

Market Intelligence Report

Mapping the Sustainability Enablers in Luxembourg

SCOPE AND METHODOLOGY

March 2023



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Mapping the Sustainability Enabler ecosystem in Luxembourg

WHY MAP THE SUSTAINABILITY ENABLERS?

Businesses are expected to embark on the path towards a sustainable transition

Given the increasing importance of sustainability globally, as well as Luxembourg's commitment in this field, the lack of detailed sectoral knowledge renders it important to obtain an overview of the **solutions and services that are available within the country to support the sustainable transition of companies**. Therefore, Luxinnovation has carried out a **mapping of sustainability enablers**, which focuses on enablers, i.e., public and private organisations, entities and companies delivering services, products or solutions that can help other companies to become more sustainable. In our role as the national innovation agency, our focus is on the services or solutions that allow businesses to **become more sustainable through innovation**¹.

¹ 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).

What does “ecosystem mapping” mean?

An ecosystem mapping, as developed by Luxinnovation’s Market Intelligence department, consists in building a consolidated database of Luxembourg public and private entities (organisations, companies, etc.) that have similar profiles². This means that they belong to the same ecosystem or sector, target the same market, or use the same technology, for example. The information on each identified entity is then enriched with description, qualification, and classification data. The core dataset can then be analysed to provide key insights on a given ecosystem.

² You can discover and explore all our ecosystem mappings in the [Resource Centre section of the Luxinnovation website](#).

Creating a decision support system

The **sustainability enabler mapping** is intended to answer the following objectives:

- Identify local “sustainability enablers” that provide solutions, products and services facilitating and supporting companies’ efforts to become more sustainable.
- Help Luxembourg companies identify collaboration opportunities (matchmaking), while promoting the expertise and competences available on the national market.
- Monitor the evolution of the sustainability enabler ecosystem in the coming months, to understand the growth, as well as the diversification of the national ecosystem.
- Identify the gaps in terms of technical expertise and technology in the national ecosystem and therefore opportunities to provide additional products and services, which will foster sustainable growth through innovation and digitalisation.

As a whole, the sustainability enabler mapping aims at creating relevant knowledge on the national ecosystem, to support decision-making processes with the objective of making businesses more sustainable.

WHAT IS COVERED BY THE SUSTAINABILITY ENABLER MAPPING?

The definition of sustainability in the enabler mapping is based on the [Luxinnovation Sustainability Framework](#), that focuses on the notion of sustainability from a business perspective.

Luxinnovation Sustainability Framework

The [Luxinnovation Sustainability Framework](#) is based on the [2030 Agenda for Sustainable Development](#), adopted by the United Nations in 2015. The framework is structured as follows:

- The three pillars of sustainability are at the core: People, Planet and Prosperity
- The three pillars are broken down into 17 Sustainable Development Goals (SDGs).

Between these two layers, the Luxinnovation Sustainability Framework focuses on the most relevant sustainability topics that can be tackled across six main business areas.

- The six business functions highlight areas where companies can take action to become more sustainable.
- The 25 sustainability topics have been selected as the most relevant dimensions of sustainability from a business perspective.

To qualify as a sustainability enabler, an entity has to contribute to one or more sustainability topics as identified in the Luxinnovation sustainability framework, as well as to support sustainable action in one or more business functions.

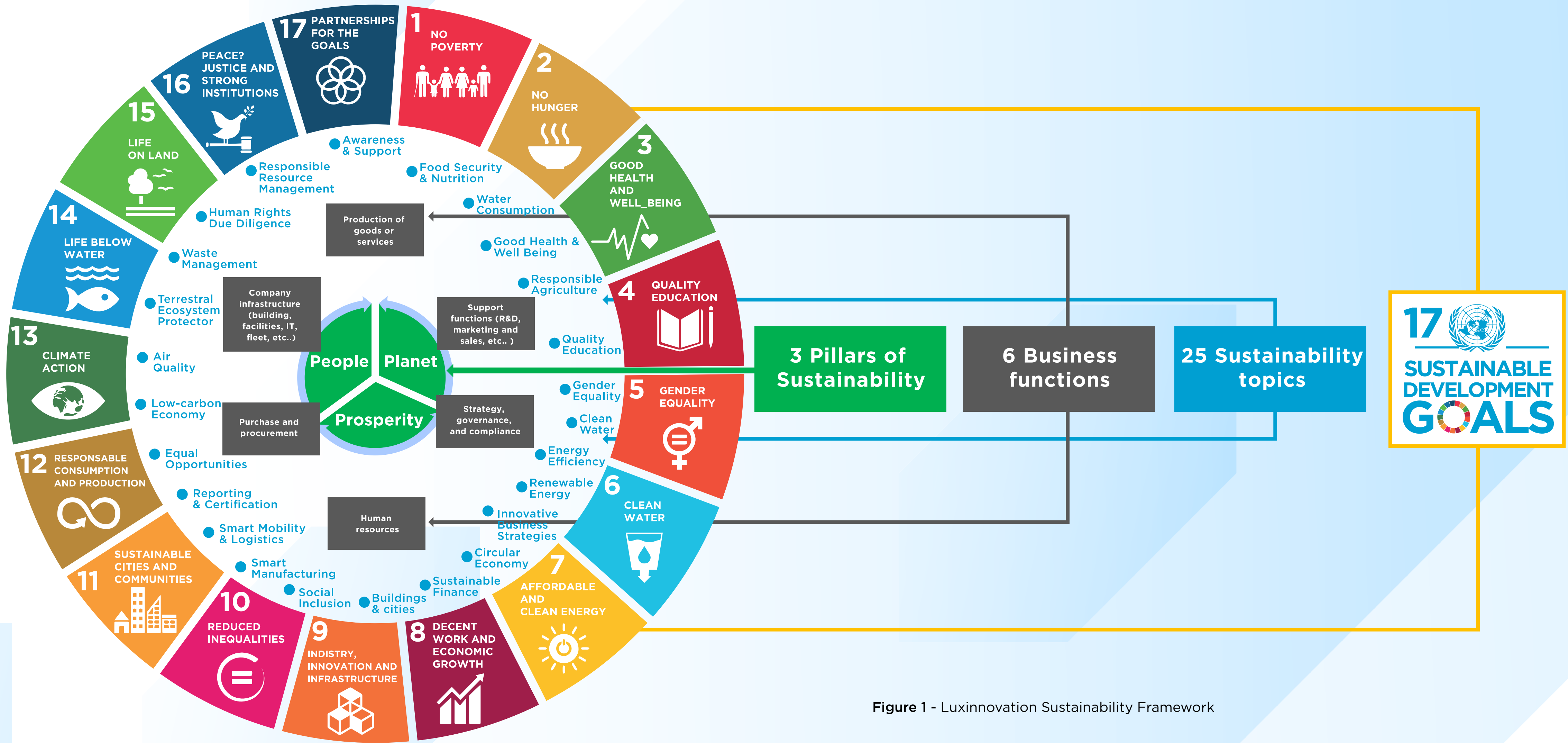


Figure 1 - Luxinnovation Sustainability Framework

What is a “sustainability enabler”?

A “sustainability enabler” is a public (institution, organisation, etc.) or a private (e.g. company) entity based in Luxembourg (i.e. having at least one legal entity registered in Luxembourg), which provides solutions, products and services allowing other companies to become more sustainable in one or several business functions.

SELECTION CRITERIA FOR AN ENABLER

The following criteria are considered to qualify as an enabler:

Criteria	Included	Excluded
Legal entity profile³	Commercial company (B), economic interest group (C), non-profit association (F), public institutions (J)	All other profiles (sole trader (A), foundation (G), farming association (H), etc.)
Status	Active as of September 2022	Dissolved entities, in bankruptcy process or in liquidation process
Business model	B2B, B2G	B2C
Geography	Legal entity incorporated in Luxembourg	-
Age	All creation dates	-
Size	All sizes	-
Relevance for the sustainability enabler mapping	Provides at least 1 or more product, solution, service, which can support the sustainable transition of other businesses	Entities using a product, solution, service to become sustainable themselves (i.e. which do not focus on supporting other businesses’ sustainable transition)

³ Letters refer to the Luxembourg Business Register Number classification: each type of business profile starts with a different letter.

TYPES OF ENABLERS

There are different ways of supporting companies to become more sustainable. In total, seven types of enablers have been identified:

1. Technologies providers

Technology providers provide **advanced technological solutions** that support an innovative sustainability transition within companies.

1.1. Clean technologies providers

Providers of technologies that enable companies to reduce environmental impact and damage (e.g. green technology, decarbonisation, carbon capturing, etc.)

1.2. Digital solutions providers

Technology companies providing applications, software, and platforms (e.g. data storage, data analytics, cloud computing solutions, etc.) that help other companies to become more sustainable by digitalising their production, processes or support services or by adopting more sustainable digital solutions (e.g. green data centres).



Figure 2 - Seven categories of enablers

2. Products & services providers

Products & services providers deliver **non-technological products, solutions or services** that facilitate the sustainable transition within companies.

2.1. Goods & products manufacturing

Companies that create, manufacture or produce goods and products that would be used by other firms instead of other “less sustainable” products (e.g. heat pumps with less carbon emissions).

2.2. Goods & products sales

Companies that sell goods and products that help other firms be more sustainable (electric vehicles, reusable plates and cups for events, etc.).

2.3. Services providers

Suppliers of services that enable other companies to be more sustainable (installers of heating pumps or solar panels, etc.).

3. Advisors, consultants

Advisors and consultants that provide **consulting services on sustainability** as a whole or on specialised issues (energy, circular economy, inclusion & diversity, etc.) helping other companies take better decisions to become more sustainable.

3.1. Consulting & assessment

Providers of consultancy services that enable companies to become more sustainable (assessments, sustainable business model, etc.).

3.2. Planification & architects

Building and civil engineering experts that provide consultancy services that enable companies to be more sustainable through building and public works (architects, real estate experts, etc.).

4. Certification organisations

Organisations that **provide labels or certifications** acknowledging that a business has achieved a certain standard in one or more area of sustainability.

5. Research & testing

Research entities allow the development and testing of **new sustainability solutions and technologies** that can benefit businesses.

5.1. Academic & research institutes

Public and private research institutes/universities focusing on sustainability topics.

5.2. Testbeds

Providers of real-world labs, living labs and laboratories that can turn sustainability ideas into concrete applications by testing them in an integrated environment.

6. Accelerators & institutional enablers

Institutional enablers and accelerators are key element of an ecosystem **to create the right business environment** for companies to become more sustainable.

6.1. Institutional enablers

Government, administrations and institutions that help firms to be more sustainable (awareness raising, training, subsidies, regulations, policies, etc.).

6.2. Accelerators, incubators

Organisations that help start-ups and scale-ups turn their sustainability idea into projects and viable business products and services or that offer schemes and business programmes to help start-ups with sustainability ideas through coaching, co-working space and financing.

7. Investors, finance

Organisations or entities that offer **financial products, or that directly invest in sustainability projects** (banks, investment funds, business angels, dedicated crowdfunding platforms, etc).

HOW WAS THE SUSTAINABILITY ENABLER MAPPING DONE?

The sustainability enabler mapping is based on an approach that maintains flexibility in data processing and facilitates data updating. The mapping methodology follows three main steps:

- I. Identification and selection of relevant sources
- II. Selection and classification of relevant entities
- III. Design of a decision support tool

Step 1: Identification and selection of relevant sources

The identification and selection of relevant information sources is a crucial step in the mapping process. The main types of sources used for the sustainability enabler mapping are:

- ▣ Luxinnovation knowledge about Luxembourg companies
- ▣ Specialised associations and federations
- ▣ Specialised press
- ▣ Directories of companies
- ▣ Company websites
- ▣ Corporate databases
- ▣ Events (lists of attending companies)

The querying of each source differs according to its data structure (themes, classification, keywords, etc.). For each source, a selection process was defined according to the scope of the sustainability enabler mapping. Entities identified through several sources are generally more relevant for the mapping. This first step makes it possible to create a preliminary database, which is then assessed in the next step.

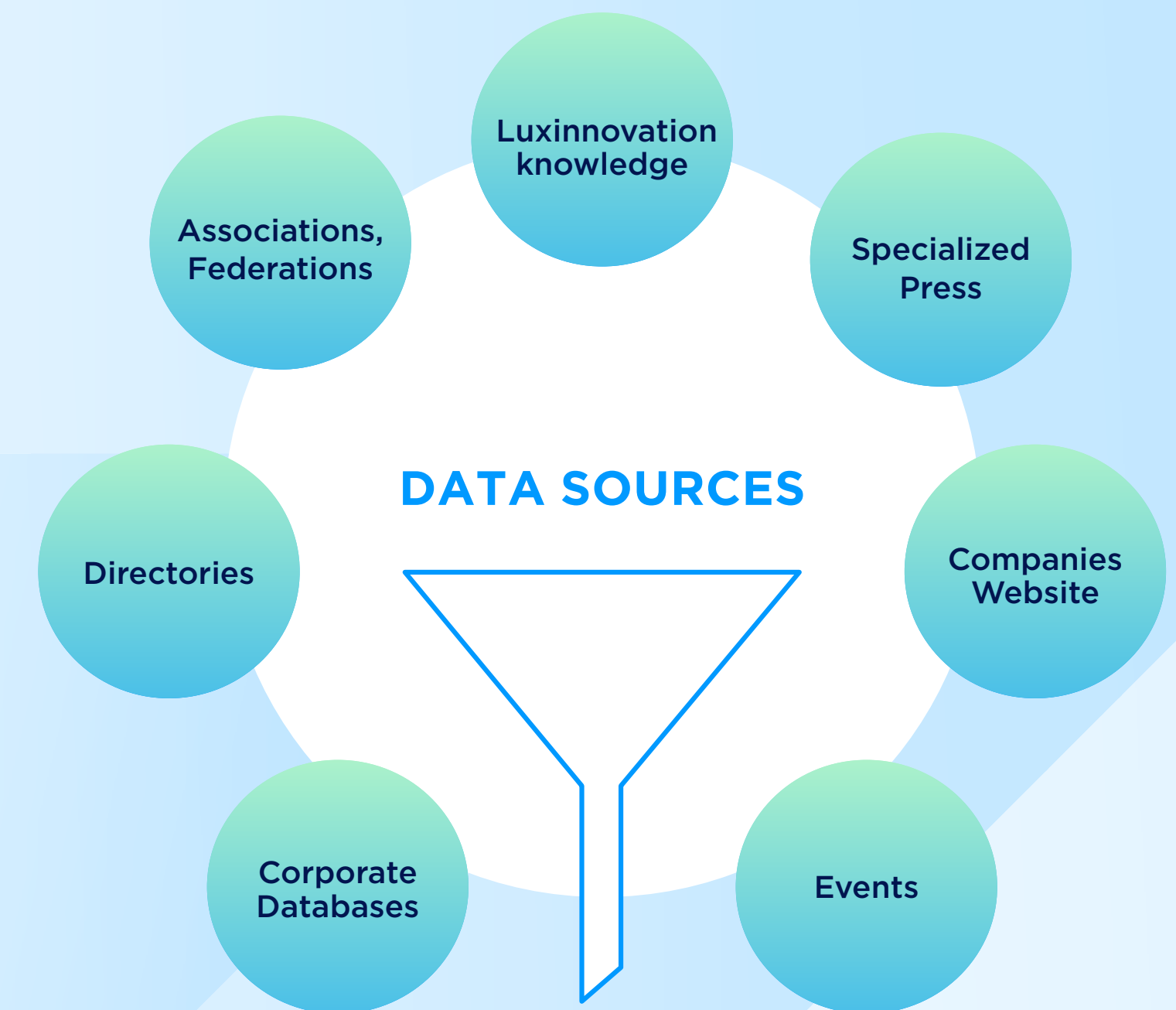


Figure 3 - Sustainability Enablers Mapping Sources

Step 2: Selection and classification of relevant entities

Step 2 consists of validating whether each identified entity (public entity or private company) should be part of the mapping or not, as well as enriching the information on selected entities. It is carried out jointly by market intelligence experts and sector experts. Each entity is reviewed and assessed based on available data (websites, corporate databases, etc.). For each selected enabler, additional information is provided, i.e. a description - indicating in particular the reason for its selection -, sustainability topics, category of enabler, etc. Some information is specific to the sustainability enabler mapping, while other dimensions are common to all Luxinnovation mappings.

- **Core business** determines if the enabler’s solution/service targeting sustainability is its main activity (i.e. core business) or if it is one solution among other services (i.e. non-core business).
- **Type of enabler** categorises each entity following the enabler’s type (see above). Only one type of enabler can be attributed to each entity.
- **Sustainability topics:** one to three sustainability topics (described in the Sustainability Framework) are attributed to each enabler to indicate where it can provide specific support.
- **SDGs:** the sustainability topics build the bridge between the company (enabler) and the SDGs targeted by its solution, product, or technology. Each enabler can then contribute to the implementation of one or more SDGs.

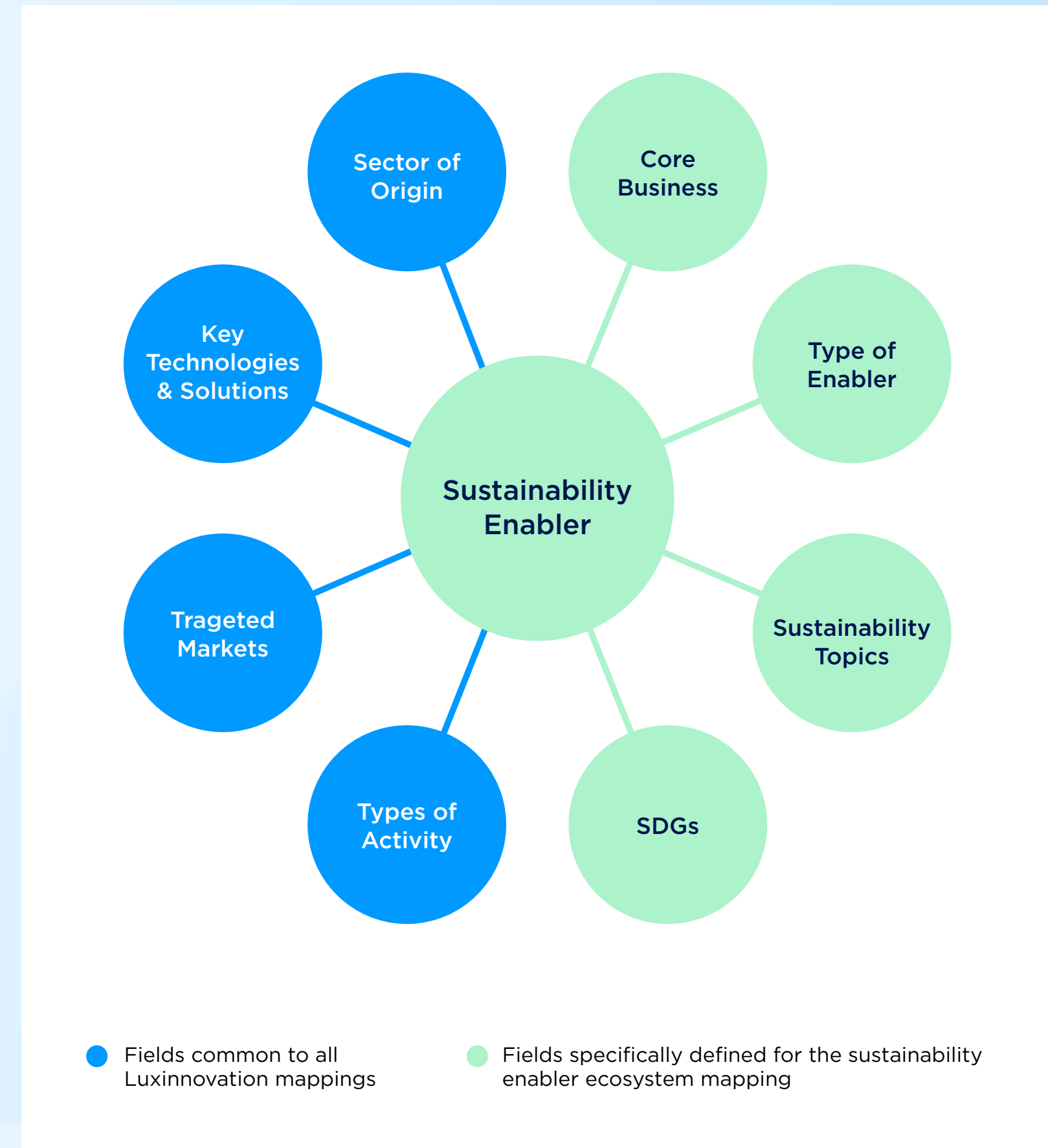


Figure 4 - Dimensions of classification of selected enablers

Each enabler is also classified according to:

- **Sector of origin:** which corresponds to the NACE designation of the legal entity.
- **Key technologies & solutions:** this dimension allows specifying the core technologies used by the enabler to provide its product or service. This information is added only when applicable (i.e. only when the enabler uses a key technology).
- **Targeted markets:** characterises the market(s) targeted by the enabler (real estate & construction, industry & manufacturing, cross-markets, etc.).
- **Types of activity** specifically refers to the activity of the Luxembourg entity (e.g. a group can be a global industrial player but only have its sales functions in Luxembourg); one or several values are possible.

For the selected entities, a sanity check is carried out to remove possible duplicates (only one legal entity is kept in the case a group has several entities), check the business status (active), etc. The completion of this second step results in the design of a consolidated and enriched database, which is the basis to create a decision-support system.

Step 3: Design of a decision support tool

Step 3 aims at exploiting the database to support different types of decisions taken either by companies or by other stakeholders of the ecosystem. The following tools are provided:

- **Interactive dashboard** displaying the key figures and the names of the sustainability enablers ecosystem in Luxembourg in a synthetic and dynamic way. You can discover and explore this dashboard [here](#).
- **Monitoring tool** offering access to the entire dataset to analyse and monitor the sustainability enabler ecosystem. The access to the monitoring tool is currently restricted.
- **Key Insights reports** providing an in-depth analysis of the sustainability enabler ecosystem, with the objective of better characterising and understanding this ecosystem (to be published soon).

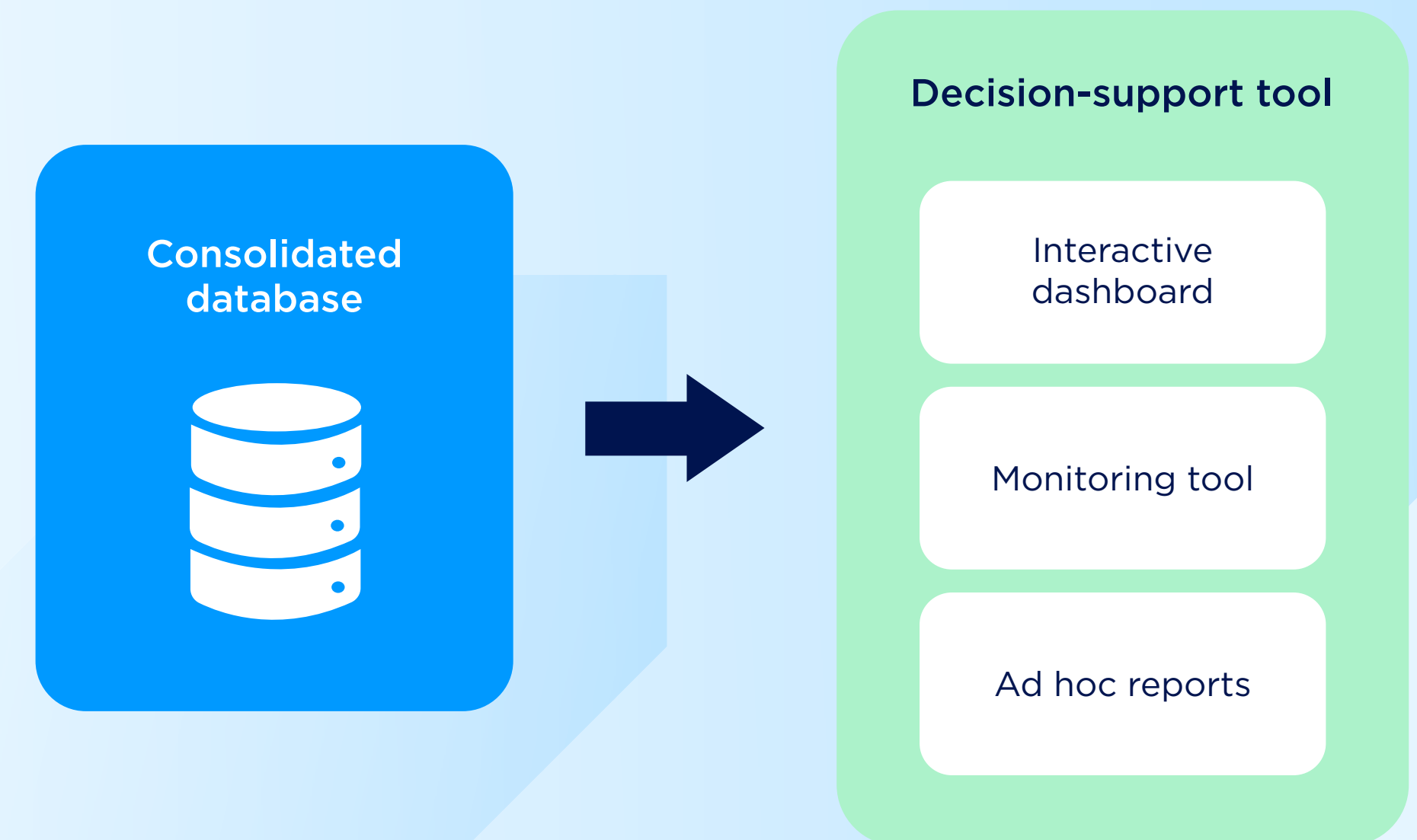


Figure 5 - Conception of a decision-support tool

WHAT'S NEXT?

A first version of the **sustainability enabler ecosystem mapping** was launched publicly in January 2023. The objective was to introduce the project, explain its objectives, as well as the scope and methodology used to provide a standardised and coherent approach to the sustainability enablers mapping.

Based on the feedback we seek to obtain from stakeholders and interested parties on this prototype version, the next steps will be:

- A consolidation of the current database, for instance in completing the information on the identified sustainability enablers, e.g. in adding some sustainability topics, etc.
- The completion of some categories of enablers (work in progress).
- A possible enlargement of the current mapping: as innovation agency, our focus was to map the enablers most relevant for innovative approaches to sustainability. If certain stakeholders see an interest in completing some categories of enablers beyond the notion of “innovation” (e.g. the goods & services providers), Luxinnovation would be willing to partner with these organisations to build a mapping that would answer their needs.
- The creation of a directory of sustainability enablers is under consideration and will be defined based on the main needs in the ecosystem and in collaboration with the stakeholders involved in supporting and accelerating the sustainable transition of businesses.



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