European Commission

Digital Product Passport:

Navigating Environmental Transparency in ICTs

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European Commission
proposes, monitors and implements

- **EU Legislation** (Regulations, Directives)

- **EU budget** (Funding programmes)

- **International cooperation, development & aid**

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Sustainability

Economic

Social

Environmental

Growth, decent jobs,   Equity and Social Justice, Poverty Alleviation, Education,   Climate change

COMPETITIVENESS   Lifelong learning, Health/well-being, Inclusion, culture   Pollution

Resilience   Social cohesion, Resilience and disaster preparedness   Biodiversity loss

Is digitalisation in the service of sustainability?

Can digital solutions (such as smart grids, connected mobility, teleworking, precision farming) deliver at the same time environmental benefits, social well-being, and economic development?

Main driver of the **Triple Planetary Crisis**
Climate Change, **Biodiversity Loss**, and **Pollution**
is the Non-Circularity of our economy

Inefficient use of resources

- **Global extraction of materials tripled** since 1970; **waste generation** set to increase **70%** by 2050;
- Over **90% of biodiversity loss and water stress** from resource extraction and processing

Planetary boundaries exceeded

- EU has less than 10% of world population, yet its **consumption-based impacts are close to or exceed boundaries** for climate change, particulate matter, land use and mineral resources (Sala et al, 2020)
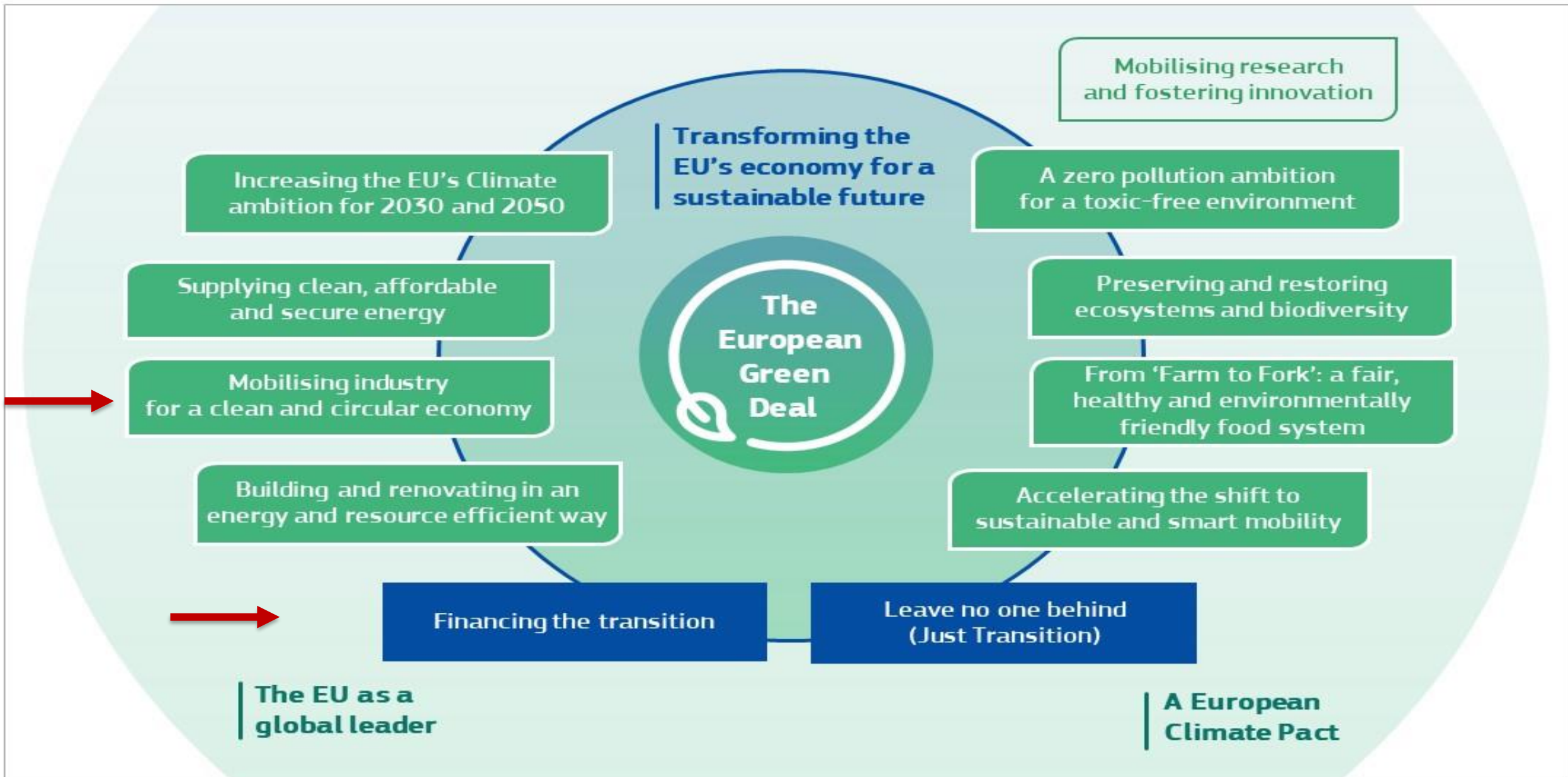
New business opportunities

- **Better functioning** of the **Single Market**
- Improved **material efficiency** and **lower input costs**
- Circular **"value retention"** business
- **Level playing field**

See: Global Resource Outlook, UN International Resource Panel (published 1st March 2024)
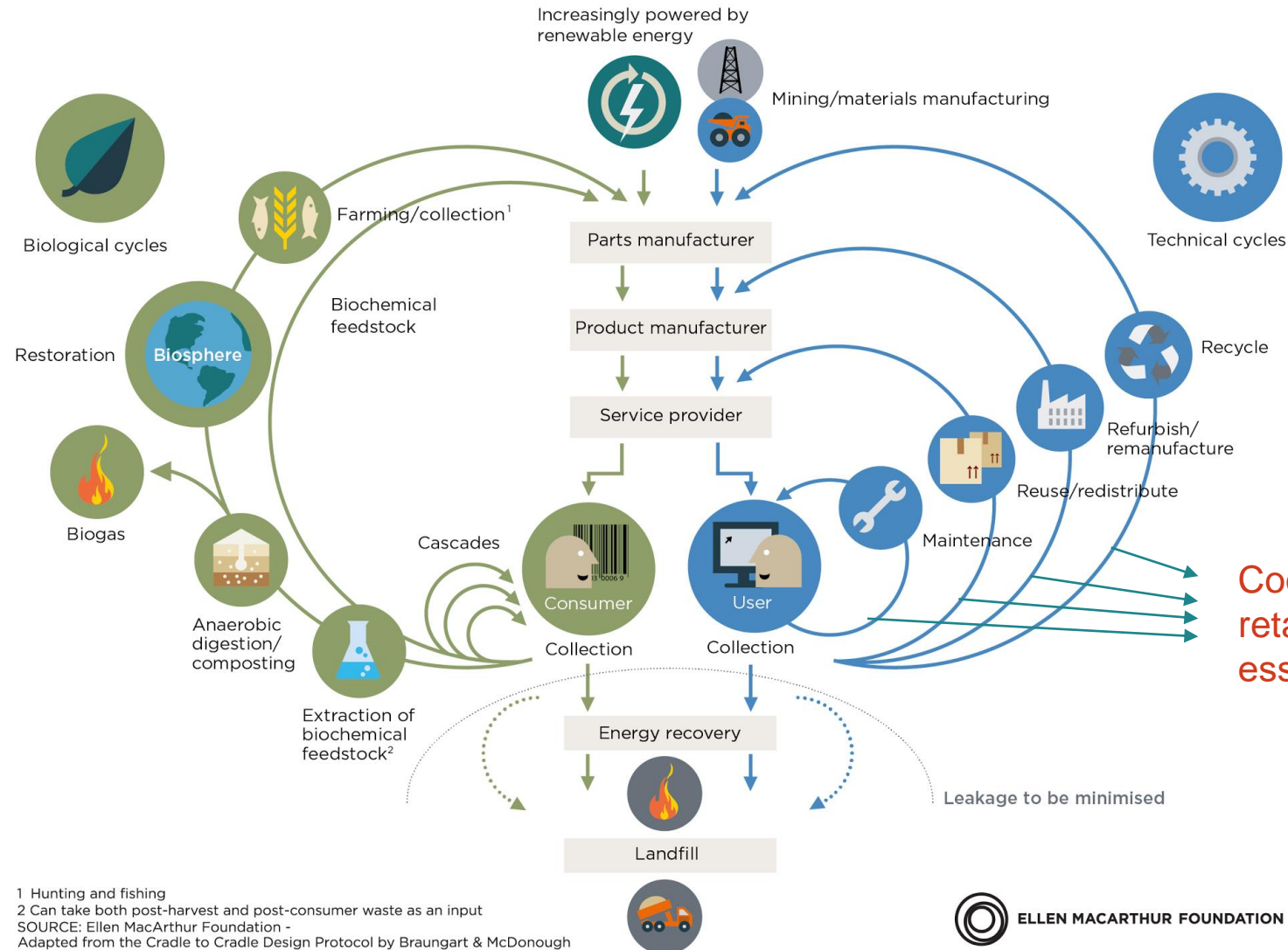
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European Green Deal - December 2019
Circular Economy Act - coming up

Key for Sustainability - Circular economy

CIRCULAR ECONOMY - *an industrial system that is restorative by design*

Increasingly powered by renewable energy

Mining/materials manufacturing

Biological cycles

Technical cycles

Farming/collection[1]

Biochemical feedstock

Parts manufacturer

Product manufacturer

Restoration

Biosphere

Recycle

Service provider

Refurbish/remanufacture

Biogas

Reuse/redistribute

Cascades

Maintenance

Consumer

User

Anaerobic digestion/composting

Collection

Collection

Extraction of biochemical feedstock[2]

Energy recovery

Leakage to be minimised

Landfill

Cooperation among manufacturers, retailers, repairers, recyclers, is essential to enable these 'circles'

1 Hunting and fishing
2 Can take both post-harvest and post-consumer waste as an input
SOURCE: Ellen MacArthur Foundation -
Adapted from the Cradle to Cradle Design Protocol by Braungart & McDonough

ELLEN MACARTHUR FOUNDATION

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The political context

- The objective of the DPP is to simplify digital access to relevant product-specific information in the area of **sustainability**, **circularity**, and **legal compliance**. It is **not** a track & tracing tool, but it will allow to also include traceability information when appropriate.

- There is a (growing) number of EU policies which will rely on DPP or element of it in order to make digitally available product related information:
  - **Ecodesign for Sustainable Products Regulation (EU 2024/1781),**
  - Batteries Regulation (**EU 2023/1542**),
  - Toys regulation (COM/2023/462 final),
  - Detergents regulation (COM(2023) 217 final),
  - Construction Products Regulation (COM(2022) 144 final),
  - Critical Raw Material Act (EU 2024/1252),
  - End-of-life vehicles (COM(2023) 451 final)

- The DPP-system shall build on existing best practices at international level, while also allowing the possibility of using new technologies and approaches

- The DPP is an important deliverable in the Commission strategy to digitalise our economy (green & digital). Many DGs are actively contributing to its design and deployment (CNECT, DIGIT, ENER, ENV, GROW, JRC, TAXUD,…)

COM webinar on ESPR (22.05.2024):

https://commission.europa.eu/energy-climate-change-environment/standards-tools-and-labels/products-labelling-rules-and-requirements/sustainable-products/ecodesign-sustainable-products-regulation_en

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ESPR Working Plan

- The Commission will adopt an **ESPR Working Plan**. Adoption is expected within 9 months after the entry into force of ESPR (i.e., around Q1-Q2 2025).

- The co-legislators have pre-identified a number of product groups the Commission should prioritise:
  - Iron & steel
  - Aluminium
  - Textile, notably garments and footwear
  - Furniture, including mattresses
  - Tyres
  - Detergents
  - Paints
  - Lubricants
  - Chemicals
  - Energy related products
  - ICT products and other electronics

Preperatory study working plan:

https://susproc.jrc.ec.europa.eu/product-bureau/product-groups/635/documents

- The Commission retains the right to add or remove product groups from the ESPR working plan, but it should provide a justification for each decision.

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ESPR: tentative timeline & milestones

25 April 2024
EP Plenary voted on final ESPR text

June 2024
Publication of ESPR in the OJ

Q4 2024
Establishment of Ecodesign Forum

March 2025
Adoption of the 1st ESPR **Working Plan** (9m after entry into force)

Late 2025
Acts on DPP registry, service providers, data carriers, digital credentials

18.02.2027
First DPP required for 'large' batteries (2023/1542)

22 May 2024
Council endorsed ESPR

July 2024
ESPR **entry into force**

Q1 2025
First meeting of the **Ecodesign Forum**

Mid 2025
Acts on **unsold goods** destruction ban & exemptions (12m after entry into force)

2026
Adoption of the **first ESPR measures** (e.g. textiles/steel)

2027/2028
First ESPR product **requirements** start to apply (inkl. DPP).

Digital Product Passport – Design

DPP-system

Digital Product Passport

DPP-data

*(the "**HOW**". To be developed horizontally for all product groups and legislations)*

*(the "**WHAT**". To be developed through **product-group specific** <u>dedicated legislation</u>)*

- **The DPP registry** (Article 13 ESPR)
- **The DPP web portal** (Article 14 ESPR)

- **All standards and protocols related to IT architecture:**

  1. Unique identifiers

  2. Data carriers and links between physical product and digital representation

  3. Access rights management, information security, and business confidentiality

  4. Interoperability (technical, semantic, organisation)

  5. Data processing , data exchange protocols, and data formats

  6. Data storage, archiving, and data persistence

  7. Data authentication, reliability, integrity

  8. APIs for the DPP lifecycle management and searchability

Information to be included in the DPP will be **product-group specific** and identified in delegated act process.

It may include information/data on one or more of the following areas:

- Technical performance
- Environmental sustainability performance
- Circularity aspects (durability, repairability, etc)
- Legal compliance
- Product-related information (e.g., manuals, other labels)

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Digital Product Passport – Design

- DPP is based on a **decentralised** approach for data storage.

- The DPP will be linked to a <u>product</u> or <u>component</u>.

- Access to data will take place through a **product unique identifier**, embedded in a **data carrier and** relying on a **look-up mechanism**.

- Access to DPP-data based on a **need-to-know** basis (there will be public and restricted data)

- **3** possible levels of **granularity**: (i) model, (ii) batch, (iii) item

- 4 unique identifiers will always be required:

  - Product identifier
  - Economic operator identifier

  - Facility identifier
  - Registration identifier (not public)

- Economic operators shall make also available a back-up copy of the DPP through a [certified] independent third-party DPP service provider

Implementation work ahead

Many Commission services are actively contributing to its design and deployment (DGs CNECT, DIGIT, ENER, ENV, GROW, JRC, TAXUD)

- Rules and requirements to be followed by **DPP service providers**, including a certification scheme to verify such requirements (via delegated act).

- Procedures to issue and verify the **digital credentials of economic operators and other relevant actors** that shall have access rights to DPP information (via implementing act).

- Rules and procedures related to **unique identifiers and data carriers' lifecycle management** (via delegated acts)

- Design and set-up the **DPP registry**.

- Design and set up the **DPP web portal**.

- Definition of **standards** (by 31 December 2025).

Ongoing Work

- **StandICT**: landscaping report on existing DPP-related standards

- **CIRPASS**:
  - Collect examples of existing DPP-like systems
  - Analysing the standards
  - Develop roadmaps and prototypes

- **Standardization request**

- **CIRPASS-2**
  - Deploy and validated at scale and real life setting Digital Product Passports
  - Report on further needs for standardisation and specifications to ensure interoperability, security, and acceptance by all the stakeholders.
  - Recommendations based on the lessons learnt.
  - Work package to support SMEs

Thank you

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EU Spotify

Sustainability is not only about GHG emissions reduction
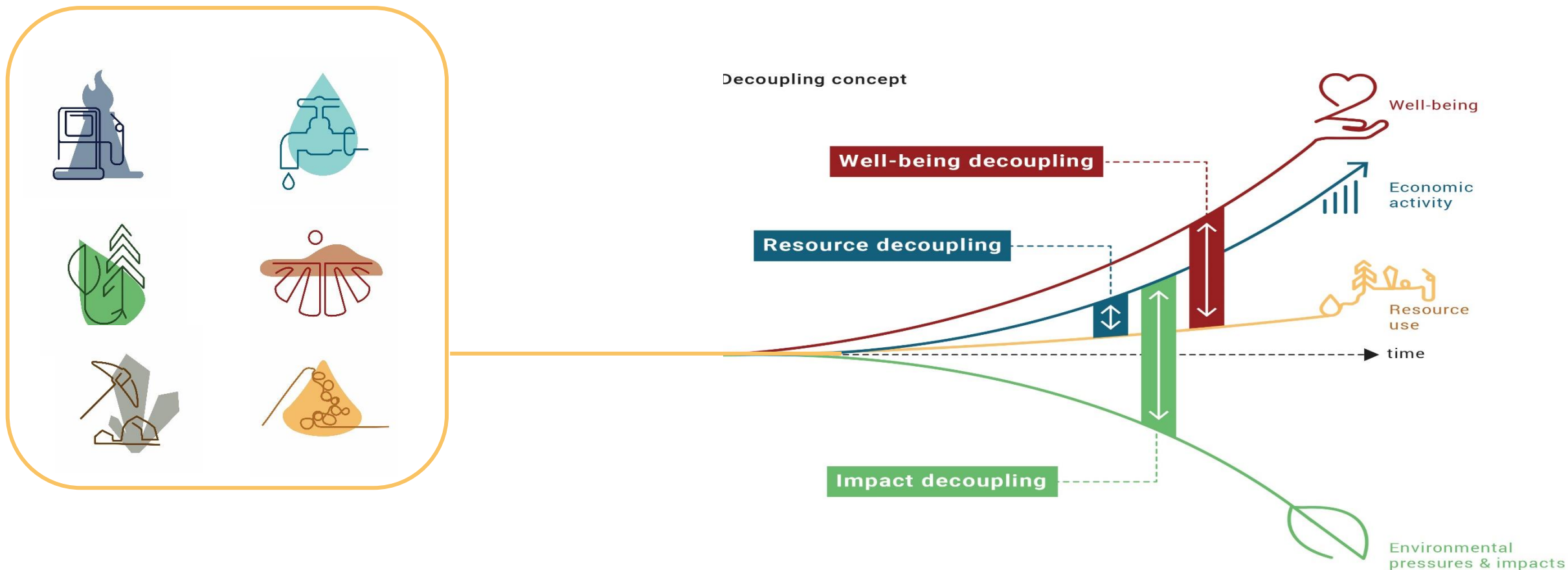
The EU Taxonomy is built around six environmental objectives

Climate objectives

Other environmental objectives

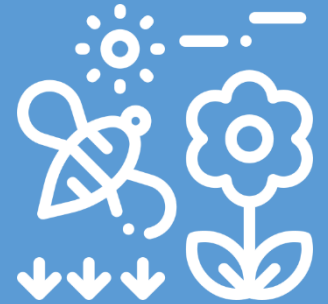| Climate Change Mitigation | **Climate Change** Adaptation | Sustainable use and protection of water and marine resources | Transition to a circular economy | Pollution prevention and control | Protection and restoration of biodiversity & ecosystems |

EU TAXONOMY
Substantial contribution criteria for the product as a service activity

1 — Provide **access** to and **use** of product, but ownership remains with the service provider

2 — The activity leads to an **extended lifespan** or increased **use intensity** of the product

3 — Packaging, if used, is made from **65% recycled material**, or is designed to be **reusable**

4 — For wearing apparel involving laundry and dry cleaning, comply with an **ISO type 1 ecolabel** or equivalent