Rwanda Green Taxonomy

INTRODUCTION AND USER GUIDE

Sustainable Finance Advisory Hub
An EU-Led Initiative

Republic of Rwanda

german cooperation
DEUTSCHE ZUSAMMENARBEIT

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Glossary

Activity	When a company offers goods or services, it performs an economic activity. The universe of economic activities is described using ISIC codes, which cover 21 broad sectors and with four further levels of differentiation. At the fourth level, 615 classes of economic activity are identified. The ISIC codes map directly to the EU's NACE classification system. Any economic activity not directly covered by ISIC codes, such as buildings, has been identified as a cross-cutting activity for climate change mitigation and adaptation, in line with the EU Taxonomy.
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, bio jet paraffin, among others). • Biogases (from anaerobic fermentation and thermal processes). For full definition, please refer to the EU glossary.
Biodiversity	"The variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems." (IUCN, 2010) or IPBES (2015).
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 the biological part of waste. Using biomass as fuel is considered carbon neutral, as carbon was trapped in 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	Climate transformations are attributed to human activity that directly or indirectly alters 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 (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	A Biological process that subjects biodegradable waste to anaerobic or aerobic decomposition that results in a product used in soil or for producing 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 manifested 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 contains a list of activities that are making substantial contribution to climate and environment objectives (e.g. aimed at achieving climate-related objectives) 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 (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF_6). (SA Green Finance Taxonomy, 2022)
International Standard Industrial Classification of all economic activities (ISIC)	The International Standard Industrial Classification of all economic activities (ISIC)is a coherent and consistent classification structure for economic activities based on a set of concepts, definitions, principles and classification rules. It 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 policymaking.
Climate change mitigation	Avoiding and reducing emissions of heat-trapping greenhouse gases in the atmosphere to prevent the planet from warming to more extreme temperatures. (SA Green Finance Taxonomy, 2022). In the text of the Taxonomy, the adjective "green" is colloquially used to mean "contributing to climate change mitigation and other Taxonomy objectives".
Measure	A one-time action contributing to the objectives of the Taxonomy.
Nationally Determined Contributions (NDCs)	A term used under the United Nations Framework Convention on Climate Change (UNFCCC), under which a country acceded to the Paris Agreement specifies its 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. Under Article 4.2 of the Paris Agreement, each Party shall prepare, communicate and maintain its successive intended nationally determined contributions. Before 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
Project	A project in the energy, transport, and construction sectors is usually associated with implementing measures necessary to move the emission intensity or other essential parameters of the activity closer to the Taxonomy criteria. For the project to make a substantial contribution to the objectives of the Taxonomy, all expenses associated with it must be directed to achieving the result stipulated by the criteria. In the agricultural sector, a project usually involves implementing certain practices listed in the relevant agricultural tables that move the farm from its present state to a more sustainable state.
Renewable energies	Sustainable Energy sources, within a short time frame compared to the Earth's natural cycles, include non-carbon technologies such as solar, hydro and wind, and carbon-neutral technologies such as biomass (IPCC 2001).
Revenue	Revenue or net turnover means the amounts derived from the sale of products and the provision of services after deducting sales rebates, value-added tax and other taxes directly linked to turnover. Overall turnover is equivalent to a firm's total revenues over a defined period. Financial analysts use turnover ratios to assess a company's efficiency and profitability based on data found in financial statements. **Use**: The primary way of aggregating from an economic activity to a company level. Some companies may need to aggregate from asset to economic activity level.
Threshold	The magnitude or intensity that must not be exceeded for a certain reaction, phenomenon, result, or condition to occur or be manifested. (South Africa Green Finance Taxonomy, 2022)
Zero direct emissions	Direct GHG emissions are emissions from sources that are owned or controlled by the reporting entity (GHG Protocol). Zero direct emissions are the production of zero direct greenhouse gas emissions (at the point of use) under normal operating conditions.

List of 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
CBRT	Climate Bonds Resilience Taxonomy
CH4	Methane
CM	Combined Margin
CMA	Capital Market Authority
CO	Carbon Monoxide
CO2	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
EU	European Union
FONERWA	Rwanda Green Fund
GDP	Gross Domestic Product
GGCRS	Green Growth and Climate Resilience Strategy
GGGI	Global Green Growth Institute
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

GRI	Global Reporting Initiative
H2S	Hydrogen Sulfide
ICPAR	Institute of Certified Public Accountants of Rwanda
ICE	Internal Combustion Engine
IEA	International Energy Agency
IEMP	Integrated Environmental Management Plan
IFMP	Integrated Farm 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
TNFD	Task Force on Nature-Related Financial Disclosure
TEG	Technical Expert Groups
THC	Total Hydrocarbons
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. Executive Summary

1.1. Background

Rwanda has set a green growth agenda for development that requires an estimated USD 11 billion to achieve its 2030 Climate Action Plan goals, known as National Determined Contributions (NDCs) under the Paris Agreement. Attracting this level of investment, from both the public and private sectors, requires a clear definition of "sustainable".

A taxonomy, in the context of sustainable finance, is an essential domestic framework and classification system that enables the identification and classification of sustainable economic activities. Taxonomies are used globally to create a uniform standard for sustainability in the financial sector and to establish transparency and comparability of sustainable investments. This helps prevent greenwashing and channels capital into sustainable economic activities. It also 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 attract money from climate-conscious international investors, achieve its NDC goals, and adapt its economy to the inevitable impacts of climate change.

The development of Rwanda's Green 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. It is also an innovative framework for the inclusion of activities that contribute to climate change adaptation and resilience.

Rwanda's Green Taxonomy is a framework that aims to define sustainability criteria, foster shared understanding and trust on what constitutes a green investment, and prevent greenwashing. The Taxonomy abides by internationally recognized core principles, and has defined the following climate and environmental objectives based on the highest relevance to Rwanda:

Figure 1. Objectives of Rwanda's Green Taxonomy[1]

CLIMATE CHANGE MITIGATION

CLIMATE CHANGE ADAPTATION AND RESILIENCE

SUSTAINABLE USE AND PROTECTION OF WATER RESOURCES

POLLUTION PREVENTION AND CONTROL

PROMOTION OF CIRCULAR ECONOMY

PROTECTION OF BIODIVERSITY AND ENVIRONMENT

SUSTAINABLE LAND MANAGEMENT AND AGRICULTURE
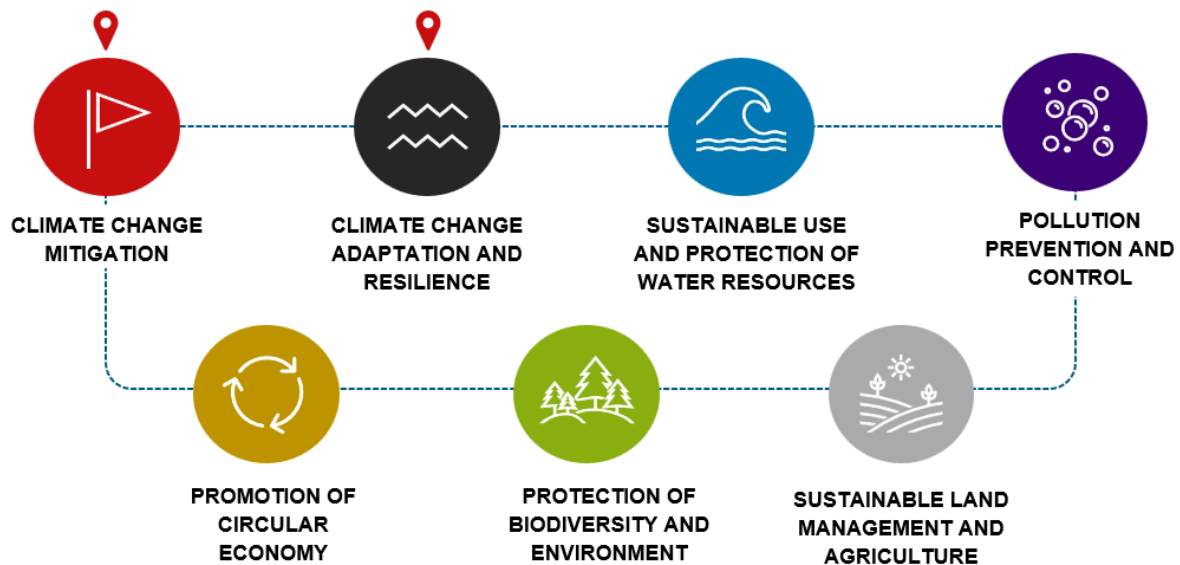
1.1.1. Rationale for the Development of Rwanda's Green Taxonomy

A robust Green Taxonomy has significant advantages for different groups in Rwanda, including investors, issuers of green bonds, regulators, policymakers, bankers, and society.

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

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[1] As of Phase II of Rwanda´s Green Taxonomy development, two objectives – climate change mitigation and adaptation and resilience are addressed regarding substantial contribution. Sectors and activities that substantially contribute to climate change mitigation are noted in Annex I, whereas sectors and activities that contribute to climate change adaptation are indicated in Annex II. Given the nature of the land use sectors (agriculture, livestock, and forestry), a practice-based approach was developed that considers substantial contributions to several environmental objectives in a cross-cutting manner. The respective practices are noted in Annex III. Other sectors and activities contributing to the rest of the objectives shall be incorporated in further updates to the Taxonomy.

1.1.2. Development Process and Governance Structure

Figure 2. Development Process of Rwanda's Green Taxonomy

2022

October 2022 — "Rwanda Sustainable Finance Roadmap" published by Kigali International Finance Centre with support from UNDP

'Diagnostic Review of National Bank of Rwanda (BNR) and Regulated Institutions' Capabilities to Implement the Rwanda Sustainable Finance Roadmap', published jointly by the BNR and AFD, envisioned the creation of a robust science-based sustainable taxonomy.

May 2023

December 2023 — Rwanda's Green Taxonomy Working Paper showcased at COP 28 and public stakeholder consultations kick-started.

Phase 1 development of **Rwanda's Green Taxonomy** was completed with focus on priority sectors for climate mitigation objective

April 2024

Phase 2 development of **Rwanda's Green Taxonomy** was completed:
- Taxonomy was extended by including additional sectors and activities that contribute to climate change mitigation as well as by including land use sectors and activities that contribute to multiple environmental objectives.
- Additionally, various sectors and activities were added that contribute to the climate adaptation and resilience objective.

November 2024

Updated **Rwanda's Green Taxonomy** document to be published

2025

The need for the Taxonomy to meet Rwanda's development objectives was first identified in the Rwanda Sustainable Finance Roadmap[2] published in October 2022 for Rwanda's financial centre (the Kigali International Finance Centre) with support from UNDP. The roadmap highlighted that the Taxonomy document must be 'suitable to the local context and 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 and published in May 2023 jointly by the BNR and the French Development Agency (AFD), followed suit, envisioning the creation of a robust science-based sustainable taxonomy.

The Taxonomy development process was co-chaired by the Ministry of Finance and Economic Planning (MINECOFIN) and the Ministry of Environment (MoE), facilitated and coordinated by Rwanda Finance Limited (RFL). The process involved collaboration with regulators and other public sector entities such as the 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 (ICPAR) and Private Sector Federation (PSF).

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[2] https://kifc.rw/wp-content/uploads/2023/01/KIFCSustainableFinanceRoadmap.pdf

A preliminary governance framework was established (refer to Figure 3), comprising a Taxonomy Steering Committee of the institutions mentioned above, a Taxonomy Working Group, Technical Expert Groups, and Industry Working Groups. Private sector entities were primarily involved through in the Industry Working Groups. In the long run, it is recommended to agree on a governance structure for the implementation of the Rwandan Green Taxonomy and to determine where the institutional home of the Taxonomy will be.

Figure 3. Preliminary Governance of Rwanda's Green Taxonomy
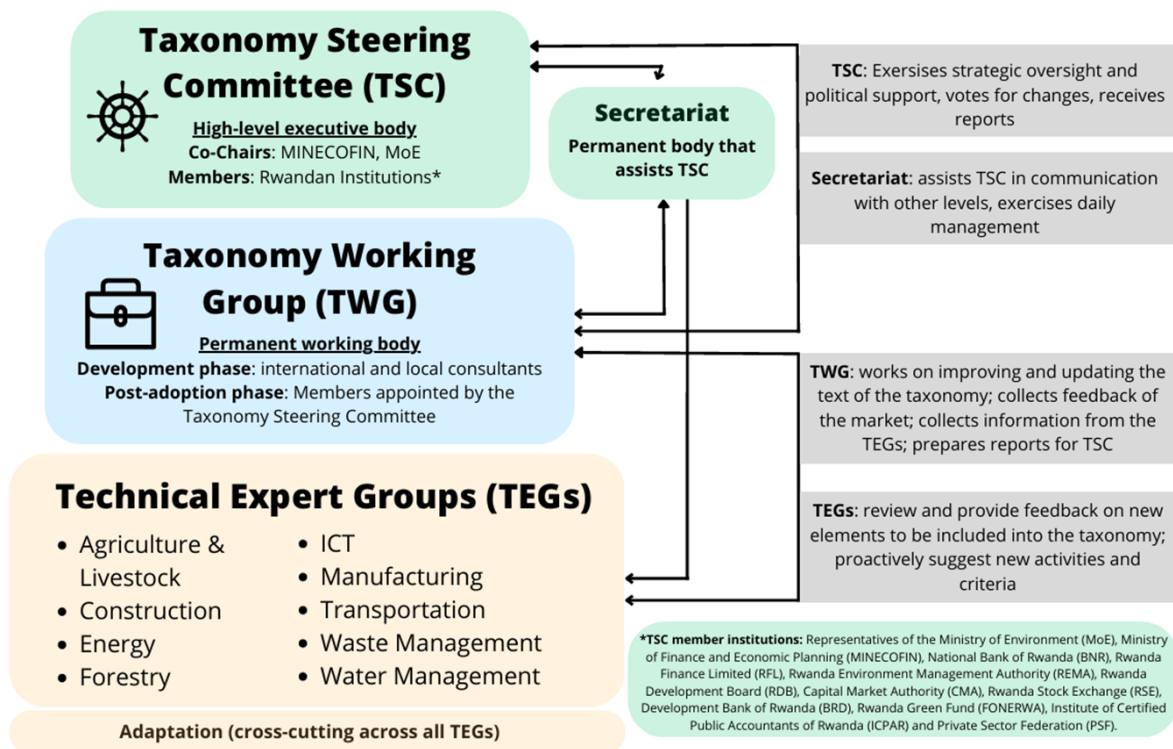
The development of Rwanda's Green Taxonomy is supported by the German development agency Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and co-financed by the European Union. A consortium of the 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.

1.2.   Development Approach and Methodology

Like other national taxonomies, Rwanda's Green Taxonomy was developed in phases, with the first phase completed in April 2024 and the second phase in November 2024.Currently, Phase II includes activities and criteria across various economic sectors relevant to Rwanda, primarily contributing to the environmental objectives of climate change mitigation and adaptation. Additionally, the activities in the land-use sectors of agriculture, livestock and forestry are heterogeneous in terms of their impact and contribute to multiple objectives of the Taxonomy.

Figure 4. Rwanda's Green Taxonomy Coverage of Economic Sectors and Objectives

Substantial contribution to climate change mitigation	Substantial contribution to climate change adaptation and resilience	Substantial contribution to various Taxonomy objectives
• 1. Energy • 2. Transport • 3. Construction • 4. Manufacturing • 5. ICT • 6. Waste management and remediation • 7. Water supply and sanitation	• 1. Energy • 2. Transport • 3. Construction • 4. Water Management • 5. Environmental protection and restoration • 6. Community services • 7. Agriculture and livestock	• 1. Agriculture and livestock • 2. Forestry

Do-No-Significant-Harm to other objectives + Minimum Social Safeguards

Phase I of Taxonomy development took place from June 2023 – April 2024 and aimed to clarify the **economic activities** needed to achieve **climate change mitigation** in three sectors: **energy, transport and construction.**

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 has the potential to facilitate the flow of foreign capital.
- The activities included in Rwanda's Green Taxonomy under mitigation objective (e. g., solar generation, hydrogen production, electric transportation etc.) are also the most likely to contribute to economic development while reducing emissions.

Furthermore, **Rwanda's Green Taxonomy** also provided a **more specific approach** for the **agriculture and livestock sectors** in the first phase, delivering a list of basic, intermediate and advanced **sustainable practices** that contribute to various environmental and climate objectives, including **climate change adaptation, water, and biodiversity protection, among others**.

The Phase II of Taxonomy development took place between April 2024 and November 2024. Considering the comments received from different stakeholders during the consultation process of Phase I, Rwanda's Green Taxonomy was expanded to include additional sectors (manufacturing, waste, water, ICT, forestry) that substantially contribute to climate change mitigation and to evaluate and include additional economic activities for sectors already included in Phase I (agriculture and livestock, energy, transport, construction) and develop corresponding technical criteria.

Given Rwanda's vulnerability to the consequences of climate change as described by Rwanda's Third National Communication on Climate Change[3], Phase II also focused more firmly on including **climate change adaptation and resilience sectors and activities**. As such, Rwanda's Green Taxonomy was updated to include the following sectors that significantly contribute to climate change adaptation and resilience: **energy, transport, construction, water management, environmental protection and restoration, community services, agriculture and livestock**.

1.2.1. Alignment with Rwanda's Green Taxonomy

In order for an activity, measure or practice to be aligned with the Taxonomy, the following criteria need to be adhered to:

Point 1: It must be listed in the Taxonomy;

Point 2: It must significantly contribute to at least one of the Taxonomy's environmental objectives[4];

Point 3: It must comply with the Do No Significant Harm (DNSH) requirements (generic and specific ones where applicable);

Point 4: It must adhere to Minimum Social Safeguards (MSS).

There are **three distinct approaches** to assess the **substantial contribution criteria** (point 2) as outlined below.

Substantial contribution to climate change mitigation

To meet the criteria for activities in the construction, transport, manufacturing, ICT, water, waste and energy sectors, the owner of an activity must demonstrate that they fulfil the substantial contribution criteria for that activity.

Substantial contribution to climate change adaption and resilience

In Rwanda's Green Taxonomy Adaptation framework, the Taxonomy user must first identify the hazards facing the activity or facility and the list of activities and measures most appropriate to address the identified hazards. Regarding substantial contribution, each adaptation activity or measure has defined criteria to be adhered to. These can either be quantitative/qualitative criteria, process-based criteria or a whitelist of investments that substantially contribute across a broad range of contexts with no risk of maladaptation.

Substantial contribution to various Taxonomy objectives for land use sectors

It is to be noted that the methodology for substantial contribution within the land use sectors of agriculture, livestock and forestry, is different compared to other sectors, as the practices' impact is considered heterogeneous and may contribute to multiple environmental objectives of the Taxonomy. In this approach, compliance with national laws and regulations regarding land use must also be demonstrated, including the

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https://rema.gov.rw/fileadmin/templates/Documents/rema_doc/TNC/The%20Third%20National%20Communication%20Report%20on%20Climate%20Change,%20Sept%202018.pdf

[4] To comply with the Taxonomy, the entity within which the evaluated activity sits must first comply with all laws, regulations and requirements established by the law of Rwanda.

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coverage of Do Not Do Significant Harm requirements through implementing an Integrated Environmental Management Plan or Integrated Forestry Management Plan, as appropriate. Also, the alignment of the activity to be financed with any sustainable practices set out in the Taxonomy (basic, intermediate and advanced practices) must be demonstrated.

As mentioned above and to be considered aligned with Rwanda's Green Taxonomy, the following requirement need to be fulfilled: an activity must substantially contribute to one of the Taxonomy's environmental objectives; it must not harm any other objective (e.g. a solar power plant may not be situated in or near biodiversity-sensitive areas) and the enterprise itself must observe minimum social safeguards requirements. Each activity must review compliance with the generic and specific DNSH requirements that apply to the activity to ensure no adverse effects occur because of the activity execution.

Additionally, MSS requirements are intended to confirm that the activity's owner fulfils the main international and national conventions regarding protecting the rights of workers and the community in which the activity takes place (Point 4).

An activity can be accepted as limitedly compliant with the DNSH and MSS requirements even if its owner cannot yet prove compliance with the criteria. In this case, the activity owner must provide a remediation plan to achieve full compliance within three years.

1.3. Structure of Rwanda's Green Taxonomy

Rwanda's Green Taxonomy is structured as follows. The Technical Annexes thereby reflect the three different approaches to substantial contribution as outlined above:

- Introduction and User Guide:
  - o Provides background information on the Taxonomy's principles, governance, framework, and methodology for Taxonomy alignment. It further provides recommendations on how to foster the implementation of the Taxonomy.
- Annex I - Climate change mitigation:
  - o Provides sector-wise technical details on activities contributing to the climate change mitigation objective, with the corresponding substantial contribution criteria, DNSH and MSS criteria.
- Annex II - Climate change adaptation and resilience:
  - o Provides the methodological framework for the climate change adaptation objective and application of the adaptation framework for Rwanda's Green Taxonomy. This includes a detailed list of adaptation activities and measures per sector and based on hazards, and a user guidance showcasing how the methodology can be applied by the user of the Taxonomy.
- Annex III - Various Taxonomy objectives:
  - o Provides the methodological framework for Taxonomy alignment for the land-use sectors of agriculture, livestock and forestry and provides details on eligible practices and inputs, including DNSH and additional positive contributions that should be part of the Integrated Environmental Management Plan (IEMP) or Integrated Forestry Management Plan (IFMP). Ineligible practices are also included.

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1.4.   Summary of Taxonomy's Activities

Rwanda's Taxonomy contains a vast variety of economic activities, measures and practices that can make a substantial contribution to the Taxonomy's environmental objectives. Below you will find a short summary of the respective activities, measures and practices contained in the three Annexes.

Annex I (**climate change mitigation**): Includes a total of 60 activities across all major sectors of the economy that have the largest potential to decrease the emission of greenhouse gases into the atmosphere.

Construction

1. Construction of new buildings
2. Building renovation
3. Individual measures and professional services
4. Acquisition or ownership of buildings
5. Research and development-professional services

Energy

1. Electricity generation using solar photovoltaic energy
2. Electricity generation using concentrated solar power technology
3. Electricity generation from wind energy
4. Electricity generation from ocean energy
5. Electricity generation from hydropower
6. Electricity generation from geothermal energy
7. Electricity generation from bioenergy (biomass, biogas and biofuels)
8. Energy generation using biomass cookstoves
9. Electricity transmission and distribution
10. Energy storage
11. Low carbon hydrogen production
12. Low carbon hydrogen storage
13. Biomass, biogas and biofuel production
14. Urban heating facilities
15. Transmission and distribution network for renewable or low-carbon gases
16. Cogeneration of heat/cool and power from solar energy
17. Cogeneration of heat/cool and power from geothermal energy
18. Cogeneration of heat/cool and power from bioenergy
19. Generation of heat/cool from waste heat
20. Research and development – professional services

Transportation

1. Urban public transport
2. Micromobility
3. Transport infrastructure
4. Interurban transport (freight and passenger)
5. Passenger cars and light commercial vehicles
6. Research and development – professional services
7. Low-carbon airport infrastructure
8. Air transport

Manufacturing

1. Manufacture of basic chemicals
2. Manufacture of cement
3. Manufacturing of basic iron and steel
4. Manufacturing of aluminium
5. Manufacturing of plastics in primary form
6. Manufacture of batteries
7. Manufacture of renewable energy technologies
8. Manufacture of low-carbon technologies for transport
9. Manufacturing of energy efficiency equipment for buildings
10. Manufacture of other low-carbon technologies
11. Manufacture of building materials from secondary raw materials
12. Retrofitting of internal combustion engine vehicles for the use of electric engines

Waste Management

1. Collection and transport of non-

hazardous waste in source segregated fractions
2. Material recovery from non-hazardous waste
3. Composting of bio-waste
4. Anaerobic digestion of biowaste
5. Landfill gas capture and utilisation
6. Biochar production
7. Research and development and professional services

Water management

1. Construction, extension and operation of water collection, treatment and supply systems
2. Construction and renewal of sanitary sewer systems
3. Construction, extension and operation of wastewater treatment systems
4. Investments in the efficient use of water
5. Research and development - professional services

Information and Communication Technology (ICT)

1. Data processing, storage, transmission and management
2. Data-driven solutions for GHG emissions reductions
3. Wired and wireless telecommunication infrastructure

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Annex II (**climate change adaptation and resilience**): Includes various tables, which outline hazards that Rwandan communities face as the result of climate change effects and addresses them through a variety of engineering and nature-based solutions. These solutions are grouped into thematic sectors; each of which includes a large number of different activities and measures. Over 400 measures and activities are listed in Annex II, which will not be individually mentioned here. Rather, a summary of the economic sectors and corresponding hazards that feature in Annex II is included.

Sector	Hazard category
Agriculture, livestock and forestry	Multi-hazard
	Flood damage
	Water stress (including drought)
Construction	Flood damage
	Storm damage
	Mass movement damage (including landslides)
Community services	Flood damage
	Multi-hazard
	Mass movement damage (including landslides)
Energy	Heat stress
	Flood damage
Transportation	Flood damage
	Heat stress
Water	Flood damage
	Water stress (including draught)
Environmental protection and restoration	Multi-hazard
	Water stress (including draught)
	Heat stress

Annex III (**various Taxonomy objectives**): Includes various tables that outline sustainable practices in the agricultural, livestock and forestry sectors. Seven economic activities and over 90 practices are included in Annex III. For the sake of brevity, only a summary of the agricultural activities is outlined below.

Agriculture	Livestock	Forestry

1. **Eligible practices for sustainable crop production (general perennial and non-perennial crops), tea and coffee** 2. **Eligible practices for sustainable coffee production** 3. **Eligible practices for sustainable tea production**	1. Eligible practices for sustainable livestock production	1. Eligible practices for sustainable forest management 2. Eligible practices for forestry plantation 3. Eligible practices for conservation, restoration and maintenance of natural, pristine forests

1.5. Conclusion

Taxonomies can be the engine and core of a country's journey towards sustainability, but they cannot be applied independently. Successful application requires additional initiatives, such as incentives, regulations, promotion and capacity building, among others.

Once Phase II of Rwanda's Green Taxonomy has been published, the next step is to widely implement it within the market, which will require the achievement of different steps and processes that allow for its integration into the country's existing and future regulatory frameworks. In principle, several policy measures such as, amongst others, tagging of public expenditures related to environment and climate change objectives, policies for improving capital flows for green debt instruments, investment policies, disclosure requirements for financial products and companies, alignment of national strategies and expanding sectoral strategy can be linked to the Taxonomy.

As part of the Taxonomy development, a prioritisation matrix of actions was developed along two main dimensions to foster the implementation of Rwanda's Green Taxonomy:

a) Policies and regulations embeddedness that include actions aimed at integrating the Taxonomy into national policies and regulations to ensure its operability in the country and

b) The potential for capacity building and testing, amongst others, including the creation of guideline documents and tools to promote the understanding and appropriation of Rwanda's Green Taxonomy by various actors, both governmental and non-governmental.

This prioritisation matrix can guide Rwandan policymakers in understanding and orientating the actions that should be prioritised in the country to foster the implementation of the Taxonomy and its practical application in the market.

Figure 5. Prioritisation Matrix to Foster the Implementation of Rwanda's Green Taxonomy.

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

Prioritisation matrix to foster Rwanda´s Green Taxonomy implementation

Quick wins
High impact and low effort

Long-term opportunities
High impact and high effort

Medium-term opportunities
Medium impact and medium/high effort

Impact — High impact (+), Medium impact, Low impact (–)

Effort — Low effort (–), Medium effort, High effort (+)

Policy and regulations

Regulations
1. Develop disclosure regulations using the taxonomy
2. Develop regulations for aligning green financial products in the market with the Taxonomy

Financial instruments
3. Guidelines for issuance of green bonds using international frameworks and the taxonomy criteria
4. Guidelines for development of other green debt instruments using taxonomy criteria (e.g., loans, microfinance)
5. Guidelines for insurance products and services using taxonomy criteria

Investments Funds
6. Alignment between IREME Invest and Rwanda Green Fund (FONERWA) investment methodologies with the Rwanda Green Taxonomy
7. Development of guidelines for labeling of ESG, green and sustainable funds based on taxonomy

Monitoring and tracking of taxonomy-aligned finance flows
8. Development of an MRV system for tracking sustainable investments based on taxonomy
9. Alignment between Rwanda's Green Taxonomy and Rwanda's Guidelines on Climate Budget Tagging

National environmental and climate strategies
10. Alignment and expansion of national and sectoral strategies based on Rwanda Green Taxonomy

Subsidies and incentives
11. Develop green guarantees, subsidies and benefits for implementing activities covered in the taxonomy
12. Develop incentives for green products aligned with the taxonomy
13. Integrating taxonomy into the public procurement system

Capacity building and testing
14. Taxonomy implementation pilots for different market users
15. Capacity building sessions about Taxonomy
16. Development of proxies and other implementation guidelines
17. Development of digital tools for easy use of taxonomy
18. Development of self-evaluation tools
19. Comparison of Rwanda´s Green Taxonomy with other international taxonomies
20. Development of training programmes and MOOC courses
21. Translation of Rwanda´s Green Taxonomy into Kinyarwanda

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2. Users of Rwanda's Green Taxonomy

Rwanda's Green Taxonomy is meant to be used by various groups, including investors, issuers of green bonds, regulators, policymakers, bankers, and society at large. Implementing a Taxonomy has several advantages, as outlined below[5]. Chapter 4 provides some guidance related to implementing Rwanda´s Green Taxonomy in practice.

- **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 requirements, etc.) to support certain private market players and demonstrate their commitment to decarbonisation to international partners. Some specific application cases may include:
  - **Compliance with national and international commitments**. A 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 in identifying and prioritising investments that align with environmental objectives.
  - **Issuance of sovereign or municipal green bonds**. The issuance of such instruments, backed by budgetary expenditures and compliant with the national Taxonomy, can significantly contribute to the modernisation and decarbonisation of the national economy.
  - **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, TNFD, ISSB and GRI. It provides 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

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[5] For further reading on possible applications of the Taxonomy please see Natixis 2023 report on Taxonomies (https://gsh.cib.natixis.com/our-center-of-expertise/articles/update-of-our-study-the-new-geography-of-taxonomies) and European Commission 2023 FAQ on Taxonomy implementation (https://ec.europa.eu/finance/docs/law/231221-draft-commission-notice-eu-Taxonomy-reporting-financials_en.pdf)

costs. Taxonomies enable financial companies to restructure their product offering and appeal to sustainability-conscious investors. Some specific application cases may include:

- o **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.
- o **Management of environmental risks.** By adopting a green finance Taxonomy, financial institutions, including pension and insurance companies and banks, can better assess and quantify the environmental risks associated with their investment portfolios – and in the case of insurers – their underwriting activities. Insurers can develop specialised green insurance products tailored to cover risks associated with renewable energy projects, energy efficiency initiatives, and other environmentally friendly ventures.
- o **Distinguishing between tangible and financial assets with high and low carbon emissions to drive capital allocation**: Taxonomies look at the environmental performance of tangible assets (such as a building), which underlie financial assets (such as a loan). Hence, taxonomies aim to incentivise the allocation and re-allocation of capital to tangible assets with good environmental performance. (i.e. in compliance with the 1.5-degree scenario etc).

- **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:
  - o **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, for example, 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.
  - o **Opportunities for local investors.** Local investors get a better idea of the direction of public policy development and can take advantage of support measures the government could develop.
  - o **Opportunities for global investors**. Global investors have the opportunity to reduce the time it takes to evaluate projects in Rwanda because they trust the principles on which the country's Taxonomy is built. This makes the jurisdiction more attractive by reducing due diligence costs.
  - o **Need to achieve similar real-world decarbonisation outcomes:** taxonomies allow capital/financial market stakeholders to achieve decarbonisation outcomes by investing in tangible assets that actively contribute towards greenhouse gas emissions reductions.

- **Non-financial companies** benefit from improved access to certain capital market segments and gain reputational benefits when demonstrating Taxonomy alignment. Additionally, taxonomies help companies evaluate or reevaluate investment strategies by allowing them to prioritise climate-aligned investments and reduce risks associated with stranded assets. Also, the application of use-of-proceeds or revenue/turnover allocation

methodologies allows companies to determine the share of their economic activities that are making substantial contribution to the objectives of the Taxonomy.

- 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 is an overarching tool for transitioning towards a low-carbon and sustainable economy. This fosters economic growth, job creation and reduces environmental impact.

3. Taxonomy Governance Framework

The development of a Taxonomy involves several technical processes such as the definition of ambition, prioritisation and selection of objectives, sectors and economic activities, development of screening criteria, as well as administrative processes including project management, publishing and dissemination of the Taxonomy, capacity building, 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, a preliminary governance structure has been set-up which includes the three following groups:

- **Tier-1: Taxonomy Steering Committee (TSC).** This group is responsible for strategic decisions regarding Taxonomy development, 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 coordinating capacity-building services, 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.

  Taxonomy Steering Committee Members: Ministry of Environment, Ministry of Finance and Economic Planning, National Bank of Rwanda, Rwanda Environment Management Authority, Rwanda Development Board, Capital Market Authority, Rwanda Stock Exchange, Development Bank of Rwanda, Rwanda Green Fund, Institute of Certified Public Accountants of Rwanda and Private Sector Federation. The Committee is co-chaired by the Ministry of Environment and the Ministry of Finance.

- **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 towards developing the Taxonomy and its future iterations.

  Taxonomy Working Group members: GIZ team with the technical advice of an international consultants' team of Climate Bonds Initiative and Ambire Global under the supervision Rwanda Finance Limited.

- **Tier-3: Technical Expert Groups (TEGs).** 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 and reviewing 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.

Technical Expert Group members[6]: Sectoral subject matter experts invited by the leading ministry.

- MININFRA: Construction, energy, transportation, waste management, water management TEGs
- MINAGRI: Agriculture TEG
- MINICOM: Manufacturing TEG
- MINICT: ICT TEG

An existing technical working Committee for the review of Rwanda's NDC (MRV Committee), which falls under the purview of Rwanda's Environment Management Agency (REMA), provided technical input and oversight for including adaptation activities and measures. The Committee provided input across all sectors and, therefore, served as a cross-sectional body.

External market validation: Industry Working Group (IWG). An Industry Working Group 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 the clarity of practical application rules; to recommend and possibly provide access to data, information and metrics that the TWG can use to develop the technical screening criteria, DNSH and MSS components of the Taxonomy.

Secretariat:

RFL took the role of secretariat and provided organisational, intellectual and logistical support for the entire Taxonomy development process.

The governance structure is shown below. As an interim structure, the IWG is not included.

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[6] The process involved several rounds of public consultations in which experts, technical specialists and policymakers assessed the applicability of the Taxonomy and its various criteria to the country's context.

Figure 6. Rwanda's Green Taxonomy Governance
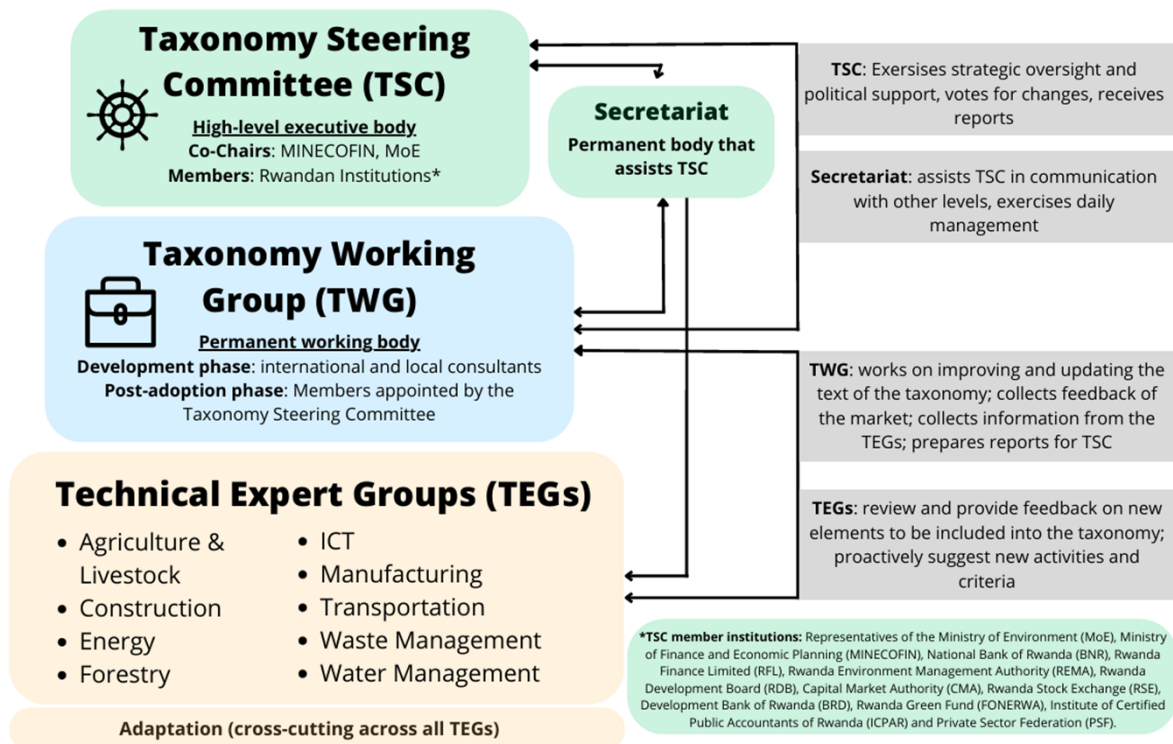
It should be noted that this governance structure has an adaptative nature and will consider that the Taxonomy constantly adapts to market changes, the development of new green and sustainable technologies, improvements in the availability and quality of data and metrics, as well as the change of both domestic and international policy agendas and priorities.

To foster the implementation of Rwanda's Green Taxonomy, a permanent governance structure and institutional home for the Taxonomy are recommended to coordinate and facilitate market adoption. Feedback from the implementation process should be considered during future iterations of the Taxonomy to improve its usability and further strengthen market acceptance.

4. Taxonomy Methodological Framework

The subsequent sub chapters elaborate on the structure and principles of Rwanda's Green Taxonomy.

4.1. Taxonomy Structure and Principles

Taxonomies should abide by internationally recognised core principles to be credible, interoperable and usable. Accordingly, Rwanda's Green 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.
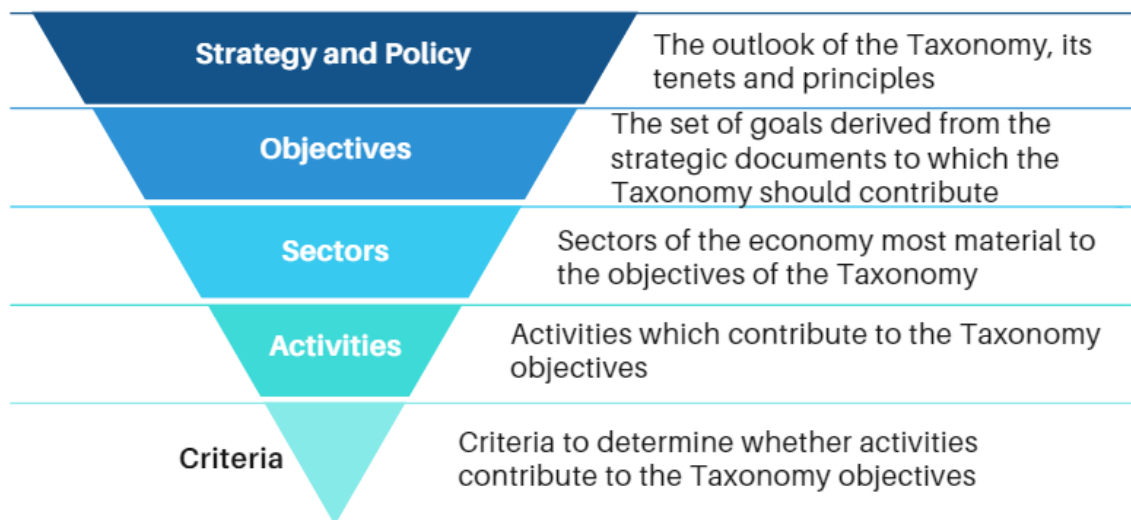
3. **Locally applicable**. The Taxonomy is relevant for Rwanda and takes into account its national context. Local stakeholder consultations have characterized Rwanda's Green Taxonomy process to ensure that the Taxonomy whilst being internationally interoperable, is locally applicable and relevant to the Rwandan context. The Taxonomy also seeks to balance standardisation (international environmental sustainability standards, including ESG criteria) and local context and developments. Also, to ensure that the Taxonomy is indeed usable, it must reasonably balance scientific ambition and actual applicability (e.g., considering applicability for SMEs).

4. **Clear and transparent**. The Taxonomy clearly and unambiguously separates activities aligning with its objectives from those that do not. Rwanda's Green 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**. Rwanda's Green Taxonomy's criteria for applying it to the real economy are as simple and straightforward as possible.

6. **Comprehensive**. Rwanda's Green Taxonomy aims to cover economic sectors that are material to the country's environmental and climate objectives and 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 promotion of 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 such as the steel or cement sector in Rwanda.
9. **Reviewed regularly.** To ensure that the Taxonomy remains relevant, it needs to be reviewed regularly to capture amongst others technological advances, changes in development agendas (including, e.g., NDC reviews), and data availability.

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

Taxonomy contains key structural elements, such as environmental objectives, sectors and economic activities with well-defined technical screening criteria. These make up the Taxonomy framework and will be described in more detail in the following sub-chapters.

Figure 7. Tapering Funnel of the Taxonomy Structure

Strategy and Policy	The outlook of the Taxonomy, its tenets and principles
Objectives	The set of goals derived from the strategic documents to which the Taxonomy should contribute
Sectors	Sectors of the economy most material to the objectives of the Taxonomy
Activities	Activities which contribute to the Taxonomy objectives
Criteria	Criteria to determine whether activities contribute to the Taxonomy objectives

4.2. Taxonomy Strategic and Political Basis

In recent years, Rwanda has adopted many initiatives to build a sustainable and green economy and society. "Vision 2050"[7] is Rwanda's overarching policy document outlining its long-term strategic direction and aspirations. It serves as the foundation for the National Strategy for Transformation (NST), which focuses on economic, social, and governance transformation. Key priorities include accelerating economic growth, enhancing resilience to shocks, and promoting good governance. Environmental sustainability and climate resilience are central to Rwanda's development agenda. The NST emphasizes cross-sectoral cooperation to address climate change impacts, with the National Environment and Climate Change Policy providing a framework for greening economic transformation and improving environmental well-being. The Green Growth and Climate Resilience Strategy (GGCRS) demonstrates Rwanda's commitment to green growth, which aims to achieve energy security, sustainable land use, and social protection. By aligning with Vision 2050, Rwanda aims to foster green economic innovation while building resilience to climate change impacts.

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[7]
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

Rwanda's Green 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 future competition.

Figure 8. Hierarchy of Rwandan Sustainable Policies
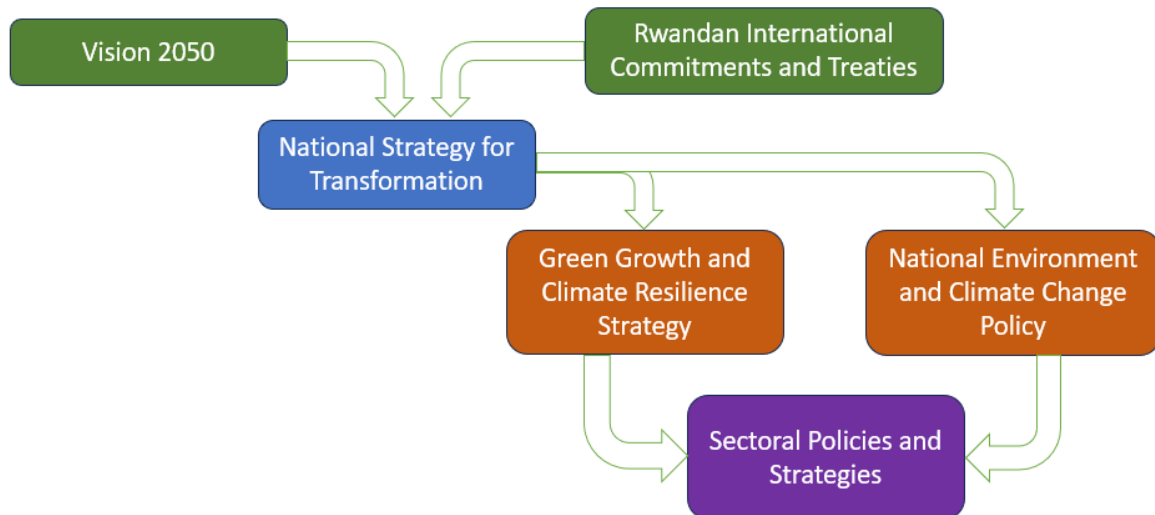
4.3. Taxonomy Objectives

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

1. **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.
2. **Climate change adaptation and resilience**. The objective of climate change adaptation and resilience 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.

3. **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.

4. **Pollution prevention and control.** This objective involves preventing or, where that is not practicable, reducing pollutant emissions into air, water or land, other than greenhouse gasses; improving levels of air, water or soil quality in the areas in which the economic activity takes place whilst minimising any adverse impact on, human health and the environment or the risk thereof; preventing or minimising any adverse impact on human health and the environment of the production, use or disposal of chemicals; cleaning up litter and other pollution.

5. **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.

6. **Protection of biodiversity and environment**. The objective implies preventing the loss of variability among living organisms from all sources, including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems[8]. This is important for protecting Rwandan unique landscapes and ecosystems and climate change mitigation because healthy habitats remove a substantial portion of carbon from the atmosphere.

7. **Sustainable land management and agriculture.** Land management and agriculture (which include crop growing, livestock production, forestry and other activities) are crucial in climate change mitigation due to their 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. By promoting sustainable practices and nature-based solutions in crop and livestock production emissions, soil depletion, and pollution of water sources and adapt to climate change are reduced.

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[8] https://www.cbd.int/convention/articles/default.shtml?a=cbd-02

Figure 9. Objectives of Rwanda's Green Taxonomy
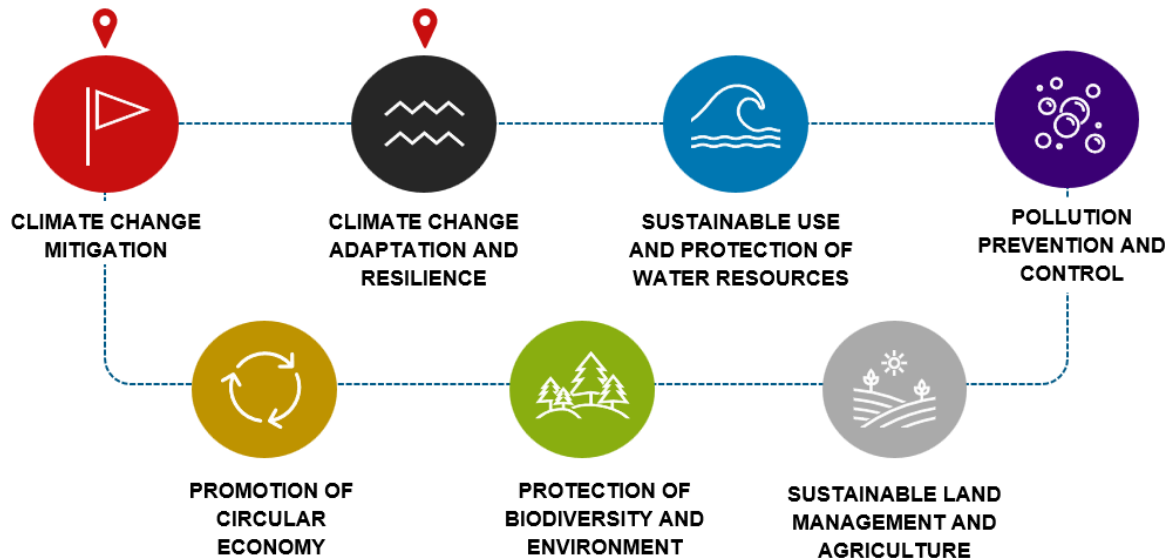
As of now, Rwanda's Green Taxonomy primarily covers sectors and activities that contribute to the first two objectives, climate change mitigation and climate change adaptation and resilience. Through the inclusion of three land use sectors (agriculture, livestock and forestry), and the practices noted thereunder, which typically contribute to various environmental objectives, contributions to other environmental objectives are made, too. Further, through inclusion of the DNSH requirements (more information in Chapter 5.1.2.), the other environmental objectives are indirectly considered. In future iterations of the Taxonomy, additional sectors and activities can be added that contribute directly to the remaining environmental objectives.

4.4. Taxonomy Sectors

As mentioned above, the Taxonomy includes various economic sectors for Rwanda, primarily contributing to the environmental objectives of mitigation, adaption, and resilience.

Climate change mitigation was selected as a key objective for three reasons:

1. Climate change mitigation is the primary and most elaborated objective within most accepted taxonomies, which will ensure interoperability of the Rwandan and international taxonomies.
2. International climate-aware investors are looking for ways to best invest in activities that will stop global warming, so a focus on mitigation has the potential to facilitate the flow of foreign capital.
3. The activities included in Rwanda's Green Taxonomy under the mitigation objective (e. g., solar generation, hydrogen production, electric transportation, etc.) are also the most likely to contribute to economic development while reducing emissions.

Furthermore, given Rwanda's vulnerability to consequences of climate change as described by Rwanda's Third National Communication on Climate Change, Rwanda´s Green Taxonomy also focused more strongly on including **climate change adaptation and resilience sectors and activities**. As such, Rwanda's Green Taxonomy was updated to include the following sectors that significantly contribute to climate change adaptation and resilience: **energy, transport, construction, water management, environmental protection and restoration, community services; agriculture and livestock**.

Land use sectors (agriculture, livestock and forestry) were also included into the Taxonomy separately as contributing to multiple objectives at once. This is the specificity of the sector, which is also the most important for the country's economy at the moment.

Figure 10. Rwanda's Green Taxonomy Coverage of Economic Sectors and Objectives

Substantial contribution to climate change mitigation	Substantial contribution to climate change adaptation and resilience	Substantial contribution to various Taxonomy objectives
•1. Energy •2. Transport •3. Construction •4. Manufacturing •5. ICT •6. Waste management and remediation •7. Water supply and sanitation	•1. Energy •2. Transport •3. Construction •4. Water management •5. Environmental protection and restoration •6. Community services •7. Agriculture and livestock	•1. Agriculture and livestock •2. Forestry

Do-no-significant harm to other objectives + Minimum Social Safeguards

Sectors selected for making substantial contribution to the objective of climate change adaptation and resilience are not fully overlapping with those under the climate change mitigation objective. The reason is that adaptation and mitigation look at economic sectors and activities from different angles. While for mitigation the key hazard is the processes that produce greenhouse gases, for adaptation the physical status and characteristics of the sites in which these processes take place are more important. Moreover, the focus of sectors and activities that contribute to climate change mitigation is to reduce hazards (such as GHG emissions) from economic activities. In contrast, the adaptation sectors and activities focus on protecting them from external hazards generated by climate change. In this sense, some sectors and activities may occur several times in this Taxonomy but differ in their contribution to the respective environmental objectives.

The respective sectors and activities noted thereunder are listed in three separate annexes that reflect the activities' contribution to the environmental objectives.

- **Annex I**: activities that make a substantial contribution to mitigating climate change.

- **Annex II**: activities and measures that contribute substantially to adaptation to the adverse effects of climate change.

  Annex III: agricultural, livestock and forestry practices that make substantial contributions to various Taxonomy objectives.

Below you can find a detailed methodological description of how sectors were selected for each part of the annexes.

4.4.1. Climate Change Mitigation

The initial selection of relevant sectors for the climate change mitigation objective was conducted by evaluating various parameters, such as sectoral GHG emissions, sectoral contributions to gross domestic product and the estimated accumulated investment by 2030

(based on NDC data). Other parameters were sectoral capital flows, bond issuances and use of proceeds, and the priorities outlined in national climate change plans. Further attention was paid to interoperability and alignment with other relevant Taxonomy frameworks and their sectoral coverage. Data was processed into indexes that, in turn, showed the materiality of different sectors for different environmental objectives. Once sectors were selected, relevant activities within the scope of each sector could be chosen based on their contribution to climate change mitigation.

First, to carry out the prioritisation of sectors, a 3-step methodology was established and is described below:

Figure 11. 3-step Scheme for Sector Selection
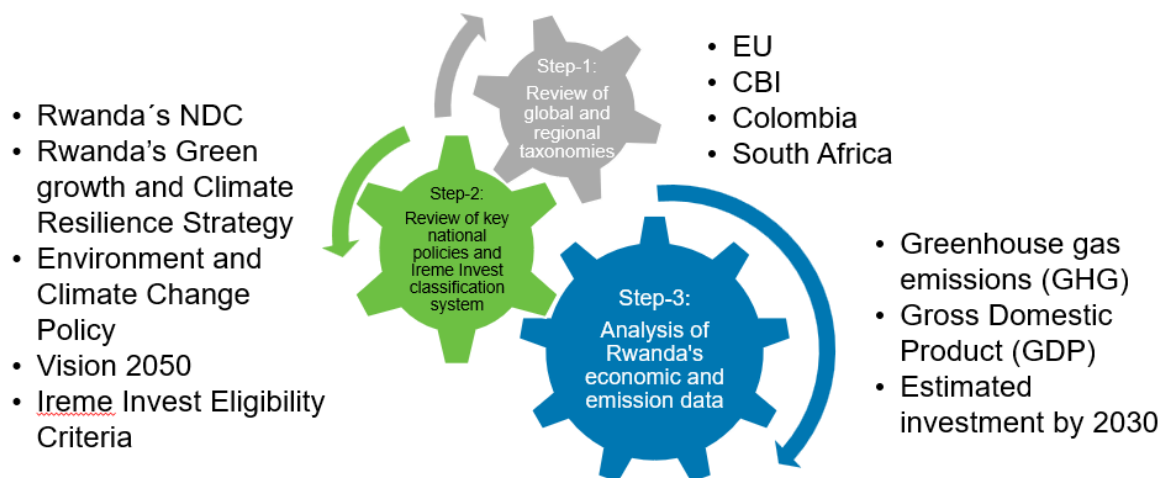
Step 1: At the beginning of the process, the Taxonomy Working Group analysed existing taxonomies that had been prioritised by the Steering Committee. They were analysed in terms of the mechanisms, sectors, and activities included, as well as accumulated experience in their respective markets. The list included the EU Taxonomy, Colombian Taxonomy, South African Taxonomy and the Taxonomy of Climate Bonds Initiative.

Step 2: As part of the prioritization process, the Taxonomy Working Group also considered existing development policies, strategies and priorities outlined by Rwandan stakeholders and considered the views of key stakeholders responsible for the country's financial and climate policy.

Step 3: A matrix of all country-level economic activities was built regarding their GHG emission profile and economic parameters (e.g. GDP and investment required for the 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:

Table 1.GHG Emissions and Sectoral GDP and Investment Data

ISIC-Section	Sector of the Taxonomy	MtCO2e (2020)	GDP 2022 (USD million)	Estimated investment 2030 (USD million)
A	Agriculture, livestock and forestry	4.71	2,101	2972
D	Energy	0.23	239	552
F, L	Construction	1.32	606	660
H	Transport	0.69	397	1091
C	Manufacturing	0.41	761	26
E 38	Waste	0.32	31	372
J	ICT	N/A[9]	201	N/A

Emission source: Climate Watch[10]

GDP Source: National Institute of Statistics of Rwanda[11]

Estimated decarbonisation investments requirements: updated Rwandan NDC

Three methodologies were used to identify the most climate-material sectors of the Taxonomy for climate change mitigation:

- **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 evaluating advantages and disadvantages concerning each alternative and criterion rank them in order of preference.
- **Decision matrix method**. Defines weights for each criterion, adds them up, and ranks between the alternatives.

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

Table 2. Sector Prioritisation by Three Methods

Final Ranking	Weighted average method	Decision matrix	ELECTRA

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[9] It is impossible to define precise contribution of the ICT sector as it does not have a separate category in the national GHG inventory. Emissions here mostly come from electricity consumption and refrigerants used in cooling equipment.
[10] 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
[11] https://www.statistics.gov.rw/publication/1914

Agriculture, livestock and forestry	Agriculture, livestock and forestry	Agriculture, livestock and forestry	Agriculture, livestock and forestry
Construction	Construction	Construction	Construction
Manufacturing	Manufacturing	Manufacturing	Transport
Transport	Transport	Transport	Manufacturing
Energy	Energy	Energy	Waste
Waste	Waste	Waste	Energy
Water	Water	Water	Water
ICT	ICT	ICT	ICT

4.4.2. Climate Change Adaptation and Resilience

The identification of the economic sectors that are highly vulnerable to the impacts of climate change and reflect national adaptation priorities was conducted through the analysis of the following documents and tools:

- National adaptation policies, including, among others, the following:
    a. Nationally Determined Contribution of Rwanda;
    b. Green Growth and Climate Resilience Strategy of Rwanda;
    c. Climate Change Vulnerability Assessment and Index Report 2019;
    d. Environment and Climate Change Policy of Rwanda;
    e. The Strategic Programme for Climate Resilience of Rwanda;
    f. GCF National Adaptation Plan Readiness and Preparatory Support for Building Flood Resilience Capacities in Rwanda;
    g. World Bank's Climate Change Development Report for Rwanda.

- ND Gain Index[12], which is a global free open-source index, which measures a country's current vulnerability to climate disruptions and assesses a country's readiness to leverage private and public sector investment for adaptive actions. The index and its components measure vulnerability of different sectors, so the closer the index is to 1, the more vulnerable the country or the sector of the economy to the effects of climate change. The index shows the most vulnerable parts of the economy and calls on the governments to pay special attention to improving their resilience.

Table 3. Rwanda's ND Gain Index Indicators

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[12] https://gain.nd.edu/our-work/country-index/

Overall vulnerability	Food systems	Water management	Health management	Ecosystem services	Human habitat	Infrastructure
0.568 (126 place in the world, high vulnerability)	0.596	0.365	0.743	0.569	0.566	No data

After analysing and evaluating the documents and data, the Working Group proposed the following list of sectors and areas for inclusion in the Taxonomy:

- Agriculture, livestock and forestry
- Construction
- Community services (which covers health management and human habitat protection)
- Energy
- Transportation
- Water
- Environmental protection and restoration

4.5. Basic Taxonomic Units

From the point of view of practical application, Taxonomy is a system for categorising activities, measures and practices (basic taxonomic units) based on their potential to contribute positively or negatively to the Taxonomy objectives. The basic units of the Taxonomy are activities, measures or practices that meet or do not meet the Taxonomy objective. These are the basic elements of the Taxonomy with which the user interacts. However, the Taxonomy methodology looks at activities, measures, and practices that contribute to climate change mitigation and those that contribute to climate change adaptation and resilience or other objectives differently. This sub-chapter will give an overview of how different Taxonomy objectives and specific land-use sectors view the basic units of the Taxonomy, how they differ, and what the user should look for. The 3 different approaches for defining basic Taxonomy units covered in this sub-chapter are as follows:

1. Basic taxonomic units for the substantial contribution to climate change mitigation: **activities**.
2. Basic taxonomic units for the significant contribution to adaptation to climate change: **activities and measures**.
3. Basic taxonomic units for sustainable agricultural practices contributing to the Taxonomy objectives: **practices**.

4.5.1. Climate Change Mitigation: Activities

Activities are the basic taxonomic units of the mitigation part of the Taxonomy (Annex I). An entity within an economic sector can operate various economic activities. To define a substantial contribution to climate change mitigation, Taxonomy alignment needs to be defined for each activity separately in line with specific rules.

Figure 12. Example of the Relationship Between Sectors, Entities, and Activities
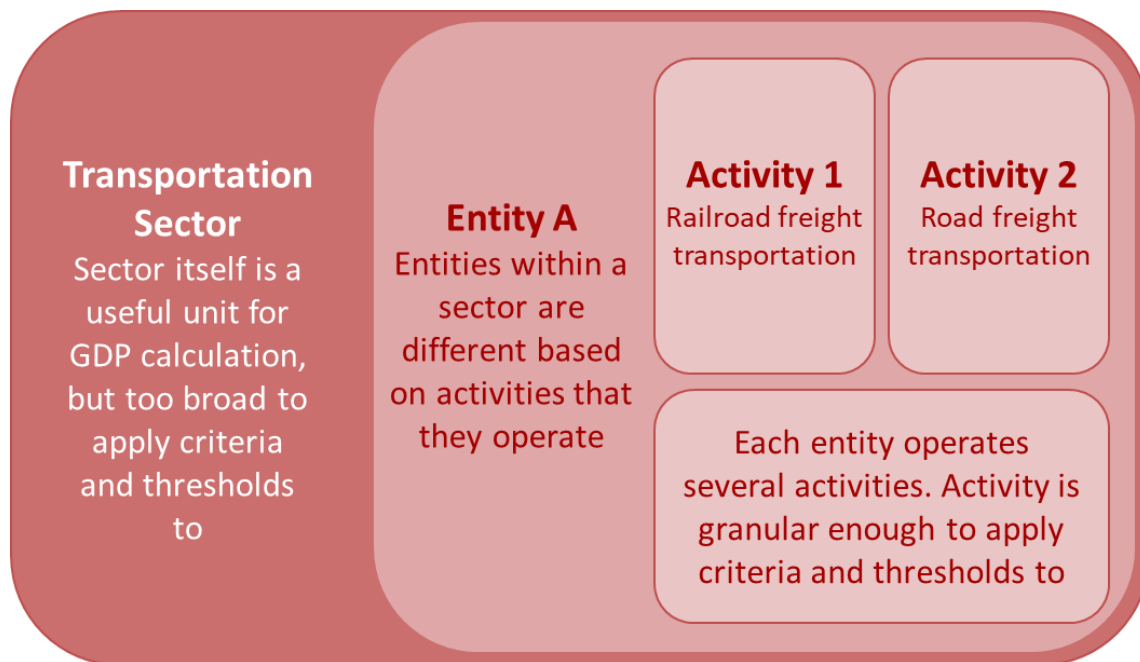
Most activities in the mitigation part of the Taxonomy have a corresponding ISIC v.4 code. ISIC is a universal activity classification system developed with the support of the United Nations. It is used in other taxonomies (for example, Thailand, Singapore, ASEAN) and allows to unify the approach to the definition of activities. Some taxonomies use other codes (EU - NACE code system, South Africa - SIC), but are generally compatible with ISIC.

Some activities in the mitigation part of the Taxonomy have multiple ISIC codes or no matching codes at all, so the final decision on how to dissect the business into activities lies with the business owner. Banks, verifiers, and other market players can verify the validity of such a dissection. The ISIC codes are provided as an optional reference tool for the Taxonomy users.

> Please note that not all activities included in the mitigation part of Rwanda's Green Taxonomy can be applied directly in Rwanda (e.g. ocean energy generation). They are included to expand the potential of the Rwandan green finance market and to attract potential green finance players from neighbouring countries and the region that may seek to issue financial products in line with Rwanda's Green Taxonomy.

4.5.2. Climate Change Adaptation and Resilience: Activities and Measures

The adaptation part of the Taxonomy also includes activities that are defined precisely as described in subchapter 4.5.1. In addition, it also includes **measures** that can be applied to increase the activities' resilience to the effects of climate change. A measure is a specific time-bound intervention within an asset, activity or entity (a one-time action). The distinction between the two and examples of both are outlined in the table below. Both measures and activities are also called investments, as the Taxonomy is meant to finance different interventions.

Table 4. Overview of Basic Investment Types: Measures and Activities

	Definition	**Examples**
Activity	An (economic) activity delivering goods or services (a process)	• Constructing / expanding / operating / upgrading physical agricultural infrastructure assets • Constructing / renovating / managing hospitals / other healthcare buildings • Construction of flood-resistant transportation infrastructure
Measure	Specific intervention within an asset, activity or entity (a one-time action)	• Implementation of controlled environment agriculture in locations safe from flooding • Adjustment of roof design - Installation of flood barriers and floodproofing

Climate change adaptation and resilience activities and measures should reduce the vulnerability of an activity or an asset where the activity takes place against the current or expected impacts of climate change, strengthen resilience, enhance well-being and the capacity to anticipate and respond successfully to the change. Activities and measures within the adaptation part of the Taxonomy are further subdivided into the following categories:

- **Adapted activities** are fully adapted to material impacts of climate change (e.g. floods or heat waves) to this particular activity. To become adapted, an activity must implement all relevant adapting measures. Relevance of adapting measures for each specific activity must be defined through a climate risk vulnerability assessment. Each adapted activity possesses a specific code that helps identify it and all adapting measures included.

- **Adapting measures** are individual measures that help a particular activity adjust to a specific negative climate change impact. Each applied measure increases resilience of an activity or an asset. it applies to They may include engineering or nature-based solutions that improve the resilience of an activity to a particular climate hazard or impact.

- **Enabling measures** are implemented within an activity to make other activities more climate resilient, and to make themselves more climate resilient. They entail the expansion+ or extension of a given activity with the primary intent of addressing climate impacts by delivering essential services that benefit other activities.

- **Enabling activities** are activities that help other activities, buildings and communities to become more resilient. For example, this includes setting up early warning systems for natural disasters, providing specialised training, etc. Unlike enabling measures they entail a process, not a one-time intervention.

4.5.3. *Sustainable Agriculture, Livestock and Forestry: Practices*

Although agriculture, livestock and forestry sectors also include activities defined the same way for mitigation and adaptation (coffee growing, tea growing, livestock production, etc.), they are structured differently from the two. Due to the complexity of activities in the land use sectors from the taxonomical perspective, they constitute broad categories, while the basic taxonomic unit that the user of the Taxonomy is dealing with here is a **practice**. Practice is an intervention

in the standard agricultural and livestock, as well as forestry processes that makes them more sustainable and makes a substantial contribution to at least one Taxonomy objective.

The specificity of the agriculture, livestock, and forestry sector is that the effect of the interventions cannot be attributed to one specific Taxonomy objective. From a methodological point of view, each practice contributes to several Taxonomy objectives, and it is difficult to determine the exact contribution to each objective due to the large number of factors affecting the result. More details can be found in sub-chapter 5.3.

Practices recommended for each activity are organised into tiers. This is done to facilitate a gradual transition of a farm from its present state to its future sustainable state. The tiers of practices are as follows:

- **Basic practices**: interventions that are relatively low-cost and not very complex. They generate benefits by enabling a more efficient use of resources and environmental preservation with respect to the traditional extensive model.
- **Intermediate practices**: measures and technologies of greater complexity than the basic ones, incorporating greater technical knowledge and investment.
- **Advanced practices**: changes that fundamentally modify the production model, integrating techniques, knowledge and inputs that allow for the highest productive and environmental yields.

In addition to these three types of practices, the farm can implement **complementary practices** included in most tables from Annex III. These are specific technologies that are beneficial to any farm at any stage of its development. The owner of the farm may choose one of the complementary practices to implement.

5. Annexes: Framework and Methodology

The Rwandan Green Taxonomy encompasses a variety of environmental objectives, economic sectors and activities. Each annex contains a detailed list of activities, measures and practices eligible under the Rwandan Taxonomy and requires a different approach to demonstrate alignment with the Taxonomy. The annexes differ in their development, methodological approach, and structure, which are detailed in this chapter. For information on how to use the Taxonomy and demonstrate Taxonomy alignment, please refer to chapter 6, which builds on this chapter. It is recommended that chapters 5 and 6 are read in conjunction with one another.

This sub chapter is divided into three parts:

- Framework and methodology for Annex I: Climate change mitigation;
- Framework and methodology for Annex II: Climate change adaptation and resilience;
- Framework and methodology for Annex III: Various Taxonomy objectives;

5.1. Annex I: Climate Change Mitigation

This sub chapter describes the framework for the mitigation part of the Taxonomy (Annex I), which contains various key components such as technical screening criteria (TSC), Do No Significant Harm (DNSH) criteria and Minimum Social Safeguards (MSS).

5.1.1. Technical Screening Criteria

In order to contribute to the objective of climate change mitigation, an activity within the mitigation part of the Taxonomy must comply with specific TSCs and related thresholds. The Paris Agreement that Rwanda's Government signed serves as an overarching beacon regarding of the decarbonisation timeline and principles that lie at the foundation of the criteria and thresholds. These criteria also 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.

Rwanda's Green Taxonomy is binary. This means that, there is an explicit criterion for each activity, and the activity may either be aligned or not with this threshold and, subsequently, with the Taxonomy. Some activities are making a direct, substantial contribution to mitigation without any additional requirements. All activities included in the mitigation part of the Taxonomy (Annex I) 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 making substantial contribution to mitigation by nature.
- **Pathway to net-zero activities**: Activities with no immediate rapid decarbonisation option and the need to decarbonise over time. Two kinds of such activities exist:
  a. **Clear Pathway to Net Zero**: These activities are needed after 2050, and there is a clear pathway to net zero by 2050.
  b. **No Clear Pathway to Net Zero:** These activities can exist as interim options until better technologies appear but must be phased out by 2050. They all have

prescribed sunset dates, after which this activity can no longer be considered aligned with the Taxonomy.

There are three main ways in which the criteria and thresholds for making substantial contributions to climate change mitigation were defined:

1. **Borrowing criteria for relatively simple activities from existing taxonomies and classification systems.** Where methodologically feasible, the working group directly borrowed criteria from existing classification systems built on the same principles that were decided to be applied in creating Rwanda's Green Taxonomy. The EU Taxonomy[13] (e.g. for renewable energy or transport criteria) or the Climate Bonds Initiative Taxonomy[14] (e.g. for bioenergy production in particular) can be considered the primary sources of criteria.

2. **Adapt the criteria to Rwanda's unique circumstances**. The working group conducted several rounds of technical consultations to gather feedback from the TEGs and integrate local data, labels, regulations and certification systems into the existing international criteria. Examples of such inclusions relate to constructing new buildings and renovating existing structures.

3. **Creation of new criteria.** In rare cases, some activities important for Rwanda are not available from other sources and need to be constructed from scratch. This is how, for example, the criteria for biomass cookstoves (Annex I) were developed.

5.1.2. DNSH Criteria

In addition to TSC compliance, the activity manager must fulfil the "Do No Significant Harm" (DNSH) requirements. The DNSH principle is usually applied to taxonomies with multiple objectives and ensures 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 mitigation part of the Taxonomy, but the generic criteria apply to all activities. The Taxonomy user must decide which DNSH requirements are material to their activity.

Bear in mind that 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 adverse 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 5. Generic DNSH Criteria

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[13] https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/eu-Taxonomy-sustainable-activities_en

[14] https://www.climatebonds.net/standard/Taxonomy

OBJECTIVE	DESCRIPTION
Climate change adaptation and resilience	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 (**Table 6** provides examples of such risks).
	Guidance of such vulnerability assessments is explained below:
	The physical climate risks that are material to the activity must be identified by performing a robust climate risk and vulnerability assessment with the following steps:
	• Screening of the activity to identify which physical climate risks 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 need 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[15] 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[16], scientific peer-reviewed publications, and open source or paid models.
	For existing 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 and existing activities using newly built physical assets, the economic operator must integrate adaptation solutions that reduce the

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

[16] 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/

	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, etc.). 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.
Pollution prevention and control	The economic activity should not result in a significant increase of pollutant emissions to air, water or soil, compared to the situation before the start of the activity (including the generation of hazardous waste).
Promotion of 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 maximize 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.
Protection of biodiversity and environment	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 the IUCN Red List.[17]. Museums or technical facilities[18] 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

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[17] https://www.iucnredlist.org/

[18] Technical facilities mean electronic communications network equipment and facilities used to originate, process, transfer, transmit or receive electronic communications calls and information signals.

	Standard №6[19]. A long-term biodiversity monitoring and assessment programme must be implemented for these sites.	
Sustainable Land Management and Agriculture	Requirements for this objective are relevant only for the agriculture, livestock and forestry sector projects and are incorporated into **Table 14** measures.	

As mentioned under the DNSH principle for climate change adaptation and resilience, all investments in physical assets must ensure that they are resilient and take measures to reduce the vulnerability to acute and chronic climate risks. **Table 6** provides examples of such risks.

Table 6. 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	• Avalanche • Landslide • Subsidence

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

			• Landslide-generated tsunamis	

5.1.3. Minimum Social Safeguards

Minimum Social Safeguards (MSS) is a set of additional criteria that the owner of the activity has to abide by. They are introduced 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 TSCs and the DNSH criteria are applied at the activity level, the **MSS criteria are 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. The following conventions were identified as relevant for Rwanda:

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:

1. Universal Declaration of Human Rights (1948)
2. International Covenant on Civil and Political Rights (1966)
3. International Covenant on Economic, Social and Cultural Rights (1966)

The asset or activity that makes a substantial contribution to mitigation must, at the same time, 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.

5.1.4. DNSH and MSS Deficiencies Remediation

While it is recognized that compliance with MSS and DNSH is a challenge for all countries and companies, several precautions were taken during the development of these requirements in Rwanda´s Green Taxonomy:

- The number of documents and conventions was limited to the most basic and general ones;
- Direct reference to country regulations has been made in some cases to highlight the most important ones for the Taxonomy objectives;

- Consistent style of drafting and structuring DNSH content applied to increase clarity and usability;
- A 3-year remediation period allowed for the owner of the activity to fix all the problems that the user may encounter.

In terms of the latter, and in case the activity, project or company in question does not comply with DNSH or MSS criteria but otherwise passes the relevant technical screening criteria and metrics, it may be considered partially 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 Rwanda's Green Taxonomy Steering Committee, which will keep a registry of all plans submitted by companies unable to meet the DNSH and MSS criteria.

5.2. Annex II: Climate Change Adaptation and Resilience

According to the Intergovernmental Panel on Climate Change (IPCC), climate change adaptation is defined[20] as the process of adjustment to actual or expected climate and its effects. Climate resilience is defined as the capacity of social, economic and environmental systems to cope with a hazardous event trend or disturbance, responding or reorganising in ways that maintain their essential function, identity and structure while also maintaining the capacity for adaptation, learning and transformation. Both adaptation and resilience are closely interlinked concepts, and for the Taxonomy, the terms "adaptation" and "resilience" are used for different parts of the same process. "Adaptation" is used when talking about the process of adapting to climate change. In contrast "resilience" is used when talking about the status of the activity or facility ("more" or "less resilient to climate change") and changes in this status due to external factors.

5.2.1. *Adaptation Framework and Structure*

As with mitigation, developing a separate annex for adaptation must go through a series of steps, from defining general principles to describing particular actions that must be taken to make a substantial contribution to the objective of climate change adaptation and resilience. The main aim of this process is to construct a workable framework that can be applied to a country's financial market and the real economy to enhance its adaptive capacity and resilience to climate change based on an analysis of available data.

Within the sectors identified for the adaptation part of the Taxonomy (refer to subchapter 4.4.2), the first step is to identify the hazards of climate change impacting the sectors of the economy. The second step is to identify the hazards of climate change impacts to which the selected sectors are exposed. The third step is to identify from the Climate Bonds Resilience Taxonomy (CBRT) database[21] those measures and activities that are most likely to help overcome or mitigate the previously identified impacts of climate change. The fourth step will be to identify specific parameters for substantial contribution to climate change adaptation and resilience.

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[20] https://www.ipcc.ch/site/assets/uploads/2019/01/SYRAR5-Glossary_en.pdf
[21] https://www.climatebonds.net/resilience

The fourth step requires a significant amount of real-life data, and before this data is available, physical climate risk assessment must be used to replace it.

5.2.2. Sector-specific Assessment of Climate Hazards

Key vulnerabilities to climate change impacts in Rwanda are presented in detail in the Third National Communication[22] and in the subsequent Climate Change Vulnerability Assessment and Index Report 2019[23]. It is important to note that sectoral hazards and impacts may vary across Rwanda based on differing geographic or climate conditions and the socioeconomic characteristics of Rwandan regions. The current adaptation part of the Taxonomy (Annex II) does not provide a regional-level analysis of climate hazards, but instead identifies overall national trends within the sectors in Rwanda and focuses on the most material and significant climate impacts. Further granularity related to hazards can be provided through the subsequent iterations of Taxonomy development if found necessary.

The sector-specific analysis of hazards was conducted by assessing the hazards that different sectors of the Rwandan economy face or most likely will face in the near future. Each hazard has multiple "hazard consequences", meaning the climate conditions resulting from these hazards directly affect elements of society or ecosystems (e.g., heat stress, cold stress, water stress, flood damage etc.).

Thus, the following list of hazards faced by different sectors of the Rwandan economy was identified and can be found in **Table 7** below. Categories and descriptions in the table are taken from the CBRT and are used to facilitate the selection of relevant activities and measures from the CBRT database.

Table 7. Climate-related Hazards Affecting the Focus Sectors of the Rwandan Economy

Sector	Hazard consequence (category)	Hazard description	Impact category	Impact description
Agriculture, livestock and forestry	Multi-hazard	Consequences of multiple concurrent hazards including (but not limited to) shifts in the coverage of pests, pathogens and other disease vectors, soil degradation, and soil erosion	Asset value loss	Reductions in the value of assets, including through physical damage and/or reduced insurability
	Flood damage	Consequences of flooding arising from heavy precipitation and pluvial floods, river floods, coastal floods, glacial lake outburst	Net revenue loss; asset value loss	Reductions in net revenues, including through productivity loss and through increased operational

[22]https://unfccc.int/sites/default/files/resource/Rwanda%20AdCom.pdf
https://unfccc.int/sites/default/files/resource/Rwanda AdCom.pdf
[23] https://rema.gov.rw/cc_vulnerability_Rwanda(2018)-Final_report.pdf

		floods (GLOFs) and changes in relative sea level		expenditures requirements
	Water stress (including drought)	Consequences of water scarcity associated with changes in mean precipitation, aridity, hydrological drought, agricultural and ecological drought, or reduced freshwater availability due to saline intrusion		
Construction	Flood damage	Consequences of flooding arising from heavy precipitation and pluvial floods, river floods, coastal floods, glacial lake outburst floods and changes in relative sea level	Population displacement	Internal displacement and/or forced migration
	Storm damage	Consequences of severe windstorms, tropical cyclones, sand and dust storms, hail and/or changes in mean wind speeds	Asset value loss	Reductions in the value of assets, including through physical damage and/or reduced insurability
	Mass movement damage (including landslides)	Consequences of landslides, coastal erosion, snow avalanches, permafrost thawing or other climate-driven mass movement events	Net revenue loss	Reductions in net revenues, including through productivity loss and through increased operational expenditures requirements
Community services	Flood damage	Consequences of flooding arising from heavy precipitation and pluvial floods, river floods, coastal floods, glacial lake outburst floods (GLOFs) and changes in relative sea level	Reduced availability of / access to social, cultural and informational resources	Impaired availability of and/or access to resources such as education, culture, skills/training, information, etc.

	Multi-hazard	Consequences of multiple concurrent hazards including (but not limited to) shifts in the coverage of pests, pathogens and other disease vectors, soil degradation, and soil erosion	Negative health outcomes	Worsened human health outcomes, including mental health
			Increased socio-economic inequality	Exacerbation of inequalities and disparities within society, including loss of income and employment, people living below the poverty line, and those excluded and/or marginalised populations and/or communities
	Mass movement damage (including landslides)	Consequences of landslides, coastal erosion, snow avalanches, permafrost thawing or other climate-driven mass movement events		
Energy	Heat stress	Consequences of high temperatures associated with increased mean surface temperature and/or extreme heat events	Asset value loss	Reductions in the value of assets, including through physical damage and/or reduced insurability
	Flood damage	Consequences of flooding arising from heavy precipitation and pluvial floods, river floods, coastal floods, glacial lake outburst floods (GLOFs) and changes in relative sea level	Net revenue loss	Reductions in net revenues, including through productivity loss and through increased operational expenditures requirements
			Increased socio-economic inequality	Exacerbation of inequalities and disparities within society, including loss of income and employment, people living below the poverty line, and those excluded and/or marginalised populations and/or communities

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Transportation	Flood damage	Consequences of flooding arising from heavy precipitation and pluvial floods, river floods, coastal floods, glacial lake outburst floods (GLOFs) and changes in relative sea level	Population displacement	Internal displacement and/or forced migration
	Heat stress	Consequences of high temperatures associated with increased mean surface temperature and/or extreme heat events	Asset value loss	Reductions in the value of assets, including through physical damage and/or reduced insurability
Water	Flood damage	Consequences of flooding arising from heavy precipitation and pluvial floods, river floods, coastal floods, glacial lake outburst floods (GLOFs) and changes in relative sea level	Asset value loss	Reductions in the value of assets, including through physical damage and/or reduced insurability
	Water stress (including draught)	Consequences of water scarcity associated with changes in mean precipitation, aridity, hydrological drought, agricultural and ecological drought, or reduced freshwater availability due to saline intrusion	Negative health outcomes	Worsened human health outcomes, including mental health
Environmental protection and restoration	Multi-hazard	Consequences of multiple concurrent hazards including (but not limited to) shifts in the coverage of pests, pathogens and other disease vectors, soil degradation, and soil erosion	Biodiversity loss	Loss of biodiversity and species richness, including through species range shifts
	Water stress (including draught)	Consequences of water scarcity associated with changes in mean precipitation, aridity, hydrological drought, agricultural and ecological drought, or reduced	Ecosystem loss/degradation	Loss, damage or fragmentation of ecosystems, including the loss of ecosystem functions and ecosystem services

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		freshwater availability due to saline intrusion	Asset value loss	Reductions in the value of assets, including through physical damage and/or reduced insurability
	Heat stress	Consequences of high temperatures associated with increased mean surface temperature and/or extreme heat events	Net revenue loss	Reductions in net revenues, including through productivity loss and through increased operational expenditures requirements

Key impacts of climate change in key economic sectors and hazard-prone spheres entail the following:

- **Agriculture, livestock and forestry:** shift in production zones for key crops, increased risk from pests and diseases, crop loss, land degradation and soil erosion, change in precipitation patterns; flooding, landslides, wind damage.
- **Water management**: deteriorated water quality, increased flooding and sedimentation, water shortage during longer dry spells;
- **Community services**: increased risk of water-borne and vector-borne diseases, increased risk of flood/landslide mortality and damage to land-based assets and activities;
- **Environmental protection and restoration:** increased habitat degradation, shift in species habitat suitability and loss of tourism revenues;
- **Energy:** increased damage to reservoirs from siltation and reduced hydropower production;
- **Infrastructure:** increased damage to infrastructure and urban areas and household assets and increase in human displacement.

5.2.3. Identification, Prioritisation, and Selection of Activities and Measures to Combat Climate Hazards

All activities selected in line with the methodology and literature review mentioned in previous sub chapters are included in the Annex II of this document. They were selected from the Climate Bonds Resilience Taxonomy[24] (CBRT) database for specific sectors and specific activities that were previously found relevant for Rwanda. The tables in the Annex II should be read the following way:

- **Division**: this is the granular sub-sector within which activities and measures are applied, and under which it is primarily categorized;
- **Investment**: this is the specific investment or climate resilience intervention related to the activity or measure;

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[24] https://www.climatebonds.net/files/files/CBI_Res_Meth_24_03C%281%29.pdf

- **Expected effect**: The expected effect defines an activity or measure's substantial contribution to climate resilience. It is defined as a 'quantifiable reduction in vulnerability (or exposure) to climate impacts in the investment context and as an investment output that contributes towards the investment's expected result;
- **Expected result**: an investment's expected result is defined for adapted/adapting investments (activities and measures) as increased climate resilience of the activity or sub-sector in which the investment takes place to the investment's target climate hazard(s) and for enabling investments as increased climate resilience of other activities to the investment's target climate hazard;
- **Type:** whether an activity or a measure is adapted (fully adapted to a certain hazard), adapting (helping to increase resilience gradually) or enabling (helping others to adapt);
- **Level:** whether it is an activity (a process) or a measure (one-time action);
- **Criteria type**: this column defines whether the activity or asset belongs to a Whitelist) or whether a definition of substantial contribution criteria is required (all other options);
- **Code**: activity or asset family code to which measures or activities belong. This is based on the CBRT classification system and is included mostly for interoperability with other taxonomies using the same system.

5.2.4. Development of Substantial Contribution Criteria

Substantial contribution to adaptation and resilience is, for the purpose of Rwanda's Green Taxonomy, defined as any measure or activity that reduces vulnerability to climate risks that is defined through a climate risk vulnerability assessment[25] and leads to the expected result of the adaptation efforts (see sub-chapter 6.2 for more details on this).

In contrast to climate change mitigation, where it is possible to determine the required parameters of a substantial contribution quite precisely (GHG-emitting technological processes are broadly the same for all countries), it is difficult to determine such a considerable contribution for the climate change adaptation and resilience objective due to the great specificity of the adaptation requirements of each particular location. For Rwanda's Green Taxonomy, the determination of such substantial contribution parameters should initially be based on a physical assessment of climate risks on a case-by-case basis. Subsequently, based on observations of the Taxonomy's application, it will be possible to compile a database of different cases of application in Rwandan conditions, which in turn will make it feasible to create stable and locally adapted minimum contribution parameters for activities and measures**.**

Establishing substantial contribution criteria is necessary both to ensure the successful implementation of adaptation measures and to reduce the risk of maladaptation.

Maladaptation is defined[26] by IPCC as "*actions that may lead to increased risk of adverse climate-related outcomes, including via increased greenhouse gas (GHG) emissions, increased or shifted vulnerability to climate change, more inequitable outcomes, or diminished welfare, now or in the future. Most often, maladaptation is an unintended*

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[25] Such assessment may be done through a variety of existing methodologies with involvement of technical specialists.
[26] https://www.ipcc.ch/report/ar6/wg2/downloads/report/IPCC_AR6_WGII_TechnicalSummary.pdf

consequence"[27]. The Taxonomy methodology builds on this concept by using a more focused definition of maladaptation through the lens of physical climate risk assessment in the investment context. It also separates out issues related to increased GHG emissions, which are instead handled under DNSH for mitigation (see the following subchapter).

Maladaptation, for the purposes of the Taxonomy, is defined as **the risk of an unintended measurable increase in vulnerability (or exposure) in the investment context**. This may be the result of physical climate risk uncertainty or of miscalculation that leads to increased vulnerability (or exposure) to the risk that the investment is intended to address. It may also be caused by a failure to consider system boundaries that leads to increased vulnerability (or exposure) to physical climate risks that are externalities to the investment context. Some examples of maladaptation include:

- **Investment in the introduction of heat-tolerant crop varieties**: if not suited to local climate and temperature conditions, the investment may increase the vulnerability of agricultural livelihoods and food security.
- **Investment in the provision, upgrade or expansion of evacuation/shelter facilities to make displaced populations more resilient to flood damage**: if incorrect assumptions are made about flood modelling, incorrect physical climate risk results could result in populations being made more vulnerable.

Determining maladaptation risk is a challenging, and non-linear task that can only be solved by improving the quality of climate risk and vulnerability assessment. We recommend taking this risk into account and endeavouring to mitigate it to the extent possible based on available information.

This step involves dividing adaptive and enabling activities and measures into two categories: those with maladaptive potential and those without it. If there is no potential for maladaptation, the measure falls into a whitelist category, i.e. it automatically substantially contributes to the climate adaptation and resilience objective and does not need an additional criterion.

If maladaptation potential is present, it is recommended to develop further substantial contributions to climate change adaptation and resilience criteria to reduce the likelihood of maladaptation. As mentioned before, this step is out of the scope of the current Taxonomy, but essential to conduct during future iterations of the Taxonomy. In the Annex II tables, the absence or presence of maladaptation potential is indicated in the "Criteria requirements" column, where «Whitelist» means little to no maladaptation potential, while any other option ("Qualitative", "Quantitative" or "Process-based") means that the risk of maladaptation is present and must be tackled through the establishment of criteria.

The determination of whether a measure or an activity is whitelisted has been made in line with expert judgement (supported by literature reviews) on whether the investment can deliver a substantial contribution to adaptation across a broad range of contexts with no risk of maladaptation. A precautionary principle has been applied so that if there is not enough clear evidence to make this decision, the development of substantial contribution criteria is recommended.

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[27] https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_AnnexVII.pdf

Global or local benchmarks developed in accordance with accumulated experience in dealing with the impacts of climate change should be used to determine whether the contribution to the objective of climate change adaptation and resilience is substantial. At present, the accumulation of such information at the global level has only just begun, and in most cases, the information collected will need to be substantially adapted to specific locations.

For practical application in Rwanda's Green Taxonomy, in the first step, substantial contribution parameters should be determined on the basis of a physical climate risk assessment using one of the common methodologies listed in the next sub-chapter. It is recommended that technical experts with knowledge of the climate, topography and climate hazards of the region be involved in the development of the substantial contribution parameters. It is also recommended that all Rwandan adaptation-related documents, both at the country and regional level, be utilised.

Once the Taxonomy has been applied, it is recommended that a database of substantial contributions that fulfils its objectives be created. Successful substantial contribution cases should be processed, integrated into the database and subsequently converted into minimum substantial contribution parameters that can be linked to activities and measures to create threshold requirements similar to those in the climate change mitigation part of the Taxonomy.

5.3. Annex III: Various Objectives of the Taxonomy

The application of the Taxonomy in the Agriculture, livestock and forestry sector (hereinafter – agricultural sector) seeks to help a farm or a plot of forest transition from its current state to a more climatically and environmentally sustainable state through the application of sustainable practices, that make a significant contribution to the objectives of the Taxonomy and prevent harm to the ecosystem and biodiversity. The journey to improved sustainability by the farm or the forest plot is called a "transformational project". **One transformational project encompasses at least one activity and as many practices as a farm/plot manager selects.**

The methodology and framework applied for the agricultural sector differs from the other two annexes due to various reasons:

- The sector is more heterogeneous in terms of its impact on the ecosystem and climate than other sectors, and therefore, the activities included can contribute not only to the goal of climate change mitigation but also to climate change adaptation and resilience, sustainable use and protection of marine and water resources, pollution prevention and control, protection and restoration of biodiversity and ecosystems as well as sustainable land management.
- This is why, the purpose of application, it is considered that practices in the agricultural sector of the Taxonomy are contributing not specifically just to climate change mitigation or biodiversity protection but to the objectives of the Taxonomy as a whole.
- Due to the large number of factors involved in agriculture (water, air and soil chemistry, fertiliser composition, differences in crop varieties, forest biome complexity etc.) and the associated lack of data, it is not possible to establish clear criteria defining the minimum required measures in agricultural processes to significantly contribute to an environmental objective. However, certain agricultural practices and measures can provide substantial contributions to environmental objectives if properly implemented.

The methodology proposed for the agricultural sector uses sustainable practices and proxy certifications rather than numeric criteria and thresholds, as in other sectors. The identification of sustainable practices and technologies for the sector recognizes that, sometimes, it is impossible to separate the inherent relationship and co-dependence that exists between soils, carbon stock and resilience to climate change, water resources, biodiversity and their ecosystem services.

The methodology proposed by this Taxonomy seeks to identify substantial contributions by identifying a set of best practices that overlap and complement each other.

Methodology and Scoping

In particular, the proposed practice-based criteria cover: farm-level production of crops (including agroforestry) and livestock, including mixed farming; activities off-farm that provide products or services to enable GHG mitigation and climate adaptation and resilience on farms; forestry activities, including plantation, management and conservation of forests. In practical terms, this includes:

- inputs, capital goods, crop-based transformation processes;
- agricultural or forestry-related outputs;
- waste management activities;
- primary processing or storage before the point of sale.

The proposed criteria do not cover:

- supply chain activities related to the production or supply of inputs purchased by farms;
- the processing or distribution of agricultural products post the farmgate or after the first point of sale;
- packaging or handling of agricultural products;
- wholesale or retail.

Eligible practices and associated assets and projects include those integral to the whole production unit (such as land purchase costs for an entire farm) or only a part of the production unit (such as equipment or infrastructure for particular aspects of production or the purchase of additional land for expansion of the farm).

Smallholder Farmers

Smallholder farming is the main type of agriculture in Rwanda, accounting for 75% of all holdings. These farms often do not have the capacity to carry out complex and expensive 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, making certain actions optional. A smallholder farm is defined as one with no more than 1 hectare at its disposal (based on the data on the average farm plot in Rwanda[28]).

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[28] https://cgspace.cgiar.org/rest/bitstreams/274d8ed0-358e-49e9-89da-327c1b29ede9/retrieve

6. Taxonomy User Guidelines

This sub chapter of the Taxonomy is intended to give users of the Taxonomy an idea of how it can be applied and how Taxonomy alignment can be demonstrated. There are three distinct approaches to assess Taxonomy alignment under Rwanda's Green Taxonomy: one for activities that make a substantial contribution to climate change mitigation (Annex I), one for those that make a substantial contribution to climate change adaptation and resilience (Annex II) and one for the assessment of practices in the land use that make a substantial contribution to various environmental objectives (Annex III). Depending on the business activities, the user of the Taxonomy needs to identify the relevant activities in the respective annex(es) and follow the adequate alignment approach (es) as detailed below.

This subchapter provides a guide for a commercial enterprise seeking funding for activities, measures or practices that contribute to the Taxonomy objectives.

6.1. Taxonomy Alignment in Annex I

1. Break down company/project operations into different economic activities

In order to substantially contribute to climate change mitigation, the users must first identify the economic activity under the entity or the project to which the Taxonomy will be applied. For the definition of activities, please see sub-chapter 4.5.1.

The Industrial codes of ISIC-4 can be used for identifying activities, but this is not strictly necessary.

2. Compare the activities with activities listed in Annex I of the Taxonomy

In the second step, the user needs to compare the resulting list of activities of the enterprise/project with the list of activities included in Annex I of the Taxonomy and select those of relevance. These activities may make a substantial contribution to climate change mitigation, which has to be assessed in the next step. 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 (called "out-of-scope activities).

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 the activity cards of Annex I of Rwanda's Green Taxonomy. Testing alignment with the technical screening criteria requires robust and granular data, 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. In this case, it is making a substantial contribution to climate change mitigation;
- An activity that is not aligned with relevant metrics and thresholds or falls into the "Ineligibility Criteria" sub-sections of activity cards in Annex I. In this case, the activity is automatically not making a substantial contribution to climate change mitigation or is harmful to this objective;

- 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 Generic DNSH principles (Chapter 2 in Annex I) and the Taxonomy's Minimum Social Safeguards (Chapter 3 in Annex I) requirements. After that, the evaluator needs to assess whether the specific compliance requirements indicated under the particular Taxonomy activity (mentioned separately in each activity card in Annex I) are met.

If the activity does not comply with DNSH or MSS criteria but otherwise passes the relevant technical screening criteria. In that case, it may be considered partially aligned if the operating company prepares an additional plan indicating how it will correct the deficiencies within three years from the date of assessment.

5. Make a final decision on the activity's alignment with Rwanda's Green Taxonomy

It is considered aligned with Rwanda's Green Taxonomy if the activity is:

- Included in Annex I;
- Meets the relevant screening criteria;
- Meets the DNSH (generic and specific) and MSS criteria.

In case the activity does not currently meet the Generic DNSH and MSS criteria OR specific additional compliance requirements specified in the activity card for each activity, but the activity owner has submitted a remediation plan (see sub-chapter 5.1.4), the activity is considered partially aligned with Rwanda's Green Taxonomy.

Figure 13. Taxonomy Alignment Assessment Scheme: Annex I
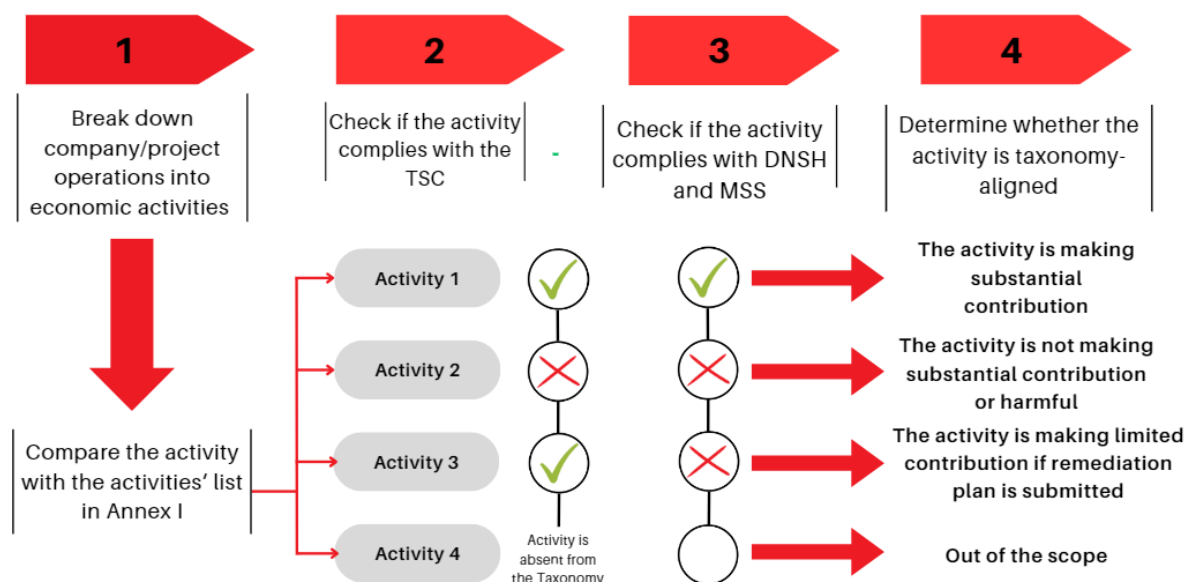
Note: Under process Step 3 an economic activity needs to comply with both Generic DNSH requirements as well as specific compliance requirements.

6.2. Taxonomy Alignment in Annex II

In order to check the alignment of the adaptation project with the Taxonomy requirements, the user should go through the process outlined below.

Figure 14. Taxonomy Alignment Assessment Scheme: Annex II
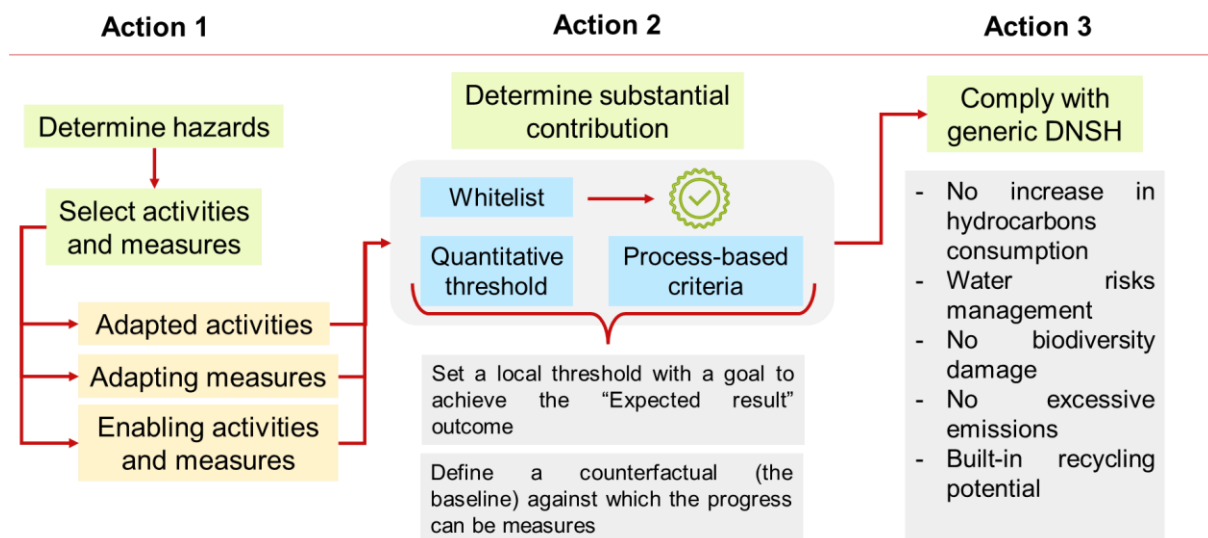
1. Determining the necessary investment

First, the Taxonomy user should (possibly with the help of external consultants and technical experts) identify two key parameters:

- **Hazards facing the activity or facility**. A list of hazards is provided in **Table 7.** Hazards can be identified either from the direct experience of the owner of the activity or facility or from analyses of local adaptation policies and research in this area. The Taxonomy does not help the user to identify hazards (it is beyond its scope and is significantly depended on a particular asset, location and situation). Still, it provides a framework with which those hazards can be identified.
- **A list of activities and measures** that are most appropriate to address the identified hazard. Activities and measures are listed in the relevant table in Annex II and are mapped against the hazards that they are helping to address.

> Please note that the tables of measures and activities included in Annex II are based on international research and reflect the state of climate science in terms of substantial contributions to climate change adaptation and resilience to date. Bearing in mind the diverse landscape of climate hazards and ways of tackling them, the lists of measures and activities included in Annex II can be supplemented based on physical climate risk assessment, consultations with technical experts and application of local methodologies of dealing with climate hazards. The method of the Taxonomy assumes that the user may bring in new adapting measures, enabling measures and enabling compatible activities and make a substantial contribution to adapted activities or simply to the objective of climate change adaptation and resilience.

Annex II tables include the following types of activities and measures:

1. **Adapted activities** (coloured deep red) are activities that are substantially adapted to material impacts of climate change (e.g. floods or heat waves). To adapted, an activity

must adapt relevant measures to address the hazards identified through a climate vulnerability and risk assessment. Each adapted activity possesses a specific code that helps to identify all adapting measures included in it.

The "Investment" column of an adapted activity outlines the types of investments (activities and measures) considered in line with the activity's goal. In most cases, it mentions "appropriate adapting measures" that can either be found by looking at adapting measures of the same code or defined by the Taxonomy user themselves based on physical climate risk assessment.

If the Taxonomy user, in consultation with experts and analysis, considers that certain measures and activities not specified in Annex II can help increase an activity's resilience to a specified hazard -- they can be added to the list of measures and activities and are considered eligible. In this case, the user must create a new row in the corresponding table, filling all columns.

Table 8. Example 1. Adapted Activity

Division	Investment	Expected effect	Expected result	Type	Level	Criteria type	Code
Crop production	Constructing / expanding / operating / upgrading physical agricultural infrastructure assets	Agricultural production asset upgraded with investment-appropriate adapting measures that reduce the vulnerability of that activity to flood damage	Physical agricultural infrastructure assets more resilient to flood damage	Adapted	Activity	Process-based	3001

2. **Adapting measures** (coloured light red) are individual measures that help a particular activity adjust to a specific negative climate change impact. They may include engineering or nature-based solutions that increase the resilience of an activity to a specific hazard of climate o implications. Adapting measures may be associated with a certain adapted activity. In this case, their association is visible through a particular code. The "Investment" column for these measures usually describes the exact action that should be taken to consider the measure implemented. To be eligible under the Taxonomy, this action must lead to the effect indicated in the "expected result" column.

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Table 9. Example 2. Adapting Measure

Division	Investment	Expected effect	Expected result	Type	Level	Criteria type	Code
Crop production	Construction of flood-reinforced controlled environment agriculture	Reduced physical vulnerability due to protection of crops from flood-borne contaminants and pathogens	Physical agricultural infrastructure assets are more resilient to flood damage	Adapting	Measure	Quantitative	3001

3. **Enabling measures** (coloured light blue) are implemented within an activity to make other activities more climate resilient and being climate resilient. They entail the expansion or extension of a given activity with the primary intent of addressing climate impacts by delivering essential services that benefit other activities. The enabling measure is not an economic activity but a one-time intervention to extend, expand, or otherwise alter an economic activity to deliver resilience benefits to other activities or systems. Examples may include extending water supply networks to cover water-stressed locations or expanding the coverage of mobile health clinics in flood-affected areas.

Table 10. Example 3. Enabling Measure

Division	Investment	Expected effect	Expected result	Type	Level	Criteria type	Code
Hospitals, clinics, nursing homes etc.	Expansion of telemedicine infrastructure	Telemedicine infrastructure extended with investment-appropriate adapting measures that reduce vulnerability to storm damage in activities beyond the investment	Other healthcare activities more resilient to storm damage	Enabling	Measure	Process-based	5103

4. **Enabling activities** (also coloured light blue) are activities that help other activities, buildings and communities to become more resilient. For example, this includes setting up early warning systems for natural disasters, providing specialised training, etc. Unlike enabling measures, they entail a process, not a one-time intervention. Examples may also include continuous production of leak detection equipment and systems that may be installed in water supply networks or the provision of continuous health-related information technology systems.

Table 11. Example 4. Enabling Activity

Division	Investment	Expected effect	Expected result	Type	Level	Criteria type	Code
Crop production	Constructing / expanding / operating / upgrading information systems	Climate resilience solution developed or provided that is expected to increase the climate resilience of other activities to flood damage	Agricultural management systems more resilient to flood damage	Enabling	Activity	Process-based	3001

This categorisation also provides the basis for identifying climate resilience-related costs within investments (activities and measures)[29]. For measures (whether adapting or enabling), these would be the measure's cost only. For adapted activities, these would be the costs of the adapting measures implemented within the activity. For enabling activities, these would be any costs associated with that activity.

Here are some ideas of how activities and measures might be selected based on the intention of the Taxonomy user.

Table 12. Example 5. Activities and Measures Selection

The intention of the user	Recommended action
The user wants to make the school more resilient to mass movement damage (landslides) that often threatens buildings in the area. The user selects a sector (construction) and a hazard (mass movement damage). Now the user has to choose appropriate activities and measures.	**Option 1** The user may opt to implement an adapted activity (code 1011). This code contains three adapting measures, all of which are applicable in this situation. In this case, the user should implement all three measures (installation of movement joints, strengthening building structures, strengthening foundations). The user may also implement other relevant measures that are not mentioned in the table but can contribute to the outcome indicated in the "Expected result" column. If all applicable measures are implemented, the school may be considered adapted to the hazard of landslides.

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[29] This is aligned with how the EU Taxonomy defines the eligibility of investment costs of adapted activities and enabling activities.

	Option 2
	Due to a lack of funds, the user cannot apply all the measures required for the school to obtain landslide-adapted status at once. In this case, the user can select any set of measures under code 1011 and supplement them with measures not listed in the table that the physical climate risk assessment has recognised as being able to make a substantial contribution to climate change adaptation and resilience. In this case, investment in these measures would also be considered adaptive and compliant with the Taxonomy but would not entitle the user to call the school landslide resistant.
The user wants to make the emergency health services (local ambulance) more resilient to all possible hazards relevant to the region. This type of activity is mentioned in the community service table in Annex II as it relates to the community resilience increase efforts. Since the user wants to protect against several hazards at once, they select multi-hazard. In the multi-threat protection table, they find the division 'Emergency health services', which code is compliant with only one adapted activity (5202).	As the relevant code does not contain any suggested adapting measures for the adapted activity status, it is up to the user to identify the measures that would be relevant to achieve the result indicated in the 'Expected Result' column of the adapted activity 5202. The list of measures should be based on a physical climate risk assessment and consultation with technical experts. Once all pre-defined measures have been applied, the activity can be labelled as multi-hazard adapted.
The user wants to make the delivery of treatment and care resistant to potential flooding, as this service is very important to the local community. Code 4007 contains many options for measures to improve this activity, but no adapted activity.	If the code does not contain an adapted activity, it is not possible to obtain this status because the complexity of the activity does not allow it to be completely resilient to the specified hazard type. However, the user can increase the resilience of the activity to hazards by implementing the measures that are listed in the code.

After hazards are identified and activities/measures are selected, the user should proceed to Action 2.

2. Define substantial contribution

The user must define what constitutes a substantial contribution to the objective of climate change adaptation and resilience for every selected activity or measure. To aid this process, each investment within Annex II is prescribed a 'Criteria type' consisting of one of three options:

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- Whitelist investments;
- Quantitative/Qualitative criteria;
- Process-based criteria.

Whitelist investments substantially contribution to adaptation and resilience across carious contexts without risk of maladaptation. These investments (activities and measures) require no additional checks. If only investments of this type are selected – the user may immediately can proceed with the next step (DNSH check).

Quantitative/Qualitative criteria are required for investments (activities and measures) that may deliver a substantial contribution but must meet a technical criterion (e.g. technical specification or threshold) to demonstrate this.

Process-based criteria are required for activities and measures that involve establishing a process that may either deliver a substantial contribution or not.

At this point, the accumulation of information on what contributions to the objective of climate change adaptation and resilience can be considered substantial has only just begun. Rwanda needs to build a pool of information on this through the application of adaptation criteria and outcome tracking. These results, in turn, can form the basis for minimum thresholds defined for individual activities and measures in the future. In the meantime, the threshold for substantial contribution to adaptation should be determined in one of the following ways:

- By conducting a physical climate risk assessment and setting a **local threshold** based on accumulated experience and/or consultation with technical experts. The target threshold should lead to achieving the result described in the 'Expected result' column of the specific activity or measure. The following methodologies are recommended for conducting physical climate risk assessment:
  - Global Programme on Risk Assessment and Management for Adaptation to Climate Change Climate Risk Assessment Framework (GP L&D's CRMF)[30];
  - EU Climate Risk Vulnerability Assessment Methodology[31];
  - Physical Climate Risk Assessment Methodology (PCRAM)[32];
  - Network for Greening the Financial System (NGFS) Methodology[33].

- By setting a **global threshold** based on information from studies relevant to the Rwandan context.

After defining a substantial contribution, the user must define a counterfactual/baseline against which progress towards achieving the defined threshold may be measured.

- The counterfactual should be current actual performance (for existing assets) or current industry practice (for new assets) where available or definable. "Current industry practice" typically refers to the prevailing methods, procedures, standards, or techniques that are widely adopted and deemed up-to-date within a specific industry or profession. This term encompasses:
  - **Best practices**: Proven approaches that have been shown to yield optimal results.

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[30] https://www.adaptationcommunity.net/wp-content/uploads/2021/12/GIZ_CRM_ConceptPaper.pdf

[31] https://ec.europa.eu/sustainable-finance-taxonomy/assets/documents/CCM%20Appendix%20A.pdf

[32] https://storage.googleapis.com/wp-static/wp_ccri/c7dee50a-ccri-pcram-final-1p.pdf

[33] https://www.ngfs.net/sites/default/files/media/2022/09/02/ngfs_physical_climate_risk_assessment.pdf

- o **Standard operating procedures**: Commonly agreed-upon ways of carrying out tasks or operations.
- o **Regulatory compliance**: Practices that conform to current laws, regulations, and guidelines.
- o **Technological uptake**: Use of current technologies and tools prevalent in the sector.

The achievement of the defined threshold is assessed against this counterfactual, e.g. x% improvement or confirmation that performance is in the upper range of current market or industry practices.

The result should be an establishment of a substantial contribution threshold similar to the example below, where [x] is replaced with a particular target number.

Table 13. Example 6. Example of a Substantial Contribution Criteria Established Through a Climate Risk Assessment

Expected result	Established substantial contribution criteria
Physical agricultural infrastructure assets are more resilient to heat stress	Amount of seeds stored in stable temperatures [x]kg against counterfactual
Physical agricultural infrastructure assets are more resilient to flood damage	Elevation of assets above floodwater inundation/intrusion levels by [x]m3 against counterfactual

3. Comply with generic DNSH criteria

Similarly to all other activities in Rwanda's Green Taxonomy, adaptation activities need to fulfil the generic DNSH criteria. When making investments in adaptation measures and activities, it is important to ensure that:

- The measure or activity does not increase the operational consumption of hydrocarbons (fossil gas, oil or coal and their derivatives) or lead to the lock-in of hydrocarbons.
- Risks associated with water consumption and water quality must be identified, assessed and mitigated to the largest possible extent. Water risk analysis tools must be used for this purpose (e.g. risk assessments by national environmental authorities, water footprint, WWF Water Risk Filter[34], WRI Aqueduct[35] or comparable).
- Adaptation measures and activities must not damage ecosystems that are strategic for food security, rich in biodiversity, or serve as habitats for endangered species (flora and fauna) on Rwanda's lists of nationally protected areas or the IUCN Red List[36]. Museums or technical facilities necessary for their functioning are exempt from this requirement.

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[34] https://waterriskfilter.org/
[35] https://www.wri.org/aqueduct
[36] https://www.iucnredlist.org/

- For sites and operations located in or near biodiversity-sensitive areas (defined as areas included in the Natura 2000 network of protected areas, UNESCO World Heritage sites and Key Biodiversity Areas, and other protected areas), an appropriate assessment must be carried out in line with the criteria set by IFC Performance Standard №6[37]. A long-term biodiversity monitoring and assessment programme must be adopted for these sites.
- It must be demonstrated that neither the construction nor operation of the adaptation activity or measure emits dangerous substances, noise, light, or heat more than those allowed by relevant national or international regulations.
- New installations must be designed and manufactured for high durability, easy to dismantle, refurbishment and recycling to the extent possible. The potential for repair of facilities and equipment, and the accessibility and interchangeability of the activity's equipment components must be ensured.

6.3. Taxonomy Alignment in Annex III

Taxonomy alignment in the land use sectors (agriculture, livestock and forestry) is assessed at the transformational project level, not the farm level. A transformational project may encompass at least one activity and one or several practices.

The boundary of the eligible agricultural production systems within the present Taxonomy is "farmgate to farmgate", meaning that they cover everything that happens within the farm but not what happens outside of the farm (logistics, processing, selling, etc.). These boundaries can include non-contiguous lands and production systems. The farm is treated as an agricultural unit and thus comprises areas such as any forest holdings linked to the agricultural production system by ownership or ecosystem function. Non-contiguous production processes are eligible if they are related to farm production prior to the sale of the product (such as storage, manure management, or composting) and managed by the production unit. These requirements are neutral regarding the future use of crops and livestock once they have left the agricultural production unit and do not have provisions for tracking.

Users are expected to define the land boundaries of the agricultural unit clearly. Usually, this will be the farm holding, including riparian buffer zones, conservation set-asides, grassland, or forest areas. For clarification, conservation and set aside areas may be considered as part of the agriculture production unit if they constitute part of the land property of the farm production unit owned or leased by the same unit as the production property and are not used as offsets for other GHG emissions sources.

This chapter will identify the approach towards Taxonomy alignment in the agriculture and livestock sector (Part 1) and the forestry sector (Part 2).

6.3.1. *Taxonomy Alignment in the Agriculture, Livestock and Forestry Sector*

There are two basic options under which the manager of the farm or the forest plot can align **a transformational project** of the farm or a forest plot with the Taxonomy:

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

Figure 15. Taxonomy Alignment Assessment Scheme: Annex III (Agricultural, Livestock and Forestry)
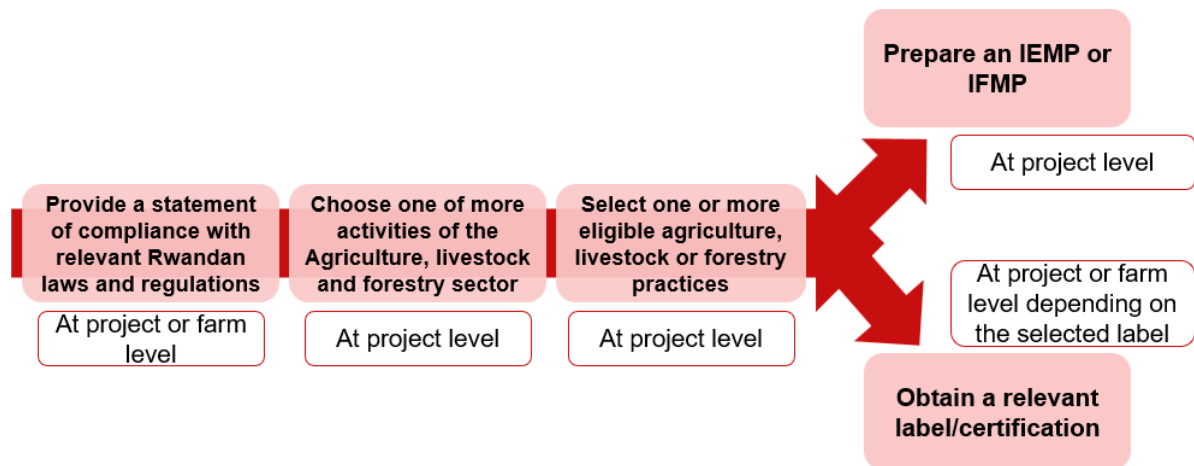
Step 1. Ensure that the farm/plot and project comply with relevant Rwandan laws and regulations.

Although all activities across all sectors need to comply with national laws and regulations, this requirement is intended to provide further guidance to financial sector stakeholders to check compliance against specific norms (e.g., the farm/plot and project are not located in a protected area) before evaluating whether the activity is sustainable.

The relevance of different laws and regulations is defined by the manager of the farm/plot and assessed by the person or agency checking the validity of the Taxonomy alignment.

Alignment with the legal requirements must be exercised on a farm/plot or project level.

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).

Energy policy:
- Guidelines promoting energy efficiency measures by REMA

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
- The Rwanda Biodiversity Policy
- Ministerial Order on wetlands (Article 42)

Fertiliser policy:
- National Fertiliser Policy of Rwanda
- Ministerial order no 002/11.30 of 14/07/2016

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

- Law N°49/2018 of 13/08/2018 on environment
- Water Use Permit Guidelines

Waste Policy:

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

Livestock:

- National Wetlands Management Policy

Step 2. Define the activity to be assessed.

A transformational project can encompass one or more of the following activities that are included under Annex III of the Taxonomy:

- Growing of perennial and non-perennial crops (**Table 1 in Annex III**)
- Growing of coffee (**Table 2 in Annex III**)
- Growing of tea (**Table 3 in Annex III**)
- Livestock production (**Table 4 in Annex III**)
- Sustainable forest management (**Table 5 in Annex III**)
- Forestry plantation (**Table 6 in Annex III**)
- Conservation, restoration and maintenance of natural, pristine forests (**Table 7 in Annex III**)

Step 3. Select one or more practices from tables 1-7 in Annex III.

For a transformational project to be making substantial contribution to the objectives of the Taxonomy, at least one sustainable agricultural practice from the ones listed in the **Tables 1-7** in Annex III needs to be selected for implementation during the project.

Practice tables are organised as follows:

- **Title**. Name of the practice that needs to be selected and indicated in the IEMP/IFMP.
- **Description**. General description of the actions required to implement the practice. In order to be aligned with the Taxonomy, the owner of the farm must implement all actions related to one practice except for those indicated as "optional". Smallholder farmers must implement all actions except for those indicated as "optional" or "optional for smallholders".
- **Eligible input**. Items, resources, activities and services that can be financed to implement the chosen practice(s). This list is not exhaustive. The manager of the farm can choose other inputs if he or she proves that they are required to implement a certain practice.

Tables 2 and **3** in Annex III outline crop-specific practices and inputs that are making substantial contributions to the Taxonomy objectives and which provide the best results for specific crops such as coffee and tea. In addition, **Table 1** in Annex III can also be utilised to identify practices and inputs for coffee and tea production.

Step 4. Option 1: Prepare and adopt an IEMP or IFMP

Taxonomy compliance also involves ensuring that the ecosystem of the farm/plot is not harmed and that the farm/plot has an overall positive contribution to the environmental objectives laid out in the Taxonomy.

After providing proof of compliance with Rwandan laws (step 1) selecting an activity and a practice(s) to be implemented (steps 2, 3), the owner of the project must prepare and submit an IEMP/IFMP (if Option 1 is chosen).

Integrated Environmental Management Plan (agriculture and livestock activities)

The IEMP outlines the current state of the agricultural management system of the farm, as well as the plans to transition the farm from its existing form to a future climate-resilient and sustainable agricultural system by implementing one or more practices from **Tables 1-4 in Annex III**. It further outlines which measures it employs to prevent environmental damage and contribute to the environmental objectives of the Taxonomy, maximising benefits through implementing integrated and complementary solutions.

To this effect, the farm manager needs to prepare an IEMP that confirms that:

- at the time of the start of the transformational project and during the project, the activities associated with it will not cause significant damage to the ecosystem of the production unit, climate and the environment as a whole;
- the selected practice(s) will make a substantial contribution to one or more of the objectives of the Taxonomy as part of the transformational project.[38]

To provide guidance for meeting these two conditions, **Table 14** and **Table 15** below were prepared. They contain two sections: "Do No Significant Harm Requirements" and "Examples of substantial contribution measures".

In order to be aligned with the Taxonomy, the farm needs to fulfil **all** requirements of the "DNSH requirements" section of **Table 14** and additionally provide a plan for fulfilling as many relevant requirements as possible of the "Objectives Contribution" section of Table 16. information in the "Objectives Contribution" section is given as examples of what can be done to address to make **additional positive contributions**, and it is not a mandatory requirement. The owner of the farm needs to demonstrate how the activities selected for the farm substantially contribute to the environmental objectives of the Taxonomy and should use this table as guidance. However, the type of contribution that most suits a particular farm should always be selected based on local knowledge, climatic conditions and crop management system. All this information, actions and plans need to be included in the corresponding sections of the IEMP.

The IEMP does not have any pre-defined outline but needs to contain the following information:

a) **Current situation on the farm (defined on a farm level)**: 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. It can cover the following questions/data requirements:

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[38] This criterion goes beyond the pure selection of practices from tables 1-4 (step 3) and requires demonstration that the chosen practice(s) will substantially contribute to the environmental objectives of Rwanda's Green Taxonomy.

- 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 using natural resources and other metrics of improvements.

b) **Physical climate risk assessment of the farm.** The following methodologies are recommended for conducting a physical climate risk assessment:
   o Global Programme on Risk Assessment and Management for Adaptation to Climate Change Climate Risk Assessment Framework (GP L&D's CRMF)[39];
   o EU Climate Risk Vulnerability Assessment Methodology[40];
   o Physical Climate Risk Assessment Methodology (PCRAM)[41];
   o Network for Greening the Financial System (NGFS) Methodology[42].

c) **Objective and nature of the transitional project (constructed for a particular project):**
   o The information must clearly show the objectives of implementing a transformational project, e.g. improving productivity, reducing risks or other similar objectives.
   o The section must include at least one practice from **Tables 1-4** from Annex III and outline what changes will be implemented throughout the project, what input it requires, and what the consequences for the area and the environment will be.
   o A timeline for the envisaged changes can be provided here. In addition, information needs to be included on what is expected to be achieved by implementing the project (i.e. how the farm will look like compared to the "state of the farm" after all selected practices are implemented and **Tables 14** and **15**[43] requirements are observed).

d) **Do No Significant Harm requirements (constructed for a particular project):** what measures from **Table 14** have been taken to mitigate risks associated with the implementation of the project and provide protection of natural resources, ecosystems and biodiversity?

e) **Contributions to Taxonomy objectives (constructed for a particular project):** what measures from **Table 15** have been taken to contribute to the general objectives of the Taxonomy?

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[39] https://www.adaptationcommunity.net/wp-content/uploads/2021/12/GIZ_CRM_ConceptPaper.pdf
[40] https://ec.europa.eu/sustainable-finance-taxonomy/assets/documents/CCM%20Appendix%20A.pdf
[41] https://storage.googleapis.com/wp-static/wp_ccri/c7dee50a-ccri-pcram-final-1p.pdf
[42] https://www.ngfs.net/sites/default/files/media/2022/09/02/ngfs_physical_climate_risk_assessment.pdf
[43] Please bear in mind that these table numbers are given for the main taxonomy document. Annex III also contains those tables for reference, but the numbering there is different.

Table 14. Agriculture and livestock DNSH requirements

Environmental objectives	Do No Significant Harm requirements				
Climate change mitigation	The project should not lead to the conversion of high-carbon stock lands[44].	Any slash-and-burn practices or burning of agricultural residues must be avoided at any stage.	Avoid over tilling, overgrazing and excessive application of fertilisers.	Implementing feeding strategies that minimise feed waste and enhance the efficiency of feed conversion to reduce GHG emissions associated with feed production	
Climate change adaptation and resilience	Clear boundaries and critical interdependencies between the agricultural production unit and the ecosystem within which it operates must be identified.	An assessment has been undertaken to identify the key physical climate hazards to which the production unit will be exposed and vulnerable over its operating life.	The measures that have been or will be taken to address those risks mitigate them to a level so that the production unit is able to manage changing climatic conditions over its operational life.	The measures that have been or will be taken do not harm the resilience of the defined system they operate within, as indicated by the boundaries of and critical interdependencies with that system as identified by the farm manager	(Aquaculture only) Employment of species that are more tolerant of temperature fluctuations, salinity changes, and other climate-related stressors to reduce vulnerability to climate change impacts.
Protection and restoration of biodiversity and ecosystems	Avoid habitat destruction: burning, felling or fragmentation of natural vegetation.	Protect areas of natural forest. Set aside at least 40% of the forest for regeneration or conservation.	Avoid the introduction of non-native species. Native species are allowed. Naturalised species with proven benefits in restoration	Control the use of agrochemicals (fertilisers and pesticides) because, in excess, they cause the decline of populations of beneficial organisms in terrestrial and aquatic ecosystems.	

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[44] Can be proven by submission of maps (see Global Forest Watch maps), georeferenced photographs or satellite imagery of land use change and burning, for example. Forest inventory surveys or other formal government data can also be used.

			programmes are allowed.	
Pollution prevention and control	Prevent physical degradation, e.g., erosion and soil compaction.	Prévente chemiqua dégradation, e.g. salinisation, acidification, alcalinisation and pollution.	Avoid biological degradation, e.g. loss of organic matter, imbalance of biological activity and mineralisation processes.	Installing biofilters, sedimentation ponds, or constructed wetlands to treat wastewater before it is discharged into natural water bodies reduces the release of nutrients, chemicals, and organic matter.
Sustainable use and protection of marine and water resources	Protect riparian corridors, wetlands, and other water bodies.	Control pollution of watercourses and avoid the discharge of sediments into water bodies, nutrients, and agrochemicals.	Regulate the volume of water abstracted and returned to natural sources, improving the efficiency of use per unit of production.	Maintaining appropriate stocking densities reduces the pressure on local water resources and minimises the accumulation of waste and uneaten feed, which can lead to eutrophication.

Table 15. Examples of Substantial Contribution to the Objectives of Rwanda's Green Taxonomy for Agriculture and Livestock Activities

Environmental objective	Description of contribution	Examples of contribution
Climate change mitigation	Implemented practices lead to the reduction of GHG emissions or prevent the loss of carbon stocks	• Selected practices help to reduce methane emissions in treatment plants and water-intensive crops (e.g. rice, coffee). • Selected practices help to increase the use of higher carbon fixing plant species and protect the forests and coastal and marine habitats (blue carbon). They involve introduction of agroforestry systems, reduction of methane emissions in agricultural waste management or reduce emissions from biomass burning. • Selected practices help to 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. They also decrease NO2 emissions in fertilised soils. • Selected practices help to restore degraded areas that once were high-carbon stocks.
Climate change adaptation and resilience	Implemented practices improve production unit's resilience to the effects of climate change at the same	• Selected practices help to improve the resilience of ecosystems to climate variability and enhance their climate

	time not harming the climate resilience of the ecosystems within which it is carried out.	regulating services (e.g. by protecting mangroves, forests, and wetlands). • Selected practices help to reduce pressure on the biological balance and its climate resilience. Climate-tolerant agricultural varieties, breeds and forest species will be used.
Sustainable use and protection of marine and water resources	Implemented practices protect water sources, optimise the utilisation of water and prevent its contamination	• Selected practices help to increase the stabilisation of aquifer recharge areas. They help to reduce the sedimentation potential of reservoirs that allow water regulation. • Selected practices help to adjust water planning criteria according to the assessment of climate scenarios and their adaptation to applicable climate adaptation plans. • Selected practices help to 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. • Selected practices help to manage runoff in times of excessive precipitation.
Protection and restoration of biodiversity and ecosystems	Implemented practices help to protect or restore biodiversity and stability of the ecosystem where the production unit is situated	• Selected practices help to encourage the use of native species or species compatible with the original habitat. • Selected practices help to combat pre-existing invasive species without deteriorating the biological balance. • Selected practices help to 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.
Pollution prevention and control	Implemented practices prevent air, soil or ecosystem pollution	• Selected practices help to adequately collect, recycle, clean and dispose of containers of pesticides and chemicals. • Selected practices help to develop a contaminated water treatment system to treat waste and nutrients. • Selected practices help to reduce or stop the burning of crops, such as the management and processing of agricultural residues
Sustainable land management and agriculture	Implemented practices contribute to sustainable land management and help preserve agricultural potential for future generations	• Selected practices improve the quality of soil and make it less prone to salination • Selected measures help to restore the fertility of soil and preserve its productive potential
Promotion of circular economy	Implemented practices contribute to keeping agricultural biomass, waste and residues from agricultural	• Selected practices help to produce fertiliser and biogas from manure and other organic waste.

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 	activities as reusable resources	• Selected practices help to increase organic matter content in the soil by incorporating residues from crop production.

In order to make a substantial contribution to the objectives of the Taxonomy, the owner of the farm must comply with **all** requirements of **Table 14** and define a substantial contribution to at least one of the objectives of the Taxonomy in line with the examples given in **Table 15**. The contained information is given as an example of what can be done to make additional positive contributions and is not to be considered a hardline requirement. The manager of the farm must contribute to the environmental objectives of the Taxonomy and must use this table as a guide but must always choose a type of contribution that most suits a particular farm. All this information, actions and plans must be included in the corresponding sections of the IEMP.

Integrated Forest Management Plan (for forestry-related activities)

IFMP is a document that outlines the silvicultural systems and practices to be applied in a forest. The plan is prepared by the project owner interested in carrying out the forestry activities and it must be submitted to the relevant authorities for approval. The objective of the plan is to ensure the sustainability of the forest by specifying how the harvesting will be conducted and how the forest will be regenerated after the harvest. This plan aims to ensure sustainable forestry use and incorporate the environmental management principles required in the Taxonomy, allowing the renewal and preservation of resources and enhancing environmental benefits.

The key considerations for forestry projects to comply with Option 1 are the following:

1. The project takes place in an area that is subject to a forest management plan or an equivalent instrument, as set out in relevant national law or where national regulation does not define a forest management plan, as referred to in the FAO definition of 'forest area with long-term forest management plan'[45].The forest management plan or the equivalent instrument covers a period of 10 years or more, and is continuously updated.

2. In addition, information is provided on the following points if not already documented in the forest management plan or equivalent system:

   a. management goals, including major constraints[46];
   b. general strategies and activities planned to reach the management goals, including expected operations over the whole forest cycle;
   c. definition of the forest habitat context, including main existing and intended forest tree species, and their extent and distribution;
   d. definition of the area according to its gazetting in the land registry;
   e. compartments, roads, rights of way and other public access, physical features including waterways, areas under legal and other restrictions;
   f. measures deployed to maintain the good condition of forest ecosystems;
   g. consideration of societal issues (including preservation of landscape, consultation of stakeholders in accordance with the terms and conditions laid down in national law);

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[45] Forest area that has a long-term (ten years or more) documented management plan, aiming at defined management goals, and which is periodically revised, FAO Global Resources Assessment 2020. Terms and definitions (version of 4.6.2021: http://www.fao.org/3/I8661EN/i8661en.pdf).

[46] Including an analysis of (I) long term sustainability of the wood resource (ii) impacts/pressures on habitat conservation, diversity of associated habitats and condition of harvesting minimizing soil impacts.

h. assessment of forest related risks, including forest fires, and pests and diseases outbreaks, with the aim of preventing, reducing and controlling the risks and measures deployed to ensure protection and adaptation against residual risks;

i. all DNSH criteria relevant to forest management, as defined in General Compliance requirements.

3. The sustainability of the forest management systems as documented in the plan referred to in point 1 is confirmed by ensuring the forest management matches the most ambitious definition of sustainable forest management according to definitions provided in the law determining the Management and Utilisation of Forests in Rwanda, or another national definition.

4. The activity does not involve the degradation of land with high carbon stock[47].

5. The management system associated with the project in place complies with the due diligence obligation and legality requirements laid down as per relevant national laws and regulations.

6. The forest management plan or equivalent instrument provides for monitoring which ensures the correctness of the information contained in the plan, in particular as regards the data relating to the involved area.

Step 4. Option 2: Provide a credible label (certification)

Alternatively, the owner of the farm/plot may choose to substitute step 4, i.e. the preparation of the IEMP/IFMP, with a credible international or national certification scheme from one of the approved certification schemes below. These international certifications include requirements comparable in stringency to those required of the farm/plot manager under Option 1 and work as proxies. Here is the list of available certification schemes:

Agriculture and livestock activities:
- Organic Agriculture Certification Thailand
- Roundtable of Sustainable Palm Oil
- Palm Oil Innovation Group
- UTZ Certified and Rainforest Alliance
- International Sustainability and Carbon Certification
- Singapore Good Agricultural Practice (SG GAP) Certification
- Singapore Clean and Green Certification
- IFOAM Standard
- Cocoa Certification — Conservation Alliance
- Organic label of the National Bureau of Agricultural Commodity and Food Standards
- Obscuro
- Global GAP
- Roundtable on Responsible Soy
- Proterra Foundation
- Sustainable Rice Platform
- Climate-Friendly Rice Certification (Agri Capture)
- RSB Standard
- Smart cane BMP

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[47] Land with high-carbon stock means wetlands, including peatland, and continuously forested areas as per the definition in relevant national regulation.

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- Climate Bonds Protected Agriculture and Water Infrastructure Criteria

Forestry activities:

- Forest Stewardship Council (FSC).
- Rainforest Alliance
- Programme for the Endorsement of Forest Certification (PEFC).

If this option is chosen, steps 1, 2 and 3 are the same as in Option 1, but step 4 is replaced by obtaining one of the certificates mentioned above.

6.3.2. *Eligible Expenditures and Produces*

The following items and revenue streams have been identified to making a substantial contribution to the Taxonomy objectives and are listed in the tables in Annex III:

- Expenditures required to implement a transformational project, including items and services from the "eligible inputs" column of each table in Annex III;
- Expenditures required to implement **Table 15** actions leading to a substantial contribution to certain objectives (DNSH measures from **Table 14** must be implemented BEFORE the start of the transformational project);
- Revenues coming from selling farm production AFTER the transformational project was completed. Please note that only revenues from farm/plot products that were transformed throughout the transformational project are considered Taxonomy aligned. For example, if the farm grows corn and soy together and the manager carries out a transformational project aimed at increasing biofertilizer input for soy (or obtained Roundtable on Responsible Soy certification), only soy and revenues associated with selling of soy are considered Taxonomy aligned.

7. Fostering the Implementation of Rwanda's Green Taxonomy

Taxonomies can be the engine and core of a country's journey towards sustainability, but they cannot be applied independently. Their successful application requires additional initiatives such as incentives, regulations, promotion and capacity building, among others.

Decisions around implementation, financial and institutional support and enforcement of the Taxonomy lie with Rwandan authorities, who can develop a wide variety of supplementary acts and tools that could incentivise Taxonomy usage across the market. This chapter briefly outlines potential opportunities and actions in the short, medium and long term to foster the implementation of Rwanda´s Green Taxonomy.

The below prioritisation matrix can serve as a guide for Rwandan policymakers to identify the actions that should be prioritised to embed the Taxonomy into Rwanda's regulatory landscape and build capacity for its use. Based on the matrix, a roadmap for Taxonomy implementation can be developed.
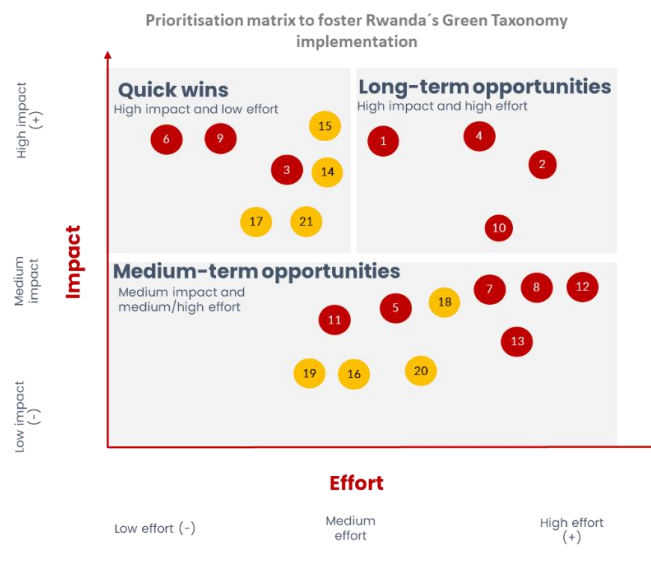
One of the most relevant actions refers to the alignment between the country's current green investment funds, such as IREME Invest and FONERWA, and to align the investment criteria with Rwanda´s Green Taxonomy. For this, it will be necessary to evaluate both methodologies and make a comparative exercise with the sectors and activities of the Taxonomy. The "Fostering the Implementation of Rwanda's Green Taxonomy" strategy paper - which is an additional supporting document to the Taxonomy and has been provided to the Taxonomy Steering Committee - details the proposed actions for the implementation of Rwanda's Green Taxonomy in more detail.

The prioritisation of actions was developed along two main dimensions: a) policies and regulations embeddedness that include actions aimed at integrating the Taxonomy into national policies and regulations to ensure its operability in the country and b) the potential for capacity building and testing, amongst others, including the creation of guideline documents and tools to promote the understanding and appropriation of Rwanda's Green Taxonomy by various actors, both governmental and non-governmental.

The main findings of the prioritisation are summarised below:

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

Prioritisation matrix to foster Rwanda´s Green Taxonomy implementation

Impact

High impact (+)

Medium impact

Low impact (-)

Quick wins
High impact and low effort

6 9 15 3 14 17 21

Long-term opportunities
High impact and high effort

1 4 2 10

Medium-term opportunities
Medium impact and medium/high effort

11 5 18 7 8 12 13 19 16 20

Effort

Low effort (-)   Medium effort   High effort (+)

Policy and regulations

Regulations

1. Develop disclosure regulations using the taxonomy
2. Develop regulations for aligning green financial products in the market with the Taxonomy

Financial instruments

3. Guidelines for issuance of green bonds using international frameworks and the taxonomy criteria
4. Guidelines for development of other green debt instruments using taxonomy criteria(e.g., loans, microfinance)
5. Guidelines for insurance products and services using taxonomy criteria

Investments Funds

6. Alignment between IREME Invest and Rwanda Green Fund (FONERWA) investment methodologies with the Rwanda Green Taxonomy
7. Development of guidelines for labeling of ESG, green and sustainable funds based on taxonomy

Monitoring and tracking of taxonomy-aligned finance flows

8. Development of an MRV system for tracking sustainable investments based on taxonomy
9. Alignment bewteen Rwanda's Green Taxonomy and Rwanda's Guidelines on Climate Budget Tagging

National environmental and climate strategies

10. Alignment and expansion of national and sectoral strategies based on Rwanda Green Taxonomy

Subsidies and incentives

11. Develop green guarantees, subsidies and benefits for implementing activities covered in the taxonomy
12. Develop incentives for green products aligned with the taxonomy
13. Integrating taxonomy into the public procurement system

Capacity building and testing

14. Taxonomy implementation pilots for different market users
15. Capacity building sessions about Taxonomy
16. Development of proxies and other implementation guidelines
17. Development of digital tools for easy use of taxonomy
18. Development of self-evaluation tools
19. Comparison of Rwanda´s Green Taxonomy with other international taxonomies
20. Development of training programmes and MOOC courses
21. Translation of Rwanda´s Green Taxonomy into Kinyarwanda

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:

1. **Regulations**: actions to integrate the Taxonomy into the disclosure regulations for sustainability reporting and develop different regulations for aligning green financial products in the market with the Taxonomy.

2. **Financial instruments:** actions related to designing new green products based on Taxonomy criteria (green bonds issuance using international frameworks and Taxonomy criteria, green loans, green insurance products and services).

3. **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.

4. **Monitoring and tracking:** actions to integrate Taxonomy into measuring the effectiveness of environmental and climate change expenditure in the country (green budget tagging).

5. **National environmental and climate strategies**: actions to align the national environmental and climate strategy and regulations using the Taxonomy criteria and actions to expand the Taxonomy to other environmental objectives and sectors.

6. **Subsidies and incentives**: actions to develop incentives or other benefits for implementing activities covered in the Taxonomy.

The key policy and regulation actions to foster the implementation of Rwanda's Green Taxonomy are presented in the diagram below:

Figure 17. Actions Proposed for the Policy and Regulations Dimension

Policy and regulations

Quick wins	Medium term	Long term
• Alignment between IREME Invest and Rwanda Green Fund investment methodologies with Rwanda´s Green Taxonomy • Alignment between Rwanda's Green Taxonomy and Rwanda's Guidelines on Climate Budget Tagging • Guidelines for issuance of green bonds using international frameworks and the taxonomy	• Develop green guarantees and subsidies for activities covered in Rwanda´s Green taxonomy • Guidelines for insurance products and services using Rwanda´s Green taxonomy • Development of guidelines for labeling of ESG, green and sustainable funds • Development of an MRV system for tracking sustainable investments • Develop incentives for green products aligned with the Rwanda´s Green taxonomy • Integrating Rwanda´s Green taxonomy into the public procurement system	• Guidelines for development of other green debt instruments using Rwanda´s Green taxonomy • Alignment and expansion of national and sectoral strategies based on Rwanda´s Green Taxonomy • Develop disclosure regulations which make reference to Rwanda´s Green taxonomy • Develop regulations for aligning green financial products in the market with Rwanda´s Green Taxonomy

Further development of the taxonomy

Additional to the above, actions such as expanding Rwanda´s Green Taxonomy to other relevant sectors and other environmental objectives should be prioritised in the short and long-term, respectively. These actions are included in this document in the Quick Wins and long-term opportunities.

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Capacity building and testing include actions aimed at the creation of guides and different tools to promote the understanding and appropriation of Rwanda's Green Taxonomy by different actors, both governmental and non-governmental. These tools should be designed to facilitate understanding of the technical content and, thus Taxonomy implementation.

The key capacity-building and testing actions to foster the implementation of Rwanda's Green Taxonomy are presented in the diagram below:

Figure 18. Actions Proposed for the Capacity Building and Testing Dimension

Capacity building and testing

Quick wins

- Development of digital tools for easy use of Rwanda´s Green Taxonomy

- Capacity building sessions on Rwanda´s Green Taxonomy for the market users and regulators

- Rwanda´s Green Taxonomy implementation pilots for different market users and regulators

- Translation of Rwanda´s Green Taxonomy into Kinyarwanda

Medium term

- Development of proxies and other implementation guidelines

- Development of self-evaluation tools (e.g., review of projects and portfolio)

- Comparison study of Rwanda´s Green Taxonomy with other international taxonomies

- Development of training programs and MOOC (massive open online course) courses