From eco-design to a circular economy: a French way to engage stakeholders?

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RÉPUBLIQUE FRANÇAISE

MINISTRY FOR AN ECOLOGICAL AND INCLUSIVE TRANSITION / MINISTRY OF TERRITORIAL COHESION

Synergies between European and national policies

Directive 2008/98/EC on waste

2015 Circular Economy Package

EU action plan for a Circular Economy

- Pre-demolition assessment guidelines for the construction sector
- Voluntary industry-wide recycling protocol for construction and demolition waste
- Core indicators for the assessment of buildings' lifecycle, environmental performance, and incentives for their implementation

December 17, 2010 order

2015 Energy Transition for Green Growth Act

2018 Circular Economy Roadmap

Action 1: Mandatory pre-demolition waste audit

French Regulation on analysis of waste generation before demolition

May 2011 Decree (Grenelle laws)

The project manager in charge of waste shall designate an independent auditor to:

- Assess the quantity and type of materials
- Identify waste recovery and recycling clusters according to materials and site location
- Track and trace the final waste location

The Circular Economy Roadmap enhances the audit implementation:

- Increases awareness of stakeholders
- Clarifies (and maybe broadens) the operation's scope
- Strengthens auditor's training, verifies auditor's skills
- Implements government authorities' surveillance and monitoring

Action 2: Waste management protocol

1/ French "Green Deals"

- Established between the Ministry and the industrial sector on a voluntary basis (Dutch model)
- Mutual commitments to improve waste recycling rate on the basis of existing laws and rules
  - By sectors: inert mineral waste, plaster, flat glass, concrete, wood waste used in the cement plants
  - Partnership-based approach
- Provide support for good practices for construction and demolition waste disposal
  - Share feedback
  - Provide guidelines for the private sector
  - Develop training/awareness for project managers

2/ Other actions

- National project Recybeton: concrete recycling
- Certification process in the private sector (HQE-GBC, BBCA, …),
- SOGED : Voluntary protocol for the management and disposal of demolition waste
- Waste treatment sites cartography
- …

Action 3: Core indicators to assess building performance

In 2016, France launched a national trial phase for new construction (residential + office buildings) in order to prepare the future environmental regulation (after RT2012)

How can we improve construction performance on the basis of products and buildings eco-conception tools (LCA assessment)?

A technical baseline was established and shared by a large panel of stakeholders

This baseline lays down the rules for:

- Energy calculation
- Environmental assessment (definition of assumptions for the LCA of buildings)

The baseline is available here *www.batiment-energiecarbone.fr*

Technical baseline – Carbon

Greenhouse gas emission related to energy use and embedded carbon in construction products and devices

Reference study period
50 years for all types of buildings

Based on a LCA environmental assessment

- All environmental impacts are calculated (multi-criteria assessment – NF EN 15804+A1 / PEP 3rd edition and NF EN 15978)
- For each step of the building's life cycle (multi-steps assessment)

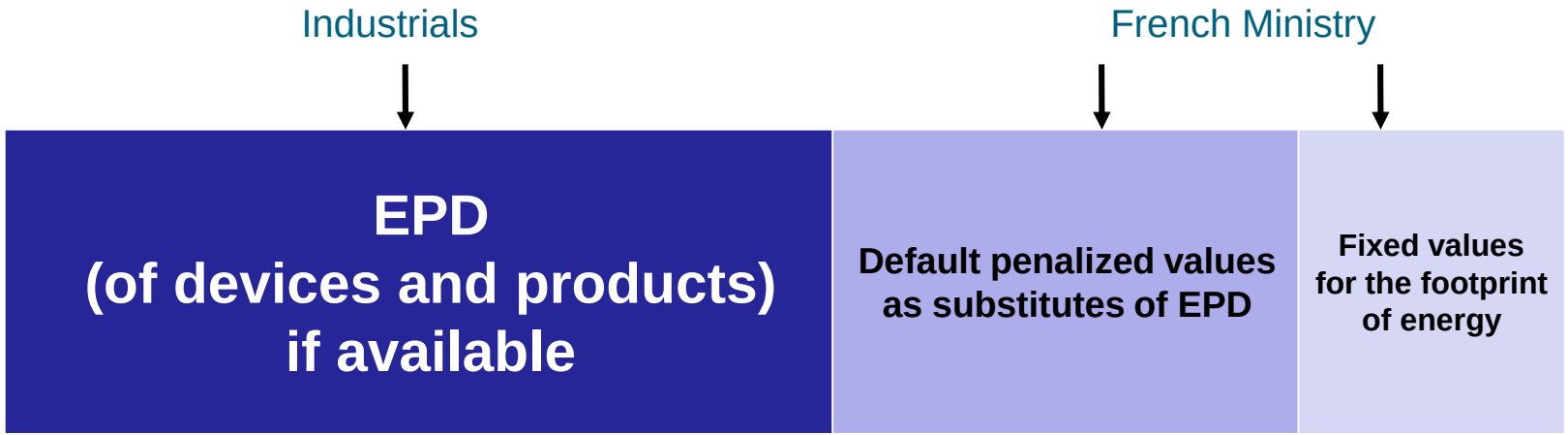
Goals

- Limit the transfer of impacts between the various steps of the LCA
- Identify drivers to reduce environmental impact

Prerequisites

- A repeatable assessment
- An operating/quick and reliable assessment

Which input data for the environmental assessment?



French authorities have two goals:

- **Increase** the amount of **EPD** (NF EN 15804+A1 / PEP 3rd edition with an independent third party review) provided by industrials
- **Improve** data **quality** and **consistency** through the environmental building assessment methodology

Which assessment database?

Environmental and health reference data for building

The INIES database is run by the **supervisory board** and the **technical committee**

- The **supervisory board** ensures that the database operates ethically and professionally
- The **technical committee** oversees the collection and processing of data as well as database content updates

1 database – 2 reviewing programs

- INIES for FDES (EPD of products)
- PEP ecopassport (EPD of equipment)

EPD are verified by independent third party reviewers

Quality?

1) A procedure exists to control reviewers' skills (managed by the programs)

➢Professional experience (professional 4 years, construction sector 2 years, LCA practice, EPD, critical review, verification in construction sector…)

➢Proficiency testing

➢Renewal every 3 years

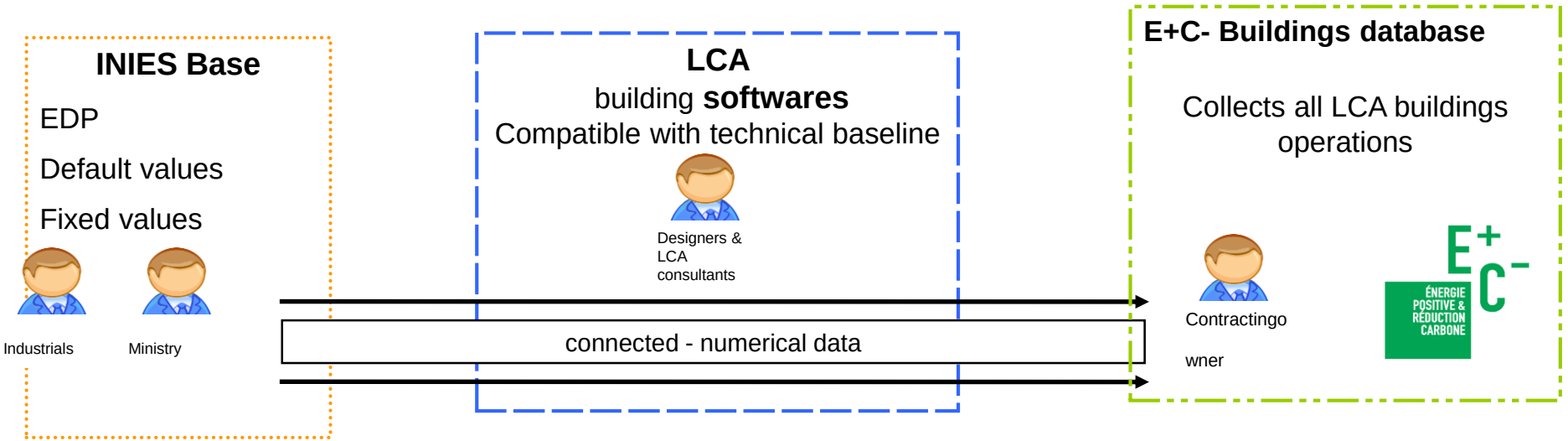
2) Programs may arbitrate verification conflicts

How to use digital EPD for building LCA?

The French technical organisation makes it possible to share the responsibilities and skills among a chain of stakeholders up to the LCA building's final goal

1 - 2 days operating assessment

- Human skills
- Digital data
- LCA Softwares



Synergies LEVEL(S) / E+C-

Consistency

- Voluntary test phase (1.5 - 2 years)
- Common language to track the levels of sustainability performances over the whole lifecycle
- Quantification of multiple indicators (not just GHG emissions)
- Allowing businesses to start with a good foundation & practice transfer
- Good starting point for existing standards/rules
- Possible use at different stages of a building project

E+C- specificities

- Regulatory framework/baseline (RT2012)
- Levels for both Energy and Carbon
- Global cost assessment
- Massification: support of a future rule, stability needs in methods and data

- **Overall consistency for the Energy and assessment of LCA indicators**
- **Easy transfer of E+C- buildings in Levels with some adjustments (bridges)**
- **Opportunity for sharing feedback**