From eco-design to a circular economy: a French way to engage stakeholders?
Synergies between European and national policies

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

2015 Energy Transition for Green Growth Act

2018 Circular Economy Roadmap

- Directive 2008/98/EC on waste
- December 17, 2010 order

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

- 2 -
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
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
- …
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
Greenhouse gas emission related to energy use and embedded carbon in construction products and devices

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

Reference study period
50 years for all types of buildings
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?

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

INIES Base
EDP
Default values
Fixed values

LCA building softwares
Compatible with technical baseline

Designers & LCA consultants

connected - numerical data

E+C- Buildings database
Collects all LCA buildings operations

Ministry
Industrials
Contracting
Neg
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