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RWANDA'S GREEN TAXONOMY

WORKING PAPER

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More Information and Downloads here:
www.minecofin.gov.rw/rwandagreentaxonomy

Glossary

Adaptation	Refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. (SA Green Finance Taxonomy, 2022)
Biofuels	These are fuels derived directly or indirectly from biomass. They can be divided into three categories: › Solid biofuels (wood, wood waste, wood pellets, animal waste, plant material, etc.). › Liquid biofuels (biogasoline, biodiesel, biojet paraffin, among others). › Biogases (from anaerobic fermentation and thermal processes). For full definition please refer to the EU glossary.
Biodiversity	The variety of plant and animal life in the world or in a particular habitat, a high level of which is usually considered to be important and desirable. (SA Green Finance Taxonomy, 2022)
Biomass	Organic, non-fossil material of biological origin (plants and animals) that is used as feedstock for the production of biofuels. It may also be referred to as biomass feedstock or energy crops. It includes a wide range of materials collected from nature or from the biological part of waste. The use of biomass as fuel is considered carbon neutral, as carbon was trapped from the atmosphere during the biomass life cycle (its growth). (Colombian Taxonomy, 2022)
Carbon Sequestration	The long-term removal, capture, or sequestration of carbon dioxide from the atmosphere to slow or reverse atmospheric CO_2 pollution and to mitigate or reverse climate change. (SA Green Finance Taxonomy, 2022)
Climate change	Transformations of climate attributed to human activity that directly or indirectly alter the composition of the global atmosphere, adding to its observed natural variability over comparable periods (UNFCCC; 1992). According to the IPCC, climate change can be identified (e.g. by statistical tests) by changes that persist over long periods of time (decades or longer) in the mean value of climate properties and/or the variability of climate properties. Climate change can be due to natural internal processes, external forcings or persistent anthropogenic changes in atmospheric composition or land use (IPCC, 2012).
Composting	Biological process that subjects biodegradable waste to anaerobic or aerobic decomposition resulting in a product used in soil or for the production of substrates or growing media. (Colombian Taxonomy, 2022)
Deforestation	The removal of a forest or stand of trees from land that is then converted to non-forest use. (SA Green Finance Taxonomy, 2022)
Economic activity	Economic activities are all the processes that take place to obtain products, goods and/or services aimed at covering needs and desires in a particular society. (Colombian Taxonomy, 2022)
Ecosystems	A functional unit consisting of living organisms, their non-living environment and the interactions between them. The components included in a particular ecosystem and their spatial boundaries depend on the purpose for which the ecosystem is defined: in some cases, they are relatively distinct, while in others they are diffuse. The boundaries of ecosystems can change over time. Ecosystems are organised within other ecosystems, and the scale at which they are manifiested can range from very small to the biosphere as a whole. (Colombian Taxonomy, 2022)

Fossil fuels	Carbon-based fuels from fossil carbon deposits, including oil, natural gas and coal. (Colombian Taxonomy, 2022)
Green Finance Taxonomy	An official classification or catalogue that defines a minimum set of assets, projects, and sectors that are eligible to be defined as "green" in line with international best practice and national priorities. (SA Green Finance Taxonomy, 2022)
Greenhouse Gases	Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and reemit infrared radiation, and includes carbon dioxide (CO_2), methane (CH4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF6). (SA Green Finance Taxonomy, 2022)
International Standard Industrial Classification of all economic activities (ISIC)	The International Standard Industrial Classification of all economic activities (ISIC), a coherent and consistent classification structure for economic activities based on a set of concepts, definitions, principles and classification rules, provides a general framework within which economic data can be collected and disseminated in a format designed for the purposes of economic analysis, decision-making and policy-making.
Mitigation	Avoiding and reducing emissions of heat-trapping greenhouse gases into the atmosphere to prevent the planet from warming to more extreme temperatures. (SA Green Finance Taxonomy, 2022)
Nationally Determined Contributions (NDCs)	A term used under the United Nations Framework Convention on Climate Change (UNFCCC), under which a country that has acceded to the Paris Agreement specifies the country's plans to reduce its emissions. Some countries' NDCs also address how they will adapt to the impacts of climate change, what kind of support they need from other countries, and what kind of support they will provide to other countries to adopt low carbon trajectories and strengthen climate resilience. In accordance with Article 4.2 of the Paris Agreement, each Party shall prepare, communicate and maintain its successive intended nationally determined contributions. Prior to the 21st session of the Conference of the Parties in Paris in 2015, countries submitted their Intended Nationally Determined Contributions (INDCs).
Paris Agreement	The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016
Renewable energies	Energy sources that are sustainable, within a short time frame compared to the Earth's natural cycles, and include non-carbon technologies such as solar, hydro and wind, as well as carbon-neutral technologies such as biomass (IPCC 2001).
Threshold	The magnitude or intensity that must be exceeded for a certain reaction, phenomenon, result, or condition to occur or be manifested. (SA Green Finance Taxonomy, 2022)

Abbreviations

AFREC	African Energy Commission
ASEAN	Association of Southeast Asian Nations
ASHRAE	American Society of Heating, Refrigerating and Air-Conditioning Engineers
ATES	Aquifer Thermal Energy Storage
BEAT2	Biomass Environmental Assessment Tool
BMZ	German Federal Ministry for Economic Cooperation and Development (Bundesministerium Für Wirtschaftliche Zusammenarbeit Und Entwicklung)
BNR	National Bank of Rwanda
BRD	Development Bank of Rwanda
CAES	Compressed Air Storage
CBI	Climate Bonds Initiative
CH4	Methane
CM	Combined Margin
CMA	Capital Market Authority
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CREEM	The Carbon Risk Real Estate Monitor
CSP	Concentrated Solar Thermal Power
DEFRA	Department for Environment, Food and Rural Affairs)
DNSH	Do No Significant Harm
EAS	East African Community Standard
EDGE	Excellence in Design for Greater Efficiencies
EIA	Environmental Impact Assessment
EMC	Electromagnetic Compatibility
EPA	Environmental Protection Agency
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
EU	European Union
FONERWA	Rwanda Green Fund

FSC	Forest Stewardship Council
GDP	Gross Domestic Product
GGCRS	Green Growth and Climate Resilience Strategy
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GIZ	German Development Agency (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH)
GRI	Global Reporting Initiative
H0S	Hydrogen Sulfide
ICAPR	Institute of Certified Public Accountants of Rwanda
ICE	Internal Combustion Engine
IEA	International Energy Agency
IEMP	Integrated Environmental Management Plan
IFC	International Finance Corporation
IPCC	Intergovernmental Panel on Climate Change
IPHE	International Inter-Governmental Partnership of Countries and The European Commission
ISCC Plus	Bonsucro – International Sustainability and Carbon Certification
ISIC	International Standard Industrial Classification
ISO	International Organization for Standardization
ISSB	International Sustainability Standards Board
IWG	Industry Working Group
LCA	Lifecycle Assessment
LCE	Life Cycle Energy
LEED	Leadership in Energy & Environmental Design
MECS	Modern Energy Cooking Services
MINAGRI	Ministry of Agriculture and Animal Resources
MINECOFIN	Ministry of Finance and Economic Planning
MININFRA	Ministry of Infrastructure
MoE	Ministry of Environment

MSS	Minimum Social Safeguards
N2O	Nitrous Oxide
NACE	Statistical Classification of Economic Activities in The European Community
NBS	Nature-Based Solutions
NDC	Nationally Determined Contribution
NGOs	Non-Governmental Organizations
NMHC	Hydrocarbons other than Methane
NOx	Nitrogen Oxides
NST2	Second National Strategy for Transformation
PEFC	Programme for the Endorsement of Forest Certification
PM	Particulate Matter
PSF	Private Sector Federation
RDB	Rwanda Development Board
REACH	Registration, Evaluation, Authorisation and Restriction Of Chemicals
REMA	Rwanda Environment Management Authority
RFL	Rwanda Finance Limited
RSB	Roundtable On Sustainable Biomaterials
RSE	Rwanda Stock Exchange
RTRS	Roundtable On Responsible Soy
SC	Screening Criteria
SIC	Standard Industrial Classification
SWH	Rwanda Solar Water Heaters
TCFD	Task Force on Climate-Related Financial Disclosures
TEG	Technical Expert Groups
THC	Total Hydrocarbons
TSC	Taxonomy Steering Committee
TSC	Technical Screening Criteria
TWG	Taxonomy Working Group
UNESCO	United Nations Educational, Scientific and Cultural Organization

UNFCCC	United Nations Framework Convention on Climate Change
UTES	Underground Thermal Energy Storage
WEEE	Waste Electrical and Electronic Equipment
2BSvs	Voluntary Biomass Biofuels Scheme



1. – Background

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The development of Rwanda's Taxonomy is a crucial step in laying a solid foundation for the country's green transformation, developing new industries, and becoming the financial hub of East Africa. It is the second taxonomy in Africa (after South Africa) and the first in Africa to include the agricultural sector.

Taxonomy is an important domestic policy tool that can make a significant contribution to achieving climate goals. It creates a direct link between the economy and the financial market on the one hand and climate effects on the other, which can help a country achieve its Nationally Determined Contribution (NDC) goals, attract money from climate-conscious international investors, and adapt its economy to the inevitable impacts of climate change. Presently, more than 40 jurisdictions have either established or are in the process of implementing a green or sustainable finance taxonomy or a similar classification framework.[1] These jurisdictions include the European Union (EU)[2], ASEAN[3], China[4], Russia[5], South Africa[6], Colombia[7], Mexico[8], etc. The taxonomies introduced by the EU, Climate Bonds, and ASEAN taxonomies are commonly used as benchmarks, with countries and regions aligning their national schemes to ensure compatibility with these established frameworks.

A robust green finance taxonomy has significant advantages for different groups, including investors, issuers of green bonds, regulators, policymakers, bankers, and society.

- **Policymakers** can use a taxonomy to modulate their policy, using government or central bank-led support measures to support certain private market players and demonstrate their commitment to decarbonisation to international partners.
- **Regulators** can also benefit from a green finance taxonomy. It helps ensure compliance with environmental regulations and serves as a foundation for measuring progress towards sustainability goals.
- For **banks and financial institutions**, taxonomies allow for a faster identification of sustainability-aligned products, which reduces transaction costs. Taxonomies allow financial companies to restructure their product offering and appeal to sustainability-conscious investors.
- **Investors** benefit from a taxonomy by receiving clear and standardised information about their investments. This reduces information disparities and enables better decision-making. Additionally, it helps mitigate the risks associated with climate change and promotes sustainable long-term investments.
- For **issuers of green bonds**, a taxonomy provides credibility and legitimacy. This makes it easier for them to attract green investments and gain investors' trust. **Society** benefits from a green finance taxonomy as it supports the transition towards a low-carbon and sustainable economy. This fosters economic growth job creation and reduces environmental impact.

The need for a taxonomy to meet Rwanda's development objectives was first identified in the Rwanda Sustainable Finance Roadmap[9] published in October 2022 by Kigali International Finance Centre with support from UNDP. The objective was to create a document that would be 'suitable to the local context as well as interoperable with major international frameworks'. The paper 'Diagnostic Review of National Bank of Rwanda (BNR) and Regulated Institutions' Capabilities to Implement the Rwanda Sustainable Finance Roadmap', prepared

1 Technically, a taxonomy is a classification framework which sorts multiple activities into different categories. Thus, principles-based systems, such as Green Bond Principles, cannot be called a taxonomy, but are usually included into one

2 https://ec.europa.eu/sustainable-finance-taxonomy/

3 https://asean.org/wp-content/uploads/2021/11/ASEAN-Taxonomy.pdf

4 https://www.climatebonds.net/files/files/the-Green-Bond-Endorsed-Project-Catalogue-2021-Edition-110521.pdf

5 http://publication.pravo.gov.ru/Document/View/0001202109240043

6 http://www.treasury.gov.za/comm_media/press/2022/SA%20Green%20Finance%20Taxonomy%20-%201st%20Edition.pdf

7 https://www.taxonomiaverde.gov.co/webcenter/portal/TaxonomaVerde

8 https://www.gob.mx/shcp/documentos/taxonomia-sostenible-de-mexico?state=published

9 https://kifc.rw/wp-content/uploads/2023/01/KIFCSustainableFinanceRoadmap.pdf

and published in May 2023 jointly by the BNR and the French Development Agency, envisioned the creation of a robust science-based sustainable taxonomy. In the paper, the following requirements were highlighted for the national taxonomy:

- Ensure that the taxonomy has the granularity and clarity required for financial institutions to qualify projects and assets efficiently.
- Discuss priorities to be considered when designing and deploying financial regulation and policy or when designing incentivising monetary policies. A clear focus on adaptation needs to be reflected in the taxonomy.
- Understand the taxonomy's governing and utilisation rules to translate them into sectoral guidance and support regulated institutions.
- Define the design process well and be able to share experience with peers and partners in the region and internationally.

The BNR also called for the taxonomy to be accompanied by a simple and easy-to-understand usage guide that would help a wide range of economic agents in the country to adapt to it and implement it in their daily activities.

The BNR assigned the task of creating the taxonomy to Rwanda Finance Limited (RFL), which undertook this task in collaboration with Ministry of Environment (MoE), Ministry of Finance and Economic Planning (MINECOFIN), National Bank of Rwanda (BNR), Rwanda Environment Management Authority (REMA), Rwanda Development Board (RDB), Capital Market Authority (CMA), Rwanda Stock Exchange (RSE), Development Bank of Rwanda (BRD), Rwanda Green Fund (FONERWA), Institute of Certified Public Accountants of Rwanda (ICAPR) and Private Sector Federation (PSF). The development of Rwanda's Taxonomy is supported by the German development agency Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ). A consortium of the Climate Bonds Initiative (CBI) and Ambire Global was commissioned to provide technical assistance for the project, building on their extensive experience in developing national and international taxonomies.

Early in the development process, a taxonomy governance framework[10] was created to guide the taxonomy development. The Rwandan taxonomy governance structure consists of three levels:

- Taxonomy Steering Committee (TSC), tasked with supervising the development process.
- Taxonomy Working Group (TWG), tasked with developing the taxonomy and all related documents.
- Technical Expert Groups (TEG), tasked with developing the technical screening criteria for the activities under all sectors of the taxonomy.
- Industry Working Groups tasked with taxonomy criteria testing to facilitate implementation.

Like other national taxonomies, the Rwandan Taxonomy will be developed in phases. The first phase presented here includes four key economic sectors (agriculture, construction, energy, and transport) for two objectives of climate change mitigation and climate change adaptation, with adaptation objectives mostly integrated into the agriculture sector.

Climate change mitigation was selected as a key objective within the first phase of development for three reasons:

- Mitigation is the primary and most elaborated objective within most accepted taxonomies, which will ensure interoperability of the Rwandan and international taxonomies.
- International climate-aware investors are looking for ways to best invest in activities that will stop global warming, so a focus on mitigation will best ensure the flow of foreign capital.
- Of all the tasks included in the Rwandan Taxonomy, mitigation technologies and activities (e. g., solar generation, hydrogen production, electric transportation etc.) are also the most likely to contribute to economic development and avoid stranded assets, which is particularly relevant given Rwanda's rapid development and active creation of new capacity in all sectors covered by the taxonomy.

In the next phase, further economic sectors will be developed and the focus on adaptation as an environmental objective strengthened.

10 For more on this see Taxonomy Governance chapter

1.1. – Taxonomy Application and Target Groups

The Rwandan Taxonomy is meant to be used by different groups, including investors, issuers of green bonds, regulators, policymakers, bankers, and society at large.

- **Policymakers** can apply a taxonomy to modulate their policy, using government or central bank-led measures (special credit conditions for green projects through development banks; reduction of the reserve rate for banks with green projects on the balance sheet; targeted subsidies for projects that meet taxonomy, etc.) to support certain private market players and demonstrate their commitment to decarbonisation to international partners. Some specific application cases may include:
  - **Compliance of national and international commitments**. The green finance taxonomy is vital for the government to support sustainable businesses and meet international obligations. It offers a standardised framework to evaluate a country's path towards environmental sustainability and aids the identification and prioritisation of investments that align with environmental objectives.
  - **Green budget tagging**. Green budget tagging tracks government expenditures and revenue streams for environmental sustainability goals. A taxonomy allows for consistent categorisation and tracking, enabling comprehensive understanding and evaluation of green initiatives. It helps governments allocate resources strategically, aligning with sustainability objectives and providing transparent information to citizens and stakeholders.

- **Regulators** can use the taxonomy to ensure compliance with financial and environmental regulations and measure progress towards sustainability goals. They can also develop rules for disclosure and guide financial sector participants for implementation (e. g., development of preferential financial products and issuance of green bonds & loans, among others). Some specific application cases may include:
  - **Disclosure regulations**. A green finance taxonomy creates a basis for developing disclosure regulations for environmental reporting. This enhances transparency and accountability, enabling policymakers to monitor progress, incentivise sustainable practices, and shape effective policies. The taxonomy also facilitates disclosure under international systems like TCFD, ISSB and GRI. It provides a standardised criteria or differentiating activities into green or not green and uses the same metrics as major disclosure standards (emission intensity).

- For **financial institutions (including banks)**, taxonomies allow for a faster identification of sustainability-aligned economic activities and investments, which reduces transaction costs. Taxonomies enable financial companies to restructure their product offering and appeal to sustainability-conscious investors. Some specific application cases may include:
  - **Standards for financial products (e. g. green bonds and loans)**. A green finance taxonomy supports both public and private sectors in issuing green bonds and loans. It provides a clear framework to identify eligible projects, promoting investor confidence and reducing information asymmetry. Banks can develop bond or loan standards based on the taxonomy to incorporate its principles into their activities.
  - **Insurance and management of environmental risks**. By adopting a green finance taxonomy, insurance companies can better assess and quantify the environmental risks associated with their underwriting activities and investment portfolios. Insurers can develop specialised green insurance products tailored to cover risks associated with renewable energy projects, energy efficiency initiatives, and other environmentally friendly ventures.

- **Investors** benefit from a taxonomy by receiving transparent and standardised investment information. This reduces information disparities and enables better decision-making. Additionally, it helps mitigate the risks associated with climate change and promotes sustainable long-term investments. Some specific application cases may include:
  - **New stock market products**. A green taxonomy can help fund managers identify and select companies or projects aligned with specific environmental objectives. This enables the creation of funds focused on e. g. renewable energy, clean technology, and sustainable agriculture. Using the taxonomy, fund managers can tilt portfolios towards sustainable companies, promoting sustainable investments and facilitating the transition to a greener future.

- For **issuers of green bonds** that report taxonomy alignment, a taxonomy provides credibility and legitimacy. This makes it easier for them to attract green investments and gain investors' trust;

- **Society** benefits from a green finance taxonomy, as it serves as an overarching tool for transitioning towards a low-carbon and sustainable economy. This fosters economic growth, job creation and reduces environmental impact.



2. – Rwanda Green Taxonomy Project

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The development and implementation of a taxonomy involves several technical and administrative processes such as the definition of ambition, prioritisation and selection of objectives, sectors and economic activities, development of screening criteria, project management, publishing and dissemination, capacity building, implementation of taxonomy for different users, development of regulations, among others.

To ensure that all the relevant processes are conducted efficiently, transparently and competently, as well as with a set of robust checks and balances, the Rwandan Taxonomy governing framework has been designed to warrant the interplay amongst the three following groups:

- **Tier-1: Taxonomy Steering Committee (TSC)**. This group is responsible for strategic decisions regarding taxonomy development and implementation, establishing the taxonomy's environmental objectives, ensuring alignment with national goals and policies, reviewing, approving and publishing the taxonomy and overseeing the entire development process. The tasks of the Committee also include supporting the market users on taxonomy implementation and mandating capacity-building services from a consultant, developing further guidance, and mandating the expansion of the scope of the taxonomy to other objectives, including the addition of sectors and environmental objectives. Also, the Steering Committee decides on the timeframe for the periodic taxonomy updates and triggers the revision process.

TSC Members: Ministry of Environment (MoE), Ministry of Finance and Economic Planning (MINECOFIN), National Bank of Rwanda (BNR), Rwanda Environment Management Authority (REMA), Rwanda Development Board (RDB), Capital Market Authority (CMA), Rwanda Stock Exchange (RSE), Development Bank of Rwanda (BRD), Rwanda Green Fund (FONERWA), Institute of Certified Public Accountants of Rwanda (ICAPR) and Private Sector Federation (PSF)

- **Tier-2: Taxonomy Working Group (TWG)**. The entities involved in this tier of governance lead the project execution and coordination of the taxonomy development. The group acts as a link between the technical groups and the supervisory committee. It regularly updates the other groups on progress made towards developing the taxonomy and its future iterations.

TWG members: to be defined by the TSC.

- **Tier-3: Technical Expert Groups (TEG)**. These are representatives of public and private entities, scientific experts, industry associations, academia, NGOs, and individual experts, among others, who have specific technical knowledge of different sectors of the economy. The members of this group are mainly responsible for developing technical screening criteria for taxonomy activities. They are involved in technical discussions, review of the sector drafts, and finalise the technical screening criteria. The Group is mainly convened for the taxonomy development phase. However, its members should be retained after the taxonomy has been completed to provide advice on revising the technical documents during the future revisions of the Taxonomy.

TEG members: subject matter experts invited by the leading ministry. Construction, energy and transportation TEGs are headed by MININFRA, agriculture TEG is headed by MINAGRI.

External market validation: Industry Working Group. An Industry Working Group (IWG) comprising of key financial and industrial institutions to test the applicability of the taxonomy in the Rwandan context was established while the taxonomy was being developed. The objective of this group is to provide feedback on the taxonomy metrics, methodologies and tools; feedback on feasibility for issuers to companies with the proposed criteria and provide the evidence required to demonstrate their compliance; to recommend and possibly provide access to data, information and metric that can be used by the TWGs for the purpose of developing the Technical Screening Criteria, DNSH and MSS components of the taxonomy. They can also help promote the taxonomy internally within their own organisations and publicly at their own convenience including the circulation of the draft taxonomy within their own department in order to provide feedback during public consultations.

The governance structure is visually shown below. As an interim structure, the IWG is not included in the framework presented on the next page.

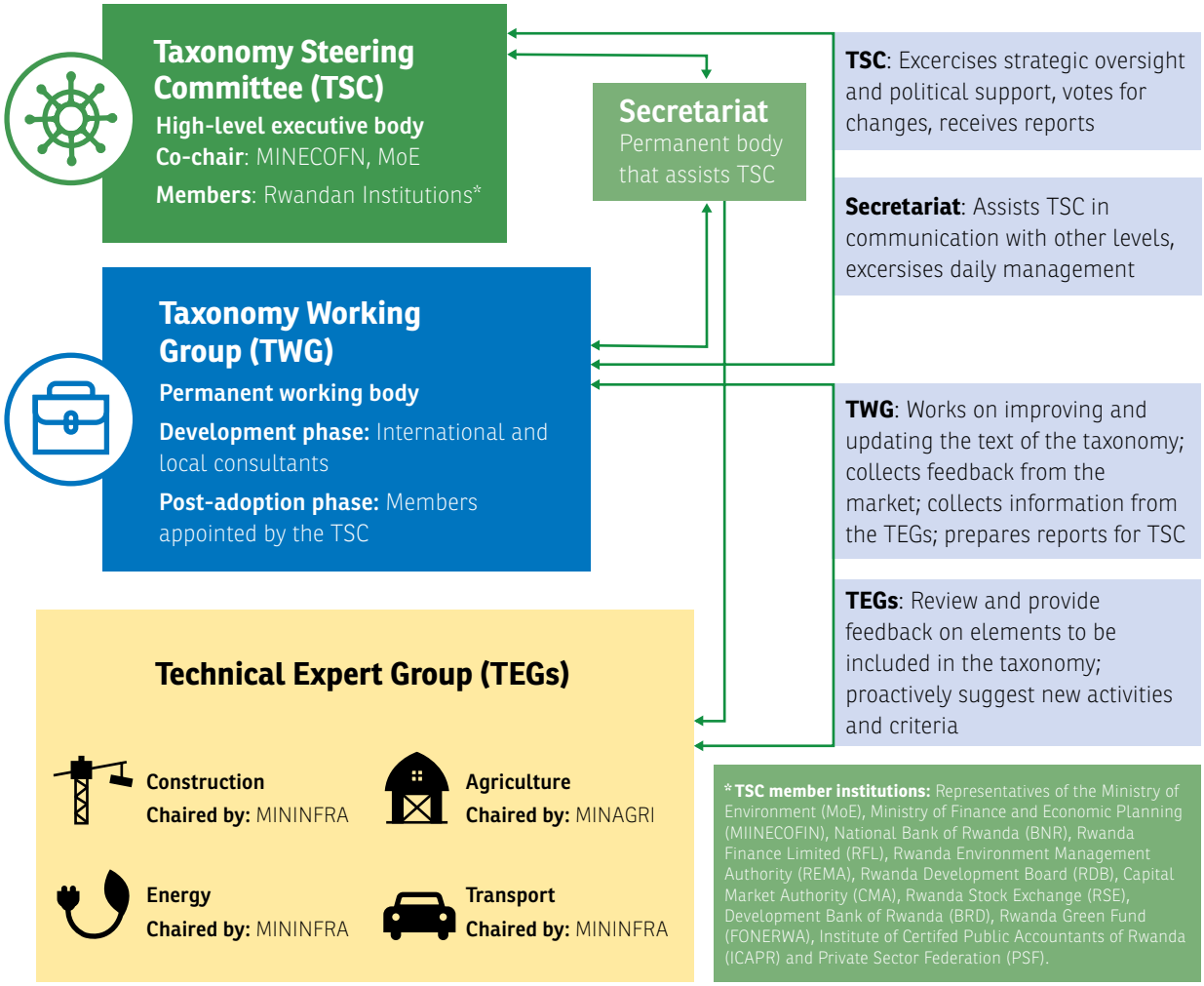

Figure 1. **Rwandan Taxonomy governance**



3. – Definitions and Principles of Compliance Assessment

3. – Definitions and Principles of Compliance Assessment

The subsequent sections in this chapter elaborate on the structure and principles of Rwandan taxonomy.

3.1. – Taxonomy Structure and Principles

Akin to other national taxonomies, the Rwandan Taxonomy is built as a tapering funnel built on the country's strategic policies and development objectives.

The Taxonomy contains key structural elements, such as environmental objectives, sectors and economic activities with well-defined Technical Screening Criteria (TSC). These make up the taxonomy framework and will be described in more detail in the following sections.

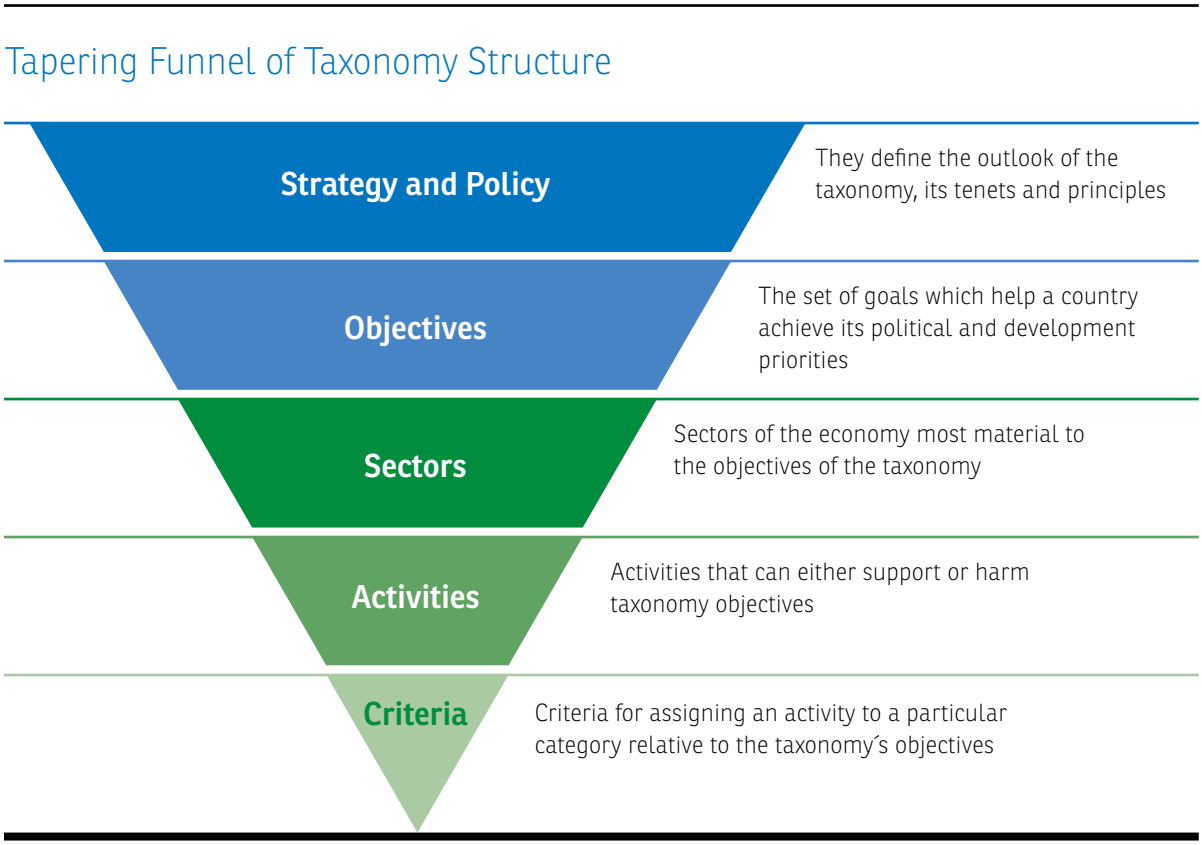

Figure 2. **Tapering funnel of the taxonomy structure**

Taxonomies should abide by internationally recognised core principles to be credible, interoperable and usable. Accordingly, the Rwandan Taxonomy is built on the following premises:

1. **Science-based**. The taxonomy is based on the latest climate science. It is informed by the work of international climate organizations (such as the Intergovernmental Panel on Climate Change), remaining carbon budgets and the best available technologies, and not on considerations of a political or economic nature.
2. **Interoperable**. The taxonomy seeks to be interoperable with most other activity-based and science-based taxonomies (e. g. the EU Taxonomy, South African Taxonomy, and Colombian Taxonomy). The interoperability of taxonomies prevents fragmentation of the international green finance market and facilitates investors' investment decisions. Full interoperability between taxonomies is unachievable due to references to national regulations in national taxonomies, but a high degree of interoperability is possible and necessary.

3. **Locally applicable**. The taxonomy is relevant for Rwanda and takes into account its national context. Rwandan Taxonomy process has been characterized by local stakeholder consultations to ensure that the taxonomy whilst being internationally interoperable, is locally applicable and relevant to the Rwandan context.

4. **Clear and transparent**. The taxonomy clearly and unambiguously separates activities aligning with its objectives from those that do not. Rwanda Taxonomy aims to provide clear definitions that are science-based for environment or evidence-based for other sustainability issues. The taxonomy uses a quantitative approach, with metrics and thresholds, and also, for activities where quantitative definitions are not feasible, clear evidence-based qualitative definitions were established.

5. **Simple and usable**. The criteria for applying the Rwanda taxonomy to the real economy should be as simple and straightforward as possible.

6. **Comprehensive**. The Rwanda Taxonomy aims to cover economic sectors that are material to the environmental and climate objectives of the country, preferably those responsible for at least 75 % of the country's total emissions.

7. **Multipurpose**. The fight against climate change is a complex, multi-layered process, and the taxonomy can contribute to it in many ways – for instance, by including criteria for multiple environmental objectives such as adaptation and resilience, the circular economy or water resource management. In the first phase only mitigation and adaptation criteria will be addressed, but in future phases the scope will be expanded to add other objectives.

8. **Transition-friendly**. The taxonomy can provide a pathway to decarbonisation for hard-to-abate sectors of the economy.

3.2. – Taxonomy Strategical and Political Basis

In recent years, Rwanda has adopted many initiatives to build a sustainable and green economy and society. The Rwandan taxonomy gives further impetus to many of these initiatives and policies and is intended to help the country build a new modern economy free of stranded assets and ready for the competition of the future.

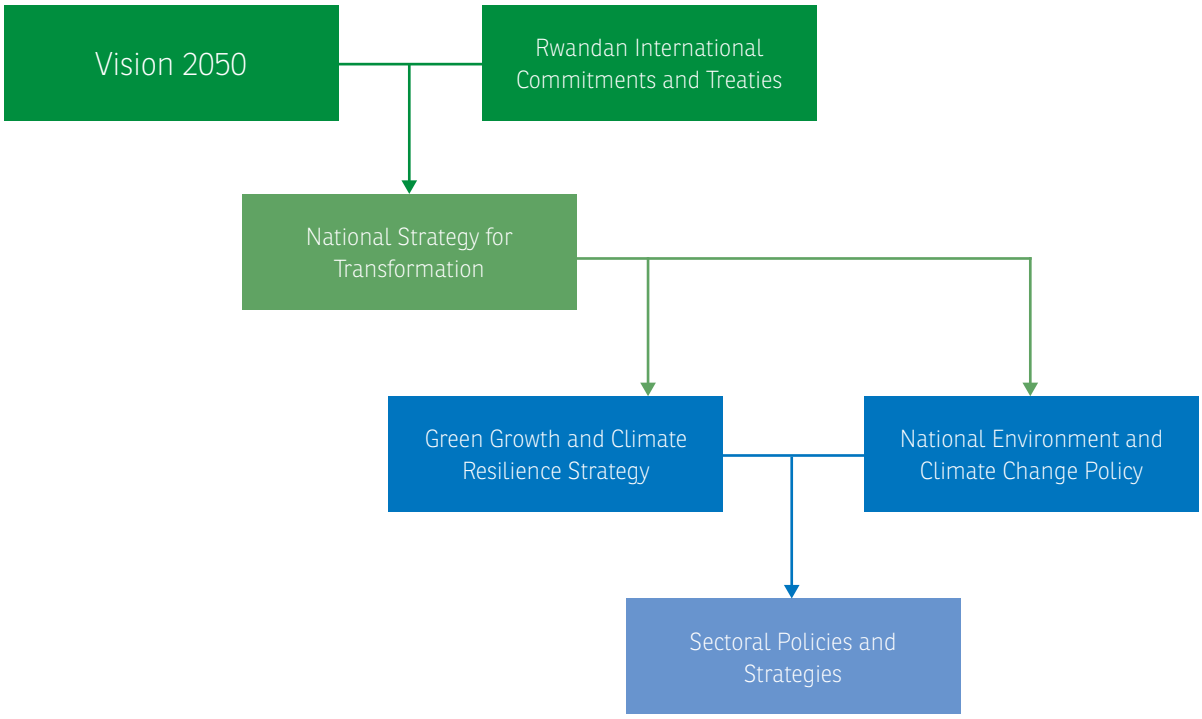

Figure 3. **Hierarchy of Rwandan Sustainable Policies**

Vision 2050[11] is the overarching policy document that describes the strategic course and aspirations of the government. It is intended to "articulate the long-term strategic direction for "the Rwanda we want" and the enabling pathways to achieve this ambition". It informs the National Strategy for Transformation and relevant sectoral documents and policies, which are also affected by the Rwandan international commitments and treaties.

The National Strategy for Transformation[12] provides the foundation and vehicle towards Vision 2050. Specific priorities and strategies are:

- **Economic Transformation**. The pillar presents a strategy to accelerate private sector-led economic growth and increased productivity. This pillar entails priorities including the urgent need to accelerate sustainable urbanisation from 18.4 % (2016/17) to 35 % by 2024, the need to modernise and increase the productivity of agriculture and livestock and the promotion of sustainable management of the environment and natural resources to transition Rwanda towards a Green Economy.

- **Social Transformation**. Critical priorities for this pillar include the promotion of resilience to shocks, graduation from poverty, and eradication of malnutrition through enhanced prevention and management of all forms of malnutrition.

- **Transformational Governance**. The overall goal of the pillar is to consolidate good governance and justice as building blocks for equitable and sustainable national development.

The NST1 recognises the environment and climate change as critical drivers for national development and places it among the cross-cutting areas that play a significant role in attaining inclusive growth. The document focuses on strengthening cross-sectoral cooperation to address climate change, focusing on agriculture, urbanisation, infrastructure, and land use management.

In alignment with the Vision, the National Environment Policy[13] 2003 was revised in 2019 to become the National Environment and Climate Change Policy with the goal for "Rwanda to have a clean and healthy environment resilient to climate variability and change that supports a high quality of life for its society". The policy document provides a framework to tap into opportunities for a green, growth-led and climate-resilient economy. The objectives of the policy are the following:

9. Greening economic transformation

10. Enhancing functional natural ecosystems and managing biosafety,

11. Strengthening meteorological and early warning services

12. Promoting climate change adaptation, mitigation, and response

13. Improving environmental well-being for Rwandans

14. Strengthening environment and climate change governance

15. Promoting green foreign and domestic direct investment and other capital inflows.

Rwanda adopted the Green Growth and Climate Resilience Strategy (GGCRS)[14] in 2011 as a mainstreaming instrument of mitigation and adaptation in all sectors of the economy. It was recently revised to align with Vision 2050 to ensure it defines a development pathway for Rwanda that is climate resilient and harnesses green economic innovation. The GGCRS has three Strategic objectives:

- To achieve energy security and low carbon energy supply that supports the development of green industries and services and avoids deforestation.

- To achieve sustainable land use and water resource management that results in food security, appropriate urban development and preservation of biodiversity and ecosystem services.

- To ensure social protection, improved health and disaster risk reduction that reduces vulnerability to climate change impacts.

11 https://www.minecofin.gov.rw/fileadmin/user_upload/Minecofin/Publications/REPORTS/National_Development_Planning_and_Research/Vision_2050/English-Vision_2050_Abridged_version_WEB_Final.pdf

12 https://climate-laws.org/documents/7-years-government-programme-national-strategy-for-transformation-nst1-2017-2024_358c?id=7-years-government-programme-national-strategy-for-transformation-nst1-2017-2024_630e

13 http://www.fonerwa.org/sites/default/files/2021-06/Rwanda%20National%20Environment%20and%20Climate%20Change%20Policy%202019.pdf

14 https://www.rema.gov.rw/rema_doc/RGG&CRS%202011/Rwanda%20Green%20Growth%20Strategy%20FINAL%20high%20res.pdf

3.3. – Taxonomy Objectives

The Taxonomy Steering Committee identified the following list of objectives to be of highest relevance to Rwanda and to be included in the Taxonomy:

- **Climate change mitigation**. The objective of climate change mitigation demands the reduction of greenhouse gases (GHGs) emitted as a result of human activity in the country, which is necessary to avoid the catastrophic consequences of climate change. An activity can be considered to have met this objective if it makes a substantial contribution to:
  - **Avoidance of GHG emissions**. These are 'green activities' already having very low or near-zero emissions (such as renewable energy). More capital is required to foster their development and broader deployment.
  - **Reduction of GHG emissions**. Some activities (the production of steel, cement, aluminium, etc.) are critical to the functioning of the modern economy but are carbon-intensive. These activities are called transitional if specific measures can be applied to lower their carbon intensity. The current level of technological development is insufficient to decarbonise them entirely in the short term, but they must significantly improve their performance over time.
  - **Enabling GHG-reducing activities**. These activities do not reduce GHG emissions but facilitate other mitigation activities. Examples are renewable energy transmission lines construction, electricity storage, data-driven solutions (software that helps to improve emission profile on enterprises), etc.
  - **GHG removal**. Such technologies as carbon capture, utilization and storage are important for tackling residual emissions and emissions that are already in the atmosphere.
- **Climate change adaptation and resilience**. The objective of climate change adaptation demands Rwanda to substantially reduce the adverse impact or the risk of such adverse impact of climate change on its people, nature, and assets as well as on economic activity itself.
- **Sustainable use and protection of water resources**. This objective deals with preserving and treating water, sewage and industrial effluents, which helps prevent water overspending, contamination, and degradation of water bodies.
- **Promotion of circular economy**. The objective stems from the necessity to maximise resource productivity. The introduction of lean manufacturing, recycling and circular economy practices will benefit Rwanda from climate, environmental and economic perspectives.
- **Protection of biodiversity and environment**. The objective implies preventing the loss of plants and living species whilst also sustainably managing, conserving, and restoring their habitats. This is important for protecting Rwanda's unique landscapes and ecosystems and at the same time contributes to climate change mitigation because healthy habitats remove a substantial portion of carbon from the atmosphere.
- **Sustainable land management**. Land management is crucial in climate change mitigation due to its significant impact on greenhouse gas emissions, carbon sequestration, and overall ecosystem health. By preserving and restoring forests, wetlands, and other natural habitats, land management helps sequester carbon dioxide from the atmosphere, mitigating its concentration and thus reducing the greenhouse effect.

In the first stage, the taxonomy will concentrate on climate change mitigation with the objective of climate change adaptation and resilience addressed in the agricultural sector. In future updates to the taxonomy, further objectives can be added.

3.4. – Taxonomy Sectors

The initial selection of sectors for the taxonomy was conducted by evaluating various parameters, such as sectoral greenhouse gas (GHG) emissions and sectoral contributions to Gross Domestic Product (GDP). Other parameters are sectoral capital flows, bond issuances and use of proceeds, and the priorities outlined in national climate change plans. Data can be processed into indexes that, in turn, show the materiality of different sectors for different environmental objectives. Once sectors are selected, relevant activities within the scope of each sector should be chosen based on their contribution to the respective taxonomy objectives.

To carry out the prioritisation of sectors in Rwanda, a 3-step methodology was established and is described below:

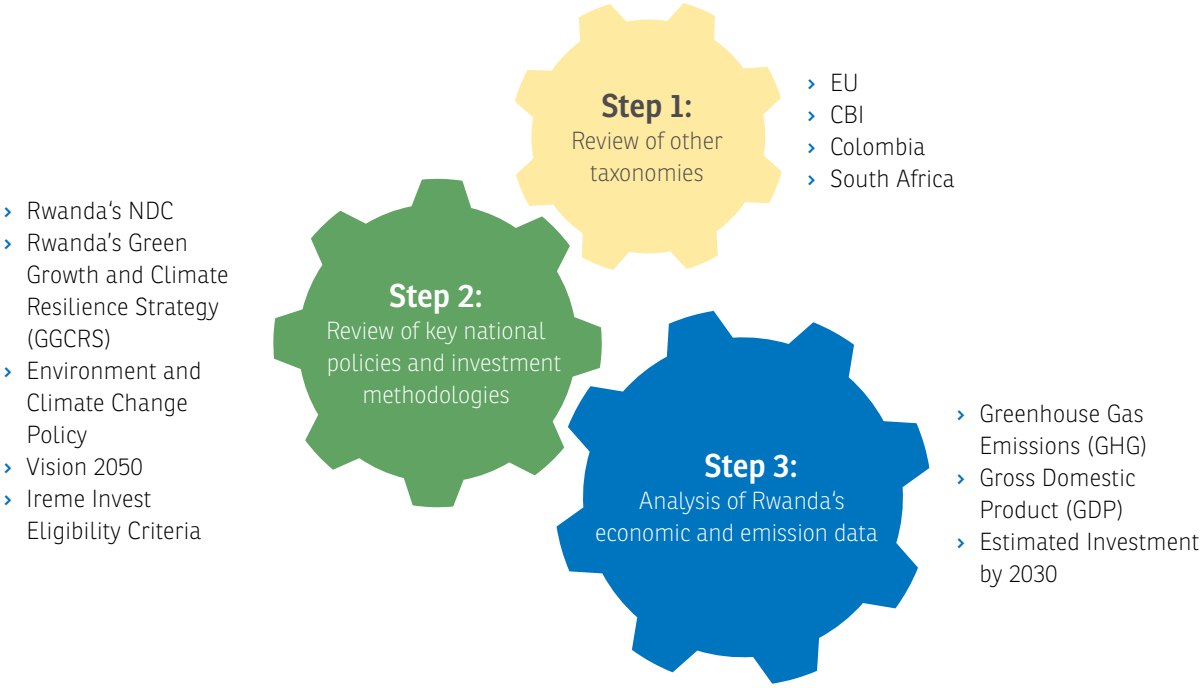

Figure 4. **3-step scheme for sector selection**

The prioritisation of sectors in Rwanda contemplated the interoperability and alignment with other relevant taxonomy frameworks, the review of national environmental and climate change policies and strategies, and finally, a quantitative analysis based on information on GHG emissions, GDP and estimated investments for 2030.

In order to better define sectors that have the biggest potential to contribute to the objectives of the taxonomy, a matrix of all country-level economic activities can be built with respect to their GHG emission profile and economic parameters (e. g. Gross Domestic Product and investment required for decarbonisation of sectors). The International Standard Industrial Classification (ISIC) of economic activities was selected as a general framework for classifying all sector-specific activities. The ISIC framework was established by the United Nations, and it is largely compatible with other international frameworks to provide a sufficient degree of granularity. For the purpose of simplicity, three main indicators were selected this time: sectoral GDP, estimated investment 2030 and GHG emissions:

ISC – Section	Sector – Taxonomy	MtCO2e (2020)	GDP 2022 (USD million)	Estimated investment 2030 (USD million)
A	Agriculture, livestock and forestry	4.71	2.101	2.972
D	Energy	0.23	239	552
F, L	Construction	1.32	606	660
H	Transport	0.69	397	1.091
C	Manufacturing	0.41	761	26
E 38	Waste	0.32	31	372

Table 1. **GHG emissions and sectoral GDP and investment data**

Emission source: Climate Watch[15]

GDP Source: National Institute of Statistics of Rwanda[16]

Estimated decarbonisation investments requirements: updated Rwandan NDC

In Step 3, there are three methodologies that can be used to select sectors of a taxonomy:

- **Weighted average method**. It consists of assigning a weight and scale to each criterion and then multiplying the values and totalling the final score for each alternative to create a ranking
- **ELECTRE method**. It is a multi-criteria decision method that allows the evaluation of advantages and disadvantages with respect to each alternative and criterion in order to rank them in order of preference.
- **Decision matrix method**. It is a method that defines weights for each criterion, then adds them up and establishes a ranking between the alternatives.

The subsequent application of all three methods with the chosen set of parameters gives us the following results:

FINAL ANALYSIS			
Final Ranking	Weighted average method	Decision matrix	ELECTRA
Agriculture, land-use change and forestry	Agriculture, land-use change and forestry	Agriculture, land-use change and forestry	Agriculture, land-use change and forestry
Construction	Construction	Construction	Construction
Manufacturing	Manufacturing	Manufacturing	Transport
Transport	Transport	Transport	Manufacturing
Energy	Energy	Energy	Waste
Waste	Waste	Waste	Energy
Waste	Waste	Waste	Waste

Table 2. **Sector prioritisation by three methods**

15 https://www.climatewatchdata.org/ghg-emissions?calculation=ABSOLUTE_VALUE&chartType=line&end_year=2020&regions=RWA&sectors=total-including-lucf&source=Climate%20Watch&start_year=1990

16 https://www.statistics.gov.rw/publication/1914

After constructing the priority matrix, the working group also considered the policy documents and priorities described in previous documents and also took into account the views of key stakeholders responsible for the country's financial and climate policy. The final list of prioritised sectors is as follows:

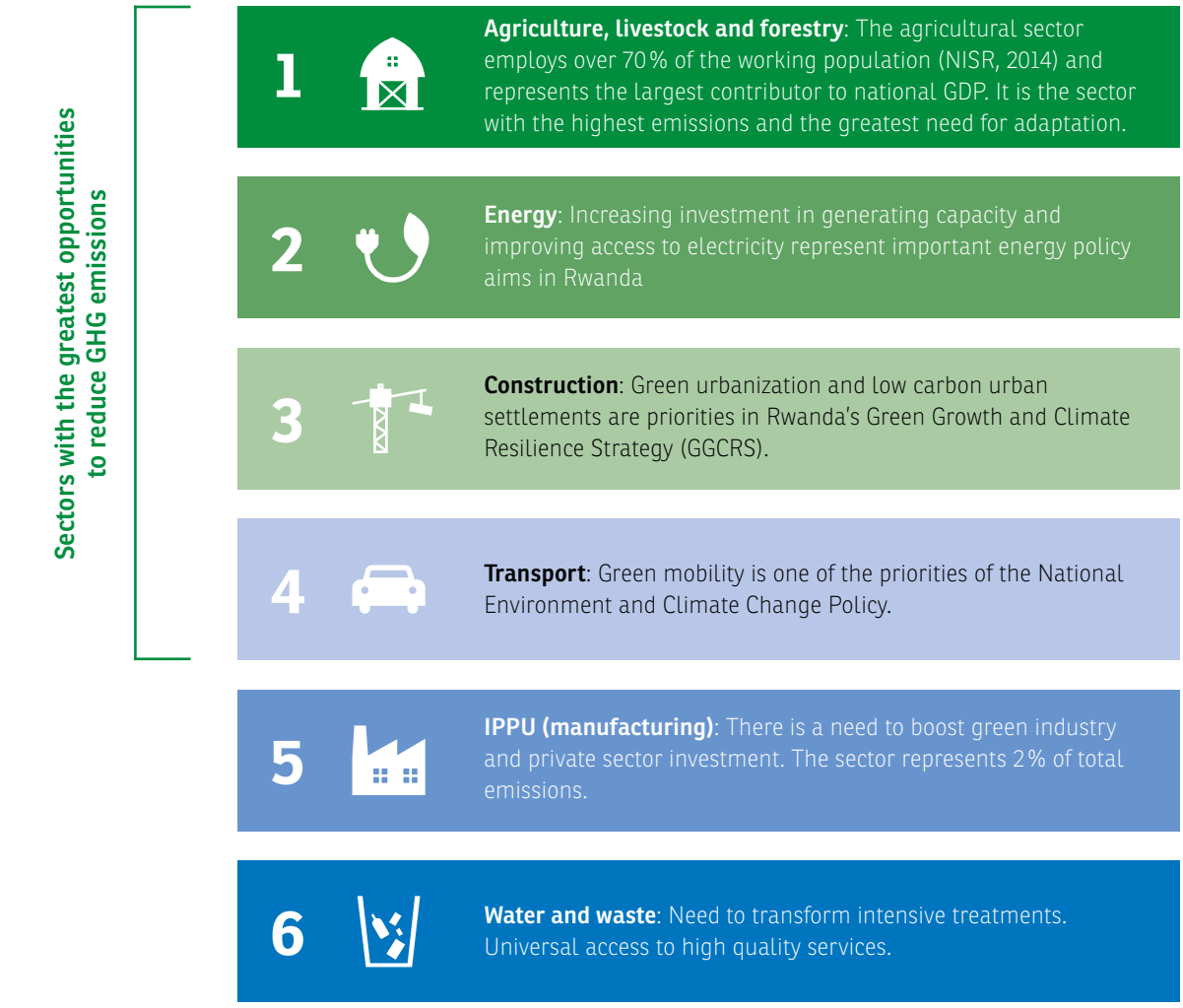

Figure 5. **Sector prioritisation**

As a result, the current project implies the creation of a taxonomy with four sectors: agriculture, energy, construction, and transportation, which appear to be the most promising for inclusion at this stage. This structure considers both future and present investment flows, the materiality for climate change mitigation and other taxonomy objectives, as well as interoperability with other taxonomies

3.5. – Economic Activities

Activities are the basic unit of the taxonomy. An entity within an economic sector can operate various economic activities. Taxonomy-alignment needs to be defined for each activity separately.

Most activities in the taxonomy have a corresponding ISIC v.4 code. The International Standard Industrial Classification (ISIC) is a universal activity classification system developed with the support of the United Nations. It is used in some of the world taxonomies (for example, Thailand, Singapore, ASEAN) and allows to unify the approach to the definition of activities. Some taxonomies use other codes (EU – NACE code system, South Africa – SIC), but all of them are generally compatible with ISIC.

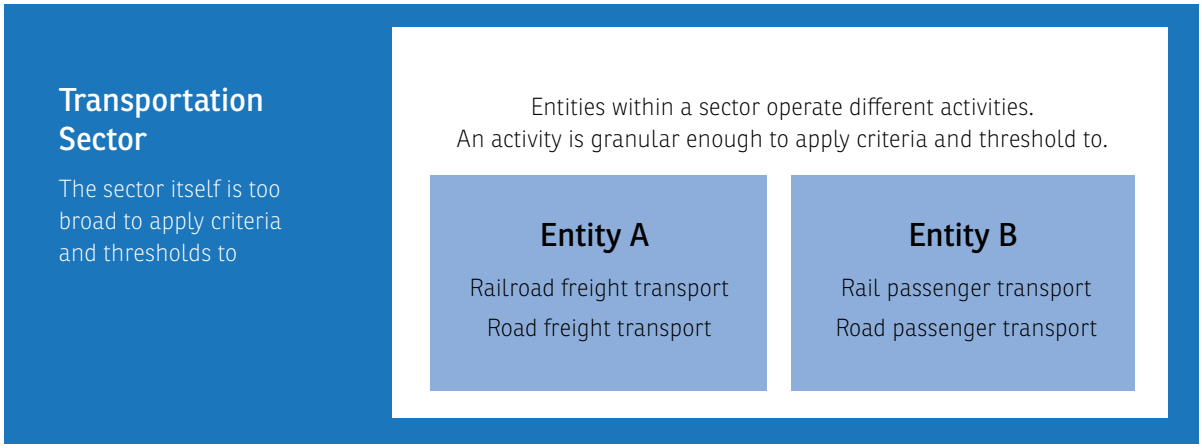

Figure 6. **Transportation Sector, Source: Climate Bonds Initiative**

In order to maintain the principle of interoperability, the economic activities included in Rwanda are comparable with other international taxonomies, and the approaches and methodologies for defining the eligibility of these activities are similar and respond to the understanding of different global trajectories. However, given that in Rwanda biomass-derived primary energies constitute 92% of the energy consumed and that most of this biomass is consumed in the household sector (AFREC, 2020), Rwanda Taxonomy includes a new activity related to "Energy generation using biomass cookstoves" aimed at providing a clear set of eligibility criteria for this activity, which may reinforce existing policies on this topic.

The activity owner can find it in Section 5. However, some activities in the taxonomy have multiple ISIC4 codes or no matching codes at all, so the final decision on how to dissect the business into activities lies with the owner of this business. Banks, verifiers and other market players can verify the validity of such dissection. The ISIC codes are provided as an optional reference tool for the taxonomy users. The final decision on how to align the activity with the taxonomy is made by the owner.

There are four conditions for an economic activity to be considered taxonomy-aligned according to the Rwandan Taxonomy. These are outlined below and described in more detail in Section 4. Taxonomy-alignment in the agricultural sector is defined differently and will be explained in more detail in Section 4, too.

Taxonomy alignment in the construction, energy and transport sectors is defined as follows:

- Activity must be listed in the taxonomy;
- Activity must significantly contribute to the taxonomy's environmental objectives through compliance with eligibility criteria, including relevant Technical Screening Criteria (TSCs);
- Activity must comply with Do No Significant Harm (DNSH) Principle (generic and specific ones);
- Activity must adhere to Minimum Social Safeguards (MSS).

3.6. – Technical Screening Criteria

As noted, and to contribute to the taxonomy's environmental objectives (condition 2), an activity must comply with specific TSC and related thresholds. These criteria draw on the work conducted by a team of specialised environmental experts, e. g. Climate Bonds Initiative, Ambire Global, the EU Technical Expert Group and other organisations working in the field of climate science. They are based on the latest climate science to the extent possible and on the best available data, with explicit references to the relevant sources.

The Rwandan taxonomy is binary. It means that for each activity that is eligible under the taxonomy, there is a clear criteria (some activities are directly eligible, meaning that they do not have any specific criteria), and the activity may either be aligned or not aligned with this threshold and, subsequently, with the taxonomy.

All activities included in the Taxonomy can generally be divided into:

- **Near-zero activities**: Activities already at or near net-zero emissions that may require further decarbonisation but not a significant transition (e.g. solar or wind power generation or operation of electric fleet-based transportation services). These activities are generally automatically eligible by nature.
- **Pathway to net-zero activities**: Activities with no immediate rapid decarbonisation option and needing to decarbonise over time. Two kinds of such activities exist:
  - **Clear Pathway to Net Zero**: These activities are needed after 2050 and have a clear pathway to net zero by 2050.
  - **No Clear Pathway to Net Zero**: These activities can exist as interim options until better technologies appear but must be phased out by 2050. All of them have prescribed sunset dates, after which this activity can no longer be considered aligned with the taxonomy.

3.7. – Additional Essential Criteria

As noted and to align with the taxonomy, an economic activity must in addition ensure that the owner follows the "Do No Significant Harm" principles (condition 3) and that the business complies with minimum social safeguards (condition 4).

3.7.1. "Do No Significant Harm" Principle

The "Do No Significant Harm" principle is usually applied to taxonomies with multiple objectives. The "Do No Significant Harm" (DNSH) principle is applied to taxonomies to ensure that an activity contributing to one taxonomy objective does not cause harm to other taxonomy objectives. This principle allows sustainability to be addressed holistically and not just with respect to one environmental objective. This principle helps to avoid greenwashing by ensuring entities claim only those green activities that do not cause harm to the environment or society.

Some activities under the taxonomy can potentially cause harm to other environmental objectives if developed improperly. Generic and specific DNSH criteria help mitigate such effects by addressing all taxonomy goals. **The specific DNSH criteria have been elaborated for each activity in the Taxonomy, but the generic criteria that apply to all activities are described below.**

Generic DNSH Criteria of the Rwandan Taxonomy

To comply with the taxonomy, the activity must also comply with the "Do No Significant Harm" criteria listed in this chapter. The taxonomy user must decide which DNSH requirements are material to their activity.

To comply with the taxonomy, the activity must also comply with the "Do No Significant Harm" criteria listed in this chapter. The taxonomy user must decide which DNSH requirements are material to their activity.

To comply with this taxonomy, the entity within which the evaluated activity sits must first comply with all laws, regulations and requirements established by the law of Rwanda. The criteria below are in addition to the applicable legislation to ensure no negative effects occur because of the activity. The activity must identify potential harm that could be caused for the objectives and take measures to mitigate the harm whenever applicable. The following table shows the generic DNSH criteria of the present taxonomy that all activities must abide by:

Table 3. **Generic DNSH Criteria**

GENERIC DNSH REQUIREMENTS	
Objective	**Description**
Climate change adaptation	The activity must ensure that it does not negatively impact adaptation measures of other assets or activities. All investments in physical assets must ensure that they are resilient and take measures to reduce the vulnerability to acute and chronic climate risks. Guidance of such vulnerability assessments are explained below: The physical climate risks that are material to the activity must be identified performing a robust climate risk and vulnerability assessment with the following steps: › Screening of the activity to identify which physical climate risks that may affect the operational performance of the economic activity during its expected lifetime; › Where the activity is assessed to be at risk from one or more of the physical climate risks, a climate risk and vulnerability assessment to evaluate the materiality of the physical climate risks on the economic activity needs to be conducted; › Adaptation solutions that can reduce the identified physical climate risk needs to be identified. The climate risk and vulnerability assessment must be proportionate to the scale of the activity and its expected lifespan. The evaluation must be performed using the highest detailed information available across the existing range of future scenarios[17] consistent with the expected lifetime of the activity. The climate projections and assessment of impacts must be based on best practice and available guidance and consider the state-of-the-art science for vulnerability and risk analysis and related methodologies in line with the most recent Intergovernmental Panel on Climate Change reports[18], scientific peer-reviewed publications, and open source or paid models. For existing activities and new activities using existing physical assets, the economic operator must implement physical or non-physical solutions over up to five years that reduce the most critical identified physical climate risks that are material to that activity. An adaptation plan for the implementation of those solutions is drawn up accordingly. For new activities and existing activities using newly built physical assets, the economic operator must integrate adaptation solutions that reduce the most critical identified physical climate risks that are material to that activity.
Sustainable use and protection of marine and water resources	Identify, assess and manage risks associated with water consumption and water quality. Use water risk analysis tools where available (e. g. risk assessments by national environmental authorities, water footprint, WWF Water Risk Filter, WRI Aqueduct). If assets or activities are located in water-stressed areas, ensure that water use and conservation management plans, developed in consultation with relevant local entities, have been implemented.

17 Future scenarios include Intergovernmental Panel on Climate Change representative concentration pathways RCP2.6, RCP4.5, RCP6.0 and RCP8.5.

18 Assessments Reports on Climate Change: Impacts, Adaptation and Vulnerability, published periodically by the Intergovernmental Panel on Climate Change (IPCC), the United Nations body for assessing the science related to climate change produces, https://www.ipcc.ch/report/ar6/wg2/

GENERIC DNSH REQUIREMENTS	
Objective	**Description**
Resource resilience and transition to a circular economy	National regulations associated with retirement and dismantlement plans for plants and infrastructure related to economic activity in question must be applied. Ambition to maximise the efficient use, reduction, repair, recycling and reuse of materials during the activity's operational life cycle (e. g. through contractual agreements with recycling companies and integration of the cost of recycling), proper treatment and waste disposal (e. g. adequate end-of-life management of batteries) and compliance, as a producer, with Extended Producer Responsibility Standards must be demonstrated. The ambition that new installations are designed and manufactured for high durability, easy to dismantle, refurbishment and recycling must be demonstrated. Proper repair of facilities and equipment and the accessibility and interchangeability of the activity's equipment components must be ensured.
Pollution prevention and control	The activity owner must utilise local recycling facilities as much as possible to dispose of waste generated by the activity. If the activity consumes resources produced by local recycling facilities for operation, the activity owner must strive to utilise them for the operation of the activity. Discharges to water bodies must comply with water discharge permits from the relevant local authorities. Emissions that pollute the air must have the required permits and comply with applicable regulations (with a particular focus on hazardous waste). Duly authorised waste managers must carry out integrated management of the waste generated.
Protection and restoration of biodiversity and ecosystems	New financed facilities and infrastructure should not be in ecosystems that are strategic for food security, rich in biodiversity, or serve as habitat for endangered species (flora and fauna) on the list of nationally protected areas or on the IUCN Red List[19]. Museums or technical facilities[20] that concurrently serve as biodiversity preservation centres are exempt from this requirement. For sites and operations located in or near biodiversity-sensitive areas (UNESCO World Heritage Sites, key biodiversity areas, including those defined by the Rwandan national legislation), an appropriate assessment must be carried out in line with the criteria set by IFC Performance Standard No.6[21]. A long-term biodiversity monitoring and assessment programme must be implemented for these sites.

19 https://www.iucnredlist.org/

20 Technical facilities means electronic communications network equipment and facilities used to originate, process, transfer, transmit or receive electronic communications calls and information signals.

21 https://www.ifc.org/wps/wcm/connect/topics_ext_content/ifc_external_corporate_site/sustainability-at-ifc/policies-standards/performance-standards/ps6

Table 4. **Classification of climate-related hazards**

	Temperature-related	Wind-related	Water-related	Solid mass-related
CHRONIC	› Changing temperature (air, freshwater, marine water) › Heat stress › Temperature variability › Permafrost thawing	› Changing wind patterns	› Changing precipitation patterns and types (rain, hail, snow/ice) › Precipitation or hydrological variability › Ocean acidification › Saline intrusion › Sea level rise › Water stress › Lake Kivu level fluctuation	› Coastal erosion › Soil degradation › Soil erosion › Solifluction
ACUTE	› Heatwave › Cold wave/frost › Wildfire	› Cyclone, hurricane, typhoon › Storms (including blizzards, dust and sandstorms) › Tornado	› Drought › Heavy precipitation (rain, hail, snow/ice) › Flood (coastal, fluvial, pluvial, ground water) › Glacial lake outburst › Landslide-generated tsunamis	› Avalanche › Landslide › Subsidence

3.7.2. Minimum Social Safeguards

Minimum Social Safeguards (MSS) is a set of additional criteria to ensure that activities are also in line with minimum social standards, for example, labour laws, land tenure rights and international human rights commitments. Whilst the Technical Screening Criteria and the DNSH criteria are applied at the activity level, the MSS criteria are applied at the entity level.

Consequently, the entity using the taxonomy must ensure that it does not generate negative social impacts by complying with a list of relevant national and international conventions, laws, and regulations. In practice, the entity must adhere to the appropriate local regulatory framework and national policies and applicable internationally recognised principles and patterns. For the Rwandan taxonomy, the following conventions were identified:

International Labor Organization core conventions:
- Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87)
- Right to Organise and Collective Bargaining Convention, 1949 (No. 98)
- Forced Labour Convention, 1930 (No. 29) (and its 2014 Protocol)
- Abolition of Forced Labour Convention, 1957 (No. 105)
- Minimum Age Convention, 1973 (No. 138)
- Worst Forms of Child Labour Convention, 1999 (No. 182)
- Equal Remuneration Convention, 1951 (No. 100)
- Discrimination (Employment and Occupation) Convention, 1958 (No. 111)

International Bill of Human Rights conventions:
- Universal Declaration of Human Rights (1948)
- International Covenant on Civil and Political Rights (1966)
- International Covenant on Economic, Social and Cultural Rights (1966)

The eligible asset or activity must ensure that it does not have a negative social impact. To this end, it must identify and adhere to the relevant local regulatory framework and policies and have a social management system in place, in accordance with the above list, as applicable.

3.7.3. DNSH and MSS Deficiencies Remediation

If the activity, project or company in question do not comply with DNSH or MSS criteria but otherwise passes relevant technical screening criteria and metrics, it may be considered aligned with the taxonomy if the operating company submits an **additional plan indicating how it will correct the deficiencies within a timeframe of three years from the assessment.**

The plan must be made publicly available on the company's website, including specific milestones to implement the changes and a timeline with intermediate milestones. The plan must be submitted to the Rwandan Taxonomy Steering Committee, which will keep a registry of all plans submitted by companies unable to meet the DNSH and MSS criteria.



4. – Taxonomy Alignment

4. – Taxonomy Alignment

As mentioned, there are two distinct approaches to assess taxonomy-alignment under the Rwandan Taxonomy: one for the assessment of agricultural activities and another one – for the assessment of all other activities. The difference in application is rooted in the difference between industrial activities and agricultural activities: the latter are subject to a much larger number of external factors (climate, soil chemistry, crop types, etc.) and therefore, detailed threshold for practices in the agricultural sector cannot be determined. The two approaches are explained below.

4.1. – Activity Assessment Process: Non-Agricultural Activities

1. **Break down company/project operations into different economic activities**
   To assess the activity's eligibility under the Rwandan Taxonomy, users must first identify the economic activity under the entity or the project to which the taxonomy must be applied.
   The Industrial codes of ISIC-4 can be used for potentially identifying activities.

2. **Align the activities with articles from Section 5 of the taxonomy**
   The user must compare the resulting list of activities of the enterprise/project with the list of eligible activities included in the taxonomy and select those present in Section 5 of the Rwandan Taxonomy.
   If some of the activities are absent, it does not necessarily imply that they are not aligned with the taxonomy. It indicates that the Taxonomy does not currently cover them, so at present, they can't be assessed.

3. **Assess activities' performance against the technical screening criteria**
   The taxonomy user should collect and process data to evaluate the selected activities against the technical screening criteria specified in Section 5 of the Rwandan Taxonomy. Testing alignment with the technical screening criteria requires robust and granular data (please see the metrics and thresholds shown in Section 5), which varies according to the sector the activity falls under. A combination of third-party data providers and in-house research can ease the process.

   As the result of the analysis, the activity may fall into three different categories:

   - An activity that is aligned with the relevant criteria, metrics and thresholds;
   - An activity that is not aligned with relevant metrics and thresholds or falls into the "Ineligibility Criteria" subsections of Section 5 – in this case, the activity is automatically not aligned;
   - Out-of-scope activities that are currently not included in the current version of the taxonomy.

4. **Assess activities for compliance with general and additional requirements**
   The activity must be assessed against the general DNSH principles (Section 3.7.1) and the taxonomy's Minimum Social Safeguards (Section 3.7.2) requirements. After that, the evaluator needs to assess whether the specific additional requirements indicated in the specific taxonomy activity (section 5) are met.
   If the activity does not comply with DNSH or MSS criteria but otherwise passes the relevant technical screening criteria, it may be considered eligible if the operating company prepares an additional plan indicating how it will correct the deficiencies within three years from the date of assessment (see Section 3.7.3).

5. **Make a final decision on the activity's alignment with the Rwandan Taxonomy**

   If the activity is:
   - Included in the current version of the Taxonomy;
   - Meets the relevant screening criteria;
   - Meets general DNSH and MSS criteria (indicated in Section 3.7) as well as specific additional DNSH criteria for certain activities (indicated in the relevant activities articles).

   It is considered **aligned** with the Rwandan Taxonomy.

   If the activity is:
   - Included in the current version of the Taxonomy;
   - Meets the relevant screening criteria;
   - Does not currently meet general DNSH and MSS criteria OR specific additional criteria for the activity, but the activity owner has submitted a remediation plan (see Section 3.7.3)

   The activity is partly **aligned** with the Rwandan Taxonomy.

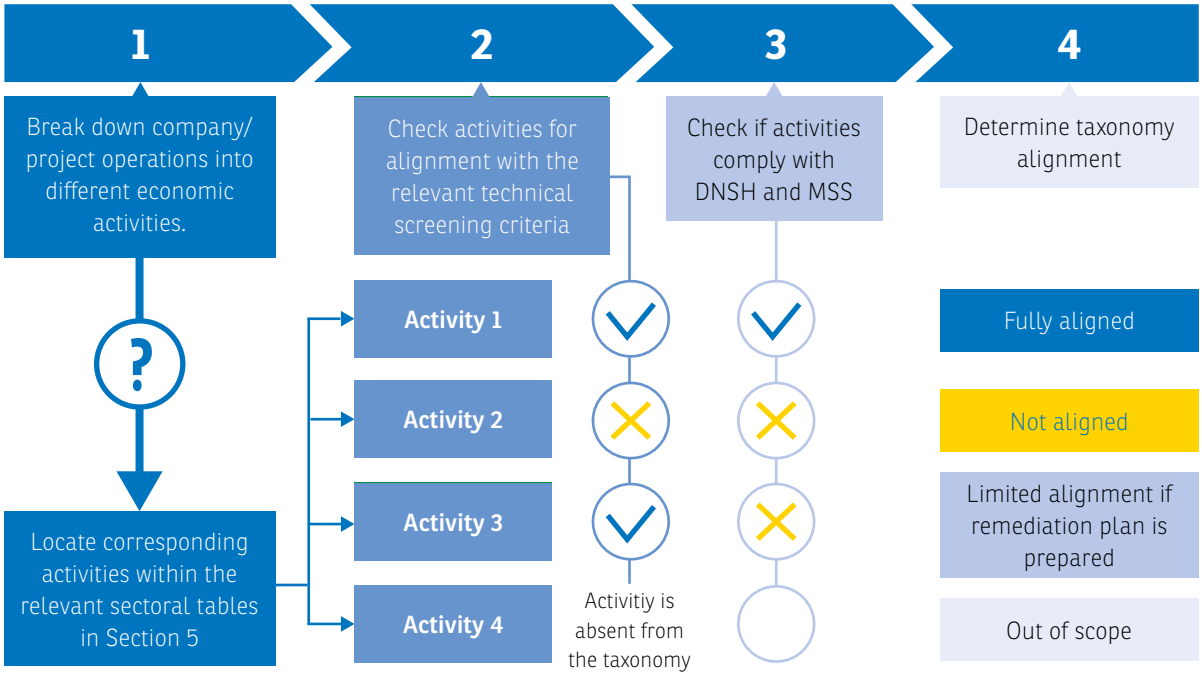

Figure 7. **Rwandan taxonomy assessment scheme: non-agricultural activities**

Note: Under process Step 3 an economic activity needs to comply with both, general DNSH requirements as as well as specific compliance requirements.

4.2. – Activity Assessment Process: Agricultural And Livestock-Related Activities

The agricultural sector in the taxonomy is structured differently from the others. The determination of whether the conditions of the taxonomy are met is based on the application of different agricultural practices and the risks associated with land use in a particular region.

Practices compatible with the taxonomy are divided into three categories: basic, intermediate and advanced. The farm owner should progress from less sophisticated to more sophisticated, with the owner being responsible for determining the current level of the farm. By default, a farm is considered basic until it has all basic practices compatible with the activity type. At that point, the farmer or enterprise can begin to implement more complex practices.

1. **Define the activity to be assessed.**
   The following activities are included under the agricultural sector of the Rwandan Taxonomy:

   - Growing of perennial and non-perennial crops except for tea and coffee (table 5)
   - Growing of tea (Table 6)
   - Growing of coffee (Table 7)
   - Livestock production and management (Table 8)

2. **Select one or more items from tables 5, 6 and 7 for agriculture-related practices or table 8 for livestock-related practices.**
   Only the practices in tables 5, 6, 7 and 8 are eligible as green under the present taxonomy. For an economic activity or asset to be eligible under the taxonomy, at least one sustainable agricultural practice from the ones listed in the tables needs to be selected and included in the Integrated Environmental Management Plan (IEMP)of the project. The practice should be applied throughout the whole farm whose owner is seeking recognition as compatible with the Rwandan Taxonomy. If the practice is only applied to part of the farm, this should be reflected in the IEMP. In this case, only the part of the farm within which the practice was applied is considered compatible with the taxonomy.

3. **Provide proof of compliance with Rwandan national laws and regulations related to the subsector in question.**
   The list of laws and regulations relevant to the project can be found in section 5.1.2.

4. **Provide an Integrated Environmental Management Plan (IEMP)**
   The IEMP document generally includes specific data on the farm, such as its location, size, allotment and farm management plan. The IEMP should be designed or re-designed to include the improvements the farmer or farm owner wishes to make to the farm management plan based on the selected best practice(s) listed in this taxonomy. The IEMP can also be a business plan or other planning instrument where environmental management is integrated. Detailed information on IEMP can be found in section 5.1.3. The plan must include measures to improve the current status of the farm for the practice selected.

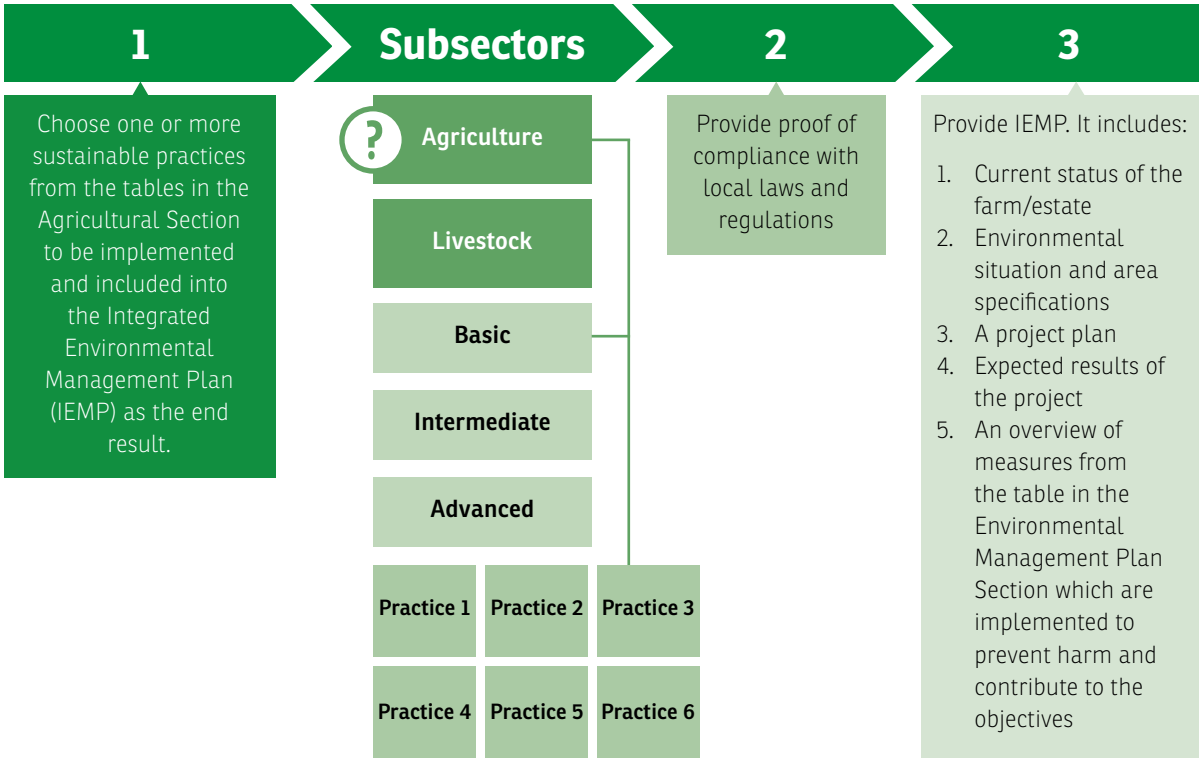

Figure 8. **Rwandan taxonomy assessment scheme: agricultural activities**



5. – Technical Screening Criteria and Thresholds

5. – Technical Screening Criteria and Thresholds



5.1. – Agriculture and Livestock

Agriculture is Rwanda's largest sector of the economy, with 62 % of the working population employed in it[22]. The agriculture sector accounts for 23 % of the national GDP and the largest share of the total emissions of Rwanda's economy (2.94 million tCO_2e, 55 % of the total emissions)[23]. Tea and coffee are the major exports, while bananas, cassava, potatoes, sweet potatoes, maise and beans are the most productive crops used for domestic consumption.

Agriculture is a priority sector in Rwanda's Vision 2050 national development strategy. The vision of the National Agricultural Policy is for Rwanda[24] to become "a nation that enjoys food security, nutritional health and sustainable agricultural growth from a productive, green and market-led agricultural sector". The government aims to replace subsistence farming with fully monetised and technology-intensive commercial agriculture and agro-processing by 2050.

Despite remarkable improvements over recent years, the agricultural sector in Rwanda still faces many challenges[25]:

- Land degradation and soil erosion are significant issues, as approximately 90 % of Rwandan territory is on slopes. This topographical feature leads to soil loss, erosion, and declining fertility, resulting in an estimated annual loss of 1.4 million tonnes of soil. The growing population further exacerbates the problem, leading to fragmented land holdings.

- Rwandan agriculture heavily depends on rainfall, making it vulnerable to climate shocks. The inadequate use of water resources for irrigation adds to the unpredictability of agricultural production.

- Low productivity levels for crops and livestock stem from insufficient input use, suboptimal production techniques, and inefficient farming practices. Although the use of chemical fertilisers experienced growth after the implementation of the Crop Intensification Program by the Government of Rwanda in 2007, adoption rates among farmers remain relatively low compared to neighbouring countries.

- The processing capacity in the country remains weak, resulting in an underutilisation of higher value-added products in the market. The lack of appropriate technologies, expertise, financing incentives, and rural infrastructure contributes to this limitation. Additionally, difficulties in accessing adequate water and energy supplies pose challenges to processing businesses' effective functioning.

The country adopted and developed several regulations and strategies for the agriculture sector, such as Rwanda's Second National Strategy for Transformation (NST2), Rwanda's Green Growth and Climate Resilience strategy, The National Agricultural Policy, which focused on several key priorities in the agricultural sector to achieve sustainable economic growth and development such as: enhancing agricultural productivity; encouraging diversification of crops and agricultural activities to help reduce reliance on a single crop and mitigate risks associated with climate change and market fluctuations; ensuring that agricultural practices are sustainable and environmentally friendly and integrating climate resilience into agricultural planning and practices as a priority to safeguard food security and sustainable development.

22 RPHC4 Thematic Report: Labour Force Participation

23 https://unfccc.int/sites/default/files/NDC/2022-06/Rwanda_Updated_NDC_May_2020.pdf

24 https://www.minagri.gov.rw/fileadmin/user_upload/Minagri/Publications/Policies_and_strategies/National_Agriculture_Policy_-_2018___Approved_by_Cabinet.pdf

25 https://www.fao.org/rwanda/our-office-in-rwanda/rwanda-at-a-glance/en/

5.1.1. Smallholder Farmers

Smallholder farming is the main type of agriculture in Rwanda, accounting for 75 per cent of all holdings. These farms often do not have the capacity to carry out sophisticated technical measurements, as they have relatively low productivity and margins. To allow for usability by smallholder farmers, it was decided to create special reduced requirements for this type of farmers.

A smallholder farm is defined as one with no more than 10 hectares at its disposal (FAO definition[26]).

5.1.2. Eligible Practices and Investments

The diversity of crops and production conditions in the Rwandan context presents a challenge when providing standard guidelines for taxonomy-alignment and the transition to more sustainable agriculture. Based on consultations with experts and recognised literature sources, Tables 3, 4 and 5 present eligible items, resources, farming activities and services covered by the Rwandan Taxonomy. For a project to be aligned with this taxonomy, it must implement at least one practice. If it is the first time the farm introduces sustainable solutions, at least one basic level practice should be included in the Integrated Environmental Management Plan (IEMP). After all basic-level solutions are implemented on the farm (which should be reflected in the IEMP), the owner may seek to introduce intermediate and advanced practices in this specific order.

Additionally, the tables include complementary adoptions, which can be chosen regardless of the farm technological level, the type of production, scale, and other factors (such as opportunities for cost-effective energy reuse, bio fertiliser, river-basin management, etc.).

The tables are organised as follows:

- **Title**. Name of the practice that should be indicated in the IEMP.
- **Description**. General description of the practice to be implemented for alignment with the Taxonomy. It may have a form of the portrayal of the final result or instruction on how to implement a practice. In order to be aligned with the taxonomy, the owner of the activity must implement all practices except from those indicated as "optional". Smallholder farmers must implement all activities except from those indicated as "optional" or "optional for smallholders".
- **Eligible input**. Items, resources, activities and services that can be financed to implement the chosen practice.

Table 5. **Eligible practices for sustainable crop production (general perennial and non-perennial crops)**

Title	Description	Eligible Inputs
BEST PRACTICES		
Crop rotation (in transient or short-cycle crops)	› In short-cycle crops, rotations are carried out according to a periodic programme depending on the region, establishing associated crops for moisture management, fertility and biological activity. Rotation with green manure to improve productivity can also be carried out	› Seeds, seedlings, equipment and labour to enable crop rotation.
Fertiliser management	› Determine the ratio and design a plan for using nitrogen and phosphate products per hectare according to the crop. › Monitor soil fertility and crop nutritional status based on local conditions. › Introduce best practices to optimise productivity, avoiding contamination by excess nutrients. › Preferably use organic fertilisers, if available locally. If non-organic fertilisers are unavoidable, keep in mind that they should be applied in measured doses when and where the crop requires them, avoiding excessive contamination of the environment.	› Fertilisers in measured doses; Fertigation (a technique that allows the simultaneous application of water and fertilisers through the irrigation system); fertiliser application equipment and materials that allow timely and efficient dosage (hardware and software).

26 https://www.fao.org/family-farming/detail/en/c/273864/

Title	Description	Eligible Inputs
Pest and disease control	› Apply Integrated Pest Management[27] for pest and weed control. **(! optional for smallholders !)** › When introducing natural enemies, use bio-inputs, bio-pesticides, and bio-fertilisers for organic production and biocontrol. › A minimum amount of chemical pesticides shall be used to avoid biodiversity loss **(optional)**. › Use autonomous, laser-based weed eliminators to cut the use of herbicides **(optional)**.	› Inputs for biological and physical pest and disease control, e. g., repellent plant seeds, traps or nets; laser-based weed eliminators
Soil conservation	› Carry out conservation agriculture practices such as minimum soil preparation or tillage with permanent soil cover and green manures. › On sloping soils, planting on contour lines through terracing, deep-rooting mulching or other methods. › Maintain soil biomass cover on at least 80 % of the farm. › Applying techniques of radical or progressive terraces against erosion and improving efficient use of land for increased productivity	› Seeds, fertilisers, and light equipment for soil protection works › Cover crops › Living mulch › Terraces construction
Water management	› Improve crop water productivity by comparing documented water yields per hectare by crop type. › Introduce water use efficiency measures in water supply, irrigation and storage. › Prevent water pollution with organic or chemical residues. › Avoid excessive crop water-logging with better drainage.	› Technologies for improvement of irrigation, storage, drainage systems, water remediation and treatment systems. › Installation of efficient water management systems (rainwater harvesting systems, water rationing and water recycling) › Establishment of individual/community-based pumping systems associated with small-scale irrigation systems with solar energy powered with water-saving technology like drip irrigation.
INTERMEDIATE PRACTICES		
Waste management and treatment of water contaminated with organic wastes	› Adequately collect, recycle, clean and dispose containers of pesticides and chemicals. › Use post-harvest residues in the plantation. › Develop a contaminated water treatment system to treat waste and nutrients.	› Equipment, tools, inputs and labour.
Water harvesting technologies	› Harvest rainwater to keep it for agriculture and livestock while fighting erosion. › Improve solar energy use in irrigation to combat the effect of drought. **(! optional for smallholders !)**	Knowledge, skills and equipment

27 https://www.epa.gov/safepestcontrol/integrated-pest-management-ipm-principles

Title	Description	Eligible Inputs
Organic or green manures (use of mulching)	› Substitute synthetic fertilisers with fertilisers prepared from organic material, such as crop residues, pruning, manure, grass, etc. › Introduce green fertilisers, such as beans, crotalaria, canavalia, etc.	Equipment, material, tools and inputs (e. g., compost bins, seedlings, labour, vermicompost).
ADVANCED PRACTICES		
The shift from transient crops or pasture to agroforestry systems (e. g. fruit or forestry) and agroforestry systems	› Shift land use towards systems with higher carbon sequestration (such as agroforestry systems), with better soil protection and unity with its vocation.	› Seeds, seedlings, material for nursery development, and other inputs (equipment and labour).
Introduction of polycultures or intercropping of permanent crops	› Introduce polycultures or crops associated with compatible species (preferably native timber, banana or fruit trees) protects the soil, increases carbon and nitrogen fixation, diversifies production and increases resilience to climate variability.	› Seeds, seedlings, material for nursery development, and other inputs (equipment and labour).
Improvement of genetic material in seeds and reproductive material. Biotechnology in Agricultural Production Chains	› Use improved seeds[28] and newly developed germplasm to increase yields and resilience to climate variability (these already exist for rice, maise, beans and cassava). › Use biotechnology to produce agricultural inputs derived from residual crop biomass (e. g., bio fertilisers and bio fungicides) and develop extracts and oils with pharmaceutical, food, cosmetic, and industrial applications. **(! optional for smallholders !)**	Inputs of these materials and technical assistance.

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Title	Description	Eligible Inputs
COMPLEMENTARY ADOPTIONS		
Nature-based solutions (NBS) for water resources management	Apply nature-based solutions (NBS) for water resources management involve using ecosystem services to improve water quantity and quality and increase resilience to climate change. Including measures to help prevent and protect against floods or droughts.	› The activity is identified as a flood risk reduction or a drought risk reduction measure in a water use and protection management plan at a river basin scale. › The activity identifies and addresses the risks of environmental degradation related to the preservation of water quality and the prevention of water stress and deterioration of the status of affected water bodies to achieve good water status and ecological potential. › The activity includes nature restoration or conservation actions demonstrating specific ecosystem co-benefits, which contribute to achieving good water status. Local stakeholders are involved from the outset in the planning and design phase. The activity is based on the principles outlined by the IUCN Global Standard for nature-based solutions. **Note 1**: the activity considers National Biodiversity Strategies and Action Plans for setting nature conservation and restoration targets and describing the measures to achieve these targets. **Note 2**: A monitoring programme is in place to evaluate the effectiveness of a nature-based solution scheme in improving the status of the affected water body, achieving the conservation and restoration targets and adapting to changing climate conditions.
Parametric insurance for mitigating climate risks	Use parametric insurance or insurance based on climatic indexes are contracts that stipulate compensation based on specified climatic events (hurricanes, floods, among others).	Insurance based on climatic indexes
Capacity building on sustainable agriculture models	Strengthen training and capacity building of farmers on sustainable agriculture models.	Reinforcement of capacity building programmes on sustainable agriculture models; promotion of technological development agreements with the private sector and human capital formation; training on green business.
Biodigesters	One of the two applies: › Produce fertiliser and biogas from manure and other organic waste. › Create collection and concentration areas for manure for players who would like to have large-scale biodigesters by collecting from smaller-scale farms and farmers	Biodigesters, equipment and installation, technical and managerial advice

Title	Description	Eligible Inputs
Energy saving and clean energy	› Improve energy efficiency and use renewable sources, for example, biogas and solar energy. › Ensure adequate maintenance of equipment and improve energy efficiency. › Replace traditional hydrocarbons-fuelled agricultural machinery with biogas-fuelled or electricity-fuelled **(! optional for smallholders !)**	› Installation of renewable energy systems. › Equipment maintenance services to improve efficiency. › Procurement of biogas/electricity-based agricultural machinery.

Table 6. **Eligible practices for sustainable coffee production**

Title	Description	Eligible Inputs
BEST PRACTICES		
Soil conservation	› Use minimal tillage or soil movement leads to as little soil disturbance as possible. › Use mulching to keep soil moisture and increase fertility. › Plant soil cover crops for soil fertility, water and soil humidity retention	› Ratchet, mechanical or animal-drawn seed drills and planting sticks. Mulch, crop residues, cover crop seeds
Fertiliser management	› Incorporate good practices to optimise productivity, avoiding contamination by excess nutrients. › Prefer organic fertilisers; these should be applied in specific doses when and where the crop requires it, avoiding loss and contamination of the environment.	› Ferti-irrigation (technique that allows the simultaneous application of water and fertilisers through the irrigation system › Fertiliser application equipment and materials that allow timely and efficient dosage (hardware and software).
Pest and disease control	› Introduce live fences. These contribute to the functional diversification of agroecosystems, thereby increasing biological pest control and pollination and decreasing the use of pesticides. Live fences should be planted with a distance between trees of 3 to 5 metres, depending on the species and the canopy size of the adult tree.	› Planting material, native seedlings and seeds.
INTERMEDIATE PRACTICES		
Waste management and treatment of water contaminated with organic wastes	› Use residues and waste recycling products: coffee residues as raw material for production processes (husk or parchment). › Use the various technologies available for post-process water treatment, reuse, and use of honey water for fertigation or biogas.	› Substrate utilisation systems – organic fertiliser, systems for channelling honey water for ferti-irrigation. › Piping for biodigesters, wastewater plants and technologies produced by the wet processing of coffee.
Organic or green fertilisers	› Use organic fertilisers (compost beds). Organic fertilisers and biofertilisers positively affect soil fertility because they contribute to remedying immediate, medium or long-term nutritional deficiencies.	› Composting beds, vermicompost, tanks and preparation equipment.

Title	Description	Eligible Inputs
ADVANCED PRACTICES		
Introduction of polycultures or intercropping of permanent crops	› Growing shade coffee with associated crops of native timber species generates additional income and facilitates the restoration of ecosystem services and pest reduction. Planting distances for permanent shade vary between 12 and 15 metres. A coffee agroforestry system is considered under shade when the interception is above 45 % (50 shade trees per hectare) and 25 % (20 trees). It depends on climate and slope.	› Seedlings and seeds of native timber species.
Improvement of genetic material in seeds and reproductive material. Biotechnology in Agricultural Production Chains	› Sow a wide variety of seeds and clones (variety selected depending on the region where the crop is established). › Replace old trees with improved varieties that are more adapted, resistant and can maintain the expected yield production	› Seeds and clones of improved varieties, resilient to climate variability and pests
COMPLEMENTARY ADOPTIONS		
Biodigesters	› Incorporate biodigesters (organic fertiliser and methane). Biogas can be used as fuel in kitchens, for heating and lighting, or to power an engine to generate electricity.	› Biodigester equipment, geomembranes, tanks, channels, and electric methane generators.
Energy saving and clean energies	› Incorporate biogas generators into biodigesters to support the farm's demand for energy and gas, incorporate photovoltaic equipment for electricity generation, operation and management of the coffee mill, also consider wind power generation on identified hillsides or areas (wind), as well as small hydroelectric (micro-hydro) power generators in nearby streams. › Replace traditional hydrocarbons-fuelled agricultural machinery with biogas-fuelled or electricity-fuelled **(! optional for smallholders !)**	› Bioenergy generators, complementary equipment and installations, solar panels, batteries and installations, wind power equipment, hydroelectric generation, complementary equipment and installations with low energy consumption, and biogas/electricity-based agricultural machinery.

Table 7. **Eligible practices for sustainable tea production**

Title	Description	Eligible Inputs
BEST PRACTICES		
Soil conservation	› Use minimal tillage or soil movement leads to as little soil disturbance as possible. › Use mulching to keep soil moisture and increase fertility. › Plant soil cover crops for soil fertility, water and soil humidity retention	› Ratchet, mechanical or animal-drawn seed drills, planting sticks, pruning tools, cover crops seeds and mulch (vegetal or artificial).
Fertiliser management	› Incorporate good practices to optimise productivity, avoiding contamination by excess nutrients. › Prefer organic fertilisers; these should be applied in specific doses when and where the crop requires it, avoiding loss and contamination of the environment.	› Ferti-irrigation (the technique that allows the simultaneous application of water and fertilisers through the irrigation system), fertiliser application equipment and materials that allow timely and efficient dosage (hardware and software), use leguminous species, which will help to improve nitrogen availability.
Pest and disease control	› Where severe pest infestations can occur, seek advice on Integrated Pest, Disease and Weed Management.	› Biological control inputs, mechanical tools and traps.
INTERMEDIATE PRACTICES		
Waste management and treatment of water contaminated with organic wastes	› Use of residues and waste recycling: tea prunings as raw material for mulching or organic fertilisers. › Use of the various technologies available for post-process water treatment water reuse.	› Substrate utilisation systems – organic fertiliser, technologies for the treatment of wastewater.
Organic or green fertilisers	› Use of organic fertilisers (compost beds). Organic fertilisers and bio fertilisers positively affect soil fertility because they contribute to remedying immediate, medium- or long-term nutritional deficiencies.	› Composting beds, vermicompost, tanks, and preparation equipment.
ADVANCED PRACTICES		
Introduction of polycultures or intercropping of permanent crops	› Conservation of a wide range of plant and animal species on farms and adjacent areas helps maintain the natural balance, which should support future generations of farmers. Growing a range of crops will support biodiversity (and provide alternative income or food if the profit on tea is low).	› Seedlings and seeds of native species.

Title	Description	Eligible Inputs
Improvement of genetic material in seeds and reproductive material. Biotechnology in Agricultural Production Chains	› Sow a wide variety of seeds[29] (type selected depending on the region where the crop is established) or use a variety of clones.	› Seeds or clones of improved varieties are resilient to climate variability and pests.
COMPLEMENTARY ADOPTIONS		
Biodigesters	› Incorporate biodigesters (organic fertiliser and methane). Biogas can be used as fuel in kitchens, for heating and lighting, or to power an engine to generate electricity.	› Biodigester equipment, geomembranes, tanks, channels, and electric methane generators.
Energy saving and clean energies	› Incorporate electric biogas generators into biodigesters to support the farm's demand for energy and gas, incorporate photovoltaic equipment for electricity generation, operation and management of the farm and surrounding community, also consider wind power generation on identified hillsides or areas (wind), as well as small hydroelectric power generators in nearby streams. › Replace traditional hydrocarbons-fuelled agricultural machinery with biogas-fuelled or electricity-fuelled (! optional for smallholders !)	› Bioenergy generator, complementary equipment and installations, solar panels, batteries and installations, wind power equipment, hydroelectric generation, complementary equipment and installations with low energy consumption, biogas/electricity based agricultural machinery.

Table 8. **Eligible practices for sustainable livestock production**

Title	Description	Eligible Inputs
BEST PRACTICES		
Efficient management and protection of water sources	› Collect, store, and conserve water to provide livestock with a clean and reliable source during seasonal and climatic variations. › Harvest water and build livestock aqueducts.	› Drinking troughs, hoses, floats, buoys, pumps, storage tanks and piping.
Water management	› Protect natural water sources from direct access by livestock, e.g. by isolating riparian forest areas, planting native species for stream restoration, preventing diversion of rivers and streams, and preserving springs and wetlands.	› Plant and seed material

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Title	Description	Eligible Inputs
Crop residues utilisation	› Crop residue utilisation in livestock feeding is an essential climate-smart agricultural practice, especially for farmers doing integrated crop production and livestock.	› Crop residue utilisation in livestock feeding
Livestock health improvement	› Younger animals are more efficient at producing all products of interest to humans and produce less methane per unit of output than older and sicker animals. Keeping herds in good condition and looking after their health and well-being helps to reduce emissions and increase farm sustainability.	› Medical programmes, medicine, veterinary services
Reducing methanogens and improving animal diet	› Incorporate a reasonable share of carbohydrates in a cattle diet, increasing feed intake, and not exceeding indicated rates according to specialised technical assistance. › Process forages and offer a diet that includes unsaturated fat to contribute to reducing methanogens or other microbes involved in methanogenesis. The same can be achieved through immunisation against methanogens, the use of special feed additives and general changes in a cow's diet. › Incorporate 3-nitrooxypropanol into the animal diet to reduce the emission of CH4 (! optional for smallholders !)	› Carbohydrates, dietary supplements, immunisation materials, technical expertise
INTERMEDIATE PRACTICES		
Pasture and fodder management	› Improve the quality and quantity of pastures and forages with nutritional and metabolic benefits for livestock. In stable native pastures, allow natural regeneration by rotational grazing. Where conditions are more degraded, introduce new grasses and varieties of grasses and legumes to increase forage supply. Incorporate shrubs and trees that provide browseable (edible) fruits and leaves for livestock, accelerating soil recovery and favouring the wildlife population. › If pasture cover is less than 80 % of the land and there is minimal tree and shrub cover, the soil is considered degraded. With pasture and forage management, an increase in average annual yield of at least 30% per hectare is expected within three years compared to the baseline scenario, using the supply calculation based on gauging (i.e. in kg dry biomass per m^2 per year).	› Intermediate Practices › Purchase and sow seeds of improved or natural varieties of grasses and native creeping legumes, selected according to soil and climatic conditions in the region. Network of nurseries (including on-site nurseries) of native or focal tree material for protection. Equipment for planting trees and shrubs. › Soil suitability with composted material › Irrigation systems

Title	Description	Eligible Inputs
Organic and green manures, manure and effluent utilisation	› Apply good management of manure, urine and other organic residues (especially on specialised dairy farms) under a manure management plan. › Use cover crops (e. g. buttercup) and crops (sorghum, maise, potato) as green manure. › Instant dung loads on grassland and fodder trees and shrubs promote soil biodiversity (e.g., dung beetles, earthworms, etc.); incorporating faeces and urine fertilises and decompacts the soil.	› Equipment, material, tools and inputs (e. g. composting, seedlings, seeds, labour, vermicomposting).
Animal welfare (excluding health aspects)	› Following the above practices provides a favourable environment for livestock through sufficient and varied diet, shade, accessible watering places, natural windbreaks, vaccination for livestock and space for herd social activities.	› Technical assistance on animal welfare, vaccination, and related inputs.
ADVANCED PRACTICES		
Live fences	› Establish lines of trees or shrubs to delimit a property in place of poles; this provides by-products such as fodder, firewood, timber, flowers for honey, fruit, etc. Based on experience, the recommended distance between trees is 3 metres or more for wide canopy species.	› Seeds, seedlings, planting, pruning equipment, and inputs for tree care.
Scattered paddock trees	› Strengthen the presence of trees by natural regeneration or direct planting that provides shade and feed for livestock. › Ensure the maintenance of the development of the trees. This practice protects pastures and crops from the wind, increases decompaction and nutrient recycling, strengthens organic matter, biogenesis, and runoff and prevents wind erosion. Based on successful projects, minimum density of 30 trees per hectare in the low and middle tropics and up to 25 trees per hectare in the high tropics, with a minimum height of 2 metres, are recommended.	› Network of nurseries and dissemination of native species at the territorial level. › Awareness-raising in the management of material identification, planting and pruning for the formation of plant material.
Fodder hedges	› Plant shrub species at high densities in linear rows act as fodder for livestock while retaining soil and soil moisture. They are often combined with live fences in the division of paddocks.	› Planting of hedges of proven species (e. g. Leucaena leucocephala, Tithonia diversifolia, and guasima, among others). › Drought-tolerant fodder crops › Fodder conservation by: » Silage technology » Hay technique » Hydroponic fodder systems

Title	Description	Eligible Inputs
Mixed fodder banks	› Designate an area of the farm where forage material is sown to feed livestock throughout the year, which can be "saved" and conserved for use during critical periods (such as storms and droughts) that affect pasture production on the farm. › In this area, intensive crops are established in which herbaceous, arboreal and shrub species of high nutritional value are associated with obtaining high-quality fodder rich in proteins, minerals, sugars, fibre and vitamins for animal feed.	› Planting of fodder, materials, equipment and labour for storage, including inputs for hay and other forms of fodder conservation.
Capacity building on sustainable livestock models	› Strengthen training and capacity building of farmers on sustainable livestock models, including through farmers' field schools.	› Reinforcement of capacity-building programmes on sustainable livestock models; promotion of technological development agreements with the private sector and human capital formation.
Improved breeds	› Use genomic-based cattle improvement to contribute to the increase of productivity, resiliency and reduction of GHG.	› Genome mapping, breeding programmes.
Intensive silvopastoral systems (SSPI)	› Encourage a more integrated agroforestry arrangement, combining the abovementioned practices, such as forage hedges and trees in high densities under fixed rotation patterns. › Fodder banks, mixed fodder banks, and fodder hedgerows are arrangements that allow for a greater variety of species, high protein benefits, nutrient recycling, soil moisture retention and promote biodiversity.	› Purchase and plant species proven in Rwanda in various regions and conditions (e. g. Leucaena), adaptation of paddocks, watering troughs and related inputs.

Title	Description	Eligible Inputs
COMPLEMENTARY ADOPTIONS		
Nature-based solutions (NBS) for water resources management	› Use nature-based solutions (NBS) for water resources management involve using ecosystem services to improve water quantity and quality and increase resilience to climate change, including measures to help prevent and protect against floods or droughts.	› The activity is identified as a flood risk reduction or a drought risk reduction measure either in a water use and protection management plan at a river basin scale. › The activity identifies and addresses the risks of environmental degradation related to the preservation of water quality and the prevention of water stress and deterioration of the status of affected water bodies to achieve good water status and ecological potential. › The activity includes nature restoration or conservation actions that demonstrate specific ecosystem co-benefits, which contribute to achieving good water status. Local stakeholders are involved from the outset in the planning and design phase. The activity is based on the principles outlined by the IUCN Global Standard for nature-based solutions. › Note 1: the activity takes into account National Biodiversity Strategies and Action Plans for the setting of nature conservation and restoration targets and for the description of the measures to achieve these targets. › Note 2: A monitoring programme is in place to evaluate the effectiveness of a nature-based solution scheme in improving the status of the affected water body, achieving the conservation and restoration targets and adapting to changing climate conditions.
Parametric Insurance for mitigating climate risks	› Parametric insurance or insurance based on climatic indexes are contracts that stipulate compensation based on the occurrence of specified climatic events (hurricanes, floods, among others).	› Insurance based on climatic indexes.
Biodigesters, aquatic plant and aquaculture channels, oxidation ponds, composting and vegetative systems	› Integrated management of manure and urine from livestock barns and enclosures with biodigesters, composting, and other technologies, thus avoiding pollution and minimising methane emissions. Produce gas, fertilisers, and compost from manure and other organic waste.	› Biodigesters, aquaculture equipment, supplies and installation.
Clean energies (solar, wind, gravity) and energy efficiency	› Harness renewable energy sources, such as photovoltaic cells and biogas from biodigesters. Optimise the use of energy and fuels in equipment and machinery with good maintenance and usage control.	› Gas-fired generators derived from biodigesters; photovoltaic and wind power systems.

5.1.3. Local Regulations Compliance

To be eligible under the present taxonomy, the project and all activities and practices within it must comply with relevant local laws and regulations, including, but not limited to, the ones enumerated below (if applicable).

Environment protection:
- Law No 001/2023 of 13/01/2023 governing national parks and nature reserves
- Law N° 43/2013 OF 16/06/2013 Governing Land in Rwanda
- Environmental Organic Law

Fertiliser policy:
- National Fertiliser Policy of Rwanda

Water Policy:
- Rwanda National Water Resources Master Plan
- National Policy for Water Resources Management

Waste Policy:
- Law N°48/2018 of 13/08/2018 on environment

Livestock:
- National Wetlands Management Policy

5.1.4. Integrated Environmental Management Plan (IEMP)

After selecting eligible farming activities or inputs and providing proof of compliance with Rwandan laws, the owner of the project must submit an IEMP. The IEMP outlines the path of transition that the farm plans to take from its current state to its future climate-resilient and sustainable state by implementing one or more practices from tables 5, 6, 7 and 8.

IEMP is aimed at preventing environmental damage and maximising benefits through the implementation of integrated and complementary solutions. IEMP does not have any pre-defined outline and may have any structure if it contains the following information:

- **Objective of the transitional project**: to implement a new venture, improve productivity, reduce risks or other. This section must include at least one practice from tables 5, 6, 7 and 8

- **Current situation on the farm**: The assessment incorporates the distinctive features of the area, accompanied by supportive maps. This encompasses information about the natural environment, such as the presence of priority ecosystems nearby. Additionally, it includes details about the production model yields, as well as the challenges and opportunities present in the area.

  - What natural resources (soil quality, vegetation, water sources, etc.) are available on your farm and in the surrounding area? Is there an inventory of biodiversity in the area?

  - Share details about the fertilisers and pesticides you use and how you justify their use. What kind of fertilisers are used, how and why? What amount of fertiliser per square metre is needed for your farm based on soil, climatic conditions and crop type?

  - Provide climate-relevant data. Do you have any data on climate vulnerability or greenhouse gas emissions associated with your farm?

  - Explain how you integrate conservation practices into your production methods.

  - Expected results: impact indicators, such as productivity gains, efficiency in the use of natural resources and other metrics of improvements.

- **The nature of transition**: what changes will be implemented throughout the project, what input will it require, and what will be the consequences for the area and the environment?

- **Expected results of the project**: what is expected to be achieved by implementing the project.

- **Environmental damage prevention**: what measures from table 9 have been taken to mitigate risks associated with the implementation of the project and provide protection of natural resources, ecosystems and biodiversity; what measures from the table below have been taken to contribute to the general objectives of the taxonomy?

Table 9. **Environmental management measures table**

	Biodiversity and Ecosystem Management	Land Management	Water Resources Management
Resource Protection	DAMAGE PREVENTION MEASURES		
	Avoid habitat modification: burning, felling or fragmentation of natural vegetation. Protect areas of natural forest. Set aside at least 40% of the forest for regeneration or conservation.	Prevent physical degradation, e.g. erosion and soil compaction	Protect riparian corridors, wetlands and other water bodies. Demonstrate consistency with watershed, wetland and other water resource management plans
	Avoid the introduction of non-native species or species with invasive tendencies with the capacity to displace native species. Native species are allowed. Naturalised species with proven benefits in restoration programmes are allowed.	Prevent chemical degradation, e.g. salinisation, acidification, alkalinisation and pollution.	Control pollution of watercourses and water bodies for the content of sediments, nutrients and agrochemicals
	Control the use of agrochemicals (fertilisers and pesticides), as, in excess, they cause the decline of populations of beneficial organisms in terrestrial and aquatic ecosystems.	Avoidance of biological degradation, e.g. loss of organic matter, imbalance of biological activity and mineralisation processes	Regulating the volume of water abstracted and returned to natural sources, improving the efficiency of use per unit of production.
Restoration and Promotion	OBJECTIVES CONTRIBUTION MEASURES		
	Increase species diversity and abundance, seeking to connect non-degraded fragments and recover already attenuated areas under a biological corridor and buffer zone approach. Involve planting and maintenance of vegetation: trees, shrubs, mangroves and other natural ecosystems.	Use techniques that allow minimum disturbance (reduction or elimination of tillage, biomass removal, overgrazing). Improve soil structure and porosity. Use deep-rooted species	Reforest and restore water catchment, water regulation and microclimate zones. Restore, rehabilitate or recover streams, springs and wetlands. Identify the specific area to be restored. Where applicable, use assisted and natural regeneration activities, especially by eliminating barriers and threats to their growth.
	Encourage the use of native species or species compatible with the original habitat. Combat pre-existing invasive species without deteriorating the biological balance	Technical moisture management in vulnerable areas (dry and eroded).	Use sediment, nutrient and agrochemical control technologies and methods. Restore sloping land through works and planting on contour lines, barriers and living cover.
	Strengthen practices that allow the rational use of nutrients and the biological control of pests, diseases or parasites, promoting the development of desirable organisms that act as natural predators, decomposers and parasitoids.	Enrich soil fertility, maintain vegetation cover, implement crop rotation and diversification, and use organic fertilisers or agroforestry systems. Measure organic matter content and biological activity as indicators of fertility.	Promote efficiency through identifying and optimising sources of water used. Check and regularly verify consumption, losses and yields–Technify irrigation and drainage. Promote water harvesting where justified. Indicate the efficiency target in land planning.

Climate Action: Adaptation	Improve the resilience of ecosystems to climate variability and enhance their climate regulating services (e. g. by protecting mangroves, forests, and wetlands). Reduce pressure on the biological balance and its climate resilience. Use climate-tolerant agricultural varieties, breeds and forest species.	Prevent landslides and floods in high rainfall cycles. Prevent wind erosion. Reduce desertification and other forms of climate degradation.	› Increase the stabilisation of aquifer recharge areas. Reduce the sedimentation potential of reservoirs that allow water regulation. › Adjust water planning criteria according to the assessment of climate scenarios and their adaptation to applicable climate adaptation plans. › Protect and optimise water supply for other uses, such as protecting ecological minimum flows (for freshwater and coastal ecosystem functions), especially in periods of water scarcity. › Manage runoff in times of excessive precipitation.
Climate Action: Mitigation	Increasing the use of higher carbon fixing plant species. Protection of forests, coastal and marine habitats (blue carbon). Introduction of agroforestry systems, reduction of methane emissions in agricultural waste management. Reducing emissions from biomass burning.	Increase and sequester carbon above and below ground, e. g. through good tillage practices and cover with improved pastures and woody species in livestock systems. Decrease NO2 emissions in fertilised soils.	Reduce methane emissions in treatment plants and water-intensive crops (e. g. rice, coffee).



5.2. – Construction

Rwanda is one of the most densely populated countries in Africa with 445 people per square kilometre. In addition, Rwanda is facing high population growth of 2.4 % per annum in 2014, with an average urbanization growth rate of 6.4 % per year[30]. Urbanization and human settlements in Rwanda face a threat from climate change due to the increase in temperature and how it affects population health and the demand for essential services[31]. Green building design and construction offers an opportunity to use resources more efficiently, use locally sourced materials, improve construction techniques, and create job opportunities for a sector that plays an important role in the country's economy both in its contribution to the national economy and employment creation.

Being one of the key drivers in Rwanda's economy, the construction sector has several environmental impacts associated with its activities, related to the emissions of GHG from extraction, transport and building of materials, land use change for construction areas, misuse of built areas and low preservation methods of existing green areas of surrounding buildings. The highest contributors of GHG emissions in the sector are city buildings due to the high density of human settlements and the related higher energy consumption levels. Therefore, energy efficient design is required for buildings in major and secondary cities in Rwanda, while considering local country factors in the design:

- Topography of each region.
- Two dominant seasons (the wet and dry).
- Local sources of rich minerals for green materials.
- Means to recycle the scarce resources.

Given the relevance and impact of the construction sector, decarbonizing it is essential to achieve the established climate commitments. In this sense, the ambition is to ensure zero net emissions throughout the life cycle of buildings and for this it will be necessary to address the emissions associated with the operation of the building (energy consumption in lighting, appliances, air conditioning, among others) and emissions during the life cycle of the project, including emissions associated with materials, its transport and construction processes (e. g. electrification through renewable sources).

This ambition must be achieved considering the regulations of the country and its corresponding jurisdictions: The National Green Growth and Climate Resilience Strategy for climate change and low carbon development adopted in 2011, followed by the National Urbanization Policy[32] (2015). The National Roadmap for Green Secondary City Development[33](2015), the National Urbanization Policy (2015) and the latter approved Rwanda Green Building Minimum Compliance System[34] (2019). The policies and strategies aim as well to support good urban development, enhance local and national economic growth, and ensure a good quality of life for all citizens.

The construction sector in the Rwandan Taxonomy aims to achieve green urbanisation and low-carbon urban settlements, and the ambition is to ensure net zero emissions for both building construction and operation. The International Energy Agency, the World Council for Sustainable Construction, and other scientific bodies have established roadmaps for the construction sector to align with the goals of the Paris Agreement. This involves ensuring that all new buildings achieve operational net zero emissions by 2030 and all building stock (new and existing buildings) achieve operational and embedded net zero emissions by 2050.

30 https://gggi.org/wp-content/uploads/2017/12/National-Roadmap-for-Green-Secondary-City-Development.pdf

31 https://climatepromise.undp.org/sites/default/files/research_report_document/undp-ndcsp-rwanda-ndc2-2020.pdf

32 https://bpmis.gov.rw/asset_uplds/files/National%20Urbanization%20Policy.pdf

33 https://gggi.org/report/24716/#:~:text=The%20National%20Roadmap%20for%20Green,Development%20and%20Poverty%20Reduction%20Strategy.

34 https://gggi.org/wp-content/uploads/2019/07/Annex-3-Rwanda-Green-Building-Minimum-Compliance-System-REVISED.pdf

Climate change mitigation in buildings is directly associated with the energy efficiency of the asset, as operational emissions are linked to energy use for lighting, heating/air conditioning, domestic hot water, and home appliances, among others.

5.2.1. Construction of New Buildings

The construction of new buildings designed with sustainability criteria guarantees energy savings and minimises CO_2 emissions during their life cycle. It also promotes the efficient use of natural resources and sustainable materials, as well as waste recycling. This activity can make a substantial contribution to the mitigation of climate change compared to buildings of conventional design, representing an opportunity also for the implementation of generation and storage systems of non-conventional energy sources.

ISIC Codes: 4100

Eligibility Criteria

For the construction of new buildings[35], the activity must meet at least **one of the following** eligibility criteria to make a substantial contribution to climate change mitigation:

- The new building has **one of the following** certifications:
  - LEED Gold or Platinum together with a 30 % improvement above the levels in ASHRAE 90.1
  - EDGE (EDGE Certified, EDGE Advance, Zero Carbon)
  - Net zero & Living Building Challenge Certified
  - BCA Green Mark Certification – GoldPlus or Platinum level

Note 1: Any building that is certified under any of the proxies approved by the Climate Bonds Initiative (CBI) is eligible as well.

Note 2: Examples of methodologies for estimating the energy performance of buildings are:

- IPMVP – International performance measurement and verification protocol: describes different methods to determine the water and energy savings of energy efficiency projects.
- Clean development mechanisms (CDM): definitions and calculation methods for the development of baselines, together with monitoring techniques. Focus on energy efficiency measures.
- ISO 50001 Energy Management Systems: Proposes a framework for implementing technical and management strategies to reduce energy consumption and GHG emissions.

- The activity must comply with the Rwanda Green Building Minimum Compliance System[36] and achieve a minimum score of **80 points** from the energy module. This is applicable for new Category 4 & 5 buildings as per the Ministerial Order Determining Urban Planning and Building Regulations[37]. The indicators are applicable for:
  - Commercial buildings (excluding warehouses and retail shops) Public administrative and institutional buildings (excluding correctional services, police, fire department)
  - Social, cultural & assembly buildings
  - Health facilities
  - Educational buildings (excluding living areas for students)
  - Residential developments [38]

- The activity must demonstrate that operational emissions from buildings are below 23 $kgCO_2e/m^2$ by 2028. This threshold must be reviewed periodically to comply with decarbonisation trajectories for the construction sector (CRREM – The Carbon Risk Real Estate Monitor[39] – Intensity Pathways) (**transition activity**).

35 Applies to residential buildings as well as commercial and service buildings.

36 https://gggi.org/wp-content/uploads/2019/07/Annex-3-Rwanda-Green-Building-Minimum-Compliance-System-REVISED.pdf

37 https://gazettes.africa/archive/rw/2019/rw-government-gazette-dated-2019-04-16-no-special.pdf

38 Although the green building minimum compliance system is not mandatory for residential developments, willing building owners and real estate developers are encouraged to adopt as applicable on a voluntary basis the green building minimum compliance system to meet sustainable development targets (Republic of Rwanda, 2019). Residential buildings that adopt this system are expected to comply with the defined threshold of a minimum score of 80 points from the energy module to be consider aligned with the taxonomy.

39 https://www.crrem.eu/

Note: Where applicable, please refer to existing national standards that may provide **useful guidance** and information in line with green construction. The list below are standards that may be referred to and provide additional guidance:

- RS ISO 15392: Sustainability in buildings and civil engineering works – General principles
- RS ISO 21929-1: Sustainability in building construction – Sustainability indicators – Part 1: Framework for the development of indicators and a core set of indicators for buildings
- RS ISO 37101: Sustainable development in communities – Management system for sustainable development – Requirements with guidance for use
- RS ISO/TS 12720: Sustainability in buildings and civil engineering works – Guidelines on the application of the general principles in ISO 15392.
- ISO 23045, Building Environmental design: guidelines to assess the energy efficiency of new buildings.
- ISO 16817, Building Environment Design-Indoor Environmental design process for Visual environment.

Ineligibility Criteria

- Buildings must not be used for the extraction, storage, transportation, or manufacture of fossil fuels.
- Energy for building operations must not come directly from fossil fuels (e. g., diesel-based power plants).

Note:

- Power generation plants as backup sources in case of failure of the electrical network and micro-cogeneration systems based on low-carbon energy (refer to the energy sector) can be part of the building services.
- Information may be requested from the responsible builder stating that the buildings will not be used for the extraction, storage, transport or manufacture of fossil fuels and that the energy for the operation of the building does not come directly from fossil fuels except for the cooking of food and power plants.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Water

- All water appliances (e. g., showers, sink and dishwasher faucets, toilets, urinals and flush cisterns, bathtubs, etc.) must comply with the water savings set out in related national regulations (if any). Alternately, the building must implement water-saving measures (e. g., use of rainwater, reuse of treated grey or black water, among others) that meet the savings requirements as prescribed in national standards or regulations. When applicable, refer to the standards for Sanitary Appliances for such specific requirements[40].
- In case there is no relevant national regulation, water appliances should be used that ensure at least 20 % savings in water consumption compared to the baseline of similar construction (e. g., climate, type of construction – residential, commercial, etc.). If relevant national standards provide a number below 20 %, the 20 % threshold should apply.
- All projects must comply with the mandatory indicators of the water efficiency module of the Green Building Minimum Compliance System. This module focuses on rainwater harvesting, the selection of water-efficient fittings, wastewater treatment and other features that would reduce the use of potable water during building operations (Republic of Rwanda, 2019).
- All projects must comply with LAW N°48/2018 OF 13/08/2018 ON. ENVIRONMENT (Section 2: Water resources)

Circular Economy

- Ensure reuse or recycling of non-hazardous construction and demolition waste.
- Use local or recycled materials during construction when viable. Refer to the locally made construction

40 *RS EAS 1017-1: Sanitary appliances (vitreous china) –Specification –Part 1: General requirements
*RS EAC 1017-2: Sanitary appliances (vitreous china) – Specification – Part 2: Wash down water closet pan
*RS EAC 1017-5: Sanitary appliances (vitreous china) –Specification –Part 5: Wall-hung urinal
*RS EAC 1017-6: Sanitary appliances (vitreous china) –Specification –Part 6: Flushing cisterns

- materials standards developed for the Rwandan standard board[41] for guidance.
- All projects must comply with the mandatory indicators of the environmental protection module of the Green Building Minimum Compliance System. This category focuses on the design, practices and selection of materials and resources that would reduce the environmental impacts of built structures (Republic of Rwanda, 2019)

Contamination

- All projects must comply with the Sectoral Guidelines for the Environmental Impact Assessment (EIA) of Housing Projects in Rwanda[42].
- All projects must comply with the Rwanda Building Control Regulations established by the Rwanda Housing Authority.
- All materials used must ensure that they do not cause adverse impacts on human health or the environment.
- Ensure that the components and construction materials used do not contain asbestos or polluting substances identified in the REACH regulation[43] or its equivalent in national technical standards if available.
- If new construction is located on a potentially contaminated site, the site should be subject to an investigation of potential contaminants.

Ecosystems and biodiversity

- At least 15 % of all wood products used in new construction for structures, cladding and finishes must have been recycled, reused, or sourced from sustainably managed forests, as certified by third-party audits conducted by accredited certification bodies (e. g. FSC and PEFC standards or equivalent). This is to ensure that there is no deforestation or significant indirect damage to forest ecosystems at the source of wood products.
- All projects must comply with LAW N°48/2018 of 13/08/2018 ON ENVIRONMENT (article 23), ensuring the integration of green spaces in the master plan as well as in individual construction plans.

Adaptation

- New buildings must implement measures to increase their resilience to extreme weather events (including flooding) and adaptation to climate change.
- New buildings must have drainage systems designed to account for high-intensity rainfall, if viable
- New buildings must have green spaces to reduce heat accumulation.
- Avoid construction in areas of high probability of flooding or forest fires or implement appropriate measures to mitigate such disasters.

5.2.2. Building Renovation

Building renovation is part of the sustainable solutions within the construction sector because, by its very vocation, an existing building is reused and improved in efficiency. The renovation can, in addition to improving efficiency, implement measures for the reduction of emissions, such as the implementation of energy generation systems, the installation of charging points for electric vehicles, and the integration of energy storage systems, among others. The existing buildings must adapt to the new regulations and thus align with the commitments and goals of the country to face climate change.

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41 *RS 484: 2022: Adobe blocks (Rukarakara) – Specification
*RS 510, Specification for stabilized soil blocks
*RS 511, Clay flooring tiles – Specification
*RS 512, Clay roofing tiles and ridges – specification
*RS 513, Compressed stabilized earth blocks – Requirements, production and construction
*RS 514-1, Definitions classifications specifications for compressed earth blocks
*RS 514-2, Compressed earth blocks – Earth mortars
*RS 514-4, Code of practice for production and construction of compressed earth blocks
*RS 516, Natural stone – Rough blocks – Requirements
*RS 517, Specification for Natural stone masonry units
*RS 518, Recommendations for dimensions and workmanship of natural building stones for masonry work
*RS 519, Natural stone products – Slabs for cladding – Requirements.
*RS 520, Slabs of natural stone for external paving – Requirements and test Methods
*RS 521, Sets of natural stone for external paving – Requirements and test methods
*RS 522, Natural stone products – Modular tiles – Requirements.
*RS 523, Natural stone products –Slabs for floors and stairs – Requirements

42 Please refer to MINISTERIAL ORDER No 001/2019 OF 15/04/2019 which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

43 https://www.certvalue.com/reach-certification-in-rwanda/

ISIC Codes: 4100

Eligibility Criteria

Building renovation[44] is eligible if it meets at least **one of the following** Eligibility Criteria:

- The renovation provides operational emissions intensity reduction of no less than 20 % CO_2Kg/sqm per annum over the baseline calculated at the beginning of the project.
- The building has a sustainable building certification: LEED Gold or Platinum together with a 30 % improvement above the levels in ASHRAE 90.1; EDGE (Certified, Advance, Zero Carbon); Net zero & Living Building Challenge Certified.
- The building complies with the R**wanda Green Building Minimum Compliance System** and has a minimum **energy module** score of **80 points**.
- **Transition activity**: Renovation projects involving a switch to use energy with emissions below 100 gCO_2e/kWh **OR** installation of renewable energy generation systems allowing operational emissions below 23 kgCO_2e/m^2 until 2028.

Ineligibility Criteria

Renovated buildings cannot be used for the extraction, storage, transport, or manufacture of fossil fuels.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

The renovation of low-carbon and efficient buildings is subject to compliance with the compliance requirements established for building construction and the requirements below.

Circular economy

- Ensure reuse or recycling of non-hazardous construction and demolition waste.
- Use local or recycled materials during construction when viable. Refer to the locally made construction materials standards developed for the Rwandan standard board[45] for guidance.
- All projects must comply with the mandatory indicators of the environmental protection module of the Green Building Minimum Compliance System. This category focuses on the design, practices and selection of materials and resources that would reduce the environmental impacts of built structures (Republic of Rwanda, 2019).

Contamination

- All projects must comply with the **Sectoral Guidelines for the Environmental Impact Assessment (EIA) of Housing Projects in Rwanda**[46].
- Before renovation works begin, an inspection of the building must be carried out in accordance with national legislation, carried out by a specialist trained in asbestos removal and in the identification of other materials containing substances of environmental and harm concern.
- Any activity for removal of cladding that contains or may contain asbestos (such as removal or modification of insulation panels, shingles and other materials containing asbestos) must be carried out by trained personnel, with sanitary surveillance before, during and after the works, and in accordance with the applicable regulations.

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44 Applies to residential buildings as well as commercial and service buildings.

45 *RS 484: 2022: Adobe blocks (Rukarakara) – Specification
*RS 510, Specification for stabilized soil blocks
*RS 511, Clay flooring tiles – Specification
*RS 512, Clay roofing tiles and ridges – specification
*RS 513, Compressed stabilized earth blocks – Requirements, production and construction
*RS 514-1, Definitions classifications specifications for compressed earth blocks
*RS 514-2, Compressed earth blocks – Earth mortars
*RS 514-4, Code of practice for production and construction of compressed earth blocks
*RS 516, Natural stone – Rough blocks – Requirements
*RS 517, Specification for Natural stone masonry units
*RS 518, Recommendations for dimensions and workmanship of natural building stones for masonry work
*RS 519, Natural stone products – Slabs for cladding – Requirements.
*RS 520, Slabs of natural stone for external paving – Requirements and test Methods
*RS 521, Sets of natural stone for external paving – Requirements and test methods
*RS 522, Natural stone products – Modular tiles – Requirements.
*RS 523, Natural stone products –Slabs for floors and stairs – Requirements

46 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

Water

- All relevant water appliances (e. g., showers, sink and dishwasher faucets, toilets, urinals and flush cisterns, bathtubs, etc.) must enable compliance with the water savings set out in related national regulations (if any). Alternatively, the building must implement some water-saving measures (e. g., use of rainwater, reuse of treated grey or black water, among others) that meet the savings requirements imposed by local laws. When applicable, refer to the standards about Sanitary Appliances that can be referred to in complimenting these specific requirements[47].
- In case there is no relevant national regulation, the water appliances used must ensure at least 20 % savings in water consumption compared to the baseline of similar construction (e. g., climate, type of construction – residential, commercial, etc.)
- All projects must comply with the mandatory indicators of the water efficiency module of the Green Building Minimum Compliance System. This module focuses on rainwater harvesting, the selection of water-efficient fittings, wastewater treatment and other features that would reduce the use of potable water during building operations (Republic of Rwanda, 2019).
- All projects must comply with LAW N°48/2018 OF 13/08/2018 ON ENVIRONMENT (Section 2: Water resources)

5.2.3. Individual Measures and Professional Services

The inclusion of individual measures and professional services is a fundamental and a transversal support activity in the construction and renovation of new buildings. These measures are necessary to achieve the minimum percentages of energy savings indicated for the activities in the taxonomy. The proposed measures tend to take advantage of the environmental conditions of the environment, maximising the sources of thermal control, ventilation, and natural energy reduction to create comfortable conditions for its occupants, as well as promote the use of mechanical and electrical systems to create comfortable conditions inside buildings, such as boilers and air conditioning, mechanical ventilation, electric lighting, among others.

Individual measures and professional services are enabling activities that contribute to improving energy performance and decarbonisation of buildings. The list should be updated periodically. Professional services are necessary for the proper assessment of building conditions and energy efficiency potential. These activities can help save energy through construction operations better designed for efficiency.

ISIC Codes: various codes

Eligibility Criteria

The individual measures at the building or the urban level are listed below. The measures must comply with corresponding criteria for activities in other sectors of the taxonomy, if available (e. g., energy generation systems must comply with the corresponding criteria for the activity under the energy sector).

At a building level

Individual measures that are directly eligible at the building level:

1. Addition of insulation to existing envelope components, such as external walls, roofs (including green roofs), lofts, basements and ground floors (including measures to ensure tightness and to reduce the effects of thermal bridges and scaffolding, among others), and products for the application of insulation to the building envelope (e. g. mechanical fixings, adhesives, etc.). The impact on energy efficiency due to such measures must be disclosed.

2. Replacement of existing windows with new energy-efficient windows. It is necessary to disclose the reduction of energy consumption of the building.

3. Replacement of external doors with new energy-efficient ones.

4. Application of reflective paints on the roof to reduce thermal loads, thereby reducing the energy consumption of the building and improving the thermal comfort of the space.

5. Installation and replacement of heating, cooling and ventilation systems and domestic hot water systems, including district heating and cooling equipment. All installed equipment must provide energy savings with respect to existing systems in the building.

6. Replacement of water heating systems with highly efficient systems or solar water heating systems.

7. Replacement of existing pumps for efficient circulation pumps.

47 *RS EAS 1017-1: Sanitary appliances (vitreous china) –Specification –Part 1: General requirements
*RS EAC 1017-2: Sanitary appliances (vitreous china) – Specification – Part 2: Wash down water closet pan
*RS EAC 1017-5: Sanitary appliances (vitreous china) –Specification –Part 5: Wall-hung urinal
*RS EAC 1017-6: Sanitary appliances (vitreous china) –Specification –Part 6: Flushing cisterns

8. Installation of efficient LED lighting devices and systems.

9. Installation of low-flow cookers and sanitary taps that allow to match or exceed the parameters of water saving.

10. Assembly and operation of electric heat pumps that use refrigerant with GWP ≤ 675 and that comply with the energy efficiency requirements stipulated in the relevant regulations.

11. Zonal thermostats, smart thermostat systems, and sensing equipment (e.g., motion and daylight control systems).

12. Building Management Systems and Energy Management Systems.

13. Charging stations for electric vehicles.

14. Smart meters for gas and electricity.

15. Facade and roof elements with solar protection or control function, including those that support vegetation growth.

16. Photovoltaic solar systems (and auxiliary technical equipment), both for self-consumption and for discharge for the electricity grid.

17. Solar panels for water heating (plus its auxiliary technical equipment).

18. Other energy generation systems from non-conventional renewable sources (that are aligned with the criteria under the energy sector).

19. Heat pumps that contribute to renewable energy targets in heating and cooling (and the necessary auxiliary technical equipment)–installation of new pumps or the updated change of existing ones.

20. Wind turbines (and auxiliary technical equipment).

21. Transpired solar collectors (including auxiliary technical equipment).

22. Thermal or electrical energy storage units (plus auxiliary technical equipment).

23. High-efficiency micro-CHP (combined heat and power) plant.

24. Heat exchangers/recovery systems.

The following professional services are always eligible:

25. Accredited energy audits and building performance evaluations.

26. Energy management services and contracts, including services provided by Energy Service Companies (ESCO).

At city, municipality, or locality level

Initiatives and projects at the urban or district level contribute substantially to the mitigation of GHG emissions. The implementation of clean technologies (low carbon) or urban development strategies makes it possible to make the management of cities more efficient. Low-carbon urban growth helps increase density in cities with a lower environmental impact and reduces the use of natural resources required to obtain the services offered by these areas.

Individual measures that are directly eligible at the city, municipality or locality level:

Energy

- Independent public lighting systems that avoid the construction of power transmission networks.
- Automation of operations of public lighting management systems (e.g., based on the presence of people and predetermined schedules, in such a way that the misuse of energy is prevented at times when the lighting of the sector is not required).
- On-site power generation systems (Distributed Energy Resources that comply with the criteria defined under the energy sector).

Mobility

- Electric vehicle charging points in urban areas.
- Interventions at the urban level that favour the reduction of emissions by mobility (adjustment of routes, modal shift, among others).

Waste

- Projects for generation of energy or compost from waste at neighbourhood or building scale.
- Waste transfer centres that promote recycling and reuse, avoiding the transport and disposal of waste in landfills or waste disposal centres.

Water

- Sustainable Urban Drainage Systems, which demonstrate 100 % retention of runoff water in the urbanised area without causing harm to the aquifer or ecosystem.
- Wastewater treatment plants (grey and black), which prevent the disposal of wastewater in the treatment systems of the city or municipality.

› Micro cogeneration systems for the treatment of wastewater or waste, both commercial and residential.

ICT

› Sensor networks and integrated systems to make urban development management more efficient, optimise infrastructure operation, articulate different services (e. g., energy + mobility + construction) and facilitate the creation of intelligent advanced metering systems.

5.2.4. Acquisition or Ownership of Buildings

Acquisition of buildings designed to minimise energy consumption and carbon emissions can make a substantial contribution to climate change mitigation goals. It sends a clear signal to the market that purchasing such buildings can help reduce future climate change-related risks and increase the demand and generating incentives for owners to construct and renovate buildings with high levels of energy efficiency.

ISIC Codes: 6810, 5510, 5520, 5590

Eligibility Criteria

The acquisition or ownership of buildings is eligible if the building meets at least one of the criteria specified under the Construction of New Building activity.

Ineligibility Criteria

The acquisition and ownership of buildings that are dedicated to the extraction, storage, transportation, or manufacture of fossil fuels are not eligible.

General compliance requirements

› The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

The acquisition and ownership of low-carbon and efficient buildings are subject to compliance with the compliance requirements established for the renovation of buildings above.



5.3. – Energy

Rwanda's energy sector contributes 6 % of GDP[48] and is the second largest contributor to the country's GHG emissions equivalent with 31 % represented in 1.68 Mt CO_2e; this places the energy sector at the forefront in the reduction target determined to achieve GHG emission reduction of 38 % by 2030.

Rwanda has one of the region's lowest electricity consumption per capita, positioning the country as eligible to be self-sufficient in domestic energy production. Biomass-derived primary energies constitute 92 % of the energy consumed[49] and have the largest supply, mainly wood, charcoal, and biomass; other available energy sources are fossil fuels, peat, methane gas, hydropower, and solar energy. Rwanda also has two areas with high potential for energy generation from geothermal sources.

Rwanda's electricity matrix for 2022[50] was composed of 50.6 % of renewable sources such as hydroelectric and in minor proportion solar energy; the remaining 18.5 % came from methane gas, 16.2 % from fuel oil, and 11.9 % from peat. For 2021, energy production reached 1.06 bn kWh, contrasting with the 1.01 bn kWh it consumes, however, generation capacity is low and represents an opportunity for improvement and investment in energy policy aims.

By 2020, only 46.6 % of the average population had access to electricity, with a shortfall in access for rural populations of 61.8 %; the 100 % access to electricity and non-solid fuels are also part of the Rwanda government's 2030 goals. The country adopted and developed several regulations for the energy sector such as the Rwanda Energy Policy, Biomass Energy Strategy, the RURA Guidelines promoting Energy Efficiency Measures, Regulation No. 02/ENERGY/EL/RURA/2013 for electricity licensing regulations, Regulation No. 03/R/EL-EWS/RURA/2019 for Electricity Licensing Framework for Rural Electrification in Rwanda, RURA Compliance and Enforcement Guidelines, etc; These regulations are articulated with adopted climate change policies in response to NDC commitments under regulations like the National Environment and Climate Change Policy, and the National Green Growth and Climate Resilience strategy for climate change.

Rwanda's government has been developing several energy efficiency programs including the 'SolaRwanda' Solar Water Heaters (SWH) project, Mount Jali in Kigali Solar Plant (250KWp), Rwamagana Solar Power Plant (8.3 MW), Kinigi/Karisimbi electricity generation test from geothermal resources, the replacement of high-pressure sodium lamps with LEDs in streetlights, etc.

The energy sector in the Rwandan Taxonomy aims to increase investment in **generating capacity** and improving access to clean electricity. To achieve this, all the screening criteria for the energy sector are aligned with the decarbonisation trajectory of the International Energy Agency, ensuring that the life cycle emissions are considered and the feedstock or sources used to generate energy (e. g., biomass) are sustainable. The ambition of the energy sector is to reach net zero by 2050 by establishing CO_2 intensity thresholds that decrease periodically from the starting point of **100 gCO_2/kWh**[51].

48 https://www.statistics.gov.rw/publication/1914

49 https://au-afrec.org/rwanda#:~:text=thermal%20and%20hydropower.-,AFREC's%20energy%20balance%202020%20show%20that%20biomass%20in%20Rwanda%20contributed,public%20service%20sector%20at%2015%25.

50 https://rura.rw/index.php?id=65

51 The evolution of the average CO_2 intensity in Africa between 2019-2025 is expected to be between **400–900 g CO_2/kWh** (IEA, 2023). https://rura.rw/fileadmin/Documents/Energy/Statistics/Electricity_Statistics_Report_as_of_the_Fourth_Quarter_2022.pdf

5.3.1. Electricity Generation Using Solar Photovoltaic Energy

Power plants are mainly dedicated to the generation of electrical energy from solar radiation. Photovoltaic cells or solar concentrators are used to produce electricity. The production of electricity from solar photovoltaic energy is a **substantial contribution** to **climate change mitigation** compared to the generation of electricity from fossil fuels, as it does not generate direct emissions in its operational process. Depending on the technology, life-cycle emissions of electricity from PV systems can vary between 26 and 42 g CO_2/kWh.

ISIC Codes: 3510

Eligibility Criteria

Solar photovoltaic power generation is directly eligible without additional criteria.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Ensure that the photovoltaic panels and associated components have been designed and manufactured for durability[52], ease of disassembly, reconditioning and recycling.
- A waste management plan must be in place covering the different phases of the project, estimating the waste volume that could be generated. The purpose of this component is to ensure that the types of waste generated at all stages of the project are properly managed by waste management companies. The main focus must be on the recovery and use of waste, as well as the proper treatment of hazardous waste by certified companies.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste – Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste – Treatment and disposal – Code of Practice.
- Based on the estimated lifetime of the project, a programme for decommissioning and abandonment should be in place, including procedures, handling and disposal of materials and equipment, and programmes for rehabilitation or restoration of the sites.

Ecosystems and biodiversity

- If applicable, have a wildlife rescue and relocation plan in place when there is significant evidence of the presence of wildlife in terms of quantity and variety of species.
- All projects must comply with the C (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study[53].

5.3.2. Electricity Generation Using Concentrated Solar Power Technology

Construction and operation of facilities using solar thermal power to generate electricity. Concentrated Solar Thermal Power (CSP), also called solar thermal power, produces electricity by concentrating the sun's rays that heat a medium to drive a steam or gas turbine to drive an electric generator. Depending on the technology, life-cycle emissions of electricity from PV systems can vary between 26 and 42 g CO_2/kWh.

ISIC Codes: 3510

Eligibility Criteria

Concentrated solar power generation is directly eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Ensure that the photovoltaic panels and associated components have been designed and manufactured for durability, ease of disassembly, reconditioning and recycling.
- Ensure that a waste management plan is in place covering the different phases of the project, estimating the waste volume that could be generated. The purpose of this component is to ensure that the types of waste generated at all stages of the project are properly managed by waste management companies. The main focus must be on the recovery and use of

52 Durability depends on the technology. Crystalline silicon photovoltaic panels, which account for almost 90% of the photovoltaic panels used on the market, have a lifetime of about 30 years Указан недопустимый источник.

53 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

waste, as well as the proper treatment of hazardous waste by certified companies.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste – Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste – Treatment and disposal – Code of Practice.
- Based on the estimated lifetime of the project, a programme for decommissioning and abandonment should be in place, including procedures, handling and disposal of materials and equipment, and programmes for rehabilitation or restoration of the sites.

Ecosystems and biodiversity
- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[54].
- Avoid possible negative impacts on birdlife due to the high temperatures generated by the plants in this activity.

Water
- Avoid possible negative impacts of the cooling system on water resources.

5.3.3. Electricity Generation From Wind Energy

Construction or operation of electricity generation facilities that produce electricity from wind power. Wind energy is a renewable energy source obtained from the kinetic energy of the wind that moves the blades of a wind turbine, which in turn operates a turbine that converts it into electrical energy. Life cycle GHG emission of wind energy can vary between 15 and 50 g CO_2/kWh.

ISIC Codes: 3510

Eligibility Criteria
Wind energy generation is directly eligible.

General compliance requirements
- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements
Circular economy
- Ensure that the equipment and components are of high durability and recyclability, which are easy to dismantle and recondition.
- Ensure that a waste management plan is in place covering the different phases of the project, estimating the waste volume that could be generated. The purpose of this component is to ensure that the types of waste generated at all stages of the project are properly managed by waste management companies. The main focus must be on the recovery and use of waste, as well as the proper treatment of hazardous waste by certified companies.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste – Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste – Treatment and disposal – Code of Practice.
- Based on the estimated lifetime of the project, a programme for decommissioning and abandonment should be in place, including procedures, handling and disposal of materials and equipment, and programmes for rehabilitation or restoration of the sites.

Ecosystems and biodiversity
- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[55].
- Comply with Law No. 48/2018 of 13/08/2018 on Environment (CHAPTER III: conservation and protection of natural environment)
- Avoid possible disturbance, displacement, or collision of birds due to the construction and operation of wind farms.
- Avoiding the possible visual impacts generated by the change in landscape caused by the installation of wind turbines.
- In the case of offshore wind energy construction, the activity must not hinder the achievement of good environmental status of the marine ecosystem and biodiversity.
- Comply with regulations related to environmental impact studies.

54 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019**, which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

55 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019**, which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

Pollution

- Ensure that the waste generated at the end of life is managed in accordance with the waste management hierarchy.
- Ensure proper disposal of lubricants and coolants used by wind turbine systems.
- Avoid or control underwater noise created by the installation of offshore wind turbines.
- For soil contamination, control of liquid waste must be kept by means of records detailing origin, state, chemical properties, the quantity of waste taken at the place of origin, and quantity arriving at the plant. Measures must be undertaken to treat such waste.

5.3.4. Electricity Generation From Ocean Energy

Construction or operation of electricity generation facilities that produce electricity from ocean energy, including marine tidal energy, wave energy, tidal current energy and other resources. A comprehensive review of lifecycle assessment (LCA) studies published since 1980 suggests that lifecycle GHG emissions from wave and tidal energy systems are less than 23 g CO_2eq/kWh, with a median estimate of lifecycle GHG emissions of around eight gCO_2eq/kWh for wave energy (IPCC, 2011).

Note: This activity can be applied to mobilise investments in other jurisdictions. Rwanda will need to establish the necessary frameworks and regulations for the development of such projects.

ISIC Codes: 3510

Eligibility Criteria

Ocean energy generation is directly eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Ensure that the equipment and components are of high durability and recyclability, which are easy to dismantle and recondition.
- Ensure that a waste management plan is in place covering the different phases of the project, estimating the waste volume that could be generated. The purpose of this component is to ensure that the types of waste generated at all stages of the project are properly managed by waste management companies. The main focus must be on the recovery and use of waste, as well as the proper treatment of hazardous waste by certified companies.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste – Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste – Treatment and disposal – Code of Practice.

Ecosystems and biodiversity

- Avoid potential negative impacts on marine ecosystems and biodiversity.
- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[56].

Pollution

- Avoid possible contamination by lubricants and antifouling paints.

5.3.5. Electricity Generation From Hydropower

Construction or operation of electricity generation facilities that produce electricity from hydropower. Hydropower is one of the largest sources of low-carbon electricity and provides an essential foundation for transitions (IEA, 2023). The IPCC classifies hydropower into three main categories:

- Run-of-river: a run-of-river hydropower facility converts energy and draws the energy for electricity production mainly from the available flow of the river. Generation depends on precipitation and runoff and may have substantial daily, monthly or seasonal variations.

- Storage (reservoir): Hydropower projects with a reservoir are also called storage hydropower since they store water for later consumption. The reservoir reduces the dependence on the variability of inflow. The generating stations are located at the dam toe or further downstream, connected to the reservoir through tunnels or pipelines.

- Pumped storage: Pumped storage plants are not energy sources but are instead storage devices. In such a system, water is pumped from a lower reservoir into an upper reservoir.

56 Please refer to MINISTERIAL ORDER No 001/2019 OF 15/04/2019 which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

ISIC Codes: 3510

Eligibility Criteria

The activity must meet **any of the following criteria**:

- Hydropower installations with a power density above 5 W/m^2 are currently exempted from the PCF[57] life cycle assessment and are directly eligible. In any case, this activity is subject to a periodic review in accordance with the current threshold.
- The electricity generation facility of the run-of-river plant is eligible and does not have an artificial reservoir.
- Those hydropower installations with a power density of less than 5 W/m^2 must demonstrate, using the ISO 14067 standard, EIA Hydro-framework or GHG protocol product such as the PCF, that they operate with lifecycle emissions of less than 100 gCO_2e/kWh.
- Pumped storage facilities are eligible if they meet the above requirements. It is important to ensure that <<installations will be charged with energy that has emissions of less than 100g CO_2/kWh.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Ecosystems and biodiversity

- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[58].
- Prior to construction, an impact assessment of the project must be carried out to evaluate all potential impacts on the status of water bodies within the same river basin and on protected habitats and species directly dependent on water, considering in particular migration corridors, free-flowing rivers or ecosystems close to undisturbed conditions.
- Avoid potential negative impacts on biodiversity associated with ecosystem fragmentation and habitat changes, hydrological and hydrogeological regimes, water characteristics and interference with species migration pathways as a result of the establishment, installation and operation of hydropower plants.
- Comply with regulations related to environmental impact studies.

Pollution

- Avoid discharges to water bodies and waste generation during plant construction.
- Apply appropriate engineering techniques and practices for noise and vibration reduction as determined by the competent authorities.
- Establish a river basin management plan.

Water

- Comply with the principles of the United Nations Economic Commission for Europe (UNECE) Convention on the Protection and Use of Transboundary Watercourses and International Lakes.
- Ensure minimum ecological flow (including mitigation of rapid, short-term variations in flow or hydrology operations) and sediment flow.
- Ensure fish migration downstream and upstream (such as fish-friendly turbines, fish guidance structures, fully functional fish passages and measures to stop or minimise operation and spills during migration or spawning).
- Ensure that the plant does not compromise the good status/potential in any of the water bodies in the same river basin.

57 Product Carbon Footprint

58 Please refer to MINISTERIAL ORDER No 001/2019 OF 15/04/2019 which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

5.3.6. Electricity Generation from Geothermal Energy

Construction or operation of electricity generation facilities that produce electricity from geothermal energy. Electricity generation from bioenergy can result in climate change mitigation benefits, but when done incorrectly, it can result in land use changes (biomass), deforestation (biofuels) or methane leakage (biogas) with negative environmental impacts.

ISIC Codes: 3510

Eligibility Criteria

- Life cycle GHG emissions from electricity generation from geothermal energy must be less than **100 gCO_2e/kWh**[59]. Life cycle GHG emissions are calculated using ISO 14067:2018 and ISO 14064-1:2018. Quantified life cycle GHG emissions are verified by an independent third party.

Note: combined heat and power generation is covered in a separate activity of construction and operation of an installation used for combined heat/cold and power generation from geothermal energy.

Note: Examples of methodologies for the calculation of emissions for this activity are GEOENVI LCA Toolkit and S4CE – University College London & TWI.

Ineligibility Criteria

Geothermal projects are not allowed to be installed in wetland areas and geologic carbon sequestration areas[60].

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Ecosystems and biodiversity

- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[61].

Pollution

- Control and prevent emissions of non-condensable geothermal gases with specific environmental threats, such as H2S, CO_2 and CH4, which are released from flash steam and dry steam power plants.
- Avoid harmful emissions to surface and groundwater.
- Prevent thermal anomalies associated with waste heat discharge, which should not exceed 3°K (-270,1 °C) for groundwater environments or 1.5°K (-271 °C) for surface water environments.
- Air emissions: High enthalpy geothermal power system operations must ensure that adequate abatement systems are in place to meet international standards and guidelines (e. g. IFC Environmental, Health and Safety Guidelines for Geothermal Power Generation).

5.3.7. Electricity Generation from Bioenergy (biomass, biogas and biofuels)

Power plants are mainly dedicated to the generation of electricity from bioenergy, i.e. biomass, biogas, and bioenergy in general.

- Biomass: Organic, non-fossil material of biological origin (plants and animals) that is used as feedstock to produce biofuels. It may also be referred to as biomass feedstock or energy crops. It includes a wide range of materials collected from nature or from the biological part of waste.
- Biogas: Biogas is produced by the fermentation product of organic waste from forests, agricultural fields and livestock waste. The methane extracted is used to produce thermal, mechanical or simply electrical energy.

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59 For geothermal energy systems the results of life cycle emissions analysis range from 6 to 79 gCO_2eq/kWh Указан недопустимый источник., however, there is still a lack of transparent information on geothermal life cycle emissions in the literature. Geothermal can also exceed $100gCO_2eq/kWh$ when installed in wetland or carbon sequestered areas.

60 Geologic carbon sequestration is the process of storing carbon dioxide (CO_2) in underground geologic formations. The CO_2 is usually pressurized until it becomes a liquid, and then it is injected into porous rock formations in geologic basins Указан недопустимый источник.

61 Please refer to MINISTERIAL ORDER No 001/2019 OF 15/04/2019 which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

ISIC Codes: 3510

Eligibility Criteria

- All installations must demonstrate that they operate with life cycle emissions below the current threshold of 100 gCO_2e/kWh[62], using methodologies such as ISO 14067 or a GHG protocol product such as the PCF.

Note: Biomass Environmental Assessment Tool (BEAT2) is a product of the GHG Protocol, developed for the Environment Agency and Defra (Department for Environment, Food and Rural Affairs), which assesses the potential environmental impacts of biomass energy projects, including life cycle emissions results. Reference can also be made to the UNFCCC methodology ACM0018 for Biomass Electricity Generation in Power Plants. Also, please refer to ISO 23590: Household biogas system requirements: design, installation, operation, maintenance, for the requirements on the utilisation of biogas systems.

Additionally, the biomass used must meet **one of the following criteria**:

- Bioenergy produced from waste (e. g. agricultural, municipal) is eligible, and full traceability of the feedstock supply must be ensured,
- The feedstock used for bioenergy production complies with the criteria for the relevant activities in the agriculture sector or
- The feedstock used for bioenergy production must comply with sustainability certifications such as:
  - Forest Stewardship Council (FSC)
  - Voluntary Biomass Biofuels Scheme (2BSvs)
  - Bonsucro – International Sustainability and Carbon Certification (ISCC Plus)
  - Roundtable on Sustainable Biomaterials (RSB)
  - Roundtable on Responsible Soy (RTRS)

Where installations are based on anaerobic digestion of organic material, the digestate produced must be used as compost, fertiliser and raw material for composting. Activities that facilitate the use and utilisation of biogas (such as dewatering, compression or similar) are also considered.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

If the feedstock is industrial bio-waste (including from food industries) or municipal bio-waste:

- Solid bio-waste used in the manufacturing process must come from non-hazardous and source-separated waste streams.
- Bio-waste must comply with the waste regulatory framework and with national, regional and local waste management plans, in particular with the proximity principle[63].
- Where municipal biowaste is used as feedstock, the project is complementary and does not compete with the existing municipal biowaste management infrastructure.

Ecosystems and biodiversity

- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**.
- A forest management plan must be in place, if applicable, taking into account the following aspects: species selection: selection of species that are suitable for the project type (e. g. conservation, restoration or sustainable forest management), ensuring that there is no disruption to genetic diversity or that are suitable for current or projected future ecological conditions; Biodiversity management: the management plan must include provisions for managing and maintaining biodiversity; Forest protection: protection and monitoring measures must be in place to prevent and monitor for illegal logging and illegal land conversion.

5.3.8. Energy Generation Using Biomass Cookstoves

Cookstove installations in which the direct combustion of solid, liquid or gaseous fuels takes place and where the chemical energy of the fuels is converted into thermal energy. There are several types of cookstoves: i) combustion cookstoves, biomass cookstoves, gas cookstoves, Kerosene cookstoves, charcoal cookstoves and their variants. Ii) non-combustion cookers: solar or electrical energy is converted into thermal energy.

In Rwanda, the reliance on traditional fuels for cooking and slow progress towards cleaner cooking solutions has been problematic, especially for health outcomes and deforestation (MECS, 2021). In rural areas, firewood represents the most fuel used for cooking (93 %), while in urban areas, charcoal accounts for 65 % of total

62 Wood wastes and forest residues have the lowest GHG emission rates (11 and 34 g CO_2eq/kWh) Herbaceous crops have the highest (75 g CO_2eq/kWh). Agricultural residue and short-rotation woody crop combustion lead to 60 and 45 gCO_2eq/kWh

63 The proximity principle refers to the fact that management facilities should be located as close as possible to the generators, thus avoiding unnecessary relocations leading to higher environmental impacts (e. g., increased carbon footprint scope 3) and associated risks.

cooking fuel used, and firewood still represents 26.3 % (MECS, 2021).

ISIC Codes: no code

Eligibility Criteria

The activity must meet **one of the following** Eligibility Criteria:

- Cookstoves that include the use of renewable energy, such as Hybrid Solar-Biomass[64] Cookstoves, Electric Hot Plate stoves or Electric Infrared stoves, are eligible.
- Cookstoves that are designed to use solid biofuels like briquettes and pellets replacing conventional solid fuels (fuelwood, charcoal, and coal). Provision of financial and technical support to pellet and briquette producers is also eligible.
- The introduction of biogas digesters in institutional facilities and households is eligible.
- Bioenergy produced from waste (e. g., agricultural, municipal) is eligible.
- Biomass where full traceability of the feedstock supply is ensured. The feedstock used complies with the criteria for the relevant activities in the agriculture or feedstock sectors (agriculture and feedstock waste) used must comply with sustainability certifications such as:
  - Forest Stewardship Council (FSC)
  - Voluntary Biomass Biofuels Scheme (2BSvs)
  - Bonsucro
  - International Sustainability and Carbon Certification (ISCC Plus)
  - Roundtable on Sustainable Biomaterials (RSB)
  - Roundtable on Responsible Soy (RTRS)

Note!: Please refer to the compliance requirements for biomass cookstoves, guided by **RS 290: 2016, Solid biomass cookstoves – Specification**

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

If the feedstock is industrial bio-waste (including from food industries) or municipal bio-waste:

- Solid bio-waste used in the manufacturing process must come from non-hazardous and source-separated waste streams.
- Bio-waste must comply with the waste regulatory framework and with national, regional and local waste management plans, in particular with the proximity principle[65].
- Where municipal biowaste is used as feedstock, the project is complementary and does not compete with the existing municipal biowaste management infrastructure.

Ecosystems and biodiversity

- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[66].
- A forest management plan must be in place, if applicable, taking into account the following aspects: species selection: selection of species that are suitable for the project type (e. g. conservation, restoration or sustainable forest management), ensuring that there is no disruption to genetic diversity or that are suitable for current or projected future ecological conditions; Biodiversity management: the management plan must include provisions for managing and maintaining biodiversity; Forest protection: protection and monitoring measures must be in place to prevent and monitor for illegal logging and illegal land conversion.

5.3.9. Electricity Transmission and Distribution

Economic units principally engaged in the operation of electricity transmission systems and the physical control (regulating voltages) of the transmission network from the generating source to distribution centres or other electrical installations through lines, substations, and other transformer elements. By enabling more users to be connected to renewable energy sources, the decarbonisation of electricity is advanced.

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64 This hybrid prototype combines the effect of solar and biomass in cooking. It consists of solar reflectors that trap heat from the sun, thereby improving the thermal performance of the stove and reducing fuel consumption.

65 The proximity principle refers to the fact that management facilities should be located as close as possible to the generators, thus avoiding unnecessary relocations leading to higher environmental impacts (e. g., increased carbon footprint scope 3) and associated risks.

66 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

ISIC Codes: 3510

Eligibility Criteria

The activity is eligible if it meets **one of the following criteria:**

- All electricity transmission and distribution infrastructure or equipment in systems that are on a full decarbonisation pathway* are eligible, except for infrastructure that is dedicated to creating a direct connection or expanding an existing direct connection between a power plant whose emissions exceed 100 gCO_2e/kWh, measured on a Life Cycle Energy (LCE) basis, to a substation or grid.

  Systems in decarbonisation pathway: More than 67 % of the newly enabled generation capacity in the system is below the generation threshold value of 100 gCO_2e/kWh measured on a life-cycle basis according to the electricity generation criteria, over a rolling **five-year period**, or the average system grid emissions factor[67], calculated as the total annual emissions from power generation connected to the system, divided by the total annual net electricity production in that system, is below the threshold value of 100 gCO_2e/kWh measured on a life-cycle basis according to the electricity generation criteria, over a rolling five-year period.

  Note: Some methodologies for calculating the marginal greenhouse gas emission factor of a power system are:
  - Tool for calculating the emission factor of an electricity system (TOOL07 – CDM Methodology – UNFCCC): This methodological tool determines the CO_2 emission factor for the displacement of electricity generated by power plants in an electricity system by calculating the "combined margin" (CM) emission factor of the electricity system.

- Transmission/distribution infrastructure that supports the consolidation of microgrids in non-interconnected areas is eligible.
- The following activities related to the transmission and distribution network are eligible, regardless of whether the system is on a pathway towards full decarbonisation.
  - Construction and operation of direct connection, or expansion of existing direct connection, of low-carbon electricity generation below the threshold of 100 gCO_2e/kWh measured on a lifecycle basis to a substation or grid.
  - Construction and operation of electronic vehicle (EV) charging stations and supporting electric infrastructure for transport electrification.
  - Construction/installation and operation of equipment and infrastructure where the main objective is an increase in the generation or use of renewable electricity generation.
  - Installation of equipment to increase control and monitoring of the electricity system and to enable the development and integration of renewable energy sources, including:
    - Sensors and measurement tools (including meteorological sensors for forecasting renewable production.
    - Communication and control (including advanced software and control rooms, substation or feeder automation, and voltage control capabilities to accommodate more decentralised renewable feeds).
  - Installation of equipment such as future smart metering systems or those replacing smart metering systems that allow information to be brought to users for them to act remotely on consumption, including at customer data centres.
  - Construction/installation of equipment that allows the exchange of electricity, specifically renewable electricity, between users.
  - Interconnectors between transmission systems are eligible, provided that one of the systems is eligible.

For the purposes of this Section, the following specifications apply:

- The five-year rolling period used to determine compliance with the thresholds is based on five consecutive historical years, including the year for which the most recent data are available.
- "system" means the power control area of the transmission or distribution network where the infrastructure or equipment is installed.
- Transmission systems may include generation capacity connected to subordinate distribution systems.
- Distribution systems subordinate to a transmission system that is considered to be on a trajectory towards full decarbonisation can also be considered to be on a trajectory towards full decarbonisation.

Ineligibility Criteria

Infrastructure dedicated to creating a direct connection or expanding an existing direct connection between a substation or grid and an energy production plant that, in its life cycle, generates greenhouse gases greater than 100 gCO_2e/kWh is not eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

67 The operating margin CO_2 emission factor for the project electricity system in Rwanda is about 771 gCO_2e/kWh.

Specific Compliance Requirements

Circular economy

- A waste management plan must be in place to ensure maximum 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 in official project documentation.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste – Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste –T reatment and disposal – Code of Practice.

Pollution

- Refer to national applicable Rwanda standards and regulations on electromagnetic emissions, RS IEC 61000-3-2:2018 Electromagnetic compatibility (EMC) – Part 3-2: Limits for harmonic current emissions (equipment input current ≤ 16 A per phase), RS IEC 61000-4-11: 2020, Electromagnetic compatibility (EMC) – Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase.
- Do not use equipment, such as power converters or generators, containing polychlorinated biphenyls (PCB) based electrical fluid.

Ecosystems and biodiversity

- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[68].
- Avoid potential negative impacts of underground power lines on marine and terrestrial ecosystems (proven by an environmental impact study).
- Avoid routes with associated strong negative environmental impacts.
- Conduct field studies in the project area where data is collected to detail aspects concerning the flora, fauna and fragile ecosystems of the site.

5.3.10. Energy Storage

This activity includes the construction and operation of facilities that store energy from taxonomy-aligned activities and return it later in the form of electricity/heat/cool/steam. This activity is particularly important when it comes to solving the drawbacks of intermittency and instability that renewable energies may have. The activity includes, among others, pumped hydro storage, thermal energy storage (fluids, aquifers – ATES – or underground systems – UTES) and compressed air storage (CAES), all of which are suitable for large-scale energy storage.

This activity can support the integration of renewable energy systems into electricity transmission and distribution.

ISIC Codes: No specific ISIC Code

Eligibility Criteria

- All energy storage activities from taxonomy-eligible activities are directly eligible.

Note: pumped storage of hydropower must comply with the criteria set out in the hydropower electricity generation activity. Energy used for pumping or compression must have lifecycle emissions less than 100gCO_2e/Kwh.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Ensure that a waste management plan is in place covering the different phases of the project, estimating the waste volume that could be generated. The purpose of this component is to ensure that the types of waste generated at all stages of the project are properly managed by waste management companies. The main focus must be on the recovery and use of waste, as well as the proper treatment of hazardous waste by certified companies.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste – Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste –Treatment and disposal – Code of Practice.
- Waste Electrical and Electronic Equipment (WEEE), including batteries, must be disposed of for recycling with certified or authorised organisations.

68 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

Ecosystems and biodiversity

- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce the Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[69].
- In the case of pumped hydro storage connected to a water body, the activity must comply with the specific requirements for the sustainable use and protection of water and marine resources specified in the activity Production of electricity from hydropower.
- Avoid possible negative impacts on birdlife due to the high temperatures generated by the plants.

Water

- For thermal energy, reduce water consumption by using more efficient technologies to recycle water from heat exchangers, condensers and other processes.
- For thermal energy, implement dry cooling systems and design procedures to reduce evaporation losses.

5.3.11. Low Carbon Hydrogen Production

Low-carbon hydrogen can decarbonise activities in various sectors such as energy, transport, and industry and is an enabling activity.

ISIC Codes: 3520

Eligibility Criteria

- Hydrogen production must have life cycle GHG emissions equal to or less than three tCO_2e/t of hydrogen.

  Some of the methodologies for calculating these emissions are:
  - Methodology (IPHE): Methodology for determining GHG emissions associated with hydrogen production.
  - ISO 14067; ISO 14040, ISO 14044: ISO guidelines that allow the quantification of GHGs that can be emitted and eliminated throughout the life cycle of a product.

Ineligibility Criteria

Hydrogen produced from fossil fuels, including natural gas, is not eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Waste and sub-products from the manufacturing process should be treated according to the waste hierarchy and ideally recycled in the same process. The purpose of this component is to ensure that the types of waste generated at all stages of the project are properly managed by waste management companies. The main focus is on the recovery and use of waste that can be recycled and reused, as well as the proper treatment of hazardous waste by certified companies.
- A waste management plan must be in place to ensure maximum 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 in official project documentation.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste –Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste –Treatment and disposal – Code of Practice.

5.3.12. Low Carbon Hydrogen Storage

Hydrogen storage refers to the infrastructure for storing H2 for later use. This constitutes a key activity on the road to decarbonisation as it supports the development of activities related to reducing emissions, for example, from vehicle fleets, thus contributing to the transition towards a sector without direct emissions.

ISIC Codes: 5210

Eligibility Criteria

The activity is eligible if it is for **one of the following**:

- Construction of low-carbon hydrogen storage facilities (review low-carbon hydrogen production criteria).
- Conversion of existing underground gas storage facilities to dedicated hydrogen storage facilities.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- A waste management plan must be in place

69 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

to ensure maximum 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 in official project documentation.
- Ensure compliance with national standards and regulations on the waste management of electrical and electronic components: RS 276-1: Electrical and electronic waste –Handling, collection, transportation and storage – Requirements and RS 276-2: Electrical and electronic waste –Treatment and disposal – Code of Practice.

Water
- Implement water recycling or other efficiency measures for internal use.

5.3.13. Biomass, Biogas and Biofuel Production

Energy sources from organic sources such as sustainable biomasses, biogas generated through anaerobic digestion and biofuels made from agricultural residues can be used for energy production for transport, electricity generation, heating, cooling and others. It is important to ensure that these sources are sustainable and do not generate adverse impacts in their biomass production chain and affect other environmental objectives such as protection and ecosystems and water conservation, among others.

The manufacture of feedstocks to generate electricity from bioenergy can result in climate change mitigation benefits. However, when done incorrectly, it can result in land use changes (biomass), deforestation (biofuels) or methane leakage (biogas) with negative environmental impacts.

ISIC Codes: 3510, 3520

Eligibility Criteria

The manufacture of biomass and biofuels is eligible if the feedstock meets one of the following criteria:
- Bioenergy produced from waste (e. g. agricultural, municipal) is eligible, and full traceability of the feedstock supply must be ensured or
- The feedstock used for bioenergy production complies with the criteria for the relevant activities in the agriculture sector or
- The feedstock used for bioenergy production must comply with sustainability certifications such as:
  - Forest Stewardship Council (FSC)
  - Voluntary Biomass Biofuels Scheme (2BSvs)
  - Bonsucro – International Sustainability and Carbon Certification (ISCC Plus)
  - Roundtable on Sustainable Biomaterials (RSB)
  - Roundtable on Responsible Soy (RTRS)
- Where installations are based on anaerobic digestion of organic material, the digestate production can be used as compost, fertiliser and raw material for composting. Activities that facilitate the use and utilisation of biogas (such as dewatering, compression or similar) are also eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

If the feedstock is industrial bio-waste (including from food industries) or municipal bio-waste:
- Solid bio-waste used in the manufacturing process must come from non-hazardous and source-separated waste streams.
- Bio-waste must comply with the waste regulatory framework and with national, regional and local waste management plans, in particular with the proximity principle.
- Where municipal biowaste is used as feedstock, the project is complementary and does not compete with the existing municipal biowaste management infrastructure.

If the feedstock is biogas, methane leakage is controlled by a monitoring plan and effective measures to prevent methane emissions and the digestate produced is used as fertiliser, soil improver or other uses, directly or after composting or other treatment.

Ecosystems and biodiversity
- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce Environmental and Social Management Plan (ESMP) that was eembedded inthe ESIA study**[70].
- Ensure the implementation of all mitigation measures necessary to protect biodiversity and ecosystems.
- All forest biomass used in the process must comply with the forestry regulatory frameworks (LAW N°47bis/2013 OF 28/06/2013 Determining the management and utilisation of forests in Rwanda) and refer to the Law governing biological diversity.

70 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

5.3.14. Urban Heating Facilities

Construction of urban centralised heating facilities using low-grade industrial waste heat sources or other clean heat sources; and energy-saving and environmentally friendly technological renovation activities of urban centralised heating boilers, heating pipe networks and other centralised heating facilities. Construction, refurbishment and operation of pipelines and associated infrastructure for distribution of heating and cooling, ending at the sub-station or heat exchanger.

ISIC Codes: 3530

Eligibility Criteria

- The construction and operation of pipelines and the infrastructure associated with the distribution of heat and cooling are activities eligible if the system complies with the regulations available regarding energy efficiency.
- All energy sources for heat/cooling must come from taxonomy-eligible activities. **Note**: for the production of heat and cooling from waste heat, refer to activity "Generation of heat/cool from waste heat".

- **Note**: The following activities are always eligible:
  - Modification to lower temperature regimes.
  - Advanced pilot systems (energy management and control systems, Internet of Things).

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Water

Implement measures for water recycling or efficiency for internal use.

5.3.15. Transmission and Distribution Network for Renewable or Low-Carbon Gases

This activity refers to the conversion, reuse or retrofitting of existing gas networks for use in the transport and distribution of renewable and low-carbon gases (e. g. low-carbon hydrogen).

ISIC Codes: 3520, 4940

Eligibility Criteria

The activity must comply with the following criteria:

- The activity consists of **one of the following**:
  - Construction or operation of new transmission and distribution networks dedicated to hydrogen or other low carbon gases that have life cycle emissions of less than 100gCO_2e/kWH.
  - Conversion/reuse of existing natural gas networks to 100% low-carbon hydrogen.
  - Gas transmission and distribution network upgrades that enable the integration of hydrogen and other low-carbon gases into the network, including any gas transmission or distribution network activity that enables the increased mixing of hydrogen or other low-carbon gases into the gas system.
- The activity must include leak detection and repair of existing gas pipes and other network elements to reduce methane leakage.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

The activity has no specific requirements.

5.3.16. Cogeneration of Heat/Cool and Power from Solar Energy

Cogeneration refers to the joint production, in a sequential process, of electrical or mechanical energy and useful thermal energy from the same primary energy source. The main source of this activity is concentrated solar power, which provides a higher overall energy yield than the separate generation of electricity and heat.

ISIC Codes: 3510, 3530

Eligibility Criteria

- This activity is directly eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Ensure that the equipment and components are of high durability and recyclability, which are easy to dismantle and recondition.

Ecosystems and biodiversity

- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[71].
- Avoid possible negative impacts on birdlife due to the high temperatures generated by the plants.

Water

- Avoid potential negative impacts of cooling systems on water resources.

5.3.17. Cogeneration of Heat/Cool and Power From Geothermal Energy

Cogeneration refers to the joint production, in a sequential process, of electrical or mechanical energy and useful thermal energy from the same primary energy source. The main source of this activity is geothermal energy, which provides an overall energy yield higher than the separate generation of electricity and heat. In this activity, it is important to ensure that the activity has no life cycle impacts.

ISIC Codes: 3510, 3530

Eligibility Criteria

The activity is eligible if the Life cycle GHG emissions from combined heat/cold and power generation from geothermal energy are less than 100gCO_2e/kWh in combined generation. Life cycle GHG emissions are calculated based on project-specific data, where available, using methodologies such as ISO 14067: 2018 or ISO 14064-1: 2018. Quantified life cycle GHG emissions must be verified by an independent third party.

Note: other methodologies for the calculation of emissions for this activity are GEOENVI LCA Toolkit and S4CE – University College London & TWI.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Pollution

- For the operation of high enthalpy geothermal energy systems, appropriate emission reduction systems are in place so as not to hinder the achievement of air quality limit values.
- Prevent non-condensable geothermal gases with specific environmental threats, such as H2 S, CO_2 and CH4, which are released from the flash steam and dry steam power plants of this activity.
- Avoid possible emissions to surface water and groundwater.
- Thermal anomalies associated with waste heat discharge should not exceed 3°K for groundwater environments or 1.5°K for surface water.

5.3.18. Cogeneration of Heat/Cool and Power From Bioenergy

Cogeneration refers to the joint production, in a sequential process, of electrical or mechanical energy and useful thermal energy from the same primary energy source. The main source of this activity corresponds to energy from bioenergy and provides a higher overall energy yield than the separate generation of electricity and heat. In this activity, it is important to ensure that the activity has no life cycle impacts and that the biomass comes from sustainable sources.

ISIC Codes: 3510, 3530

Eligibility Criteria

The manufacture of biomass and biofuels is eligible if the feedstock meets one of the following criteria:

- Bioenergy produced from waste (e.g. agricultural, municipal) is eligible, and full traceability of the feedstock supply must be ensured or
- The feedstock used for bioenergy production complies with the criteria for the relevant activities in the agriculture sector or
- The feedstock used for bioenergy production must comply with sustainability certifications such as:
  - Forest Stewardship Council (FSC)
  - Voluntary Biomass Biofuels Scheme (2BSvs)
  - Bonsucro – International Sustainability and Carbon Certification (ISCC Plus)
  - Roundtable on Sustainable Biomaterials (RSB)
  - Roundtable on Responsible Soy (RTRS)
- Where installations are based on anaerobic digestion of organic material, the digestate production can be used as compost, fertiliser and raw material for

71 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

composting. Activities that facilitate the use and utilisation of biogas (such as dewatering, compression or similar) are also eligible.
- If the feedstock is biogas, methane leakage is controlled by a monitoring plan and effective measures to prevent methane emissions and the digestate produced is used as fertiliser, soil improver or other uses, directly or after composting or other treatment.

Note: Biomass Environmental Assessment Tool (BEAT2) is a product of the GHG Protocol, developed for the Environment Agency and Defra (Department for Environment, Food and Rural Affairs), which assesses the potential environmental impacts of biomass energy projects, including life cycle emissions results. Reference can also be made to the UNFCCC methodology ACM0018 for Biomass Electricity Generation in Power Plants

General compliance requirements
- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Ecosystems and biodiversity
- All projects must comply with the **Environmental and Social Impact Assessment (ESIA) and enforce Environmental and Social Management Plan (ESMP) that was embedded in the ESIA study**[72].

Ensure the implementation of all mitigation measures necessary to protect biodiversity and ecosystems.

- All forest biomass used in the process must comply with the forestry regulatory framework (LAW N°47bis/2013 OF 28/06/2013 determining the management and utilisation of forests in Rwanda)

Circular economy

If the feedstock is industrial bio-waste (including from food industries) or municipal bio-waste:
- Solid bio-waste used in the manufacturing process must come from non-hazardous and source-separated waste streams.
- Bio-waste must comply with the waste regulatory framework and with national, regional and local waste management plans; particularly with the proximity principle[73].

Where municipal biowaste is used as feedstock, the project is complementary and does not compete with the existing municipal biowaste management infrastructure.

5.3.19. Generation of Heat/Cool From Waste Heat

Construction and operation of facilities that produce heat/cool using waste heat.

ISIC Codes: 3530

Eligibility Criteria
- All heating/cooling production activities using waste heat are eligible.

General compliance requirements
- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

Ensure that the equipment and components are of high durability and recyclability, which are easy to dismantle and recondition.

Pollution
- The pumps and the equipment used must have an eco-design and energy label, complying with energy efficiency requirements.

72 Please refer to **MINISTERIAL ORDER No 001/2019 OF 15/04/2019** which establishes the list of projects that must undergo environmental impact assessment, instructions, requirements and procedures to conduct environmental impact assessment.

73 The proximity principle refers to the fact that management facilities should be located as close as possible to the generators, thus avoiding unnecessary relocations leading to higher environmental impacts (e.g., increased carbon footprint scope 3) and associated risks.



5.4. – Transportation

Transport is one of the key strategic pillars of Rwanda's economic growth and the enabler of social inclusion and prosperity of the citizens. This sector has been experiencing significant growth and development in Rwanda, with the government investing in various initiatives to improve infrastructure and enhance connectivity both domestically and internationally. Currently, the transport sector contributes approximately 10 % of the country's GDP[74].

Road transport accounts for 13 % of total greenhouse gas emissions in Rwanda. The Green Growth and Climate Resilience Strategy has been guiding local initiatives to promote sustainable mobility in Rwanda. The specific programme of action has four key components that include:

- Improving the efficiency of the internal combustion engine (ICE) vehicles measured by reduction in emissions per kilometre.
- Awareness of new technology
- Investments in infrastructure
- Developing efficient operational systems measured by reduction in emissions per km.

Rwanda has been actively pursuing green transport policies and strategies to promote sustainable and environmentally friendly transportation options. Therefore, the importance of reducing emissions from the transport sector to tackle climate change and enhance air quality is recognised by the local authorities.

Policies and hard infrastructure to facilitate a transition to widespread adoption of electric vehicles are planned to be a priority. As Rwanda aims to become a regional transport hub, low-carbon transport such as railways will be prioritised[75]. Also, a multimodal transport system for both freight and passengers will focus on low-carbon railways with efficient links to road transport to reach throughout the country.

5.4.1. Urban Public Transport

Public transport systems should prioritise sustainable modes of transport that link mobility systems with the urban infrastructure and have an efficient operation that favours the mobilisation of more passengers with better frequencies and vehicles, including electricity-powered cable cars.

Given the high emissions they generate, public transport systems must strive to prioritise sustainable transport modes that articulate mobility systems with the urban structure and have an efficient operation that enhances the mobilisation of more passengers with better frequencies and vehicles. In this sense, urban public transport must demonstrate a substantial reduction in GHG emissions by:

- Increase or renew the fleet of low or zero-emission vehicles, thus improving the efficiency of the urban public transport system with a lower carbon footprint.

- Be aligned with the sectoral decarbonisation plans that the country has, as well as with the instruments or sustainable mobility plans.

ISIC Codes: 4921, 4911

Eligibility Criteria

The Eligibility Criteria for the activity are as follows:

1. All direct zero-emission urban land, rail or inland public transport activities (e. g. electric or powered by low-carbon hydrogen) are directly eligible.

2. Public land transport fleet (passengers):
   - New fleet: direct tailpipe emissions are less than 20 gCO_2e/pkm until 2028 (after this, only fleet with zero direct emissions listed in the previous category will be eligible).

74 https://www.statistics.gov.rw/statistical-publications/subject/tourism-and-transport/reports

75 Currently, Rwanda has no railway network. However, the country is working in partnership with other countries of the region to develop a railway network

3. Inland water transport fleet (passengers): public inland passenger transport meets any of the following criteria:

   - » Ships that have zero direct CO_2 emissions (tailpipe) are directly eligible.
   - » Vessels using sustainable biofuels or biogas, guaranteed either by technological design or continuous monitoring and third-party verification. Ensure the use of transport technologies that allow the use of 100% biofuels.
   - » Inland water passenger transport is eligible if direct emissions are less than 50 gCO_2e/pkm (criteria are based on estimated current occupancy (passenger-km) and not on capacity offered (seat-km or seat-km) until 2028 (after this, only fleet with zero direct emissions listed in the previous criteria will be eligible).
   - » Until 31 December 2028, hybrid and dual-fuel ships obtain at least 50% of their energy from fuels with zero direct emissions (tailpipe) of CO_2 or from plug-in power for normal operation.

Note: Some methodologies for calculating emissions and improving efficiency in the transport sector that can be considered are:

- Efficient operation of public transport (AMS-III.BN): this methodology is applied to project activities that implement measures that improve the efficiency of public bus transport operation.
- GHG Protocol – GHG Emissions Calculation Tool for Mobile Sources: This tool calculates CO_2, CH4 and N2O emissions from public transport by road, rail, air, and water.
- ISO 14083:2023 Greenhouse gases – Quantification and reporting of greenhouse gas emissions arising from transport chain operations

To estimate the emissions associated with fleets of vehicles or rolling stock for public transport, the following parameters can be considered:

- Types of fuels or biofuels
- Emission factors for each mode of transport
- Performance of the different types of vehicles to be considered
- Weights of vehicles, passengers and loads *Load factors and percentage of empty runs
- Kilometres travelled by passengers *Distances travelled
- Numbers of journeys

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Measures must be in place to manage waste, according to the type of waste, both in the use (maintenance) phase and at the end of the fleet's useful life, including through the reuse and recycling of batteries and electronic equipment (the critical raw materials they contain).
- Where the modes of transport run on batteries, those measures include the reuse and recycling of batteries and electronic components, including critical raw materials.

Contamination

- Both maintenance and end-of-life management of vehicles must comply with the country's regulations on Integral Management of Waste or Hazardous Waste.
- Comply with air regulations dictated in Law No. 18/2016 of 18 May 2016 and the East African Community Standard (EAS751:2001) and EAS 1047:2022 standards on Air Quality – Vehicular exhaust emission limits.
- Comply with the noise regulations corresponding to the country.
- In relation to direct emissions into the air of the exhaust gases of internal combustion engines – nitrogen oxides (NOx), total hydrocarbons (THC), hydrocarbons other than methane (NMHC), carbon monoxide (CO), particulate matter (PM), buses must comply with the Euro VI standard in force or higher.
- Some international standardisation standards that allow verifying GHG and noise emissions in the transport sector are ISO 13.040.50: Emissions from mobile sources; ISO 362 Measurement of noise emitted by accelerating road vehicles; ISO 28580:2018 – Method of measuring the rolling resistance of passenger cars, trucks and buses tyres.

Water

- The cleaning practices of the vehicles must be carried out in places specifically destined for this task, making rational use of the water resource and avoiding wastewater discharges that do not comply with the relevant environmental permits and authorisations.

5.4.2. Micromobility

Micromobility refers to a transportation option in small and light vehicles, which usually operate at speeds of less than 25 kilometres per hour and are ideal for trips of up to 10 kilometres (Institute for Transport and Development Policy, 2020). This is a transportation option that can be human-powered or electric and used individually or shared by several people. Today's micromobility solutions include lightweight vehicles such as skateboards, bicycles, and other small means of transport, which are typically electric.

ISIC Codes: 7710, 7721

Eligibility Criteria

Any fleet or micromobility system of freight or passenger transport with zero direct emissions is directly eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

There are no specific requirements for this activity.

5.4.3. Transport Infrastructure

The activity includes infrastructure, machinery and equipment required to promote sustainable means of transport, as well as computer equipment for the provision of control services and maintenance facilities.

Actions that tend to the construction, rehabilitation, operation and maintenance of transport infrastructure are eligible because they are decisive to promote and enable more sustainable and efficient means of transport. Sustainable infrastructure must, therefore, be climate resilient, socially inclusive, technologically advanced, productive and flexible.

Low-carbon infrastructures are those that generate the lowest carbon (CO_2) emissions compared to the infrastructure alternatives possible for the provision of a specific transport service under national conditions.

ISIC Codes: various codes, mostly, but not exclusively, within F42

Eligibility Criteria

The activity is eligible if it meets one of the following criteria:

- Infrastructure that is required for transport with zero direct emissions in urban or rural areas (e.g. electric charging points, grid connection upgrades[76], hydrogen fuel stations or electric highways).
- Infrastructure and equipment (including fleets) for active micromobility (pedestrian, bicycle and scooters), including e.g. redistribution of the road profile to increase pedestrian area and cycle lanes and micromobility systems in general; urban and rural equipment for stations of shared public micromobility systems; points of consolidation and urban distribution of last-mile goods in micromobility and cross-docking systems, etc.), whether the fleet of vehicles or modes of transport using the infrastructure comply with eligibility criteria from the present taxonomy.
- Non-electrified railway infrastructure with an existing plan for electrification or use of reciprocating trains.
- Infrastructure and equipment for urban logistics in general (e.g. urban logistics corridors, logistics platforms, urban freight consolidation and distribution centres, etc.)
- Technological infrastructure and platforms for mobility as a service in freight and passenger transport.
- Infrastructure that moves towards multimodal, rail or inland transport, regardless of the type of fleet it uses, assuming that it will decrease the net emissions caused by replacing road mobility
- The infrastructure dedicated to the operation of ships with zero direct CO_2 emissions (tailpipe): electricity charging, hydrogen-based refuelling
- The infrastructure dedicated to the supply of electricity on land to berthed ships.
- The infrastructure dedicated to the performance of the port's own operations with zero direct CO_2 emissions (tailpipe).
- The infrastructure and facilities dedicated to the transhipment of goods between modes: terminal infrastructure and superstructures for loading, unloading and transhipment of goods.
- Services associated with the purchase, maintenance, recycling and replacement of batteries for vehicles and low-carbon transport infrastructure.
- Adaptation of urban and interurban transport infrastructure to improve its efficient use (load factors) and generate behavioural changes (demand) in users (e.g. high occupancy lanes; technology for parking and intelligent transport systems; technology to support staggered schedules; technological road

76 These grid upgrades should not lead to grid instability

pricing systems, such as electronic urban tolls; control systems for exclusive bus lanes, etc.), and in general, infrastructure and technology for demand management projects that are defined as potential GHG reduction measures.

Ineligibility Criteria

Infrastructure dedicated to the transportation of fossil fuels or mixed fossil fuels is not eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Ecosystems and biodiversity

- Avoid the fragmentation and degradation of the natural and urban landscape and the risks of road incidents or accidents, as well as wildlife accidents caused by collisions. When possible and supported by biodiversity studies, wildlife crossings are introduced where appropriate to allow safe crossings of animals when new transport routes are introduced.
- Avoid possible negative impacts on aquatic ecosystems caused by tunnels that cause changes and degradation of the hydromorphological conditions of water bodies.
- Take measures to monitor and protect urban ecosystems, in particular public spaces, urban green areas and urban trees.

Circular economy

- Reuse parts and use recycled material during the renovation, improvement, and construction of infrastructure.
- Increase the preparation, reuse, recycling and recovery of non-hazardous construction and demolition waste and comply with the country's regulatory provisions associated with the integral management and co-processing of solid waste. Comply with Law No. 48/2018 of 13/08/2018 on Environment (CHAPTER IV, article 18, 19,20: solid waste management, management of hazardous and toxic waste and management of electronic waste).

Contamination

- Minimize noise and vibration caused by infrastructure use (e. g., introduction of open trenches and wall barriers).
- Reduce noise, dust and pollution from emissions during construction and infrastructure maintenance works.

5.4.4. Interurban Transport (freight and passenger)

Interurban transport is that which is carried out between urban centres belonging to different municipal terms and can be road, rail, inland freight, and interurban passenger services. This activity refers to the movement of goods or passengers on public roads. Its purpose is to demonstrate a substantial reduction in GHG emissions by:

- Increasing the number of low- and zero-emission vehicles and improve vehicle efficiency.
- Increasing fossil fuel substitution with sustainable, net-zero carbon alternative fuels.

ISIC Codes: 4921, 4911

Eligibility Criteria

The following assets are eligible under the taxonomy:

1. A fleet of vehicles or rolling stock intended for inter-municipal transport, whether freight or passenger, road, rail, or inland transport with zero direct emissions, is directly eligible.

2. Vehicles that use sustainable biofuels and biogas, guaranteed by technological design or by continuous monitoring and third-party verification. Ensure the use of transport technologies that enable the use of 100% biofuels.

3. Transition criteria: For intercity rail service:
   - Interurban rail passenger transport is eligible if direct emissions are less than 50g of CO_2e emissions per passenger-kilometre (gCO_2e/pkm) until 2028. After this year, the new projects must be zero emissions.
   - The direct emissions for freight transport by rail must be less than 25 gCO_2/tkm until 2028 (after this year, only rolling stock with zero direct emissions will be eligible).

4. For inland freight service:
   - Vessels operating solely using biofuels and renewable fuels, guaranteed either by technological design or by continuous monitoring and third-party verification. Ensure the use of transport technologies that allow the use of B100 mixtures with high standards of product quality and efficiency. When applicable, please refer to ISO 17225-1:2021 – Solid biofuels, EN590 (biodiesel), EN14214 (FAME), EN228, and EN15736 (bioethanol) for more guidance.

» Other inland waterway vessels are eligible if the direct (tailpipe) emissions of CO_2 per tonne-kilometre (gCO_2/tkm), calculated (or estimated in the case of new ships) using the Energy Efficiency Operational Indicator, are 50% below the average reference value for CO_2 emissions defined for heavy-duty vehicles.

Some useful methodologies for the calculation of these emissions in the transport sector are:

- GHG protocol[77] – GHG emission calculation tool for mobile sources: this tool calculates CO_2, CH4 and N2O emissions from public transport by road, rail, air, and water.
- GHG protocol – category 4: emissions in the transport and distribution of goods: a guide to calculating emissions associated with the transport and distribution of products.
- Trip avoidance through equipment improvement of freight transport: this methodology is applicable to project activities that reduce the number of journeys required to transport a given quantity of goods through improvements to freight vehicles.

Ineligibility Criteria

The fleet of vehicles or rolling stock carrying fossil fuels or fossil fuels mixed with alternatives is not eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Circular economy

- Measures must be in place to manage waste, according to the type of waste, both in the use (maintenance) phase and at the end of the fleet's useful life, including through the reuse and recycling of batteries and electronic equipment (the critical raw materials they contain).
- Where the means of transport runs on batteries, those measures must include the reuse and recycling of batteries and electronic components, including the critical raw materials they contain.

Contamination

- Both maintenance and end-of-life management of vehicles must comply with the country's regulations on Integral Management of Waste or Hazardous Waste.
- Comply with the noise regulations corresponding to the country and that apply to this activity, as well as with the air regulations dictated in Law No. 18/2016 of 18 May 2016 and the East African Community Standard (EAS751:2001) and EAS 1047:2022 standards on Air Quality – Vehicular exhaust emission limits.
- The tyres meet the requirements for external rolling noise in the most populated class and for the rolling resistance coefficient (which influences the energy efficiency of the vehicle).
- In relation to direct emissions into the air of exhaust gases from internal combustion engines – nitrogen oxides (NOx), total hydrocarbons (THC), hydrocarbons other than methane (NMHC), carbon monoxide (CO), particulate matter (PM) –, buses must comply with the Euro VI standard in force.
- Some international standardisation standards that allow verifying GHG and noise emissions in the transport sector are ISO 13.040.50: Emissions from mobile sources; ISO 362 Measurement of noise emitted by accelerating road vehicles; ISO 28580:2018 – Method of measuring the rolling resistance of passenger cars, trucks and bus tyres.
- Vehicles must comply with the maximum permissible noise levels, according to National Noise Pollution Guideline
- In the case of transport by rail and inland (passengers and goods), compliance with the maximum permissible limits of pollutants of the US EPA test cycles must be demonstrated, as long as there are no national regulations.

Water

- The cleaning practices of the vehicles must be carried out in places specifically destined for this task, making rational use of the water resource and avoiding wastewater discharges that do not comply with the relevant environmental permits and authorisations.

5.4.5. Passenger Cars and Light Commercial Vehicles

Electric vehicles for passenger transport are considered directly eligible. Likewise, those that have been developed with other renewable alternatives, such as low-carbon hydrogen, are also directly eligible to emit no emissions. These vehicles can play an important role in reducing carbon emissions and emerge as an emerging market in countries' economies.

77 https://ghgprotocol.org/calculation-tools-and-guidance

ISIC Codes: 492

Eligibility Criteria

The following assets are eligible under the taxonomy:

- Zero-emission vehicles are directly eligible (e. g., electricity or low-carbon hydrogen).
- Transition criteria: Hybrid vehicles will be eligible until 2028.

Ineligibility Criteria

Hybrid vehicles that use diesel are not eligible.

General compliance requirements

- The economic activity or project must demonstrate compliance with the general compliance requirements (Do No Significant Harm) described in this technical document.

Specific Compliance Requirements

Contamination

- Both maintenance and end-of-life management of vehicles must comply with the country's regulatory provisions on integrated management and co-processing of solid waste.
- Regarding air and noise pollution, private transport vehicles must comply with the policies incorporated in the WP.29 World Forum for Harmonization of Vehicle Regulation.



6. – Fostering the Implementation of Rwanda's Taxonomy

6. – Fostering the Implementation of Rwanda's Taxonomy

A taxonomy can be the **engine and core of decarbonisation policy, but it cannot be applied independently**. Many areas of its application require additional documentation that will allow the taxonomy to be applied for various uses in the market. Although there is no fixed or defined structure for implementing a taxonomy, there are different actions that can be developed to promote the gradual integration of this instrument into different institutional frameworks.

The roadmap for Rwanda Taxonomy implementation is based on the development of a **prioritisation matrix** to optimise the gradual implementation of the Taxonomy in the market. This matrix will serve as a guide for **Rwandan policymakers** to comprehend and orient the **actions that should be prioritised** in the **short, medium, and long term** in the country about achieving an effective usage of the taxonomy and the regulatory embedding.

The "Fostering the Implementation of Rwanda's Taxonomy" document details the proposed actions to be developed for the implementation of the Rwandan taxonomy, which is an additional supporting document to the taxonomy. However, the main findings of the prioritisation are summarized below:

What actions should be priorised to promote the taxonomy's implementation?

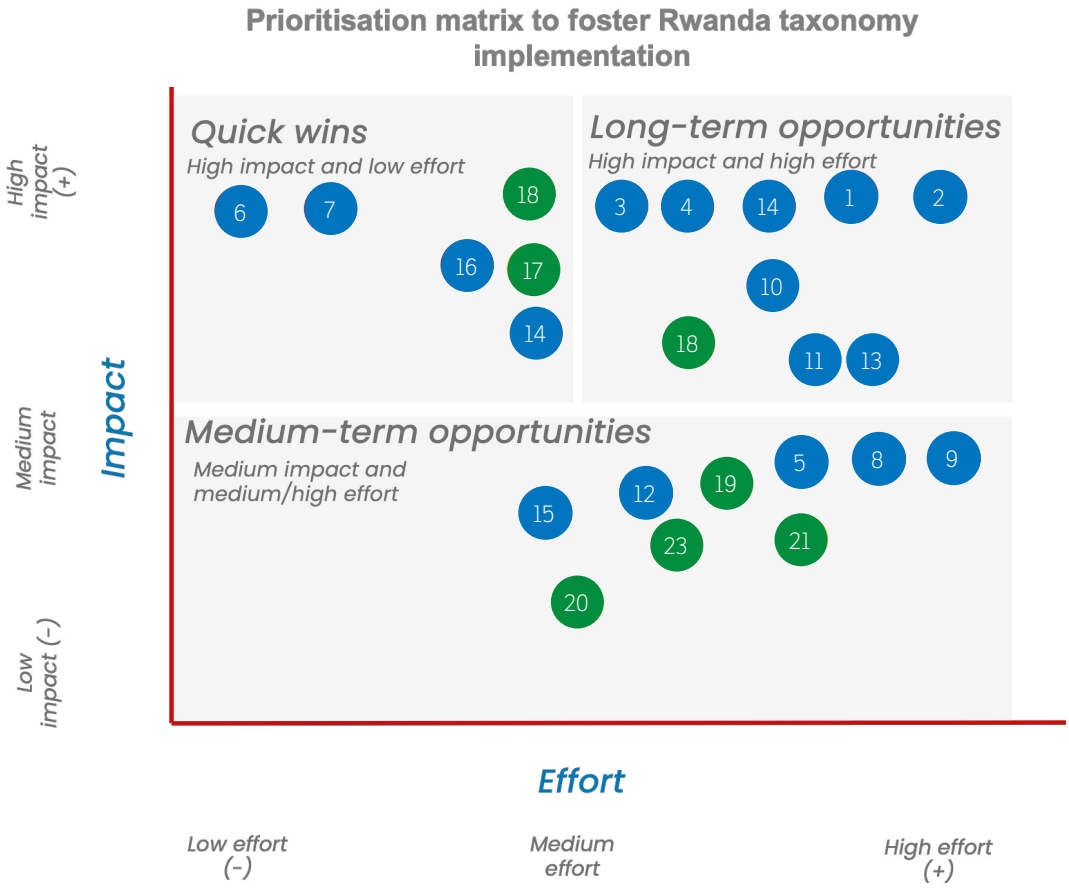

Figure 9. **Prioritisation matrix to foster Rwanda taxonomy implementation.**

Policy and regulations		Capacity building and testing	
Regulations		17	Taxonomy implementation pilots for different market users
1	Develop disclosure regulations using the taxonomy	18	Capacity building sessions about Taxonomy
2	Develop regulations for aligning green financial products in the market with the Taxonomy	19	Developmet of proxies and other implementation guidelines
Financial instruments		20	Development of digital tools for easy use of taxonomy
3	Guidelines for issuance of green bonds using international frameworks and the taxonomy criteria	21	Development of auto evaluation tools
4	Guidelines for development of other green debt instruments using taxonomy criteria (e.g., loans, microfinance)	22	Comparison of Rwanda Taxonomy with other international taxonomies
5	Insurance products and services using taxonomy criteria	23	Development of training programmes and MOOC courses
Investments Fund			
6	Aligment between Ireme Invest and taxonomy		
7	Alignment between FONERWA's investment eligibillity criteria and taxonomy		
8	Development of guidelines for labeling of ESG, green and sustainable funds based on taxonomy		
Monitoring and tracking of taxonomy-aligned finance flows			
9	Development of an MRV system for tracking sustainable investments based on taxonomy		
10	Green budget tagging based on taxonomy		
National environmantal and climate strategies			
11	Alignment of national strategies and taxonomy		
12	Guidance for incorporating taxonomy criteria in environmental licenses		
13	Expanding sectoral strategies based on taxonomy		
14	Expanding the taxonomy to other environmental objectives and sectors		
Subsidies and incentives			
15	Develop green guarantees, subsidies and benefits for implementing activities covered in the taxonomy		
16	Develop incentives for green products aligned with the taxonomy		

Figure 9. **Prioritisation matrix to foster Rwanda taxonomy implementation.**

The prioritisation matrix contemplates actions in **two dimensions**, namely:

1. **Policy and regulations** include actions aimed at integrating **the taxonomy into the national policies** to ensure its **operability** in the country. This dimension covers six components:
    - **Regulations**: actions to integrate the taxonomy into the disclosure regulations for sustainability reporting and the development of different regulations for aligning green financial products in the market with the taxonomy.
    - **Financial instruments**: actions related with the design of new green products based on taxonomy criteria (green bonds issuance using international frameworks and taxonomy criteria, green loans, green insurance products and services).
    - **Investment funds**: actions to align current investment funds in the country with the taxonomy criteria. Also, the importance of using the taxonomy to develop guidelines for labelling ESG, green and sustainable funds.
    - **Monitoring and tracking**: actions to integrate taxonomy into the measurement of the effectiveness of environmental and climate change expenditure in the country (green budget tagging).
    - **National environmental and climate strategies**: actions to align the national environmental and climate strategies and regulations using the taxonomy criteria and actions to expand the taxonomy to other environmental objectives and sectors.
    - **Subsidies and incentives**: actions to develop incentives or other benefits for implementing activities covered in the taxonomy.
2. **Capacity building and testing** includes actions aimed at the creation of guides and different tools to promote the understanding and appropriation of the Rwandan taxonomy by different actors, both governmental and non-governmental. These tools should be designed to guide the technical content and it will be beneficial for users to refer to in order to facilitate the taxonomy implementation.

The key actions for Rwanda Taxonomy implementation are presented in the diagram below:

Policy and Regulation		
Quick wins	**Medium term**	**Long term**
› Alignment between IREME Invest and Rwanda Taxonomy	› Develop green guarantees and subsidies for activities covered in the taxonomy	› Guidelines for issuance of green bonds using international frameworks and the taxonomy
› Alignment between FONERWA's and the Rwanda Taxonomy	› Guidance for incorporating taxonomy criteria in environmental licenses	› Guidelines for development of other green debt instruments using taxonomy
› Develop incentives for green products aligned with the taxonomy	› Guidelines for insurance products and services using taxonomy	› Green budget tagging based on Rwanda Taxonomoy
› Expanding the taxonomy to other environmental objectives and sectors	› Development of an MRV system for tracking sustainable investments	› Alignment of national strategies based on Rwanda Taxonomy
		› Expanding the taxonomy to other environmental objectives and sectors

Figure 10. **Actions proposed for Policy and regulations dimension**

Capacity building and testing		
Quick wins	**Medium term**	**Long term**
› Capacity bulding sessions on Rwanda taxonomy for the market users and regulators › Rwanda Taxonomy implementation pilots for different market users and regulators	› Development of digital tools for easy use of taxonomy › Development of proxies and other imlementation guidelines › Development of auto evaluaton tools (e. g., review of projects and portfolio) › Development of training programs and MOOC courses	› Comparison study of Rwandan Taxonomy with other international taxonomies

Figure 11. **Actions proposed for Capacity building and testing dimension**

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Ministry of Finance and Economic Planning
12 KN 3 Ave
Kigali, Rwanda
T +250 252 577 581
I www.minecofin.gov.rw

Ministry of Environment
Pension Plaza, KN 3 Rd
Kigali, Rwanda
T +250 788 562 361
I www.environment.gov.rw

Implemented by:
Deutsche Gesellschaft für
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Registered offices:
Bonn and Eschborn, Germany

Dag-Hammarskjöld-Weg 1–5
65760 Eschborn, Germany

T +49 61 96 79-0
E transforming.finance@giz.de
I www.giz.de/en

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Editors:
GIZ Bilateral Program Macroeconomic and Investment Policies, GIZ Global Program Sustainable Economic Transformation and Sustainable Finance

Authors:
Climate Bonds Initiative
Ambire Global
Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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