



EUROPEAN CENTRAL BANK

EUROSYSTEM

ECB - RESTRICTED

Eco-designing future euro banknotes. First steps

Cash & Payments
sustainability forum

16 November 2022

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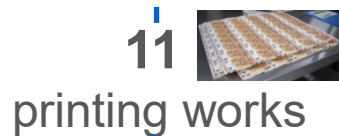
1

Background

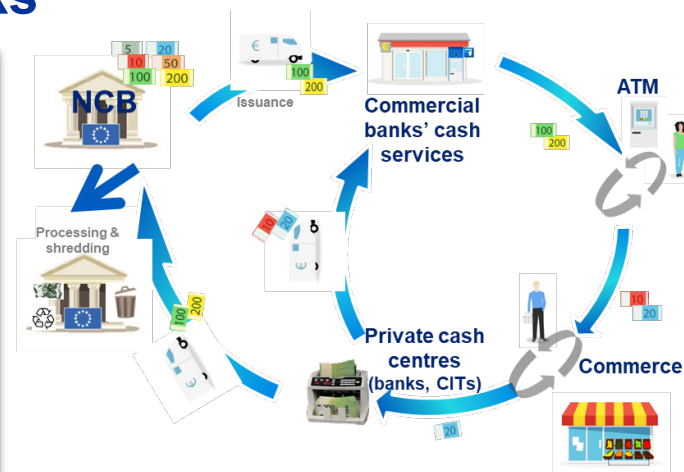
Eco-designing future euro banknotes. First steps

The Eurosystem landscape

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19 cash cycles



We keep banknotes safe and sustainable

We make sure that banknotes are safe to use by researching the potential impact of euro banknote production and circulation on public health and carrying out scientific examination and testing.

We also look at the environmental footprint of banknotes to identify opportunities to reduce their environmental impact via new products and processes. This ensures that euro banknotes and their production processes become as sustainable, green and environmentally friendly as possible.



Environmental Assessments of Euro Banknotes

ES1

- **Past:** Life Cycle Assessment (LCA) of ES1 banknotes was completed (ISO 14040/44) in **2004 (ex-post)**.

ES2

- **Present:** Product Environmental Footprint (PEF) of ES2 banknotes is assessed in **2019 (ex-post)**.

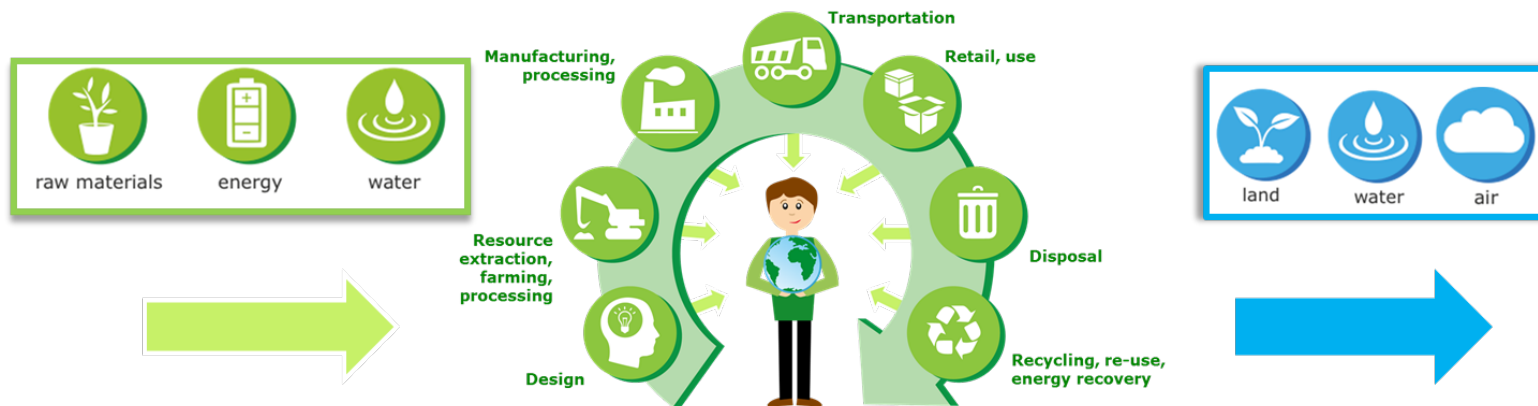
ES3

- **Future:** Eco-design future euro banknotes (**ex-ante: change of paradigm**).

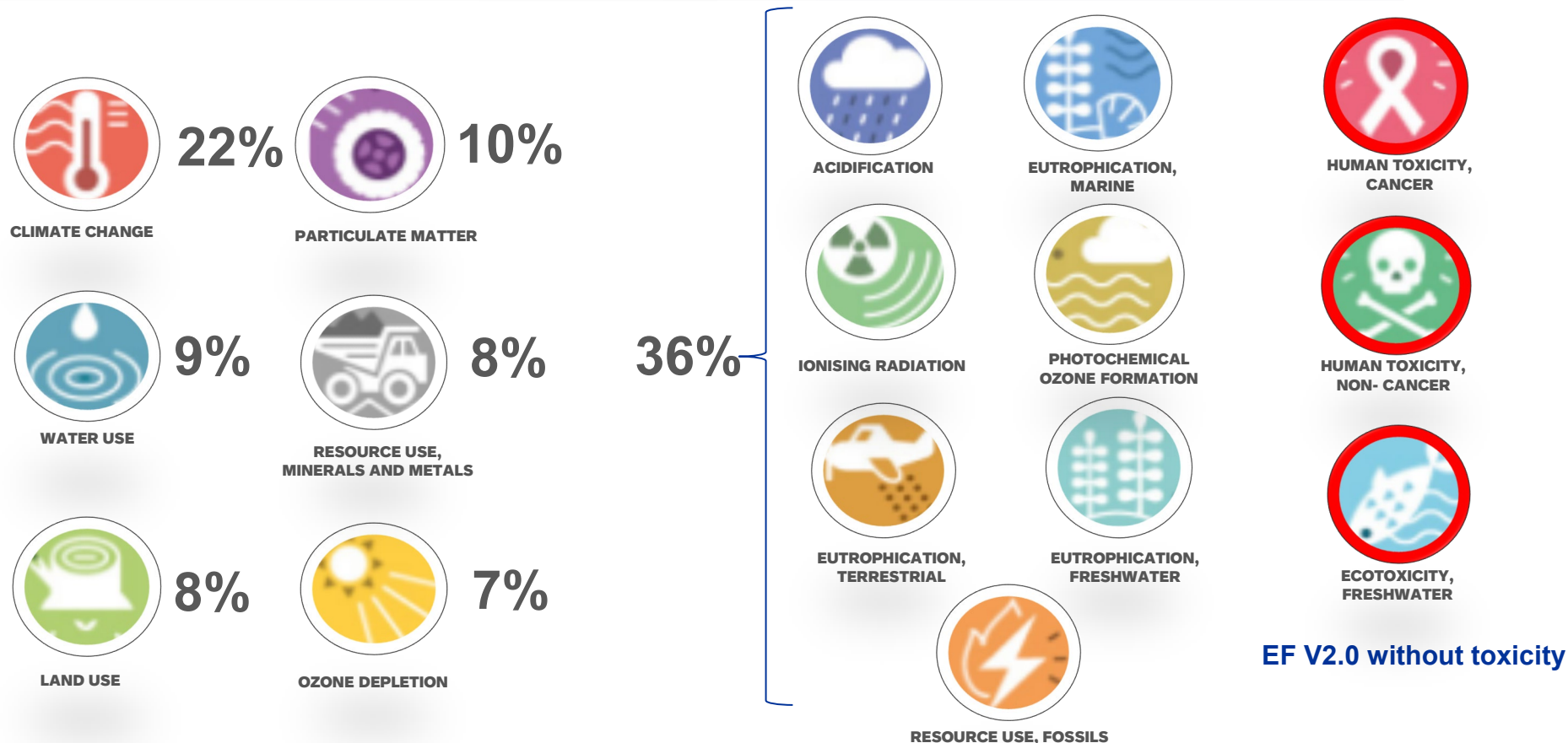
PEF is a harmonised cradle to grave Life Cycle Assessment methodology and data requirements developed by the European Commission

Clear guidance / technical detail / limited choices

Reproducibility / comparability / robustness



PEF 16 Impact Categories & their contribution



Eco-designing future euro banknotes. Objectives

1. To **reduce the environmental footprint** of future euro banknotes, one of the main objectives set by the Eurosystem Cash strategy.
2. To support feature selection and feature design for future euro banknotes, by quantifying the **environmental performance of new activities** (features, concepts banknotes) in comparison to the ES2 equivalent.

2

Eco-designing approach

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From ES2 PEF to eco-designing future euro banknotes

The ES2 PEF measures the **actual environmental footprint** of the ES2 banknotes using the **production and circulation conditions** for a reference year (2019).

The environmental impact of future euro banknotes is assessed during the **design phase**: each single change in the product specification of future euro banknotes has to cause lower environmental impact **along the whole cash cycle** than the equivalent in ES2 specifications.

Assessing the environmental impact of any **change in the product specifications** requires:

- Standardising **ES2** banknotes production and circulation conditions;
- Estimating the **future** production and circulation conditions (e.g. for 2030); and
- Estimating the **impact** on these production and circulation conditions of each change in the product specifications.

Eco-design of future euro banknotes vs ES2 PEF

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**ES2
PEF**

2019 Circulation conditions

2019 Data from the supply chain

Data
refinement

Environmental
Footprint of
ES2 in 2019

Standardised
Production and
Circulation
conditions for
2030

**ES3
Eco-design**

Change X
of the Product
specifications

2030 Circulation conditions for **change X**
of the product specifications

Standardised Production parametres for
change X of the product specifications

Standardised
Environmental
Footprint in
2030 for
change X

Environmental
impact of
change X of the
product
specifications

All ongoing **R&D projects** are subject of an assessment of the environmental performance of the consequential product changes.

The **potential environmental impact** along the banknote **life cycle** for each product change is assessed using the PEF methodology.

Product changes which received **high priority** are those related to:

- improving the environmental performance of euro **banknote substrate**.
- Increasing **life in circulation** of euro banknotes.
- Improving the environmental footprint of **end of life treatment** for euro banknotes.

Other design variations may be included e.g. **coating of €50** banknotes.



Thanks for
your attention.
Any question?
