



Ecodesign for Sustainable Products Regulation (ESPR) and Digital Product Passport (DPP)

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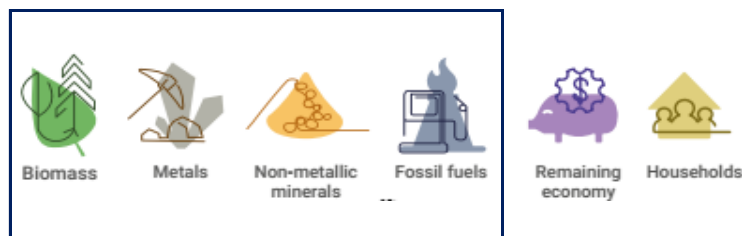
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30.04.2025

Resource consumption drives triple crisis

Environmental impacts of materials in the value chain in extraction and processing phase

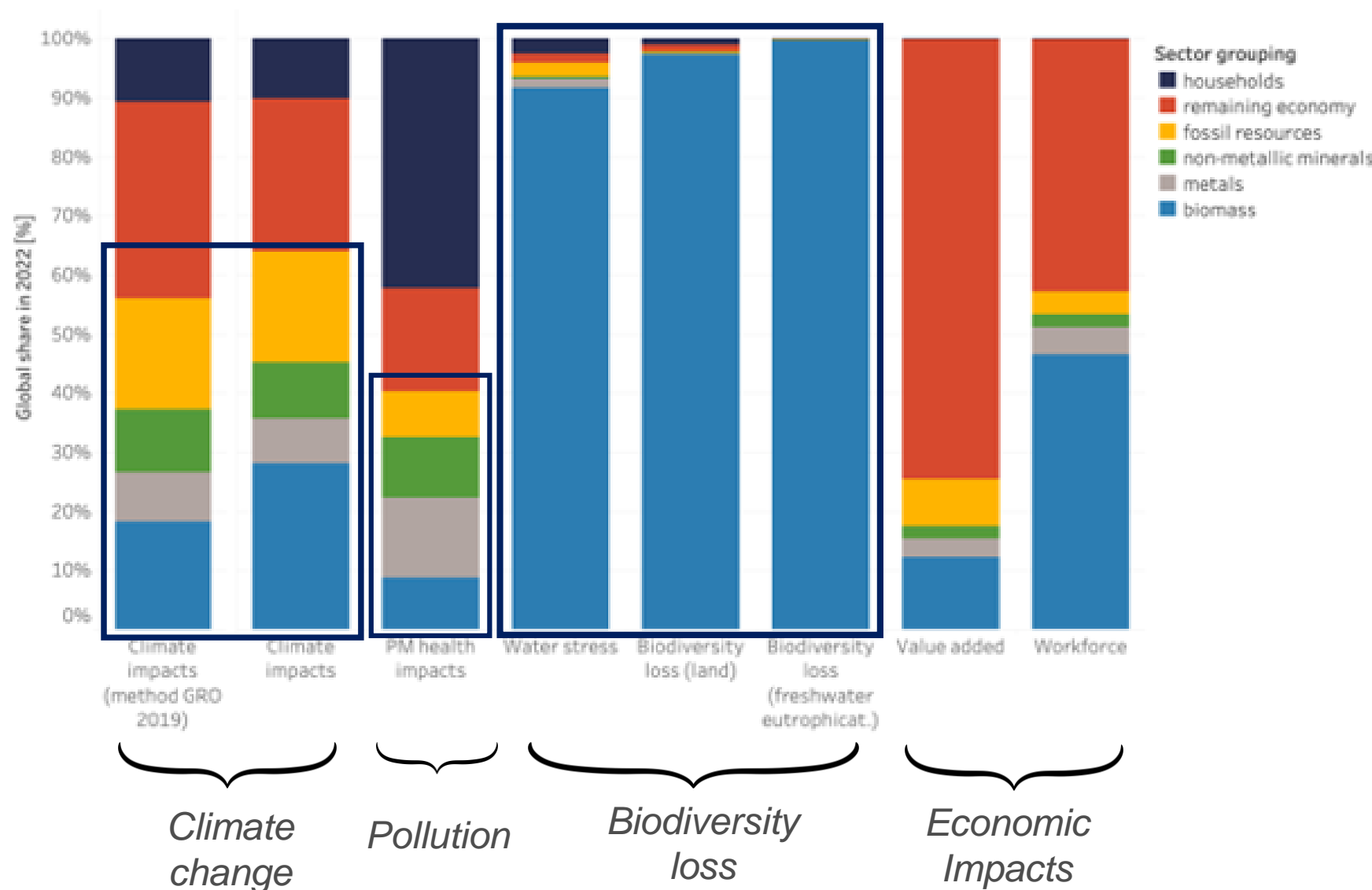


60% of global climate change impacts including land use change

40% of air pollution health impacts

More than 90% of water stress and global land and water eutrophication related biodiversity loss

[\(Global Resources Outlook 2024\)](#)



Global Risks

FIGURE C Global risks ranked by severity over the short and long term

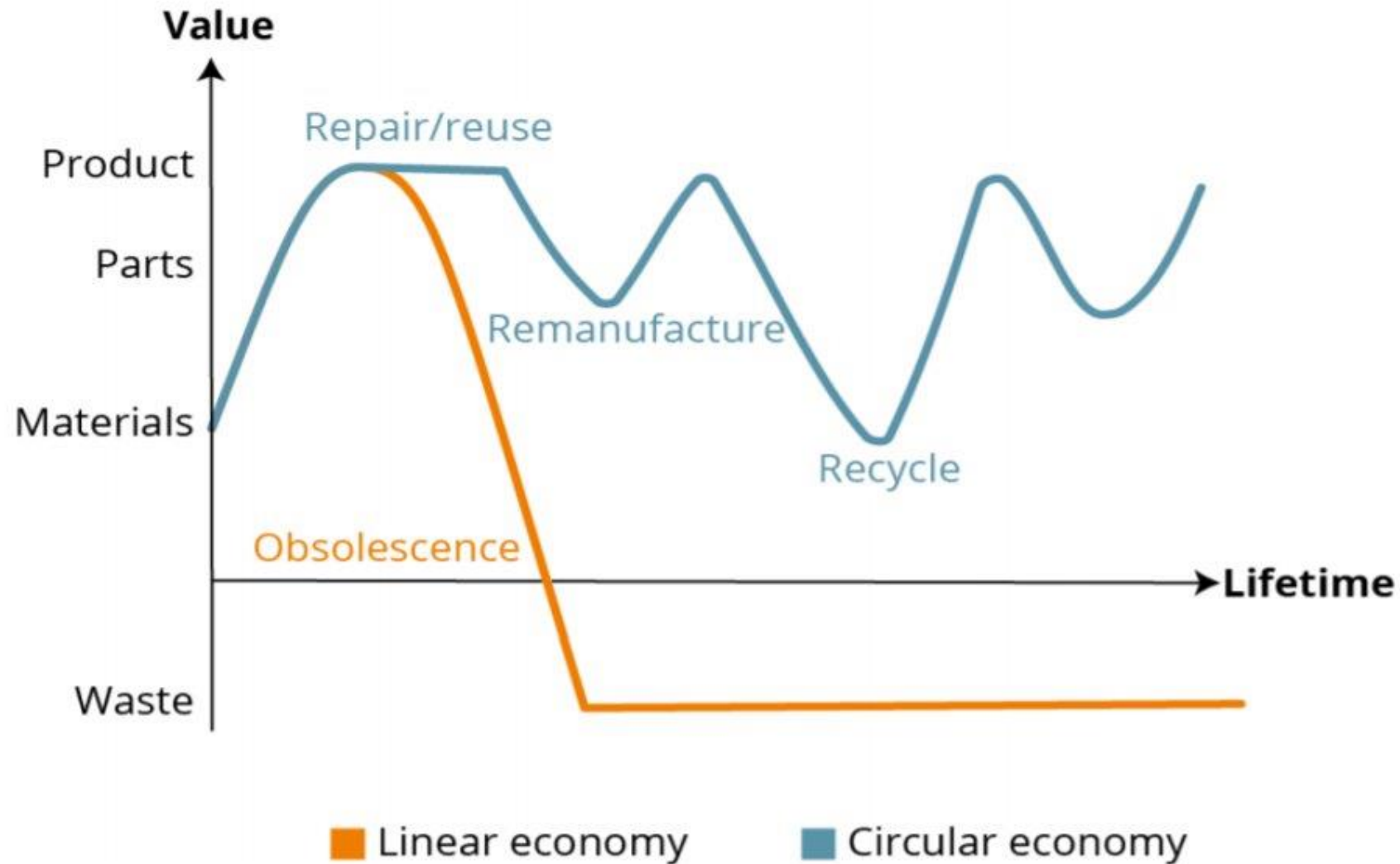
"Please estimate the likely impact (severity) of the following risks over a 2-year and 10-year period."



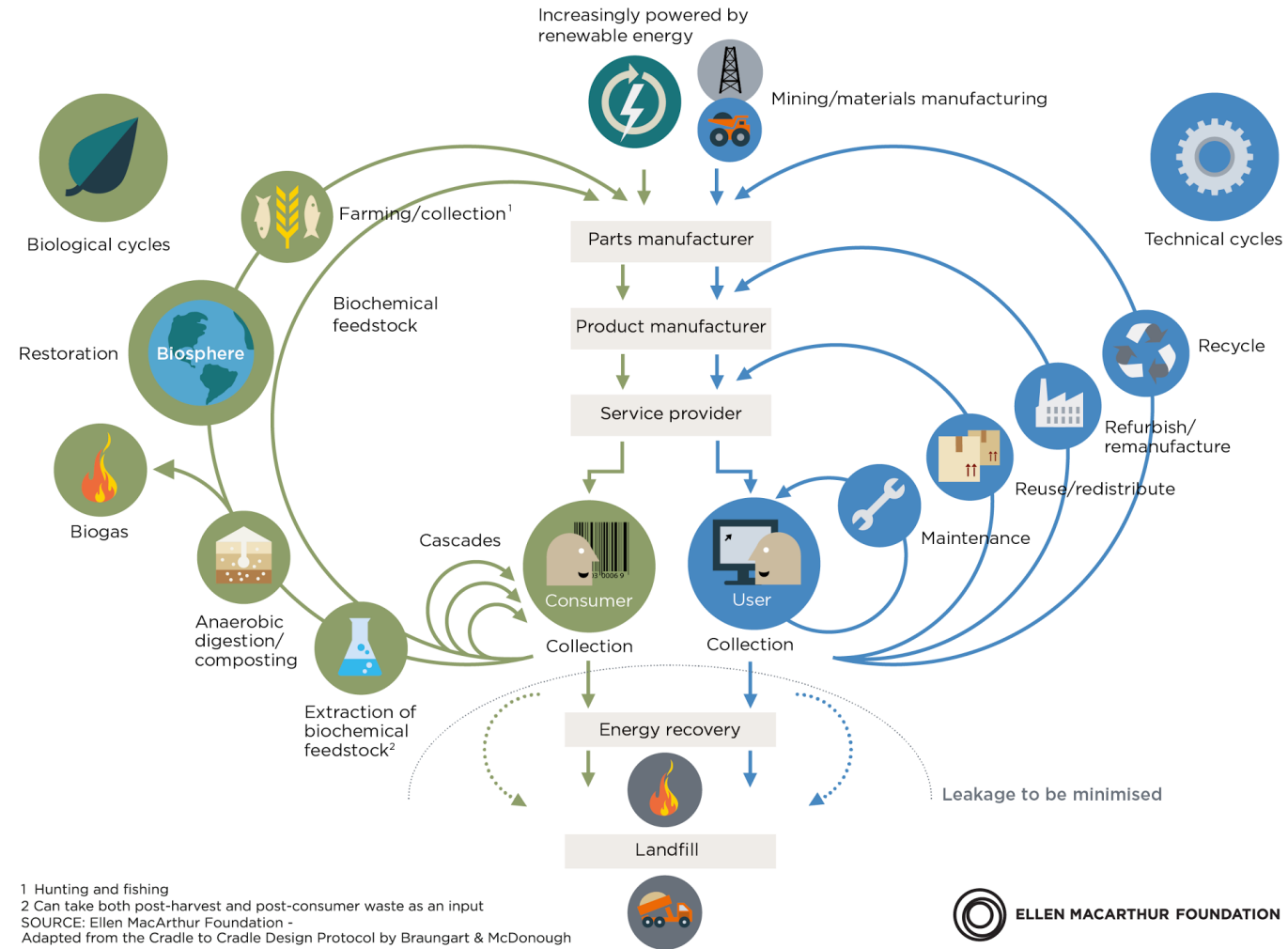
- Half of the top 10 risks seen by global experts from academia, business, government, the international community and civil society on a 10-year horizon relate to Environmental Risks

[\(World Economic Forum\)](#)

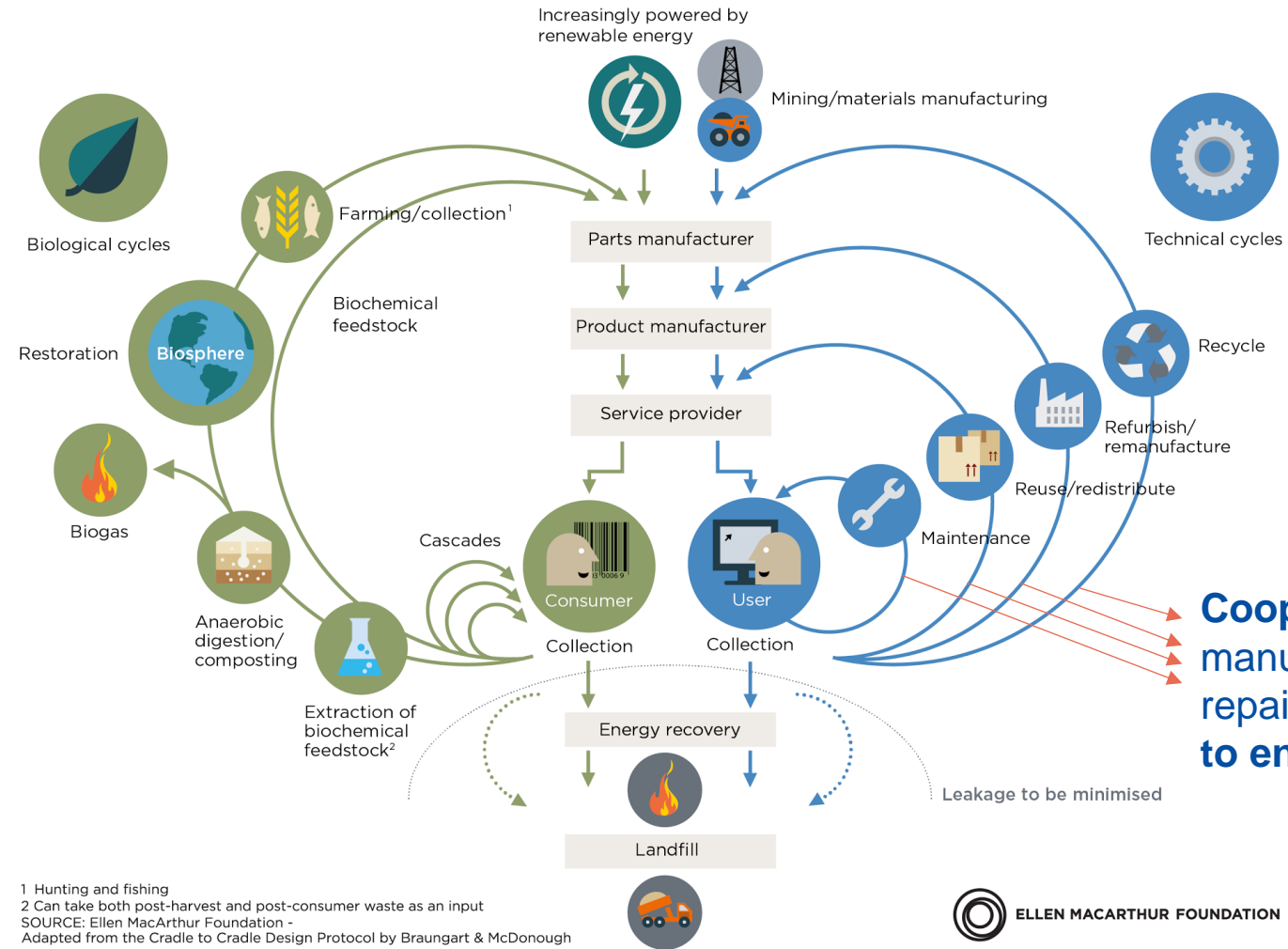
Circular Economy on the Product Level



Circular Economy – Key for Sustainability



Circular Economy – Key for Sustainability



¹ Hunting and fishing

² Can take both post-harvest and post-consumer waste as an input

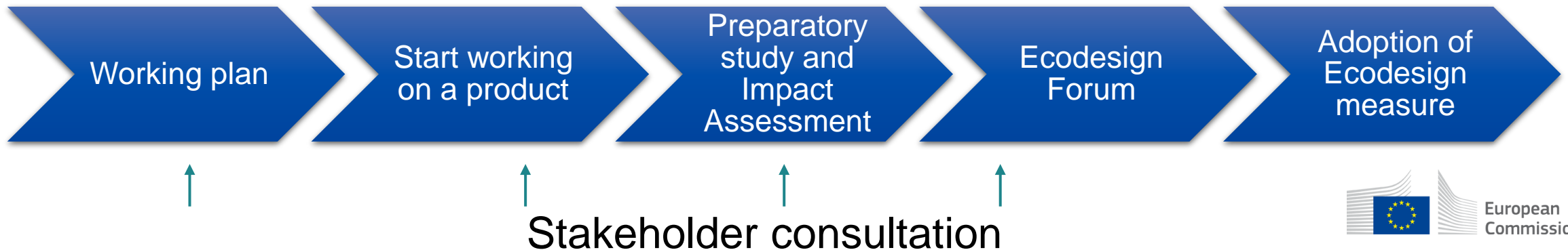
SOURCE: Ellen MacArthur Foundation -

Adapted from the Cradle to Cradle Design Protocol by Braungart & McDonough



Ecodesign for Sustainable Products Regulation

- **Key features of the Ecodesign Directive approach maintained:**
 - ✓ **Framework legislation:** Regulation on [Ecodesign for sustainable products \(2024/1781\)](#)
 - ✓ Regularly updated **multiannual working plans** setting out priorities
 - ✓ **Product-specific measures** based on dedicated impact assessment
 - ✓ Allows setting of **performance** and **information requirements** for almost all categories of **physical goods**



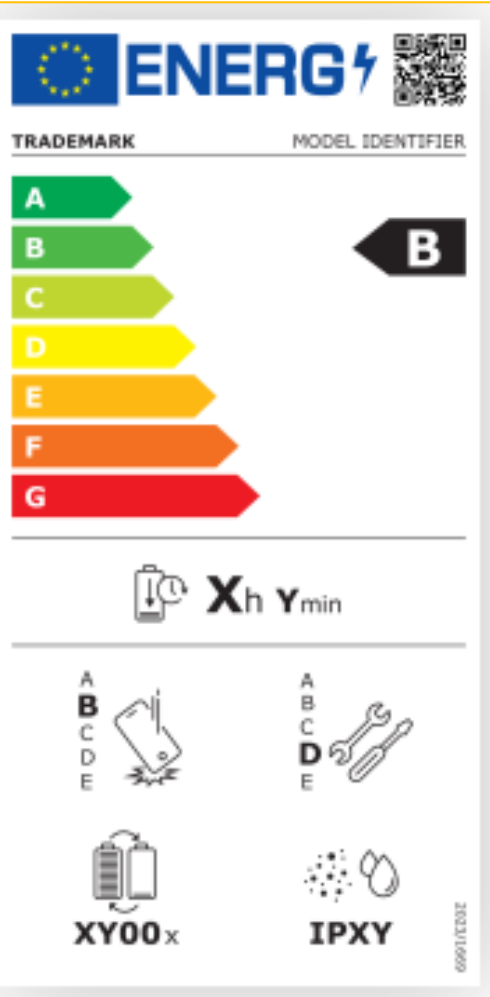
ESPR and Energy Labelling Working Plan

- Based on 2 elements:
 1. Energy-related products from Ecodesign and Energy Labelling working plan for 2022-2024
 2. New products to be included in the working plan:
- **Final products:**
 - Textiles/Apparel
 - Furniture
 - Tyres
 - Mattresses
- **Intermediate products:**
 - Iron & Steel
 - Aluminium
- **Horizontal requirements:**
 - Repairability (including scoring)
 - Recycled content of EEE

[ESPR and Energy Labelling
Working Plan 2025-30 |
Environment](#)

[List of already covered
product groups](#)

Ecodesign and Energy Label for Mobile Phones and Tablets



Ecodesign requirements

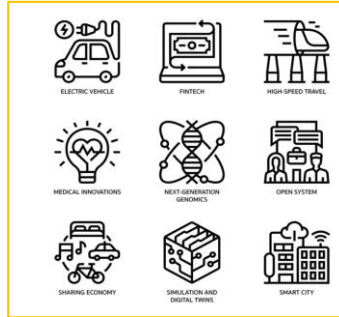
- **Extending the lifetime** of all smartphones in the EU by one year would save **2.1 million tonnes of CO₂ per year by 2030**, equivalent to taking 1 million cars off the road.
- Improve circularity (e.g. durability, reparability, refurbishment, recycling)
- Resistance to drops, scratches, dust and water
- Batteries must retain at least 80% capacity after 800 cycles
- Rules on disassembly and repair, including obligations for producers to make critical **spare parts** available within 5-10 working days for **7 years**
- Non-discriminatory access for professional repairers to any essential software or firmware
- Availability of **operating system upgrades** for at least **5 years** ([EU/2023/1670](#))
- Will apply to mobile phones and tablets on EU market from 20 June 2025

([EU/2023/1669](#))

Digital Product Passport – Expected Benefits



Tracking of **raw materials extraction/production**, supporting due diligence efforts



Enable **manufacturers** to link information to products (e.g. products **digital twins**, embedding all the information required)



Tracking the life story of a product, enabling services related to its **remanufacturing, reparability, re-use/re-sale/second-life, recyclability**, new business models



Benefit **market surveillance authorities and customs authorities**, by making available information they would need to carry out their tasks



Make available to **public authorities and policy makers** reliable information. Enable to link **incentives** to **sustainability performance**



Allow **citizens** to have access to **relevant and verified information** related to the characteristics of the products they own or are considering to buy/rent (e.g. using apps able to read the identifier)

Digital Product Passport – Design



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

Digital Product Passport

(the “**WHAT**”. To be developed through product-group specific dedicated legislation)

- 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

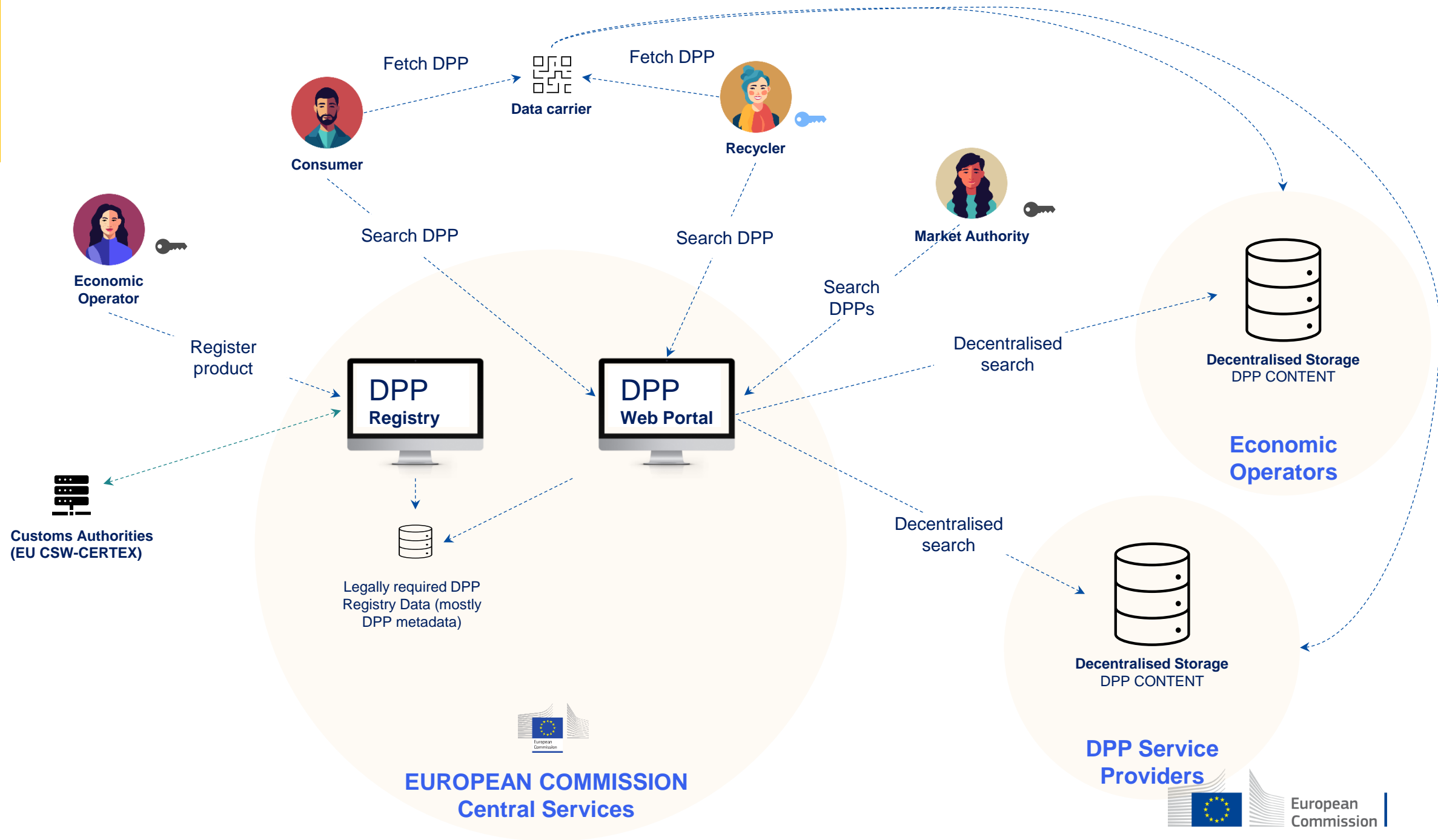
Information to be included in the DPP will be **product-group specific** and identified in delegated act process.

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

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

Digital Product Passport – Design

- DPP is based on a **decentralised** approach for data storage.
- The DPP will be linked to a product or component.
- 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
 - Facility identifier
 - Economic operator 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



Main requirements for companies

- Make sure that a product passport **exists**, and it is in compliance with essential requirements established in Articles 10 and 11
- Make sure that the product passport is **complete**, meaning it includes all the mandatory information listed in the corresponding product group-specific Delegated Act.
- Make sure that the information included in the passport is **authentic, reliable** and **verified** in accordance with requirements established in the corresponding product group-specific Delegated Act.
- A **back-up copy** of the DPP is stored by a [certified] third-party product passport service provider.
- Copy of the data carrier or unique product identifier are made available to **dealers** and **online market places** selling the corresponding product.

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). [Public consultation until 01 July 2025](#).
- 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

- [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.
- [Public consultation on DPP service providers until 01 July 2025.](#)

Thank you



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