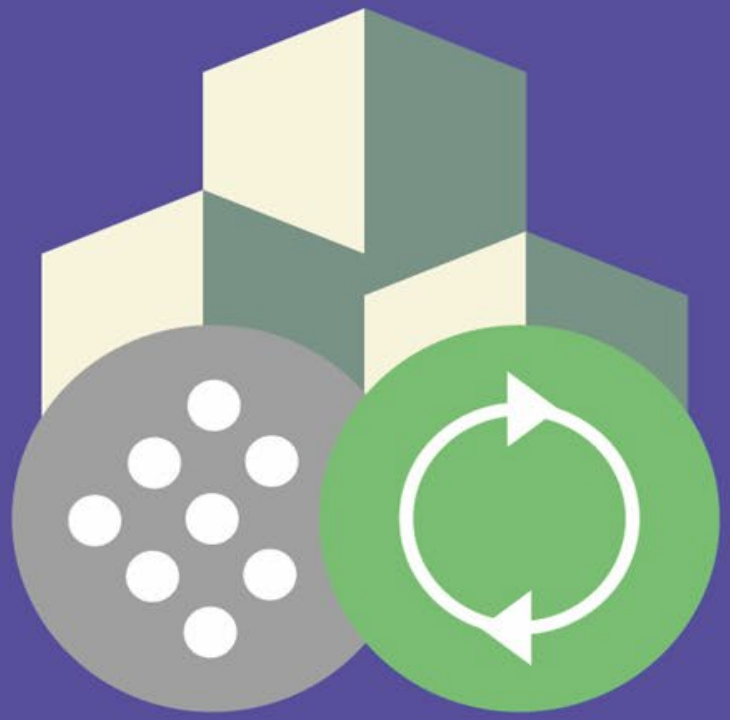

Circular technologies in construction

Putting Science Into Standards

CEN CENELEC

European Commission

Building information (reporting formats, data management and storage)

Building information (reporting formats, data management and storage)

Chair: Martha LEWIS, CEN/TC 350 SC 1

Rapporteur: Manfred FUCHS, EC JRC

slido.com

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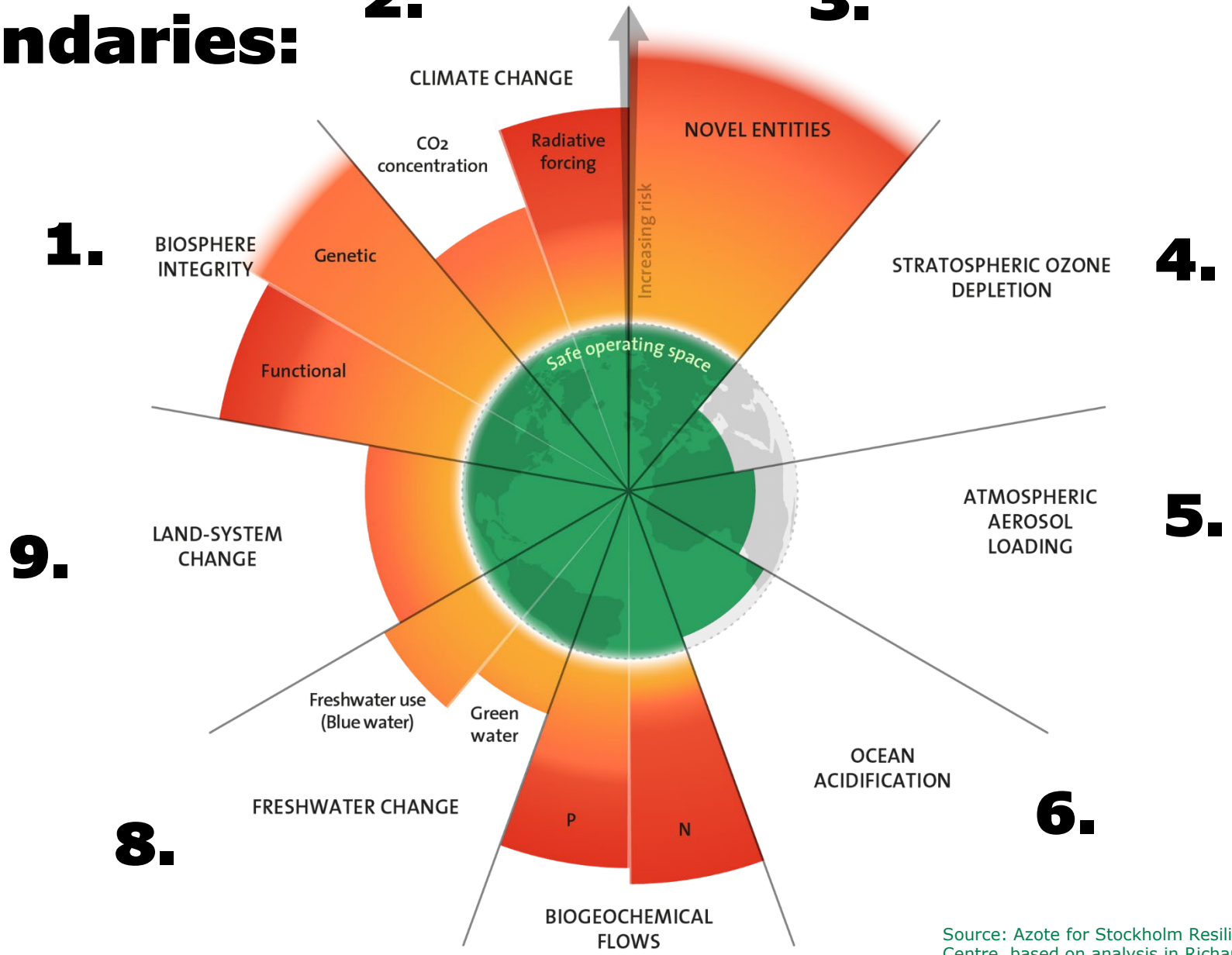
Select the **Building information** room

putting

SCIENCE into

standards

Planetary boundaries:



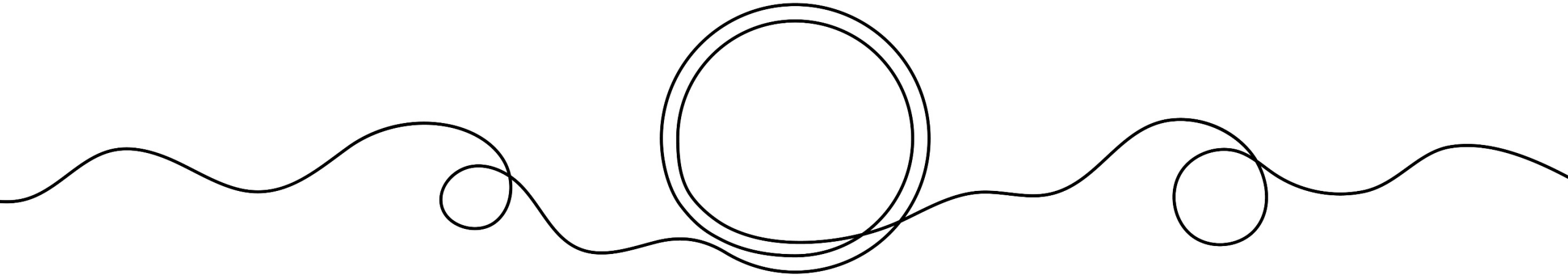
Source: Azote for Stockholm Resilience Centre, based on analysis in Richardson et al 2023

© Henning Larsen

Denmark is only 4% circular

Denmark consumes 142.2 million tonnes of virgin materials—metal ores, non-metallic minerals, biomass and fossil fuels—each year

Secondary materials in the total consumption—5.9 mil tonnes



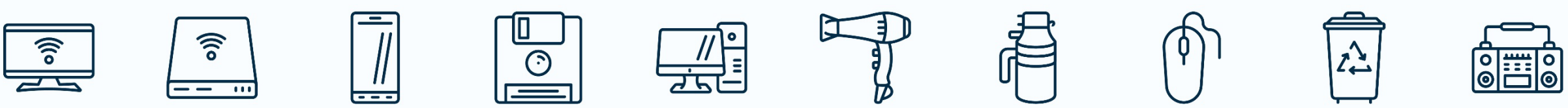
Consumption per capita

DK: 24.5 tonnes of virgin materials per person per year

EU: 17.8 tonnes

Global: 11.9 tonnes

Estimated sustainable level: 8 tonnes



Which Danish sectors?

Construction	**31%**
Manufacturing	**18%**
Agrifood	**15%**

Combined these 3 sectors represent 64% of the material footprint and 56% of the carbon footprint

Photo by Jarrett Mills on Unsplash

How can the

construction sector

improve its circular performance?

How can the standardization of digital product passports improve circular performance?

How do we guarantee that **a component can be reused, with confidence**

but also with the minimum required information, in order to save time and costs, so that circular construction is a competitive and plausible solution?

What role does the BIM play in circularity information management

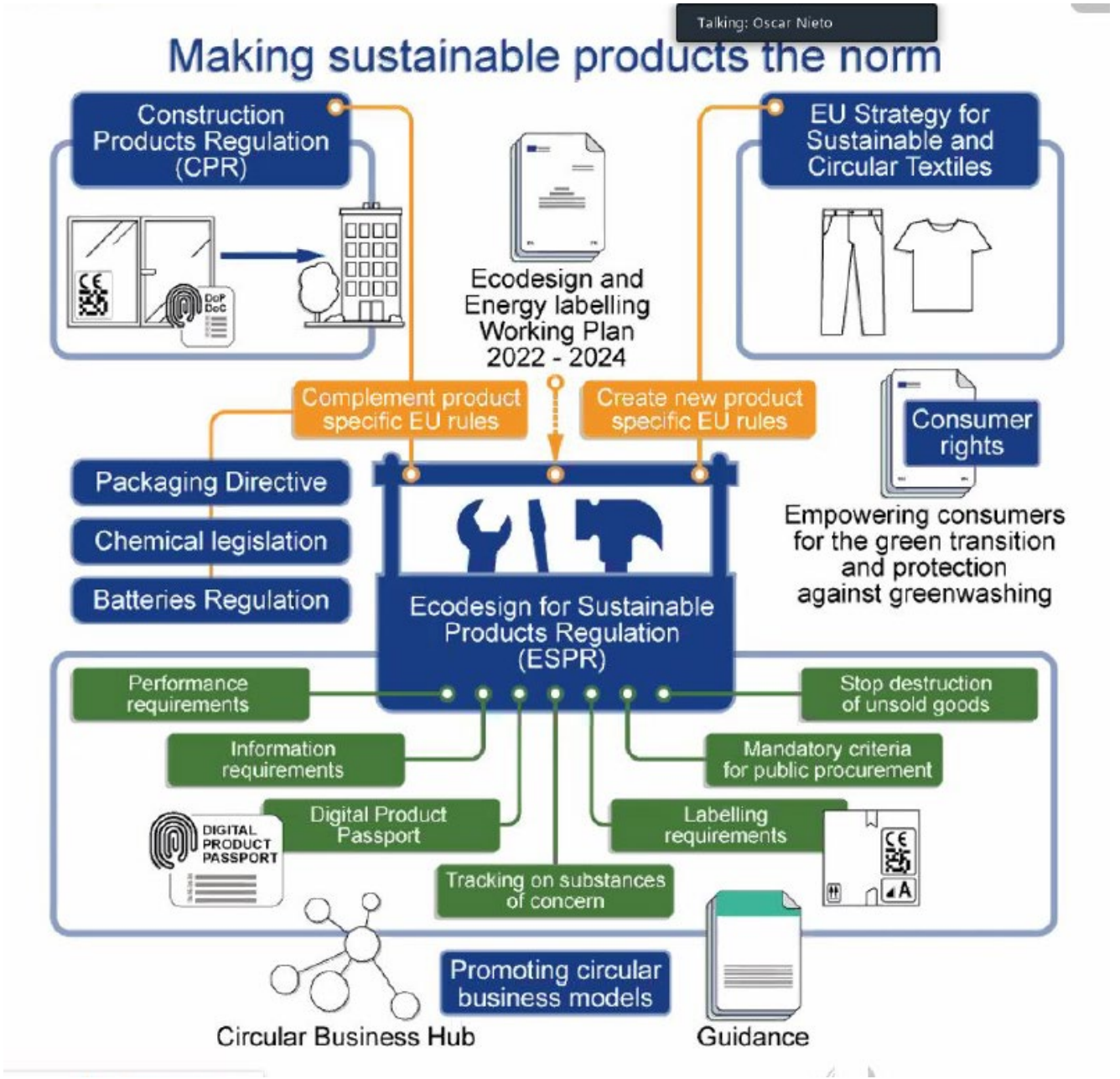
of both newly designed and existing buildings?

putting science into

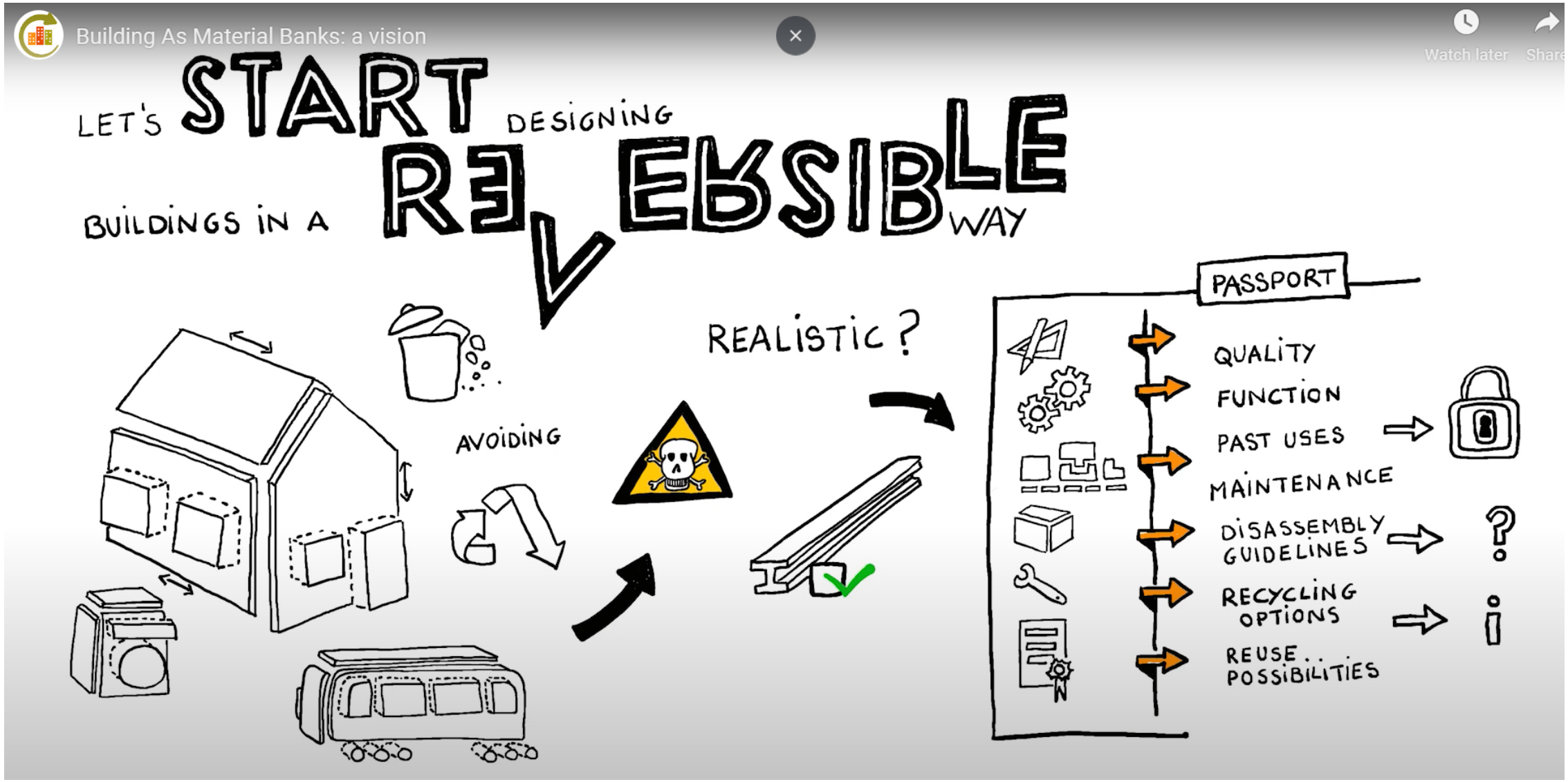
STANDARDS

EC Initiatives

Circular Economy Spring Package, 2022



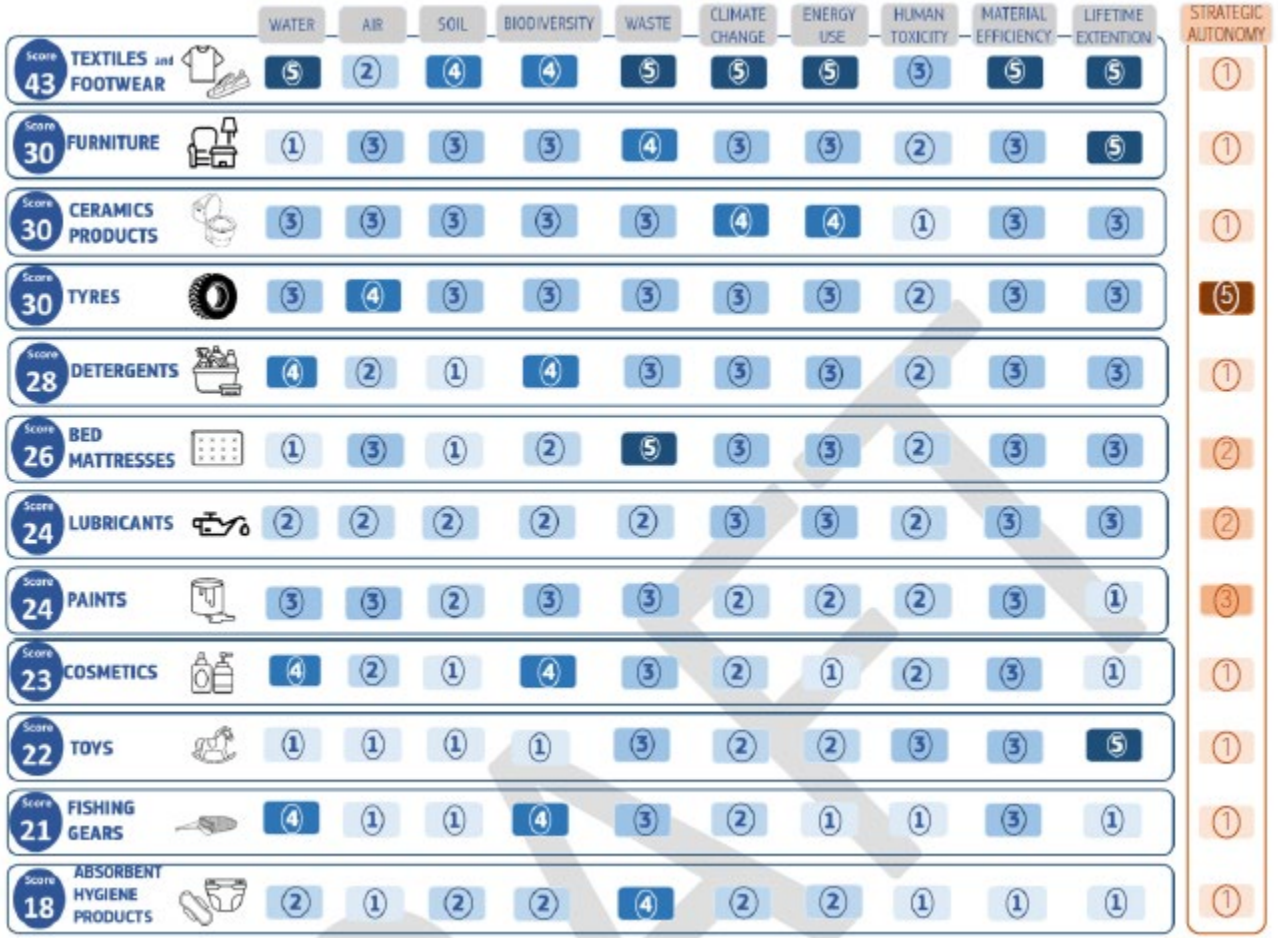
BAMB – Material/Building Passport



DPP – Digital Product Passport

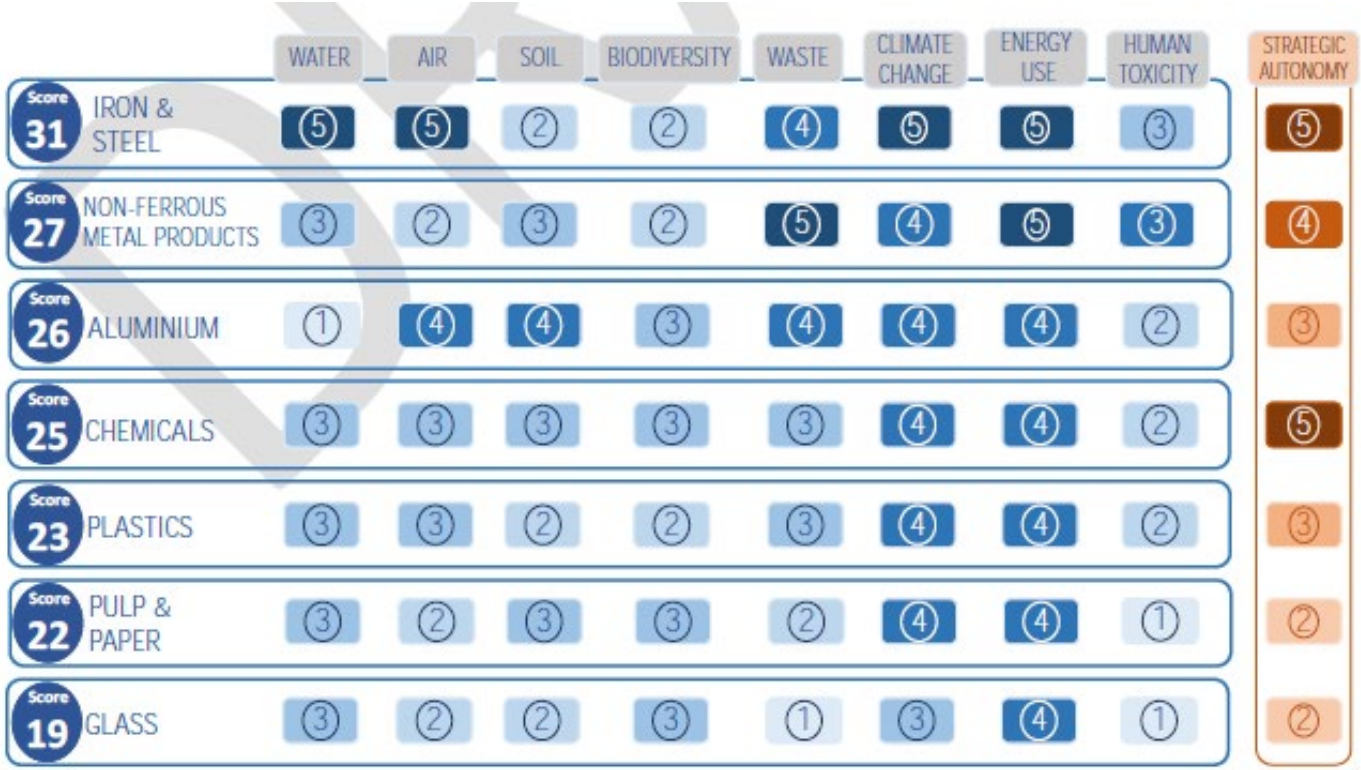
CEN/CLC/JTC 24 – clock ticking toward 31 December 2025: Data framework

Draft of the ESPR shortlists 12 product catagories:



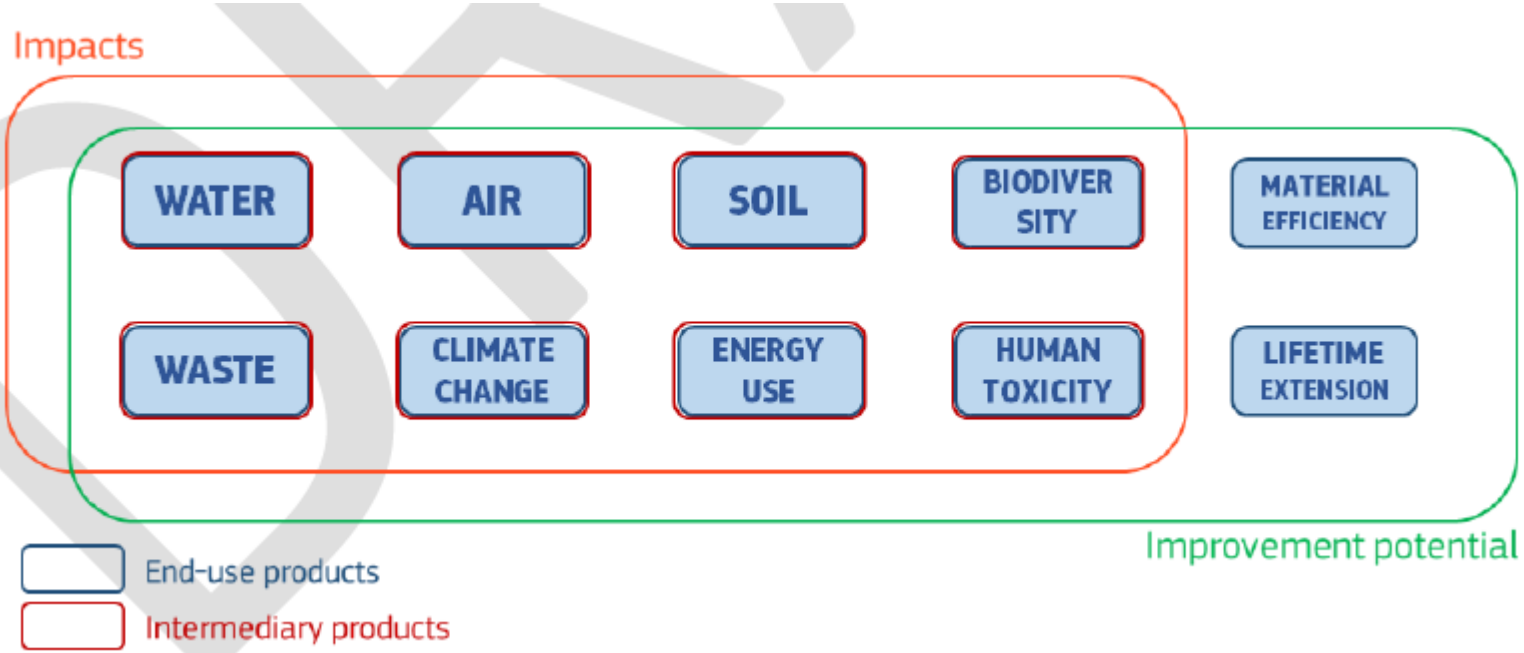
DPP – Digital Product Passport

Draft of the ESPR shortlists 7 intermediate product catagories:



DPP – Digital Product Passport

Environmental categories consider for assessment:



An overview of

EC data initiatives

Digital transition of construction – initiatives/studies

‘Support of the digitalisation of the built environment, public procurement and SMEs in construction’

- Preparing the ground for a construction **data space**
- Supporting the digitalisation of **building permit** systems
- Supporting adoption of **Building Information Modeling** (**BIM**)

Technical study for the development and implementation of **Digital Building Logbooks** in the EU

ESPR: **Digital Product Passport** (DPP)

CPR: **Declaration of Performance** (DoP)

+ several ongoing Horizon Europe projects on digital permits and logbooks

European Commission

DATA GAP

Product contents
Chemical substance contents
Packaging
Operational information
Maintenance
Resource Potential

Construction – today

Safety Data Sheet
DoP & CE mark
Technical product documents
Enviromental Product Declarations

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11001101010010000

Circular sustainabile construction

Access to missing sustainability parameters

Continual reassessment of goals and achievements

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Where do you identify **data gaps** or gaps in the standards?

Gap analysis

SC-1 WG2 report

5a Summary of Gap analysis – Section 6:

Circular data, data storage and maintenance and product/building passports

By Martha Lewis

1.Gap in EU Taxonomy: concept requirements exist / standards missing

Gaps are identified in the available DNSH technical criteria as well as in the consultation draft in regards to documentation on product level.

The 2023 hearing version of the Circularity requirements for EU Taxonomy call for digital tools that support preserving and extending service life and future adaptation and reuse; however, there are no existing standards to support implementation.

2. Gap in relation to EPD and to national and international EPD databases

EPDs / EN 15804:2012-A2:2019 do not include circularity indicators, recovery of resources or future resources

3. Gap in standards for:

a) Product level data – material passports, product data sheets, Construction product regulation revision/ declaration of performance, EPDs

b) Building level data - Building passport, Digital Building Logbook

4. Gap in standards linked to:

1. data quality, long-term reliability, comprehensiveness and exchange formats

2. the common standards, including semantic standards, data template standards and interoperability protocols

3. the data governance models, business models and strategies for running data spaces

5. Gaps relating to data ownership and sharing; data security and transparency

Support the goals of the EU's Digital Europe Programme and the EU Data strategy.

Dutch CB23 Guideline v2.0: chapter 4.5: Data-access (Open standards, traceable, reducing the information burden, interchangeability, object identification)

Dutch CB23 Guideline v2.0: chapter 5: Data Governance (legislation and regulations)

Response to the gaps in the

SC-1 WG2 report?