Bâtiment zéro-déchet ; la filière construction s’engage
Zero-waste building, the construction industry is making a commitment

- Mélanie SHINK Responsable Projets Direction Innovation et Développement, CIMENTS CALCIA
ZERO-WASTE BUILDING
Commitments of the French Industries for Construction

Mélanie Shink, Ciments Calcia
Ciments Calcia
One of the main French players in building materials, backed by the Intl Group HeidelbergCement

13 May 2019
HeidelbergCement first cement company to receive approval for science-based CO2 reduction targets

- 60,000 employees
- 3,030 sites in ~60 countries (including JV)
- Main activities
  - Aggregates
  - Cement
  - Ready-mix concrete
  - Asphalt (115 plants)

n°1 Aggregates
616 quarries for sand, gravel, crushed rock
Reserves of 20 billion tons

n°2 Cement
159 cement and grinding plants
Production capacity 194 Mt

n°3 Ready-Mix Concrete
1,735 RMC units
Ciments Calcia
A vertically integrated group that benefits from an important territorial network…

- Cement plants (8) + grinding plant (1)
- White Cement plant (1)
- Ready-Mix Concrete Units (210)
- Aggregates Quarries (80)
- Newly acquired quarries and RMC units
Ciments Calcia
... and already committed to the circular economy

- Recovery of recycled concrete aggregate
- Energy recovery
- Valuation of secondary materials
The French Industries for Construction
The Strategic Contract of the Sector
The Zero-Waste Building Project
The French Industries for Construction
Recognized by the National Council of Industry

- More than 7000 companies with majority SMEs (+60%)
- 450,000 collaborators
- 5000 researchers

- 1500 companies, (SMEs, mid-size and Intl Groups)
- 300,000 jobs, 160,000 of which are direct and indirect

- 400 companies (over 40,000 and 350,000 jobs)

- 1 000 companies
- 400 000 collaborators including 80 000 in France

Septembre 12 and 13, 2019, Angers, France
6 - #BatimentZeroDechet
The Strategic Contract of the French Industries for Construction

- Signed on February the 13th, 2019
- Stakeholders
  - The French Government
  - Regions of France
  - The French Mayors Association
  - The French Construction Industry
  - Trade Unions of Employees
  
With the support of national funding organizations (BPI France, ADEME, CDC, …)

COMMITMENTS
- Mobilize the efforts around structuring projects for the entire construction sector
- Be part of territorial planning strategies and major national projects and develop the competitiveness
The « Zero-Waste Building » Project

ACCELERATING THE TRANSITION OF THE FRENCH CONSTRUCTION INDUSTRY INTO CIRCULAR ECONOMY. The red thread = ZERO-WASTE!

WASTE AS A RESSOURCE
Innovative value creation solutions

- SOCIETY
- ECONOMY
- ENVIRONMENT
Context: Increasing material demand and waste generation

Construction Waste in France

- **227.5 Mt** in 2014
- including **42.5 Mt** for building (~20%)
- **3 400 kg/y** per capita
- **81%** of all French waste
- **Mainly inert** (excavated earth, sand, gravel, natural stone, concrete, terracotta, etc.)

**Recovery rate (building sector):**

- ~**75%** of 33 MT inert
- <**50%** of 10 MT non-inert/non-hazardous
The « Zero-Waste Building » Project

WHAT DOES ZERO-WASTE MEAN?
« Apply resource efficiency strategies across the value chains to reduce the environmental footprint of the construction sector and create value »

2 ACTION LINES

DEMONSTRATIVE BUILDING

INDUSTRIAL INITIATIVES
The « Zero-Waste Building » Project

**DEMONSTRATIVE BUILDING**
Design and build a demonstrative building following a ZERO-WASTE territorial approach over the entire life cycle of the building

**RESOURCE EFFICIENCY STRATEGIES AT ALL STAGES**

### Design stage
- Over-design
- Design for use, long life and reuse

### Construction stage
- Materials losses and over-use,
- Recycled materials from building/public works,
- Short supply chains

### Use stage
- Lifetime extension and repair,
- Intensive use,
- Adaptability

### End of life
- Re-manufacturing, re-purposing and reuse
- Recycling
- Wastes \(\rightarrow\) RESOURCES

**Digital model & BIM, lifecycle analysis, global cost approach, \(\rightarrow\) transfer/duplication to other territorial operators**
The « Zero-Waste Building » Project

INDUSTRIAL INITIATIVES
Support the development of circular supply chains

- Analyze the territorial metabolism around the demonstrative building
- Commitments for developing circular supply chain
  - Facilitate and organize the collecting process
  - Support and structure the 3Rs development REDUCE / REUSE / RECYCLE
  - Standardize traceability, valuation of performance and guarantees
- Develop eco-designed products containing more recycled materials and being more recyclable

→ Transfer/duplication to other territories
The « Zero-Waste Building » Project

Provisional timetable

- **6 juin: Launch**
- **April 2020**
  - Territorial metabolism
    - Scenarios (reuse & recycling)
  - Faisability/Eco-design
    - Studies, instructions, benchmark
- **June 2020**
  - Commercial file
    - Levels of ambition, Specifications, Tendering rules
  - Select RE operator
- **January 2021**
  - Value chain/product development …
  - Draft project
    - Studies (LCA, global cost, …)
  - Building permit deposit

EpaMarne  EpaFrance
l’âme dans l’aménagement
Partners to date
Thanks for your attention

Mélanie Shink
#BatimentZeroDechet
#CSFIPC