Avalanche • Landslide • Subsidence

3.3.7 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 3.3.2 Production of electricity, heating and cooling from Hydropower
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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 to this Annex.
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 to this Annex.
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.

3.3.8 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 4 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 to this Annex.
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 to this Annex.
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.	

3.3.9 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 3.2.5 of this Annex.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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 to this Annex.
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 to this Annex.
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.	

3.3.10 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.
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 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 4 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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 under that Directive 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.

3.3.11 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 4 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 to this Annex.

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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.3.12 Installation and operation of Electric Heat Pumps

Sector classification and activity	
Macro-Sector	Electricity, gas, steam and air conditioning supply
SIC Code	35300
Description	Installation and operation of electric heat pumps
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 • Electric heat pumps have no direct emissions and can increase the use of low carbon electricity with a high coefficient of performance.
Metric and Threshold	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)
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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	
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 to this Annex.
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 to this Annex.

Ecosystem protection and restoration	N/A
Pollution prevention	For air to air heat pumps with rated capacity of 12kW or below, indoor and outdoor sound power levels are below the threshold set out in Commission Regulation (EU) No 206/2012
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. 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.	

3.3.13 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 4 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 to this Annex.
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 to this Annex.

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.	

3.4 Water and Waste

3.4.1 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[62]. • 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)[63], 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 4 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 to this Annex.

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

[63] 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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.4.2 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 4 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 to this Annex.
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 to this Annex.

Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex. •
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.	

3.4.3 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 4 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.4.4 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 4 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 to this Annex.
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 to this Annex.
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.	

3.4.5 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[64], displacing synthetic fertilisers and increasing carbon sequestration in soils.
Metric and Threshold	Anaerobic digestion of bio-waste is eligible provided that (cumulative): • the bio-waste is source segregated and collected separately; • methane leakage from relevant facilities (e.g. for biogas production and storage, energy generation, digestate storage) is controlled by a monitoring plan • 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); • the digestate produced is used as fertiliser/soil improver – directly or after composting or any other treatment; • 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)

[64] 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.

	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 4 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.
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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.4.6 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[65]. No threshold applies.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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 to this Annex.
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 to this Annex.
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 39 of 2004), the National Environmental Management Waste Act (Act 59 of 2008) and the 2017 National Framework for Air Quality Management concerning the

[65] 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.

	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.	

3.4.7 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 4 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 to this Annex.
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 to this Annex.
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.	

3.4.8 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 4 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 to this Annex.
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 to this Annex.
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.	

3.4.9 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 4 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 anthropogenic 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 to this Annex.
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 to this Annex.
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.	

3.4.10 Capture of Anthropogenic Emissions

Sector classification and activity	
Macro-Sector	Water, sewerage, waste and remediation
SIC Code	39
Description	Capture of anthropogenic CO_2 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 anthropogenic 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 4 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 Anthropogenic 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.

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.	

3.4.11 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 use (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 4 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.4.12 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 4 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.5 Transportation

3.5.1 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 4 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 to this Annex.
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.	

3.5.2 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 operation of vessels with zero direct (tailpipe) CO2 emissions: electricity charging, hydrogen-based refuelling; c) the infrastructure is dedicated to the performance of the port's own operations with zero direct (tailpipe) CO2 emissions; d) 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 4 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:	

<table>
<tr><td colspan="2">

- 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.

</td></tr>
<tr><td>Climate change mitigation</td><td>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.</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 to this Annex.</td></tr>
<tr><td>Sustainable use of water and marine resources</td><td>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 to this Annex.</td></tr>
<tr><td>Ecosystem protection and restoration</td><td>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 to this Annex.

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.</td></tr>
</table>

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.	

3.5.3 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	The activity complies with the following criteria: a. for vehicles of category M1 and N1: i. until 31 December 2025, specific emissions of CO_2 are lower than 50gCO_2/km; ii. from 1 January 2026, specific emissions of CO_2 are zero. b. for vehicles of category L, the tailpipe CO_2 emissions equal to 0g CO_2e/km 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.

<table>
<tr><td></td><td>• 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.</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 4 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><td colspan="2">Do No Significant Harm assessment</td></tr>
<tr><td colspan="2">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"</td></tr>
<tr><td>Climate change mitigation</td><td>For passenger cars and light commercial vehicle adaption projects
(a) the passenger cars and light commercial vehicles have CO_2 emissions, measured in accordance with the worldwide harmonised light vehicles test procedure (‘WLTP’) which are:
i. lower than 50gCO2/km until 31 December 2025;
ii. zero From 1 January 2026.
(b) the tailpipe CO_2 emissions of L category vehicles are zero.

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.</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 to this Annex.</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>
</table>
</td></tr>
</table>

	<table><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).
Sustainable resource use and circularity	For Vehicles of categories M1 and N1 are: a) 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).
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.	

3.5.4 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 that are manufactured in alignment with 3.3.5 guaranteed either by technological design or ongoing monitoring and third-party verification. 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 4 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 to this Annex.
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 to this Annex.
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.	

3.6 ICT

3.6.1 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 to this Annex.
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 to this Annex.
Ecosystem protection and restoration	The activity complies with the criteria set out in Appendix E: Generic criteria for DNSH to ecosystem protection and restoration to this Annex.
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.	

3.6.2 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 to this Annex.
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.	

3.7 Construction

3.7.1 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. 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 such as the Green buildings Council South Africa. 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	Constructions of new buildings for which: 1. The Primary Energy Demand (PED)[66], defining the energy performance of the building resulting from the construction, is at least 20 % lower than the threshold set for the nearly zero-energy building (NZEB) requirements in national measures implementing Directive 2010/31/EU of the European Parliament and of the Council. The energy performance is certified using an as built Energy Performance Certificate (EPC). 2. For buildings larger than 5000 m^2 [67], upon completion, the building resulting from the construction undergoes testing for air-tightness and thermal integrity, 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. 3. For buildings larger than 5000 m^2 [68], the life cycle Global Warming Potential (GWP) of the building resulting from the construction has been calculated for each stage in the life cycle and is disclosed to investors and clients on demand.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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: • Lack of resistance to extreme weather events (including flooding), and lack of resilience to future temperature increases in terms of internal comfort conditions. • Excessive water consumption due to inefficient water appliances.	

[66] The calculated amount of energy needed to meet the energy demand associated with the typical uses of a building expressed by a numeric indicator of total primary energy use in kWh/m2 per year and based on the relevant national calculation methodology and as displayed on the Energy Performance Certificate (EPC).
[67] For residential buildings, the testing is made for a representative set of dwelling/apartment types.
[68] For residential buildings, the calculation and disclosure are made for a representative set of dwelling/apartment types.

• Landfill and/or incineration of construction and demolition waste that could be otherwise recycled/reused. • 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. • Indirect damage to forest ecosystems due to the use of timber products originating form forests that are not sustainably managed.	
Climate change mitigation	For adaptation projects The building must comply with all applicable mandatory South African National Standard 204 regulations regarding energy and carbon 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.
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 to this Annex.
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 in Appendix B: Technical specification for water appliances to this Annex: a. Wash hand basin taps, kitchen taps and showers have a maximum water flow of 6 litres/min; b. WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres; c. Urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre. 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 to this Annex.
Ecosystem protection and restoration	The new construction 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 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 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	• It is ensured that building components and materials do not contain asbestos nor substances of very high concern as such as those identified on the basis of the "Authorisation List" of the EU REACH Regulation.

	• Building components and materials used in the construction that may come into contact with occupiers[69] 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[70].
Sustainable resource use and circularity	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 or sent for recycling or other material recovery, including backfilling operations that use waste to substitute other materials. Building designs and construction techniques support circularity and in particular demonstrate, with reference to ISO 20887[71] or other standards for assessing the disassemblability 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.	

3.7.2 Building renovation

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. 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, 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	The metric is Primary Energy Demand (PED), defining the energy performance of a building: the annual primary energy demand associated with regulated energy use during the operational phase of the building life-cycle calculated ex-ante according to the national methodologies for asset design assessment, or as defined in the set of standards ISO 52000, expressed as kWh/m2 per year. A renovation is eligible when the renovation leads to reduction of Primary Energy Demand of at least 30% in comparison to the energy performance of the building before the renovation. The initial energy performance and the estimated improvement

[69] 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 mold.
[70] The emissions thresholds for carcinogenic volatile organic compounds relate to a 28-day test period.
[71] ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance.

	shall be based on a specialised building survey and validated by an Energy Performance Certificate, an energy audit conducted by an accredited independent expert or any other transparent and proportionate method. The methodology used for the measurement of floor area should be stated referring to the categories defined in the International Property Measurement Standards.
Climate Change Adaptation	
Depending on the primary objective of the activity, refer to Section 4 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: • Lack of resistance to extreme weather events (including flooding), and lack of resilience of to future temperature increases in terms of internal comfort conditions (only for large buildings). • Excessive water consumption due to inefficient water appliances. • Landfill and/or incineration of construction and demolition waste that could be otherwise recycled/reused. • Presence of asbestos and/or substances of very high concern in the building materials. • The unprotected 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; • Indirect damage to forest ecosystems due to the use of timber products originating form forests that are not sustainably managed (only for large buildings).	
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 construction of new buildings designed for the purpose of extraction, storage, transportation or manufacture of fossil fuels is not eligible for the Taxonomy.
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 to this Annex.
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 in Appendix B: Technical specification for water appliances to this Annex: a. Wash hand basin taps, kitchen taps and showers have a maximum water flow of 6 litres/min; b. WCs, including suites, bowls and flushing cisterns, have a full flush volume of a maximum of 6 litres and a maximum average flush volume of 3,5 litres; c. Urinals use a maximum of 2 litres/bowl/hour. Flushing urinals have a maximum full flush volume of 1 litre. To avoid impact from the construction site, the activity complies with the criteria set out in Appendix D: Generic criteria for DNSH to sustainable use of water and marine resources to this Annex.
Ecosystem protection and restoration	N/A
Pollution prevention	• It is ensured that building components and materials do not contain asbestos nor substances of very high concern as such as those identified on the basis of the "Authorisation List" of the EU REACH Regulation.

	• Building components and materials used in the construction that may come into contact with occupiers[72] 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[73].
Sustainable resource use and circularity	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 or sent for recycling or other material recovery, including backfilling operations that use waste to substitute other materials. Building designs and construction techniques support circularity and in particular demonstrate, with reference to ISO 20887[74] or other standards for assessing the disassemblability 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.	

3.7.3 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 make a contribution 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 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:

[72] 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 mold.
[73] The emissions thresholds for carcinogenic volatile organic compounds relate to a 28-day test period.
[74] ISO 20887:2020, Sustainability in buildings and civil engineering works - Design for disassembly and adaptability - Principles, requirements and guidance.

	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 to this Annex 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 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, 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. 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 to this Annex.
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 nor substances of very high concern such as those identified on the basis of the "Authorisation List" of the EU REACH Regulation. 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.	

3.7.4 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 and ventilation of over 290 kW, or buildings with floor area[75] 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

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

	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. • For buildings built after 31 December 2020, the building must meet the criteria established for the 'Construction of new buildings Section 3.7.1' that are relevant at the time of the acquisition. • 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 adaptation	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 to this Annex.
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.

3.8 Enabling activities, system resilience & innovation

3.8.1 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 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 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 EU Taxonomy alignment include classes of non-life insurance set out in Annex I of the Solvency II Delegated Regulations and any future amendments. 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 4 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; • 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 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.

4 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: a) Promote a technology, product, practice, governance process or innovative uses of existing technologies, products or practices (including those related to natural infrastructure); or,

	b) 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.

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: 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; 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. 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)[76]. 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.

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

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

	Heat stress		Precipitation and/or hydrological variability	Soil degradation
	Temperature variability		Ocean acidification	Soil erosion
	~~Permafrost thawing~~		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	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; a) (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
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.

Appendix E: Generic criteria for DNSH to ecosystem protection and restoration

Criteria
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 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 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.

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The National Business Initiative is a voluntary coalition of South African and multinational companies, working towards sustainable growth and development in South Africa and the shaping of a sustainable future through responsible business action.

Since our inception in 1995, the NBI has made a distinct impact in the spheres of housing delivery, crime prevention, local economic development, public sector capacity building, further education and training, schooling, public private partnerships, energy efficiency and climate change.

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