



INTRODUCING  
**LUXINNOVATION**  
**SERVICES**

September 2024

# National innovation agency - created in 1984

Missions outlined in the RDI Law of 5 June 2009

- **Inform** and **raise awareness** of innovation and **promote** the Luxembourg innovation ecosystem at the **national** and **international** level
- **Advise** and **support companies** of all sizes, innovative entrepreneurs and public and private **research** organisations, help them to structure their innovation projects and access knowledge, finance, technology, equipment, infrastructure, networks, markets and business opportunities through a coherent portfolio of services, at both the national and international level
- **Stimulate collaboration**, consultation and networking at the national, interregional and international levels and facilitate collaborative **public-private innovation projects**
- **Promote innovation policy** by advising national authorities on innovation and interacting with innovation agencies at the international level

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# Innovation



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# Sustainability



ASSESS AND IMPROVE  
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FIND SUSTAINABILITY  
PROVIDERS AND  
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LEARN ABOUT  
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# Thank You!



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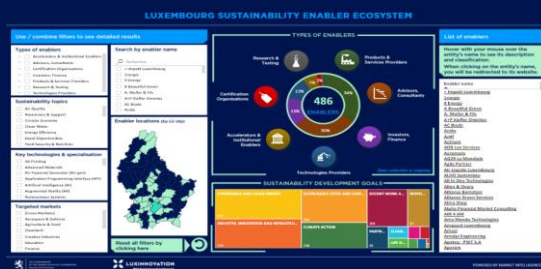
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# Luxembourg Sustainability enabler ecosystem mapping

- According to the United Nations, three main pillars underpin all sustainability work: people, planet and prosperity. The UN has also defined 17 sustainable development goals. They include dimensions such as clean water, clean energy and climate action, as well as goals related to economic growth, industry, innovation, peace and justice.
- However, the step from the inner pillars and sustainable development goals to the daily activities of most companies can seem very lengthy. In order to translate these high-level foundations into concrete business functions where company executives can innovate in order to make their businesses more sustainable, Luxinnovation has published the study Sustainability framework: Areas in which businesses can become more sustainable.

- **Interactive dashboard**
- **Sustainability framework**
- **Scope & methodology**





Market Intelligence Report

# Sustainability framework

AREAS IN WHICH BUSINESSES  
CAN BECOME MORE SUSTAINABLE

December 2022

 **LUXINNOVATION**  
#MakingInnovationHappen

## AREAS IN WHICH COMPANIES CAN INNOVATE TO BECOME MORE SUSTAINABLE

Becoming more sustainable is a matter of protecting the planet – but not only. It is also an opportunity for businesses to cut costs, optimise the use of their human, material and financial resources and gain new customers that appreciate a sustainable approach. But what are the concrete business functions in which companies can innovate to become more sustainable? Luxinnovation has developed this “sustainability framework” in order to provide an answer. The objective was not to develop a new sustainability model, as many already exist, but rather to select elements from the current sustainability frameworks that are most relevant from a business perspective.

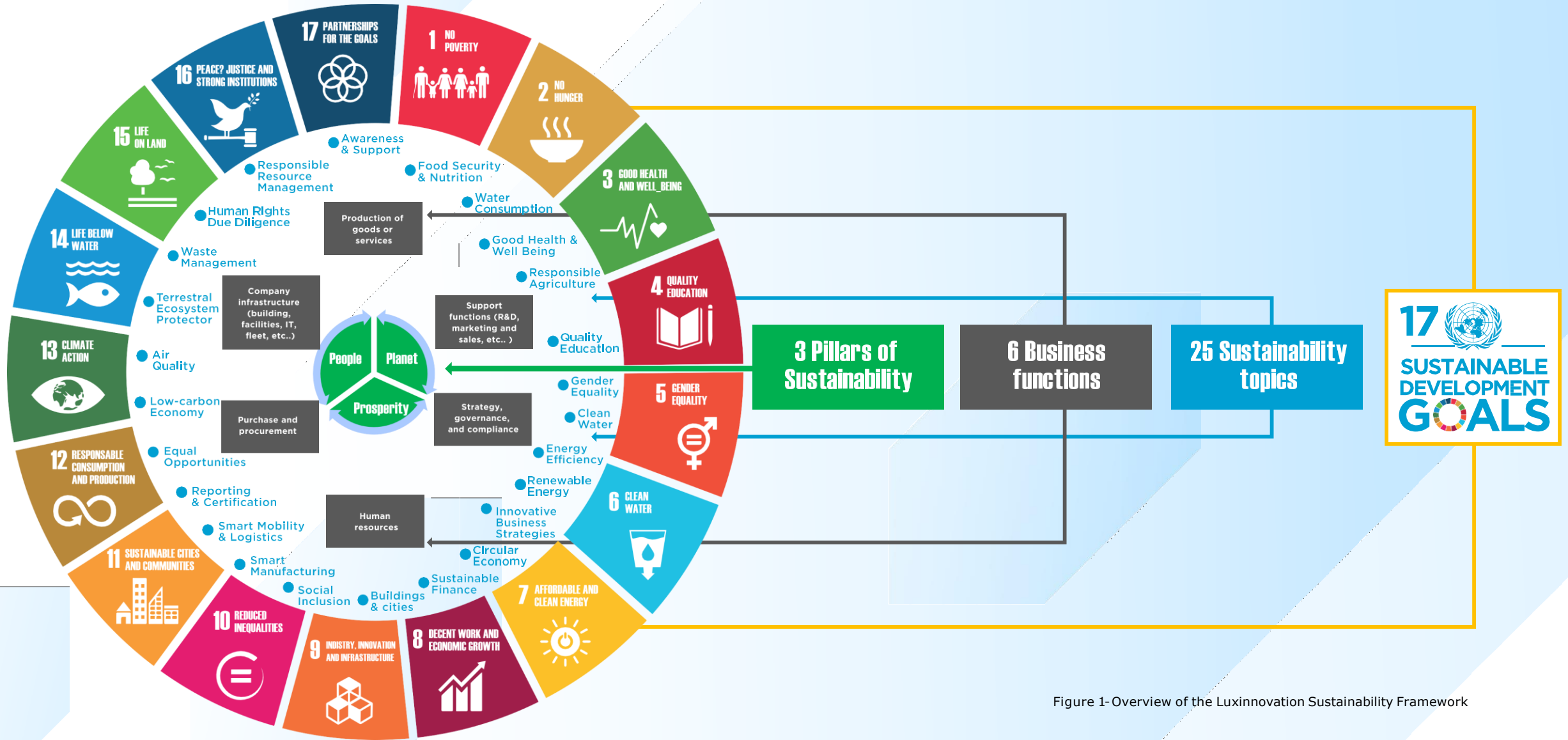


Figure 1- Overview of the Luxinnovation Sustainability Framework

## Key concepts

- F Sustainable Development Goals (SDGs):** The Sustainable Development Goals – also known as the Global Goals – were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity ([United Nations' Development Programme, 2015](#)).
- F Sustainable development:** Sustainable development has been defined as development that meets the needs of the present without compromising the ability of future generations to meet their own needs ([United Nations' Sustainable Development Agenda, 2015](#)).
- F Innovation:** In the context of this document, we define innovation as the adoption of new or existing products or business processes that differ significantly from what the firm offered or used previously (“new-to-firm”) ([OECD Oslo Manual, 2018](#)).

## Understanding sustainability

Sustainability is often associated with environmental protection, but this is far from being its only dimension. To better understand the various facets of this multidimensional concept, let's start by looking at its foundational pillars and the sustainable development goals defined by the United Nations.

### Planet, people, prosperity: the "inner pillars"

All sustainability work is based on three fundamental pillars: planet, people and prosperity (while this last pillar is sometimes called "profit", we have retained here "prosperity", as it better reflects the ambition of a sustainable economy and society). The UN's 2030 Agenda for Sustainable Development defines them as follows:

- **Planet:** "To protect the planet from degradation, including through sustainable consumption and production, sustainably managing its natural resources and taking urgent action on climate change, so that it can support the needs of the present and future generations."

- **People:** "To end poverty and hunger, in all their forms and dimensions, and to ensure that all human beings can fulfil their potential in dignity and equality and in a healthy environment."

- **Prosperity:** "To ensure that all human beings can enjoy prosperous and fulfilling lives and that economic, social and technological progress occurs in harmony with nature."

The three inner pillars are closely linked together. Protecting the planet is a necessary requirement for ending poverty and hunger and ensuring that all people can enjoy peace and prosperity.

From a business perspective, this means that a company cannot be fully sustainable by focusing only on its environmental impact. The human resource dimension (people), as well as ensuring economic prosperity are also key elements that need to be taken into account.

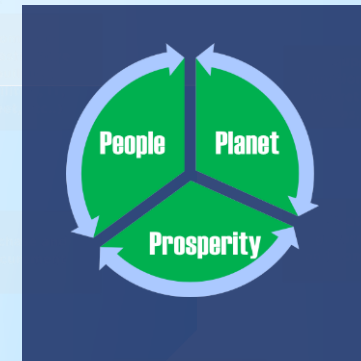


Figure 2- Planet, People, Prosperity: the three sustainability pillars

## Sustainable Development Goals (SDGs)

Based on the three inner pillars, the 17 SDGs are the blueprint to achieve a better and more sustainable future for all. They range from the most urgent human needs such as no poverty, zero hunger and good health and well-being to issues related to education, gender equality and reduced inequalities.

The SDGs obviously include dimensions such as clean water, clean energy and climate action, just as well as goals related to economic growth, industry, innovation and infrastructure and responsible consumption and production. They also comprise peace, justice and strong institutions.

The 17 SDGs are at the core of the Luxinnovation Sustainability Framework as businesses operate in a global environment. However, some SDGs are more relevant for businesses than others. In the next section on sustainability topics, we propose a selection of the most relevant areas of sustainability where businesses can have a direct impact.



Figure 3- The 17 United Nations' Sustainable Development Goals

## Sustainability for companies

The step from the inner pillars and SDGs to the daily activities of most companies can seem very long. We have therefore translated these high-level foundations into concrete business functions where company executives can innovate in order to make their businesses more sustainable. Based on currently available models, we have also selected 25 sustainability topics that are relevant for companies to work on and where they have most impact.

### Business functions

Companies can innovate in all their activities in order to become more sustainable. A review of different models for describing a business led to the identification of the six following areas, where actions towards sustainability can be taken:

- **Production of goods and services** is the core business activity of manufacturing and assembling companies as well as of companies producing different types of services. This area focuses on how companies produce the goods or the services they provide. Businesses could become more sustainable in this field of activity by replacing fossil energy with renewable energies, reducing their greenhouse gas emissions or enhancing their energy efficiency, for example. They could also implement internet of things (IoT) systems to optimise the use of resources in their production processes.

- **Support functions** are all the internal ancillary activities that are carried out by companies in order to enable or facilitate their core activities, such as R&D, sales, marketing & communication, logistics, etc. Activities that can make support functions more sustainable are, for example, the use of innovative materials for compostable plastic packaging, the adoption of digital platforms to organise sustainable events, or data-driven tools to support optimised logistics activities.



Figure 4- The six business areas where companies can take actions to become more sustainable

• **Strategy, governance, and compliance** include the high-level planning and processes that are used to manage companies in order to achieve their business objectives. A higher level of sustainability in this area can be achieved by integrating sustainability and CSR (Corporate Social Responsibility) into the business’s mission, adopting a more sustainable approach to finance or obtaining a sustainable label or certification, for instance.

• **Human resources** management is also a relevant field for sustainability. Actions can include, for example, using AI-powered systems to remove bias in recruitment processes, implementing innovative measures to ensure safety at work or to guarantee equal rights and responsibilities for all staff members.

• **Purchase and procurement** is the acquisition of goods and external services that a company needs for its functioning, such as raw materials, IT services, furniture, cleaning and maintenance etc. Examples of sustainable purchase and procurement procedures include selecting sustainability friendly providers, using blockchain technology to ensure the traceability of environmentally friendly raw materials, or purchasing circular products that can be repaired, reused, recycled or used as material banks.

• **Company infrastructure** relates to tangible assets owned by a company, such as buildings, plants, machinery, car fleets, hardware and software for instance. These assets can be made more sustainable through the use of electrical charging systems for company vehicle fleets or new isolation materials to enhance the energy efficiency of offices, for example.



Figure 5- Examples of innovative actions to achieve sustainability across all six main business areas



## Sustainability topics

The examples above relating to the business functions clearly show that sustainability does not only concern “better environment” (renewable energies, clean water, air quality, energy efficiency, etc), but also better treatment of various stakeholders such as employees, customers and suppliers (equal rights, gender equality, social inclusion, human rights due diligence, etc.), and better business strategies (circular business models, sustainable principles included in the strategy, etc.).

As the SDGs and the 3 inner pillars are high-level principles and thus not all directly applicable to companies, the 25 most relevant sustainability topics for businesses have been selected. For each topic, the definition provided comes from a combination of references (see sources). Each of the 25 sustainability topics can be related to one or more SDGs.

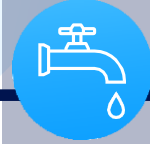


Figure 6- The 25 most relevant sustainability topics for businesses



### Air quality

Increase air quality by reducing and eliminating pollution, minimizing emission of greenhouse gas.



### Clean Water

Improve water quality by reducing pollution, minimizing the release of hazardous chemicals and materials.



### Water Consumption

Reduce the direct consumption of water and optimize its use. emission of greenhouse gas.



### Terrestrial Ecosystem Protection

Smarter use of terrestrial ecosystem, sustainably manage forests, combat desertification, halt and reverse land degradation, and biodiversity loss.



### Responsible Agriculture

Service offer, engagement in scientific research, or development of technologies to enhance the sustainability of agriculture.



### Energy Efficiency

Use less energy to perform the same tasks and produce the same result.



### Renewable Energy

Use of renewable sources to produce energy (e.g. wind, solar, geothermal, etc).



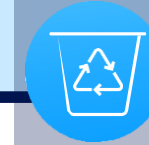
### Circular Economy

Model of production and consumption which involves sharing, leasing, reusing, repairing, recycling existing material, to extend the life cycle of a product.



### Low Carbon Economy

Minimize greenhouse gas emissions by switching to a decarbonised economy.



### Waste Management

Reduce the environmental impact of waste by improving waste management (recycling, reusing, repairing, limit landfilling).