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RWANDA'S GREEN TAXONOMY

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1. Conceptualising a taxonomy

A green finance taxonomy is a system or framework that classifies economic activities based on their environmental sustainability and contribution to climate objectives. It provides clear criteria and guidelines to determine which investments can be considered "green" or environmentally friendly. A green finance taxonomy defines specific environmental objectives, such as climate change mitigation, biodiversity conservation, or resource efficiency. It establishes eligibility criteria for investments to be classified as green. It helps investors, financial institutions, and policymakers identify and promote investments that align with sustainability goals.

It must also be noted that while **green** taxonomy focuses on climate and environmental objectives, a **sustainable** taxonomy includes objectives beyond green and covers social objectives. Rwanda´s taxonomy is intended to be a sustainable finance taxonomy developed in several consecutive phases. In the first phase, only objectives of climate change mitigation and climate change adaptation are developed. Other objectives are expected to be developed in the future phases.

1.1. Why a country needs and how it can use a green taxonomy

The concept of green taxonomy was initially introduced in 2012 by the Climate Bonds Initiative (Climate Bonds) as a voluntary guideline[1] for the green bond market. Over time, the idea of taxonomy has transformed from being a voluntary tool driven by the market to one that governments increasingly guide. Presently, more than 40 jurisdictions have either established or are in the process of implementing a green or sustainable finance taxonomy or a similar classification framework.[2] These jurisdictions include the European Union (EU)[3], ASEAN[4], China[5], Russia[6], South Africa[7], Colombia[8], Mexico[9], etc. The taxonomies introduced by the EU, Climate Bonds, and ASEAN taxonomies are commonly used as benchmarks, with countries and regions aligning their national schemes to ensure compatibility with these established frameworks.

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

- **Policymakers** can use a taxonomy to modulate their policy, using government or central bank-led support measures to support certain private market players and demonstrate their commitment to decarbonisation to international partners.
- **Regulators** can also benefit from a green finance taxonomy. It helps ensure compliance with environmental regulations and serves as a foundation for measuring progress towards sustainability goals.
- For **banks and financial institutions,** taxonomies allow for a faster identification of sustainability-aligned products, which reduces transaction costs. Taxonomies allow financial companies to restructure their product offering and appeal to sustainability-conscious investors

[1] https://www.climatebonds.net/standard/taxonomy
[2] Technically, a taxonomy is a classification framework which sorts multiple activities into different categories. Thus, principles-based systems, such as Green Bond Principles, cannot be called a taxonomy, but are usually included into one
[3] https://ec.europa.eu/sustainable-finance-taxonomy/
[4] https://asean.org/wp-content/uploads/2021/11/ASEAN-Taxonomy.pdf
[5] https://www.climatebonds.net/files/files/the-Green-Bond-Endorsed-Project-Catalogue-2021-Edition-110521.pdf
[6] http://publication.pravo.gov.ru/Document/View/0001202109240043
[7] http://www.treasury.gov.za/comm_media/press/2022/SA%20Green%20Finance%20Taxonomy%20-%201st%20Edition.pdf
[8] https://www.taxonomiaverde.gov.co/webcenter/portal/TaxonomaVerde
[9] https://www.gob.mx/shcp/documentos/taxonomia-sostenible-de-mexico?state=published

- **Investors** benefit from a taxonomy by receiving clear and standardised information about their investments. This reduces information disparities and enables better decision-making. Additionally, it helps mitigate the risks associated with climate change and promotes sustainable long-term investments.
- For **issuers of green bonds**, a taxonomy provides credibility and legitimacy. This makes it easier for them to attract green investments and gain investors' trust.
- **Society** benefits from a green finance taxonomy as it supports the transition towards a low-carbon and sustainable economy. This fosters economic growth job creation, and reduces environmental impact.

1.2. Potential applications of a green taxonomy

To increase their effectiveness, taxonomies can be linked to other sustainable finance (policy) instruments and products:

- **Adaptation of state policies and fulfilment of international commitments**

The green finance taxonomy is vital for the government to support sustainable businesses and meet international commitments. It offers a standardised framework to evaluate environmental sustainability, aiding the identification and prioritisation of investments that align with environmental objectives. This allows for targeted support measures for green initiatives, ensuring financial resources are directed towards projects contributing to sustainable development and global climate targets. Ultimately, the taxonomy empowers the government to promote green economic growth, address climate change, and fulfil global obligations.

Ideas for support measures: Climate Bonds Initiative has recently published a paper studying best practices of support that public institutions can exercise promoting the application of a green taxonomy. It is called "101 for policymakers"[10].

- **Standards for green bonds and loans**

A green finance taxonomy can support both public and private sectors in issuing green bonds and loans. It can provide a clear framework to identify eligible projects, promoting investor confidence and reducing information asymmetry. The taxonomy can also enable monitoring and reporting environmental performance, allowing investors and lenders to track proceeds and measure impact. Ultimately, it can enhance a country's green bond and loan market, attracting capital flows to sustainable projects and fostering a transition to a greener economy.

After the taxonomy is developed, Rwanda can create its own green bond/loan standard and/or use the existing international one, which is compatible with the same principles. Among the relevant existing and upcoming international standards are:

- **Climate Bonds Green Bond Standard[11] (GBS)**. Launched in 2012, GBS was initially designed to support confidence in the climate change action credentials of green bonds and other debt instruments and to provide a tool to allow quick investment decision-making. Climate Bonds have certified over USD 270bn of Use of Proceeds Green Bonds since the launch of the Certification Scheme. The latest Standard expands Certification coverage to general-purpose Assets and Entities and Sustainability-linked debt instruments. Certification under this Standard confirms that debt instruments, assets, or entities meet criteria published under the Climate Bonds Standard. Transparently developed science-based criteria underpin the Scheme, and a network of Climate Bonds Approved Verifiers provides independent

[10] https://www.climatebonds.net/policy/101-policymakers
[11] https://www.climatebonds.net/climate-bonds-standard-v4

assessment. An international independent Climate Bonds Standard Board, comprised of institutional investor representatives and reporting to the Trustees of the Climate Bonds Initiative, provides oversight and a strong governance framework for the Scheme.

- **Green Bond Principles[12] (GBP)**. GBP is a global voluntary framework created by the International Capital Markets Association with the stated mission and vision of promoting the role that global debt capital markets can play in financing progress towards environmental sustainability. GBP outline best practices when issuing bonds serving social and/or environmental purposes through global guidelines and recommendations that promote transparency and disclosure, thereby underpinning the market's integrity. GBP is relatively less stringent than GBS and thus has substantial popularity on the market.
- **EU Green Bonds Standard (EU GBS)[13]**. EU GBS is a document being developed as a part of the European Green Deal Investment Plan. EU GBS will be available to companies and public entities that wish to raise funds on capital markets to finance their green investments while meeting tough sustainability requirements. In particular, issuers of EUGBS would need to ensure that at least 85% of the funds raised by the bond are allocated to economic activities that align with the EU Taxonomy. This will allow investors to more easily assess, compare and trust that their investments are sustainable, thereby reducing the risks posed by greenwashing.

Other prominent green bond standards include Chinese and ASEAN Standards tied to respective taxonomy regulations.

- **Disclosure regulations**

A green finance taxonomy supports public and private sectors in 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 the Task Force on Climate-Related Financial Disclosures (TCFD) standard, Global Reporting Initiative (GRI) standard or International Sustainability Standards Board (ISSB) standard. It provides a standardised framework for classifying sustainable economic activities, enabling clearer identification and measurement of green investments. This helps investors and financial institutions assess environmental impact, allocate capital to sustainable activities, and make informed decisions.

Rwanda can develop its disclosure regulations for financial and non-financial entities based on the experience of international standards in this sphere or using them directly. Among the most well-established are:

- **IFRS Sustainability Standards[14]**. Published only in June 2023, IFRS standards S1 (sustainability-related) and S2 (climate-related) includes best practices and requirements of other standards. The information required by the ISSB Standards is designed to be provided alongside financial statements as part of the same reporting package. ISSB Standards have been developed to work with accounting requirements, but they are built on the concepts underpinning IFRS Accounting Standards, already required for use by more than 140 jurisdictions. IFRS S1 and S2 are built on and consolidate the TCFD[15] recommendations, SASB Standards, CDSB Framework, Integrated Reporting Framework and World Economic Forum metrics to streamline sustainability disclosures. Consolidation will help companies benefit from the

[12] https://www.icmagroup.org/assets/documents/Sustainable-finance/2022-updates/Green-Bond-Principles-June-2022-060623.pdf
[13] https://finance.ec.europa.eu/sustainable-finance/tools-and-standards/european-green-bond-standard_en
[14] https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/
[15]

investments they've already made in sustainability disclosures while reducing the fragmentation of the disclosure regulations space.

- **GRI Reporting Standards**[16]. The GRI Standards enable any organisation to understand and report on their impacts on the economy, environment and people comparably and credibly, thereby increasing transparency on their contribution to sustainable development. The Standards are designed as an easy-to-use modular set, delivering an inclusive picture of an organisation's material topics, their related impacts, and how they are managed. Three series of Standards support the reporting process: the GRI Universal Standards, which apply to all organisations; the GRI Sector Standards, applicable to specific sectors; and the GRI Topic Standards, each listing disclosures relevant to a particular topic.

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- **Green budget tagging**

Green budget tagging tracks government expenditures and revenue streams for environmental sustainability goals. The taxonomy allows consistent categorisation and tracking, enabling a 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. This promotes trust, public participation, and effective monitoring of environmental policies. Green budget tagging also supports the issuance of green sovereign bonds by identifying eligible expenditures or performance indicators for thematic bond issuance.

Further reading: green (or climate) budget tagging is a relatively new way of public finance allocation, but many countries and international organisations are starting to implement it. France is one of the countries that made the most substantial progress in implementing this practice. One of the reports on their experience may be found here[17].

- **Insurance and management of environmental risks**

A green finance taxonomy can be effectively utilised in the insurance industry to promote sustainable practices and manage environmental risks. By adopting a green finance taxonomy, insurance companies can better assess and quantify the environmental risks associated with their underwriting and investment portfolios. Insurers can develop specialised green insurance products tailored to cover risks associated with renewable energy projects, energy efficiency initiatives, and other environmentally friendly ventures. Furthermore, the taxonomy facilitates the integration of environmental factors into the underwriting process, allowing insurers to accurately price policies based on the environmental performance and sustainability of insured assets.

The UNEP FI Principles of Responsible Insurance[18] were established in 2012 and, since then, guided the development of this sector. They contain a set of policy principles and actionable points for companies to better identify and operationalise climate risks. Despite not being a clear set of rules for the sector, they nevertheless provide a good starting point for making individual standards involving taxonomies.

Green insurance may be a relatively new product on the insurance market, but industrial associations are already accumulating experience and producing recommendations for others to follow. Insurance Information

[16] https://www.globalreporting.org/how-to-use-the-gri-standards/gri-standards-english-language/
[17] https://www.budget.gouv.fr/documentation/file-download/8632
[18] https://www.unepfi.org/psi/wp-content/uploads/2012/06/PSI-document.pdf

Institutes[19] provides a good sampling of insurance benefits and products for the environmentally conscientious market players. Here are the examples for the transport sector:

- **Hybrid vehicle premium discounts** are offered by several auto insurance companies (and similar discounts may also be available on boat insurance for hybrid-electric boats and yachts).
- **Endorsements that allow hybrid replacement**—that is, optional coverage whereby, after a total car loss, the insured can replace his or her traditional automobile with a comparable hybrid vehicle.
- **Alternative fuel premium discounts**, which apply if your car uses an alternative energy source such as biodiesel, electricity, natural gas, hydrogen or ethanol.
- **Pay as You Drive (PAYD) programs**, which require the installation of a device to track the miles driven in your car. The PAYD offers policy discounts to drivers who, according to their sensor, drive fewer miles than the average—thus saving consumers money while reducing accidents, congestion and air pollution.

- **New stock market products**

The green taxonomy is crucial in developing thematic and tilted funds for the stock market. It helps fund managers identify and select companies or projects aligned with specific environmental objectives. This enables the creation of funds focused on renewable energy, clean technology, and sustainable agriculture. Using the taxonomy, fund managers tilt portfolios towards sustainable companies, promoting investments with positive environmental impact and facilitating the transition to a greener future. It also helps identify climate/green strategies and generate investment filters for equity and assets, avoiding greenwashing in bond fund investments.

Green investment products are very popular in most developed markets and continue to attract climate-aware users. Taxonomies are valuable tools to prevent greenwashing and establish clear parameters for such products. Among them:

- **ESG Funds**: Environmental, Social, and Governance (ESG) funds are another sustainable financial market product connected to green taxonomies. These funds comprise portfolios of investments that adhere to specific ESG criteria, which often overlap with the objectives of green taxonomies. For example, an ESG fund might prioritise investing in companies with low carbon emissions, strong commitment to renewable energy, and ethical labour practices.
- **Sustainable Index Funds**: Sustainable index funds are investment products designed to replicate the performance of a market index comprising environmentally and socially responsible companies. These funds follow specific sustainability criteria set by green taxonomies, allowing investors to invest in a diversified portfolio of companies that meet the taxonomy's environmental standards. For instance, a sustainable index fund might include companies that demonstrate a commitment to reducing carbon emissions, resource conservation, and responsible waste management.
- **Green Real Estate Investment Trusts (REITs)**: Green REITs are investment vehicles that pool funds from multiple investors to invest in environmentally sustainable real estate projects. These projects often include energy-efficient buildings, sustainable urban developments, and properties with low environmental impacts. Green REITs provide investors with an opportunity to invest in real estate assets that prioritise environmental considerations and promote responsible urban development.

[19] https://www.iii.org/article/green-insurance

1.3. What a taxonomy is and what it is not

As mentioned before, a green finance taxonomy refers to a classification system or framework that defines and categorises environmentally sustainable economic activities. It can be thought of as an encyclopaedia of sustainable economic activities and corresponding criteria and thresholds that allow stakeholders to understand whether an economic activity is in line with the sustainability objectives laid out in the taxonomy. However, it is very important to understand what taxonomies can and cannot do, what they are good for and what kind of supplementary documentation is needed to make them operational on different levels.

Taxonomy is not an exhaustive list of "good" or "bad" activities.

Green taxonomies indicate alignment with specific sustainability objectives. Non-aligned activities are not illegal or uninvestable but do not benefit from sustainability-focused capital. Countries usually do not penalise non-aligned activities. Taxonomies are not exhaustive and may not cover all economic activities. Additional sectors can be added over time for a more comprehensive taxonomy. In Rwanda, the taxonomy covers four sectors but not all activities within them. Some lack scientific criteria, while others have negligible climate/environmental impact. Excluded activities are not considered harmful but are out of scope for the current version.

Taxonomy alone is not sufficient to establish a sustainable finance market in the country.

The taxonomy is an "engine" or a "soul" of the green finance system, but it needs supplementary policies and regulations to be connected to the real economy and financial market:

- To **label green bonds,** a green bond standard/framework/principle must be applied.
- To **label green loans,** a green loan standard/framework is needed
- To **gather and make available** companies' non-financial data, certain reporting guidelines linked to a taxonomy need to be established.

Some activities may be outside of the scope of the taxonomy.

The taxonomy of Rwanda is expected to cover four economic sectors, but some of the activities traditionally included in these sectors will not be covered by the taxonomy. This is because there are no scientifically developed criteria for some activities, whilst others are just not material to the objectives of the taxonomy, meaning their effect on climate or environment is negligible. In both instances, the activities that are not included in the taxonomy are not necessarily considered harmful to the environmental or climate objectives of the taxonomy as they are merely out of the scope of the current version. For example, the activity of accounting will not be mentioned in the taxonomy, not because it is harmful to the environment, but because its effect on climate is negligible.

1.4. Taxonomies and national policy objectives

While taxonomies should be science-based tools, what often predetermines their architecture and design are key national policy objectives. National priorities, amongst others impact the following:

Selection of the taxonomy objectives

Depending on the national priorities, a green taxonomy can be designed to identify economic activities that can substantially contribute to one or more of the following objectives: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy,

pollution prevention and control, protection and restoration of biodiversity and ecosystems. Whilst some taxonomies decide to cover all of the environmental objectives, often the first priority of most of the jurisdictions that have developed or are in the process of developing a taxonomy is to focus on climate objectives – climate change mitigation and climate change adaptation.

Prioritisation of sectors and selection of activities

Taxonomies usually aim to address all of the sectors of the economy, but they will often be developed in phases – addressing sectors that are the most important from the policy perspective first and remaining sectors at a later stage. When selecting a sectoral scope, besides conducting a review of global and regional taxonomies, it is important to take into account the key policies of a given country – these, amongst others, include:

- Nationally Determined Contributions (NDCs)
- Long-term decarbonisation strategies
- Sectoral plans and strategies

Those can provide much-needed policy context to the assessment of sectoral greenhouse gas emissions and GDP contributions, both important factors considered during the process of sector selection.

Design of technical screening criteria

While for interoperability purposes, whenever applicable, metrics should be aligned with global practices, national taxonomies often differ when it comes to thresholds that define the activities' substantial contribution to a given objective. For many activities, this is due to the different shapes of regional decarbonisation pathways that reflect the specificities of a given country/region, a different pace of adoption and mainstreaming of low-carbon technologies and, more broadly – different starting points of different economies. However, it is important to emphasise that the deviations driven by national policies and strategies should be possible only to the extent that it is justified by scientific evidence and should not undermine the credibility of the framework.

Taxonomy Implementation

Once the taxonomy is developed, an action plan to coordinate its adequate implementation must be made. This includes, amongst others:

- Development of awareness-raising and capacity-building sessions for key public and private actors
- Development of taxonomy pilots, mainly with the financial sector
- Development of regulations and policies to ensure the adequate implementation of the taxonomy
- Public consultations to get feedback from potential users of the taxonomy

Special elements of the taxonomy

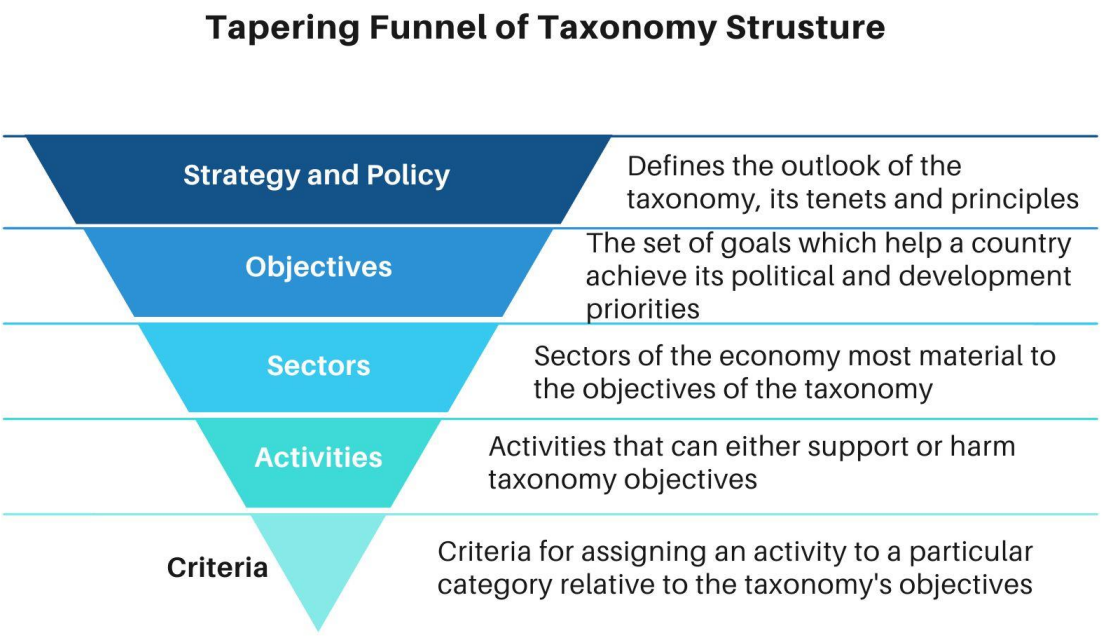
Specific national challenges could also noticeably influence the taxonomy design process. For example, countries whose economy substantially relies on the hard-to-abate sectors have focused on the transition component of the economy (e.g. Canada, Australia), and the ones for which transition needs to become a priority aim to emphasise the integration of social considerations into the taxonomy framework (e.g. South Africa). Informal employment in agriculture and the complexities of collecting information from small and medium enterprises are other issues that can influence taxonomy design.

2. Taxonomy structure and key parameters

2.1. Taxonomy structure

The configuration of the majority of taxonomies adheres to a design akin to a narrowing funnel going from political strategy to the users on the ground: objectives, sectors, activities, criteria and thresholds. While this pattern is prevalent, it is not universally applied, as exemplified by the distinct structures of the Chinese Green Bond Endorsed Projects Catalogue and the Malaysia Principles-based taxonomy. Nonetheless, the inverted pyramid structure remains the most prevalent and practical approach for financial markets. It ensures a level of harmonisation with other taxonomies and facilitates the task of updating the taxonomy.

Figure 1. Tapering funnel of the taxonomy structure



***Source**: Climate Bonds Initiative, 2023*

2.2. Taxonomy development principles

In order to be credible, interoperable and usable, the taxonomy should abide by a set of internationally recognised core principles. We suggest the Rwandan Taxonomy to be built on the following premises:

1. **Science-based.** A taxonomy should be based on up-to-date climate science rather than political considerations or the interests of industrial lobbying groups.
2. **Interoperable**. A taxonomy must be interoperable with as many other taxonomies as possible in order to serve the purpose of attracting international capital.
3. **Locally applicable**. A taxonomy must be relevant in the place for which it is developed.
4. **Clear and transparent**. A taxonomy must unambiguously separate activities that serve the objectives of the taxonomy from the activities that contradict it.

5. **Simple and usable**. The criteria for applying a taxonomy to the real economy should be as simple and straightforward as possible.
6. **Comprehensive**. A taxonomy must cover a maximum of objectives and activities in the case of mitigation -- preferably those responsible for at least 75% of the country's total emissions.
7. **Multipurpose**. The fight against climate change is a complex multi-level process, and a taxonomy should strive to contribute to it in every possible way.
8. **Transition-friendly**. A taxonomy must provide paths to decarbonisation for hard-to-abate sectors of the economy.
9. **Adaptation**. The taxonomy describes a process to improve the ability of assets and systems to persist, adapt and/or transform in the face of climate-related stresses and shocks in a timely, efficient and fair manner that reduces risk, avoids maladaptation, unlocks development and creates benefits.

2.3. Fostering interoperability

Interoperability of taxonomies involves ensuring comparability with other taxonomies. This implies that they are based on similar guiding principles (see the section on guiding principles), have a similar design of the core elements: comparable objectives, sector classification systems and activities, are transparent and are similar in the approaches and methodologies used to define eligibility and taxonomy-alignment.

Taxonomies reconcile the global pathway to improved sustainability with national/regional priorities. While tailoring is necessary to offer actionable guidance for each specific national/regional decarbonisation pathway, the process could create the risk of market fragmentation that can hinder cross-border flows of green and sustainable capital. Such risk calls for the urgent implementation of solutions aimed at increasing the interoperability of taxonomies and thus enhancing their usability for international investors. Interoperable taxonomies can come with a series of advantages:

- Lower risk of market fragmentation
- Lower costs of verification/ due diligence associated with financing green projects
- Fewer frictions to the flow of international capital for green projects
- Reduced greenwashing risk at the global scale
- Additionally, the development of taxonomies that aim to be highly interoperable – and, wherever possible, seek to draw on international definitions and science-based screening criteria - is typically a faster and less resource-intensive process. Core components, such as the definition of activities and determinants of taxonomy alignment, can either be directly adopted from internationally acknowledged frameworks or adapted to suit the local context.

There are several ways how interoperability can be fostered in a taxonomy:

Through the taxonomy's structure

- **Objectives:** For the purpose of interoperability, alignment with one or more of the following commonly applied objectives is recommended: climate change mitigation, climate change adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems
- **Taxonomy development principles:** The G20 Sustainable Finance Working Group has developed a set of voluntary principles for alignment approaches:
    - Principle 1: Ensure material positive contributions to sustainability goals and focus on outcomes;

- Principle 2: Avoid negative contributions to other sustainability goals (e.g., through doing no significant harm to any sustainability goal requirements);
- Principle 3: Be dynamic in adjustments reflecting changes in policies, technologies, and state of the transition;
- Principle 4: Reflect good governance and transparency;
- Principle 5: Be science-based for environmental goals and science- or evidence-based for other sustainability issues and
- Principle 6: Address transition considerations

These principles are now widely adopted and operationalised by taxonomy development processes taking place globally, including by the International Platform on Sustainable Finance, which helps to ensure greater comparability and consistency between the frameworks. Similarly, the Latin America and Caribbean (LAC) Working Group is developing guiding principles for the taxonomy development process; based on the version of principles that were released for public consultations, these are likely to be aligned with G20's recommendations.

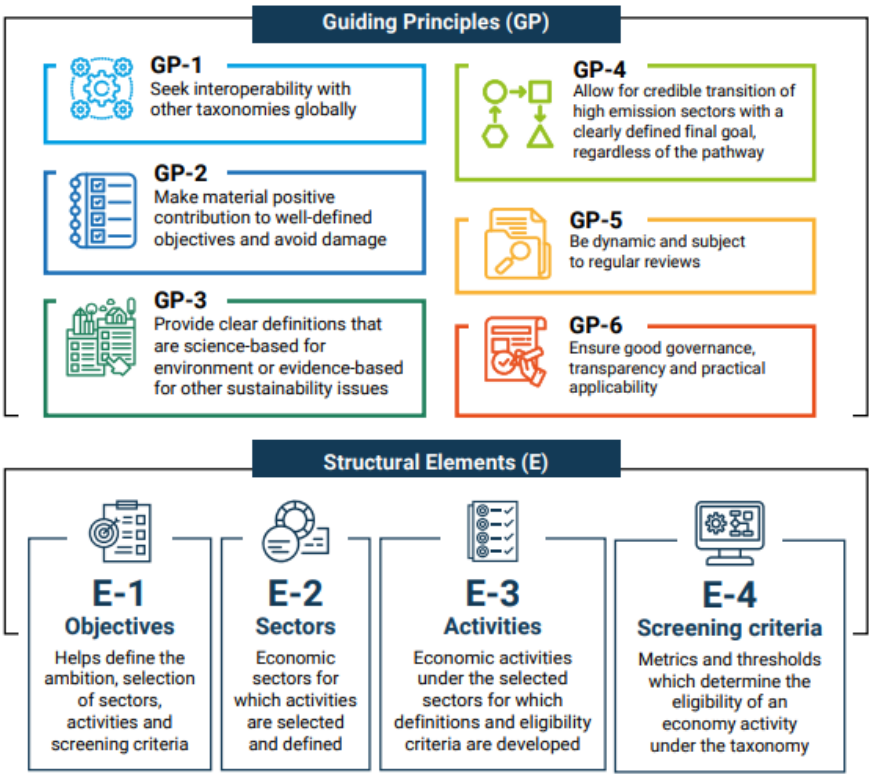
Figure 2. Key taxonomy principles for better interoperability



***Source**: G20 Sustainable Working Group*

LAC Common Framework suggests developing a taxonomy using a predefined set of Guiding Principles and Elements shown below. Adherence to these principles would help to create compatible taxonomies and avoid fragmentation.

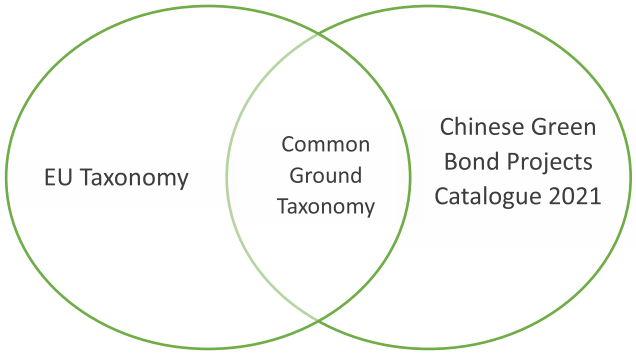
Figure 3. LAC Common Principles taxonomy framework illustration



Source: LAC Common Principles[20]

Common Ground Taxonomy is an exercise conducted by the International Platform on Sustainable Finance to bring the two largest taxonomies (Chinese and European) to a common denominator. The methodology involves looking for overlaps between the two taxonomies, which in theory would allow the creation of a taxonomy applicable to both the EU and China.

Figure 4. Common Ground Taxonomy simplified scheme



[20] https://www.undp.org/sites/g/files/zskgke326/files/2023-07/common-framework-of-sustainable-finance-taxonomies-lac.pdf

The Hong Kong Monetary Authority is currently working on operationalising the first version of the Common Ground Taxonomy to turn it from a theoretical concept into a financial market tool. The IPSF, on the other hand, has launched a second round of Common Ground Taxonomy development, which attempts to unify several documents.

Through the taxonomy's methodology

- **Methodology for determining the taxonomy-alignment of activities:** currently, it is possible to identify three most common approaches for determining the alignment of activities – technical screening criteria (TSC), whitelist and principle-based approach. The most mature one across existing and emerging frameworks is TSC – whilst it requires a robust set of data for its development, it also allows for the taxonomy to be rooted in science and technology-neutral and aims to reduce greenwashing.
- **Selection of the economic classification system**: while a lot of taxonomies use their national economic classification systems (e.g., EU – NACE, China – CSIC), some already at the design stage refer to the global International Standard Industrial Classification (ISIC). If the former approach has been implemented, the exercise of mapping national codes to ISIC is then carried out to increase the ease of use of the taxonomy by international investors.
- **Other determination of taxonomy-alignment**:
  - **Do No Significant Harm** 21 (DNSH): while it became a common practice to include DNSH provisions in taxonomies, the DNSH has proved to be one of the most challenging aspects when it comes to the usability of taxonomies. From an interoperability perspective, it is important for taxonomies to include not only reference to national laws and regulations but also enable and accept compliance with equivalent international provisions and standards as part of the DNSH.
  - **Minimum Social Safeguards** (MSS): most taxonomies refer to global best practices and well-established standards when it comes to the MSS. For example, South African taxonomy 22 mentions various UN Acts and Conventions as well as OECD Guidelines on Multinational Enterprises. Maintaining this approach or allowing for international equivalence of local regulations will be crucial from the interoperability perspective.

Through the taxonomy's metrics and thresholds

- **Metrics**: using the same metrics across taxonomies and in line with the market reporting practices could not only help with a comparability of taxonomies but also address some of the usability concerns, as investors and issuers all across the world can compare indicators without cumbersome translations. Metrics are usually expressed in the form of carbon intensity, meaning how much CO2-equivalent is emitted when 1 unit of production is produced (e.g., grams CO2e per kWh or ton of steel).
- **Thresholds:** Most taxonomies aim at designing thresholds that are science-based, simple, and quantifiable. The deviation in the actual thresholds can be possible across taxonomies only when and where it is scientifically justified – e.g. decarbonisation pathways differ across countries.

21 'Do no significant harm' means not supporting or carrying out economic activities that do significant harm to any environmental objective

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

Rwandan taxonomy will strive to be as interoperable with other internationally recognised taxonomies as possible.

3. Determining objectives, sectors, activities and criteria

3.1. Overarching climate-related policy objectives

Vision 2050

Rwanda's Vision 2050 articulates the long-term strategic direction for "the Rwanda we want" and the enabling pathways to achieve this ambition. Vision 2050 serves as the critical planning and policy blueprint to guide the efforts of all players in Rwanda's development (Government, private sector, citizens, diaspora, civil society and faith-based organisations, development partners, academia and research institutions, and political parties).

The pillars of Rwanda's Vision 2050 are:

- Human Development
- Competitiveness and Integration
- Agriculture for Wealth Creation
- Urbanization and Agglomeration
- Accountable and Capable State Institutions

Both Agriculture for Wealth Creation and Urbanization and Agglomeration include relevant topics such as increased access to agriculture finance, modern inputs and technologies, smart green cities, efficient transport and sustainable supply and demand for energy.

Nationally Determined Contribution

In May 2020, Rwanda presented its updated Nationally Determined Contributions (NDCs) for mitigation and adaptation to 2030. The high-level emissions reduction target for 2030 is estimated at 38% when compared to the 2030 BAU (in which emissions increase from 5.3mln t CO2e to 12.1mln t CO2e between 2015-2030) – with 16% to be met by domestically supported measures and policies, and further 22% to be achieved depending on the level of international support and funding. The biggest levers for achieving the mitigation targets (2.6mln tCO2e) have been identified to be in agriculture (2.2 mln tCO2e), energy (1.5mln tCO2e) and waste (0.7 mln tCO2e) sectors. The cost of achieving the mitigation target is estimated at USD 5.7 bln (with unconditional measures accounting for approximately 40% of the total).

Given that adaptation is a key concern and a priority focus area, the NDC identifies 24 adaptation interventions in eight sectors and 38 indicators to monitor progress against the targets set for Rwanda. The cost of adaptation actions envisaged by the NDC is estimated at USD 5.3 bln (with unconditional measures accounting for approximately 40% of the total).

National Environment and Climate Change Policy

The Rwandan National Environment and Climate Change Policy was adopted in 2019 and became one of the key strategic documents in the sphere. It establishes an overarching goal for Rwanda "to have a clean and healthy environment resilient to climate variability and change that supports a high quality of life for its society". In order to achieve this goal, seven objectives were outlined:

1. Greening economic transformation

2. Enhancing functional natural ecosystems and managing biosafety
3. Strengthening meteorological and early warning services
4. Promoting climate change adaptation, mitigation and response
5. Improving environmental well-being for Rwandans
6. Strengthening environment and climate change governance
7. Promoting green foreign and domestic direct investment and other capital inflows.

To implement these policies, 22 policy statements and 127 policy actions have been identified.

Green Growth and Climate Resilience Strategy of Rwanda

A revised version of the Green Growth and Climate Resilience Strategy of Rwanda was published in July 2021. It has been revised from an original 2011 version to align with the Vision 2050 policy to ensure it defines a development pathway for Rwanda that is climate resilient and harnesses green economic innovation. The document has three Strategic Objectives:

- To achieve energy security and low carbon energy supply that supports the development of green Industry and services and avoids deforestation.
- To achieve sustainable land use and water resource management that results in food security, appropriate urban development and preservation of biodiversity and ecosystem services.
- To ensure social protection, improved health and disaster risk reduction that reduces vulnerability to climate change impact.

The document provides a strategic plan outlining the path for the country to attain carbon neutrality by the year 2050. It also emphasises the shift towards specialised green industries and knowledge-driven services, as well as highlights the importance of clustering urban settlements in a manner that minimises their negative impact on the environment while promoting resilience. The plan includes robust measures to protect ecological resources in rural landscapes, enabling their sustainable use. Lastly, it underscores the need to decouple the economy from its heavy reliance on primary natural resources, aiming for a more sustainable and resource-efficient model.

National Strategy for Transformation

The Rwandan Government's National Strategy for Transformation (NST1), covering the period of 2017-2024, addresses the impact of climate change on the country and the necessary reforms to mitigate its effects. The strategy highlights the significant impact climate change has had on agriculture in Rwanda since 2013, which is particularly concerning as nearly 70% of the workforce is employed in this sector. To address this challenge, the government aims to adopt innovative agricultural management systems and capitalise on the opportunities presented by climate change. The strategy emphasises the importance of improving cross-sectoral coordination to ensure the effective implementation of environmental policies and regulations by 2024. Key sectors affected by climate change, such as agriculture, urbanisation, infrastructure, and land use management, have been identified as requiring specific attention. The strategy places particular emphasis on enhancing climate resilience in the agricultural sector.

3.2. Sectoral decarbonisation strategies

In addition to general policy documents, sectoral strategies are very important for the taxonomy to help understand a country's priorities in a particular sector. In the case of the first phase of Rwanda's taxonomy, the following sectoral strategies are relevant:

Agriculture

Rwanda Strategic Plan for Agriculture Transformation[23] is the key document defining the country's priorities in this sector. Other important documents here include the National Agribusiness Investment Promotion Strategy (2017), the National Feeder Roads Policy and Strategy (2017), the National ICT for Agriculture Strategy (2016-2020) and the National Fertilizer Policy (2014). Strategic Plan focuses on the following objectives and vision:

- «To enhance the productivity of crops cultivated in Rwanda in a **sustainable and climate-smart way**».
- «…transformation of Rwandan agriculture from a subsistence sector to a knowledge-based value-creating sector that contributes to the national economy and ensures food and nutrition security in a **sustainable and resilient manner**».
- «Increased productivity, nutritional value and resilience through **sustainable**, diversified, and integrated crop, livestock, and fish production systems»
- «Increased **resilience to climate change** and **sustainable land and husbandry management**»
- «There is, therefore, a need to ensure that productivity increases are **resilient, with sustainable soil and water management, and to start preparing for future climate change**».

Energy

Rwanda Energy Policy[24] was adopted in 2015 and envisions the following overarching policy goals that may be tied to the purposes of the present Taxonomy:

- «Ensuring the sustainability of energy exploration, extraction, supply, and consumption so as to prevent damage to the environment and habitats».
- «Encouraging and incentivising more rational, efficient use of energy in public institutions, and amongst industrial and household end-users».

The Policy also underlines the necessity to "increase the share of renewable energy in the power mix by exploiting indigenous resources (i.e. hydropower, geothermal, solar, and methane gas)" and seeks to foster the development of "green energy solutions based on solar PV, micro-hydro, and bio-energy resources" both for the purpose of climate change mitigation and creation of autonomous power sources in distant areas.

Transportation

National Transport Policy and Strategy for Rwanda[25] was adopted in 2021 and includes a section on the development of clean transportation. The objective of "Promoting green and climate resilient transport" focuses on developing electric mobility, replacing ICV-based transport with electric transport, creating infrastructure for electric transport and attracting investments into this sector. The document stipulates the following objectives related to electric mobility:

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23 https://www.minagri.gov.rw/fileadmin/user_upload/Minagri/Publications/Policies_and_strategies/PSTA4__Rwanda_Strategic_Plan_for_Agriculture_Transformation_2018.pdf

24 https://rura.rw/fileadmin/Documents/Energy/RegulationsGuidelines/Rwanda_Energy_Policy.pdf

25 https://www.mininfra.gov.rw/fileadmin/user_upload/Mininfra/Publications/Policies/Transport/NATIONAL_TRANSPORT_POLICY_AND_STRATEGY_APRIL_2021.pdf

- «Develop technical standards for e-vehicles, including environmental standards and regulations for the recycling of batteries and electronic waste».
- «Provide incentives for electric mobility users and early adopters. Incentives can include a reduction of import duty on specific components and attractive electricity tariffs for charging stations».
- «Document experiences from demonstration projects on electric mobility. Collect statistics on electric mobility to document progress towards targets».
- «Develop sound business models for charging infrastructure and vehicles».
- «Develop plans for the efficient placement of charging infrastructure».
- «Improve the reliability of the electric grid»
- «Establish a protocol of cooperation with countries and companies to facilitate technology transfer related to electric vehicles».

Construction

Sectoral Plan for Urbanisation and Rural Settlements[26] of Rwanda is full of references to sustainability in the development of urban and rural infrastructure in the country. It is based on the National Urbanisation Policy[27] and National Urban Housing Policy,[28] as well as a number of other related policies. The notion of "Sustainability" in the document is taken directly from UN SDG 11th goal to "Make cities and human settlements inclusive, safe, resilient and sustainable". The plan refers to the following climate-related goals:

- «Urban and rural settlement development approaches will be implemented in a way to result in a smart, **green**, upgraded, liveable, compact, connected and productive settlement with a cultural identity».

Another important strategic document, "National Roadmap for Green Secondary City Development",[29] stipulates the following vision:

- «By 2050, Rwanda's Secondary Cities will be net zero carbon, resource efficient, and sustain a diverse and inclusive green economy, offering full and high-quality employment and employing established and innovative green technologies».
- «Investment in integrated, resilient, reliable and sustainable infrastructure will enable the cities to adapt to climate change and function efficiently at the local level, as well as be sustainably linked to their regions and wider economic hinterlands, including to other cities, towns and villages».

3.3. Taxonomy objectives

From the policy perspective, the Rwandan taxonomy has the following objectives:

- To develop standardised definitions for sustainable economic activities and sustainable investments to attain priority environmental and sustainability goals;
- To increase the country's attractiveness to responsible investors, including those pursuing impact-investing strategies in the domestic and international arena;

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[26] https://www.minecofin.gov.rw/fileadmin/user_upload/Minecofin/Publications/STRATEGIES/Sector_Strategic_Plans/Urbanization_and_Rural_Settlement.pdf

[27] https://bpmis.gov.rw/asset_uplds/files/National%20Urbanization%20Policy.pdf

[28] https://bpmis.gov.rw/asset_uplds/files/National%20Urban%20housing%20Policy.pdf

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

- To support the growth of domestic sustainable finance markets and
- To enable tracking and reporting of public expenditures and private investments addressing specific sustainability issues based on categories that are technically sound and aligned with international best practices.

However, on the level of practical application, the taxonomy should be guided by a set of predefined international development objectives, such as the principles of the Paris Agreement and the Sustainable Development Goals (SDGs). In the context of national taxonomies like the Rwandan Taxonomy, these objectives must also align with the country's policy, priorities, and environmental conditions. The chosen objectives have an impact on the sectoral composition of the taxonomy, as every activity must contribute to at least one objective.

Table 1. Examples of objectives from international and national taxonomies

EU Taxonomy	ASEAN Taxonomy	Climate Bonds Taxonomy	Chinese Green Bonds Project Catalogue	Colombian Taxonomy
Climate change mitigation	Climate change mitigation	Climate change mitigation	Addressing climate change;	Climate change mitigation
Climate change adaptation	Climate change adaptation	Climate change adaptation		Climate change adaptation
Sustainable use and protection of water resources				Water management
Transition to a circular economy	Promote resource resilience transition to a circular economy.		More efficient resource utilisation	Circular economy
Pollution prevention and control				Pollution prevention and control
Protection and restoration of biodiversity and ecosystems	Preservation of a healthy ecosystem biodiversity		Environmental improvement	Conservation of ecosystems and biodiversity
				Land management

The current version of the Rwandan taxonomy will focus on the objective of climate change mitigation because it is a key objective helping it to achieve its NDC commitments. It is also shared by all other taxonomies as it supports the primary goals of the Paris Agreement of keeping global temperature rise below 2 degrees Celsius – ideally 1.5 degrees. However, other objectives will also be included in the Rwandan taxonomy to be developed during future iterations of the taxonomy development process. To construct the rest of the taxonomy-relevant objectives, we will have to address the Rwandan national policies and documents. The analysis of national policies has so far allowed for the identification of the following potential objectives:

- "*… growth and development will follow a **sustainable path in terms of use and management of natural resources** while building **resilience** to cope with climate change impacts*" – Republic of Rwanda Vision 2050[30]
- *"Develop **sustainable land use** management practices…"* – Rwanda's Green Growth and Climate Resilience Strategy and NDC
- "*…to achieve Energy Security and Low Carbon Energy Supply; … to achieve **Sustainable Land Use** and **Water Resource Management** that results in Food Security, appropriate Urban Development and **preservation of Biodiversity and Ecosystem Services**;… to ensure Social Protection, Improved Health and **Disaster Risk Reduction** that **reduces vulnerability to climate change impacts**",* – Revised Green Growth and Climate Resilience Strategy of Rwanda[31]
- "*The policy goal is for "Rwanda **to have a clean and healthy environment resilient to climate variability and change** that supports a high quality of life for its society." The seven objectives of the policy are (1) Greening economic transformation, (2) **Enhancing functional natural ecosystems and managing biosafety**, (3) Strengthening meteorological and early warning services, (4) **Promoting climate change adaptation, mitigation and response**…*" – National Environment and Climate Change Policy[32]

To sum up, the following list of objectives could be proposed for the Rwandan Taxonomy:

- **Climate change mitigation**. The objective of climate change mitigation demands the reduction of GHGs emitted as a result of human activity in the country, which is necessary to avoid 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 increase 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. 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 power transmission, carbon capture, utilisation and storage, data-driven solutions, etc.

According to the Rwandan Updated NDC, the funding requirements associated with all identified mitigation options are estimated at USD 5.7 billion through 2030. The objective corresponds to Rwandan National Environment and Climate Change Policy Objective 4: "Promote climate change adaptation, mitigation and response."

30 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

31 https://climateportal.rema.gov.rw/index.php?id=39

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

- **Climate change adaptation and resilience**. The objective of climate change adaptation demands Rwanda to substantially reduce the adverse impact of climate change on its people, nature, and assets as well as on economic activity itself. Climate change adaptation may also increase the country's resilience to the adverse physical impacts of current and future climate changes and/or capture new economic opportunities from climate change, such as selling its abundant hydroelectric and solar energy resources to neighbouring fossil fuel-dependent states

According to the Rwandan Updated NDC, the funding requirements associated with all identified adaptation options are estimated at USD 5,364 billion through 2030. The objective corresponds to Rwandan National Environment and Climate Change Policy Objective 4: Promote climate change adaptation, mitigation and response.

- **Sustainable use and protection of water resources.** This objective deals with the preservation and treatment of water, sewage and industrial effluents, which helps to prevent overspending on water, its contamination and degradation of water bodies.

According to the Rwandan Updated NDC, the provision of "national water security through water conservation practices, wetlands restoration, water storage and efficient water use", as well as other water-related objectives, are one of the most important parts of the climate change adaptation objectives.

- **Promotion of circular economy**. The objective stems from the necessity to maximise resource productivity, keeping industry from emitting excessive production-associated emissions. The introduction of lean manufacturing, recycling and circular economy practices will benefit Rwanda from climate, environmental and economic perspectives.

The Environment and Climate Change Policy of Rwanda clearly states that green economic transformation, including the promotion of resource efficiency and circular economy, is one of the key goals for the country in the sphere of climate change.

- **Protection of biodiversity and environment**. The objective implies preventing the loss of plants and living species whilst also sustainably managing, conserving, and restoring their habitats. This is important not only for protecting Rwandan unique landscapes and ecosystems but also for climate change mitigation because healthy habitats remove a substantial portion of carbon from the atmosphere.

Rwandan National Environment and Climate Change Policy Objective 2: "Enhancing functional natural ecosystems and managing biosafety" clearly states that Rwanda must "conserve, preserve, and restore ecosystems and enhance their ecological functioning."

- **Sustainable land management**. Land management plays a crucial role in climate change mitigation due to its significant impact on greenhouse gas emissions, carbon sequestration, and overall ecosystem health. By preserving and restoring forests, wetlands, and other natural habitats, land management helps sequester carbon dioxide from the atmosphere, mitigating its concentration and thus reducing the greenhouse effect.

The issue of sustainable land management is mentioned many times in all policy documents and stands as one of the most acute when it comes to capital requirements. The revised Rwandan NDC to "develop sustainable land management practices" and develop an "integrated approach to planning and monitoring for sustainable land management", which together require USD 401 million of investments by 2030.

It is important to note that international climate science has not yet developed views on how each individual activity can contribute to each environmental objective. The taxonomy will concentrate on the objectives of climate change mitigation with the additions of climate change adaptation where possible, while other objectives will be worked out during the subsequent stages of taxonomy development. For the development of the **adaptation objective**, the following options could be applied in Rwanda:

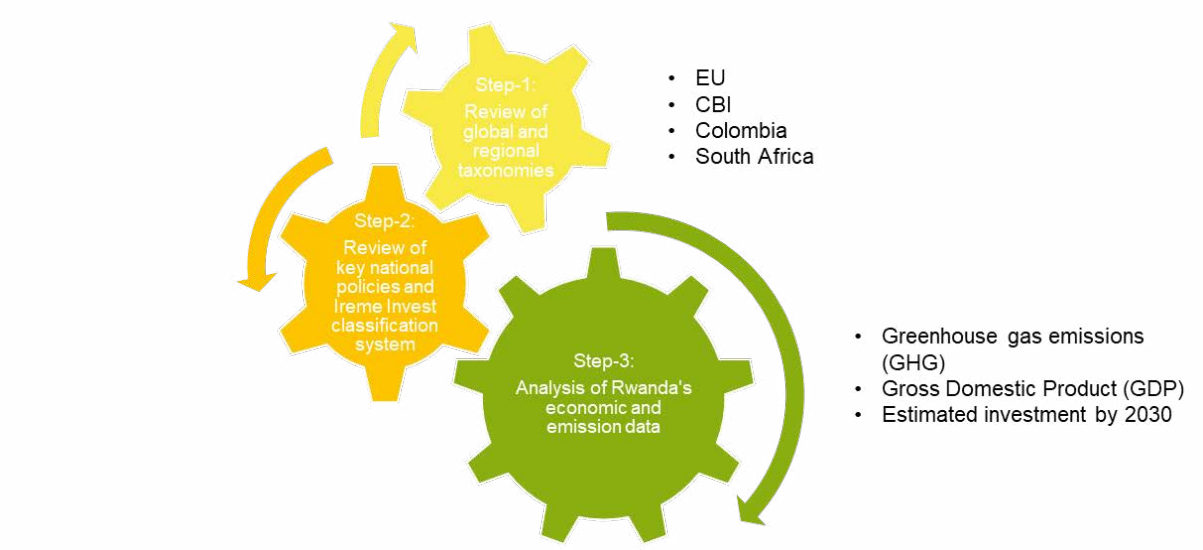
- Generic criteria based on a vulnerability assessment and risk reduction like in the taxonomies of the EU or South Africa.
- A whitelist for some activities which are most likely related to adaptation (e.g., some nature-based solutions (NBS) activities, stormwater systems, restoration of ecosystems, etc.)
- For some activities in Agriculture, the practices will have an incidence of adaptation, similar to the Colombian/Mexican taxonomies.

3.4. Selecting priority sectors

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

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

Figure 5. 3-step scheme for sector selection



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

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

Table 2.GHG emissions and sectoral GDP and investment data

ISIC - Section	Sector - taxonomy	MtCO2e (2020)	GDP 2022 (USD million)	Estimated investment 2030 (USD million)
A	Agriculture, livestock and forestry	4.71	2,101	2,972
D	Energy	0.23	239	552
F, L	Construction	1.32	606	660
H	Transport	0.69	397	1,091
C	Manufacturing	0.41	761	26
E 38	Waste	0.32	31	372

Emission source: Climate Watch[33]

GDP Source: National Institute of Statistics of Rwanda[34]

Estimated decarbonisation investments requirements: updated NDC

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

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

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

Table 3. Sector prioritisation by three methods

[33] 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
[34] https://www.statistics.gov.rw/publication/1914

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

After constructing the priority matrix, the working group also took into account the policy documents and priorities described in previous documents and also took into account the views of key stakeholders responsible for the country's financial and climate policy as collected per trip to Rwanda on July 10th-14th, 2023. The final list of prioritised sectors is as follows:

Figure 6. Sector prioritisation

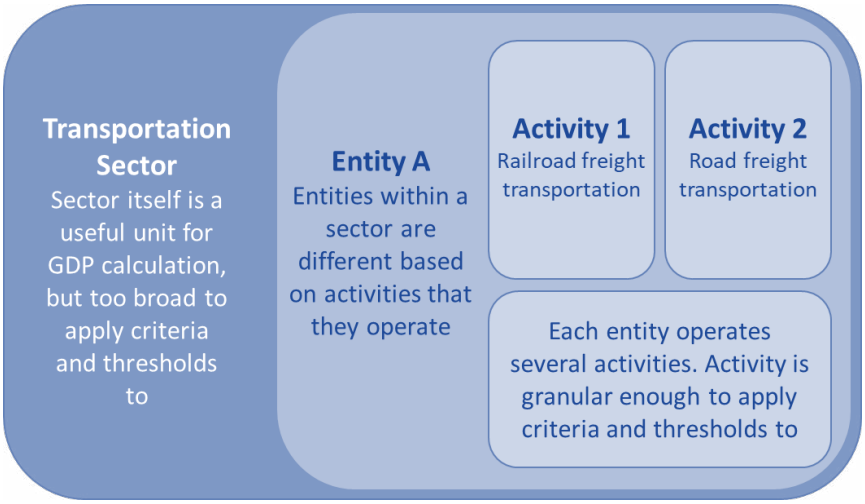


As a result, the current project implies the creation of a taxonomy with four sectors: agriculture, energy, construction and transportation, which appear to be the most promising for inclusion at this stage. This structure takes into account both future and present investment flows, the materiality for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

3.5. Defining relevant activities

The activities lie at the core of the taxonomy technical screening criteria. The notion of "activity" is not used in the financial world, but it is widely used in the sphere of green taxonomies as this is the smallest homogeneous part of a business that can be measured and involved in climate change mitigation strategy.

Figure 7. Example of the relationship between sectors, entities and activities



***Source**: Climate Bonds Initiative*

The shortlisting of activities can be a complicated process, but three options are generally proposed so that the activities can be adopted or adapted from international science-based taxonomies, or new activities specific to the country can be incorporated. The three options are as follows:

1. **Adopt**. There is widespread consensus that the activity is universally deemed as green and, thus, can be adopted immediately. An example of such activity is electricity generation using solar energy.
2. **Adapt**. The criterion requires some adaptation to the local context compared to the internationally recognised criteria. This includes the majority of hard-to-abate sectors and activities such as the production of cement or steel.
3. **New**. The activity is specific to Rwanda, very important for the local economy and material to the taxonomy's objectives, but related criteria have not yet been developed in any existing taxonomy. In this case, a set of new criteria need to be developed entirely.

3.6. Creating criteria and thresholds

The taxonomy aims to create a direct bridge between climate science and usable guidance for the financial sector. Hence, the criteria for the taxonomy should be based on science to the extent possible and on solid data, with references to data sources provided. In specific cases where a reference to scientific data cannot be provided, this is clearly signalled.

In order for an activity to contribute to the environmental objectives, the activity must be compliant with specific technical screening criteria and related thresholds. These criteria are drawn on work conducted by, e.g. Climate Bonds Initiative, Ambire Global, the EU Technical Expert Group and other organisations working in the field of climate science. In order to be considered scientific, the criteria have to undergo a rigorous 15-stage development process[35] involving hundreds of specialists all around the world. Thus, their core cannot be changed without compromising the scientificity of the criteria. However, they may and should be adjusted and operationalised in order to become usable by financial professionals.

[35] https://www.climatebonds.net/standard/sector-criteria

TSC can be either generic (postulating a general principle) or based on an absolute threshold. The following principles can be applied to constructing concrete criteria:

- **Upper boundary based**. These are the most common types of criteria. This criterion usually utilises an emission metric of some kind, expressed as the emission of greenhouse gases in CO_2 equivalent per unit of production specific to this industry. If the activity's emission intensity is below this threshold, the activity is considered green. If it is below the mentioned threshold – it is considered red or non-compliant with the objectives of the taxonomy.
    - Example*: "Lifecycle emission of the installation must not exceed 100gCo_2e/kWh."*
- **Best in class**. The threshold for the activity may be established as representing the top 10-15% of best installations in the country, region, or globally. This method is widely used in sectors with no clear way to calculate a 1.5-degree aligned path, such as the manufacturing sector (Cement, Steel, Chemicals).
    - Example: *"Emissions from the production of the sintered ore must not exceed 0,163 tCO2e/t product. This threshold is calculated as the average performance of 15% of the best installations in the EU."*
- **Percentage change**. If retrofitting or modernisation of the facility is discussed, a fixed percentage change may be an excellent way to establish a threshold.
    - Example: "*New Buildings must be at least 25% more emissions-efficient than their peers according to a constructed baseline*."

It is recommended the Rwandan taxonomy be a binary taxonomy where each activity is either considered compliant or non-compliant with at least one objective. In addition, all activities included in the Taxonomy will generally be divided into:

- **Near-zero activities**: activities already at or near net-zero emissions that may require some 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 either automatically eligible by nature or require minimum criteria.
- **Pathway to net-zero activities**: activities that have no immediately available rapid decarbonisation option and will need to decarbonise over time. Two kinds of such activities exist:
    a. **Clear Pathway to Net Zero**: these activities are needed after 2050 and have 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 eventually phased out by 2050. All of them have prescribed sunset dates, after which this activity can no longer be considered compliant with the taxonomy.

Here are some examples to demonstrate how the criteria for different activities would look like:

Figure 8. An example of a net-zero activity production of electricity using solar energy

Sector classification and activity	
Sector and Activity	Energy generation with solar technologies
ISIC CODE	3510

Description	Construction and operation of electricity generation facilities that produce electricity, heating and cooling from Solar Photovoltaic, Concentrated Solar Power (CSP) or any other types of solar energy-based technologies
Scope	Construction and operation
The activity makes a significant contribution to climate change mitigation.	
Metrics and thresholds	All energy generation is eligible.
Criteria reference[36]	Climate Bonds Initiative Solar Energy Background paper[37]

Figure 9. An example of a "clear pathway-to-net-zero" activity manufacturing of cement

Sector classification and activity	
Sector and Activity	Industrial manufacturing of cement
ISIC code	2394
Description	Manufacture of clinkers and hydraulic cements, including Portland, aluminous cement, slag cement and superphosphate cements
Scope	Operation or retrofitting
The activity makes a significant contribution to climate change mitigation.	

[36] Hereinafter "criteria reference" is provided for information only and are not a part of eligibility requirements. Only major reference sources are provided. All criteria are adapted for local context.

[37] https://www.climatebonds.net/files/files/standards/Solar/Solar%20Criteria%20Background%20Paper.pdf

<table>
<tr>
<td>Metrics and thresholds</td>
<td>
Facility must comply with the following headline requirements:
• Activities need to meet specific emissions intensity thresholds defined in Table 10 below.
And if
facilities are using biomass, hydrogen, or waste as a fuel source they are eligible only if they meet the following criteria:
• Hydrogen: The hydrogen used meets the Taxonomy criteria (green category) for hydrogen production.
• Biomass: The biomass used complies with the criteria applicable for biomass sourcing set out in the Taxonomy Bio-energy criteria (green category).
• Waste-Derived Fuels, including Municipal Solid Waste (MSW) must meet Taxonomy criteria (green category) and
1) All waste of recycling potential must be removed prior to burning in line with the waste hierarchy and
2) Municipal solid waste will not be eligible as a fuel type after 2035

And if
the plant uses Carbon Capture and Storage (CCS) equipment on site, it must comply with Taxonomy criteria for CCS (green category)

Table 10: Selected threshold values forming the emissions pathway for cement production facilities (t CO2/ t cementitious product)
<table>
<tr><th>Cement class</th><th>2025</th><th>2030</th><th>2040</th><th>2050</th></tr>
<tr><td>32.5</td><td>0.341</td><td>0.298</td><td>0.222</td><td>0.073</td></tr>
<tr><td>42.5</td><td>0.416</td><td>0.363</td><td>0.271</td><td>0.089</td></tr>
<tr><td>52.5</td><td>0.470</td><td>0.410</td><td>0.306</td><td>0.101</td></tr>
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3.7. Adding essential criteria

3.7.1. Do No Significant Harm

The "Do No Significant Harm" (DNSH) principle is applied to taxonomies with multiple objectives in order to make sure that an activity that clearly contributes to one taxonomy objective does not cause harm to other taxonomy objectives. This principle also helps to avoid greenwashing, which refers to misleading or unsubstantiated claims of sustainability benefits.

It is very important to note that DNSH and the taxonomy in no way replace, override or supersede the national law of Rwanda. Before complying with all the rules of this taxonomy, an entity must first comply with all laws, regulations and requirements established by the law of Rwanda and/or the law of the country where the activity takes place. The criteria below are additional to all these laws and may in no way conflict with them.

The DNSH principle works as generic criteria for the objectives that are not central to the climate mitigation objective of the activity in question. Some activities have the potential to cause harm to the environment if designed improperly (e.g. electricity generation using hydroelectric facilities). Therefore, the activity's specific green technical screening criteria may be accompanied by generic DNSH criteria so that a person or an entity that

seeks the recognition of the activity as green must also provide evidence that the activity is not causing harm to the wider environment. Here are some examples of how generic DNSH criteria look like in other taxonomies:

Table 4. Example of DNSH for two objectives in the Thailand Green Taxonomy

Pollution prevention and control	Discharges to water bodies must comply with water discharge permits from the relevant local authorities. Emissions that pollute the air must have the required permits and comply with relevant regulations (with a particular focus on hazardous waste). Integrated management of the waste generated must be carried out by duly authorised waste managers.
Protection and restoration of biodiversity and ecosystems	New financed facilities and infrastructure should not be located in ecosystems that are strategic for food security, rich in biodiversity, or serve as habitat for endangered species (flora and fauna) that are on the list of nationally protected areas or on the IUCN Red List[38]. Museums or technical facilities are exempt from this requirement. For sites and operations located in or near biodiversity-sensitive areas (UNESCO World Heritage Sites, Key Biodiversity Areas, as well as those defined by the National Protected Areas Systems), an appropriate assessment must be carried out in line with the criteria set by IFC Performance Standard №6 [39]. For these sites, a long-term biodiversity monitoring and assessment programme must be implemented.

3.7.2. Minimum social safeguards

Minimum Social Safeguards (MSS) are the additional criteria that must ensure that activities under the taxonomy are also accompanied by minimum social standards with regard to labour laws, land tenure rights and international human rights commitments. The eligible activity must ensure that it does not generate a negative social impact by complying with a list of relevant national and international conventions, laws, and regulations. For this, the owner of the activity must adhere to the relevant local regulatory framework and policies, relevant internationally recognised principles and conventions, and have a social management system in place. This system usually includes documents such as:

- 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)

In addition, the existing best international practices suggest that the application of robust international voluntary standards is a good way to ensure a high degree of social protection. The most commonly used set of such standards is the IFC Performance Standards on Environmental and Social Responsibility[40].

DNSH and MSS usability and applicability

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

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

[40] https://sustainable-infrastructure-tools.org/tools/performance-standards-on-environmental-and-social-sustainability/

The Do No Significant Harm (DNSH) and Minimum Social Safeguards (MSS) criteria are the same for all activities and serve as additional guardrails to ensure better compliance with the wider objectives of the country's climate policy. The operationalisation of these additional criteria can represent a challenge to the usability of the taxonomy if not designed correctly. In addition, making it obligatory for any activity to be considered taxonomy-aligned under the present taxonomy may further slow down the taxonomy's implementation and decrease its usability.

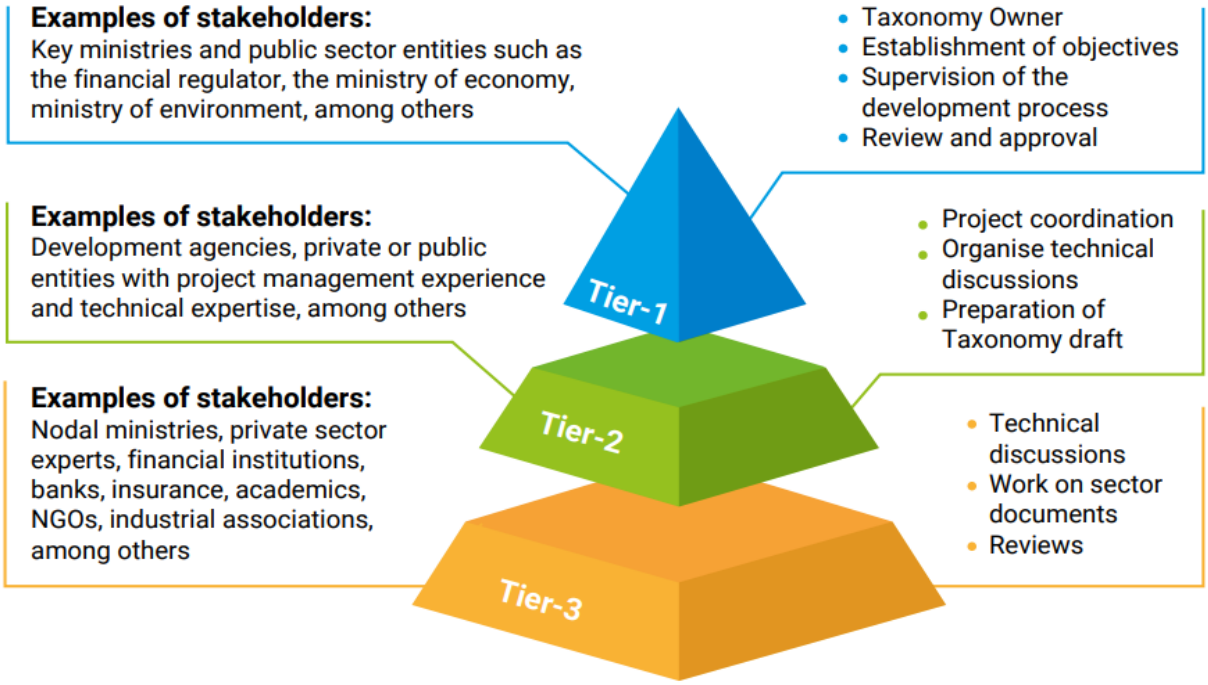
In order to avoid imposing a heavy burden on the end users of the taxonomy, one of the options is to do the following: If the activity, project or entity in question does not comply with DNSH or MSS criteria but otherwise passes the relevant technical screening criteria and metrics, it may be considered taxonomy-aligned if the operating company submits an additional plan indicating how it will correct the deficiencies no later than three years after the assessment has been conducted. The results of the assessment, together with the detailed description of deficiencies, must be published alongside other documents relevant to the assessment (e.g. issue prospectus of a green bond).

4. Taxonomy governance framework

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

This undertaking entails collaboration and dialogue among various stakeholders, including governmental bodies, ministries, corporations, financial institutions, civil society, academia, and subject matter experts. Therefore, it is advisable to structure the process with a well-defined hierarchy and designated roles and responsibilities prior to its initiation. The best international practices for taxonomy development are shown below and explained further:

Figure 10. Example of a Taxonomy governance model



Source: UNEPFI, 2023

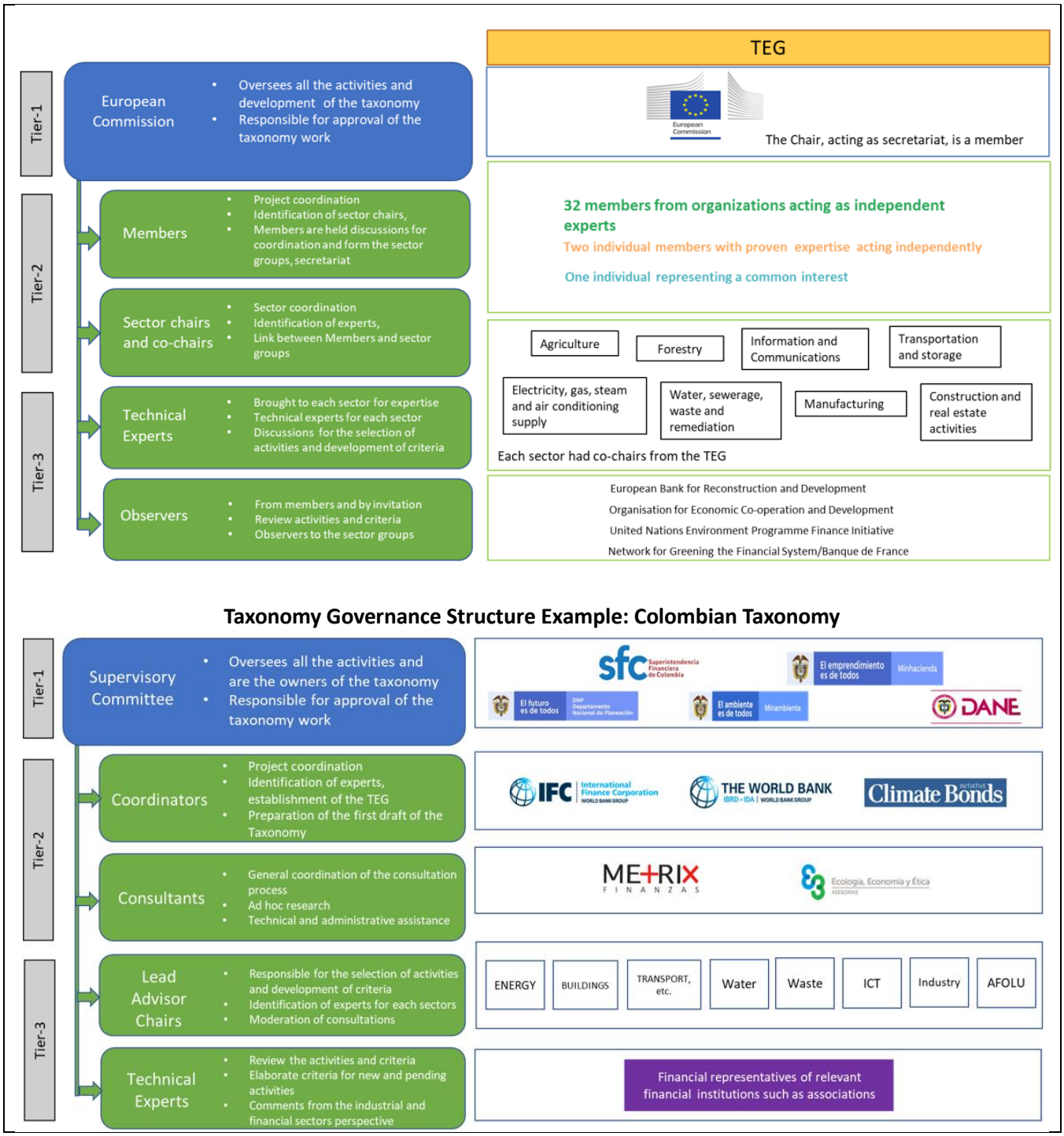
- **Tier-1: Oversight Level and Taxonomy owners.** This group is responsible for strategic decisions regarding taxonomy development and implementation, establishing objectives, ensuring alignment with the national goals and policies, reviewing, approving and publishing the taxonomy and overseeing the entire development process. Their tasks also include supporting the market users on taxonomy implementation and capacity building, developing further guidance, and further developing the taxonomy to expand the scope for other objectives, including additional sectors and activities and periodic revisions. In the case of Rwandan **Taxonomy, this level is chaired by MINECOFIN and MoE and includes the whole Rwandan Taxonomy Taskforce as members**.

- **Tier-2: Execution Level: Project coordinators and advisors**. The entities involved in this tier of governance will lead the project execution and coordination of all the tasks involved in the development of the taxonomy. The members of this group will act as a link between the technical groups and the supervisory committee and will regularly update the other groups on the progress of the taxonomy. The group will be led by **GIZ and RFL and include international and local consulting teams** in the first phase of the taxonomy development. After this stage is finished, members of the Rwandan Taxonomy Taskforce will pass it on to **a permanent national body of choice of the Tier-1 committee (Taxonomy Working Group)**. The entities responsible for these tasks in the next phases of development will be selected by the Tier-1 committee.

- **Tier-3: Consultation Level: Technical and industry reviewers.** These are representatives of public and private entities, scientific experts, industry associations, academia, NGOs, and individual experts, among others, who have specific knowledge of different sectors of the economy. The members of this group are mainly responsible for the development of the technical criteria for all sectors and activities of the taxonomy and will be involved in technical discussions, review of the sector drafts, and the finalisation of the technical screening criteria. The groups on this level are not permanent, as they are created mainly for the taxonomy development phase. However, the 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.

Figure 11. Taxonomy Governance Structure Examples

Taxonomy Governance Structure example: EU Taxonomy



Governance during taxonomy implementation

After the initial process of the taxonomy development is completed, the Tier-1 Committee can also assign specific members within the Taxonomy Taskforce to lead different tasks such as capacity building, development of regulations, implementation of taxonomy pilots and testing for different users of the financial sectors, expansion

of objectives, etc. The Committee will be responsible for ensuring the taxonomy is periodically updated every 3-5 years to ensure that the latest advances in science and technology are considered.

Some of the recommendations for the roles of entities with the Tier-1 Committee are:

The Oversight level, represented by MINECOFIN and MoE, can assume the following functions:

- Provide a strategic vision and overall guidance for regulations and future development
- Review the progress of implementation and obtain feedback from other committee members and users in the market
- Monitor and review the work of the Secretariat, who are responsible for the implementation

It is recommended that the **Oversight Level**, once the taxonomy development process has been finalised, establish regular meetings (ideally at least quarterly) to receive feedback from the **Execution level**. This will be crucial to developing the action points for the promotion and development of the taxonomy within Rwanda. Examples of issues that could be discussed are:

- Progress of capacity building
- Acceptance and adoption of the taxonomy (e.g., by different market users)
- Challenges with implementation (e.g., challenges with gathering data by banks, difficulties with verification of thresholds, lack of capacity or understanding, among others)
- Information and statistics related to taxonomy adoption (E.g., number of banks using taxonomy to create new products, entities using taxonomy for policy and process alignment such as budget tagging, disclosure, etc.)
- Identification of gaps or support needed at the policy level to speed up the implementation of the taxonomy and make it more understandable and user-friendly
- Identification of interest and necessity for future technical development (e.g., new objectives, sectors and activities, social component, etc.)

It is recommended that, once the taxonomy is finalised, a small permanent team is set up (a **Taxonomy Taskforce Working Group** with dedicated personnel preferably based at an institute professionally involved in green finance) on the Execution Level to replace international and local consultants. This team would monitor the implementation status of the taxonomy, collect feedback from market participants and accumulate information to be subsequently processed into reports for the Oversight Level. The **Secretariat** of the Execution Level should serve as a coordinating body both within this level and between the Execution and Oversight levels.

The Oversight Committee (Tier-1) can meet with the Tier-3 group (technical experts) biannually or when there is sufficient information gathered during implementation about the technical challenges with the taxonomy or to discuss the roadmap for expansion of objectives, sectors and activities. This group should also be invited to participate in periodic revision of the Taxonomy.