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European Regional Development Fund

Greener NWE
20 MAY 2021

Breakout sessions

Green Construction in Northwest Europe

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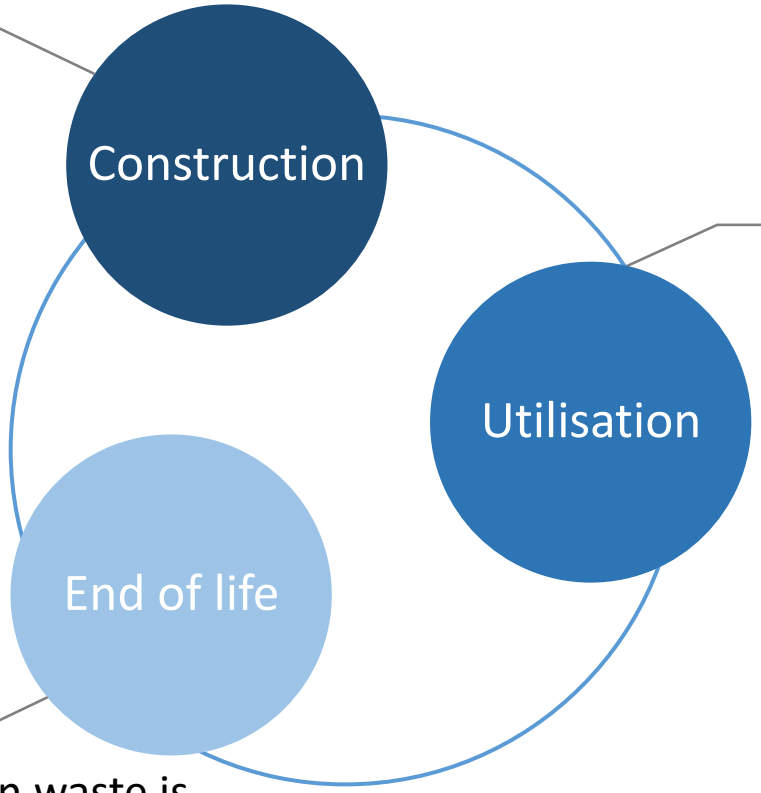
Goals of the session

- Present several approaches to Green Construction in the NWE Programme
- Encourage reflection for the future programming period
- Facilitate new contacts for the future

The high life cycle impact of the built environment

This phase determines just how resource intensive a building will be, and how much waste will be produced in the process.



The built environment actively consumes resources, emits greenhouse gases, and generates waste during maintenance or renovations.

Construction and demolition waste is the largest waste stream in the EU.

The Northwest Europe Programme provides a framework to act through cooperation

Priority 2: Low Carbon

Specific Objective 2: facilitate low carbon, energy, and climate protection strategies to reduce GHG emissions in Northwest Europe

Priority 3: Resource Efficiency

Specific Objective 5: Optimise (re)use of material and natural resources in Northwest Europe

Contributions to other Frameworks

SDG 12: Responsible consumption and production patterns

EU level:

- Construction and Waste Demolition Protocol
- EU Action Plan for a Circular Economy
- EU 2020 Strategy for Sustainable Growth

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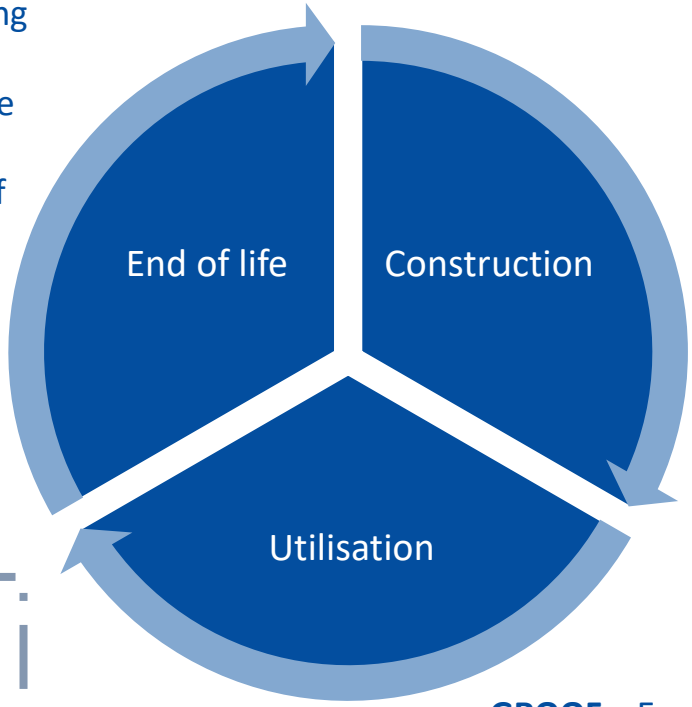
FCRBE – Facilitate reuse of building materials
Digital Deconstruction – Facilitate reuse of building materials
CHARM – Prevent downcycling of building materials



SeRaMCo – Sustainable concrete
URBCON – Sustainable concrete
CIRMAP – Sustainable concrete
AFTB – Greener wood products
Housing 4.0 – Building design
SURICATES – Circular sediment use

GROOF – Energy waste
UPSTRAW – Energy waste
Smart Circular Bridges – circular maintenance
MUSTBE0 – Energy Retrofit

€56.2 Million:
Total ERDF committed to Green Construction 2014-2020 (15% of programme budget)

Spread amongst **145 partners** from research institutions, public authorities, municipalities, the private sector, and beyond

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Cooperation has produced new products, new processes, and has laid a foundation for material recovery & reuse, and Greenhouse Gas Emission Savings in Northwest Europe

Products

- Concrete made from circular mixes
- Greener wood products
- Monitoring equipment
- Bio-based building materials
- Low-carbon homes
- Heat-capturing greenhouses

Processes

- New practices to facilitate reuse of building materials
- New practices to reuse sediment in circular products
- New practices for net-zero energy retrofits

Results

- Hundreds of thousands of tonnes of increased material recovery, re-use and recycling
- New funding leveraged
- Enterprises supported
- Cooperation with institutions to bring research mainstream
- Contributions to new policy frameworks at the EU, national, regional, and local levels

What's next for 2021-2027?

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Examples of cooperation through two projects themselves, from Priorities 1 and 3:

FCRBE – Facilitating the Circulation of Reclaimed Building Elements in Northwestern Europe

Digital Deconstruction

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Facilitating the Circulation of Reclaimed Building Elements

Léa Bottani-Dechaud, Michaël Ghyoot

www.nweurope.eu/fcrbe

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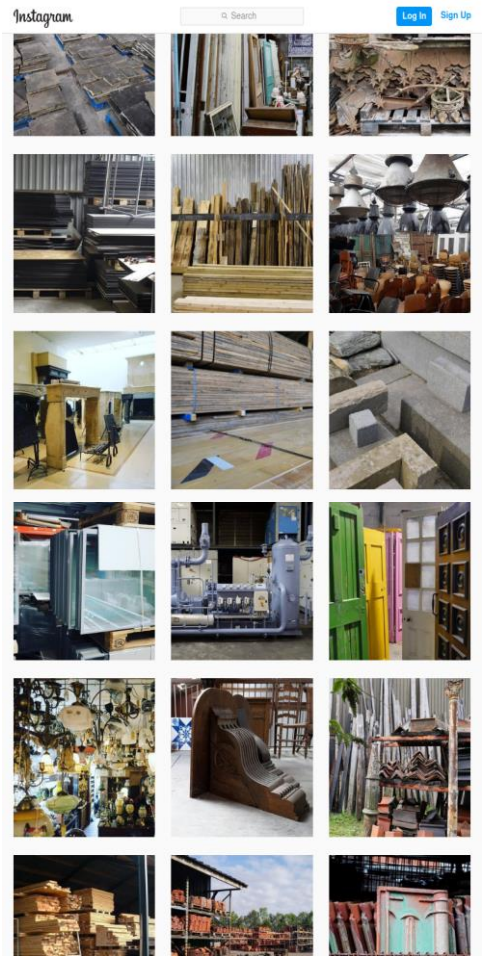
Challenges

- Giving more visibility to the reclamation trade
- Fostering the systematic reclamation of reusable materials
- Facilitating the integration of reclaimed materials in large-scale building projects

NWE specificities

- 1.000+ SME's active in the reuse trade in NWE - but many cessations as well
- Ambitious local policies



Objective

+150% of materials being circulated for reuse in NWE by 2032

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Project results	*as of today*	*by the end of the project*
2 comprehensive guidebooks to conduction reclamation audit and specify reclaimed building materials	working drafts available	consolidated versions available
36 pilot operations to: - test newly developed methods - support stakeholders - reclaim/reuse materials	*ongoing*	360 t of saved materials 36 supported entreprises
A 'truly reclaimed' label	*work in progress*	available
Materials sheets documenting reclaimed materials	25	40

Pushing results one step further

- LTEs: changes in public policies (a.o. mandatory pre-demolition reclamation audits)
- Next steps in the call for capitalisation:
  - Reaching new territories and target groups
  - Developing a method to set a reuse performance in public tenders
- Many challenges ahead: ensuring continuous statistical survey of reuse flows, evidencing the environmental benefits of reuse, documenting and supporting existing trade, widening the scope of the truly reclaimed label…

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Partnership

- How would you describe the main added-value of working together at NWE level?
  - Learning from each other, capitalising on good practices.
  - Rally local efforts and make them converge into a bundled effort.
  - Increase the visibility of the topics tackled by the project.
- Are you willing to continue to work with your partners in the future?
  - Yes, if they are…

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Learning from the field

Pilot Operation with *La fabrique des quartiers* (Lille).

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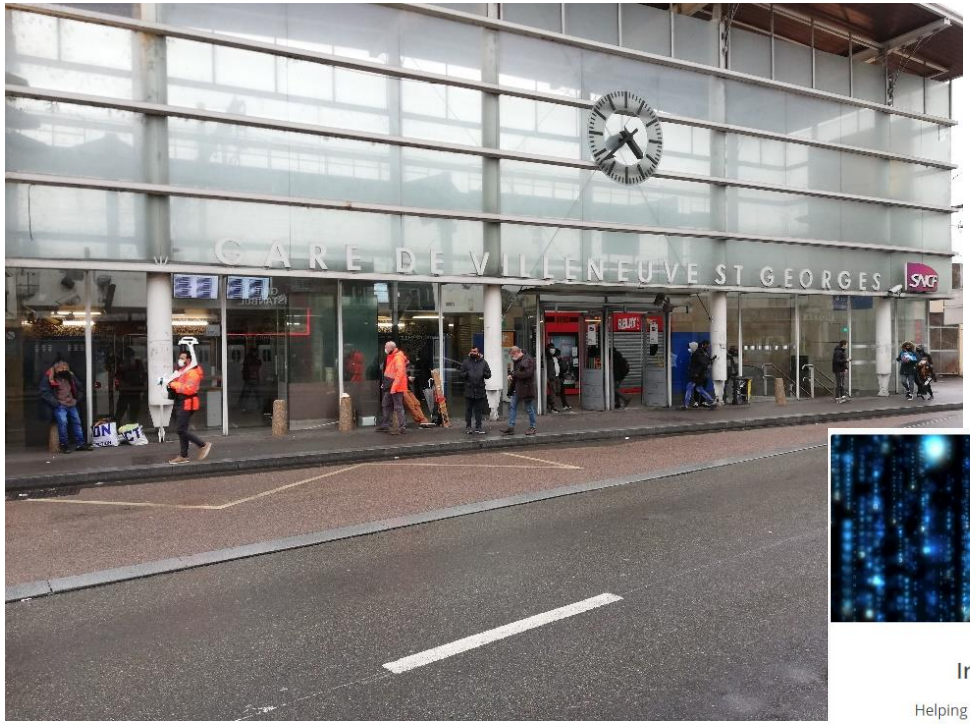
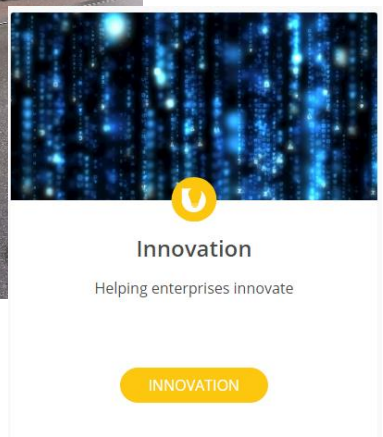
Digital Deconstruction

Harald van Hooren

https://www.nweurope.eu/projects/project-search/digital-deconstruction/





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Challenge

- Construction and demolition waste (CDW) accounts for about 1/3 of all waste produced in the EU.
- The majority of CDW is destined for backfilling and other low value applications (downcycling).
- Poor digitization of the construction sector is one of the key factors hindering better exploitation of circular opportunities

NWE-Area

- *Strengths: Collaboration, Scale, Diversity and Knowledge areas*
- *Challenges: Distance, Different standardizations, Matching the knowledge between different areas (Architects / ICT / Construction / Science)*

Objective

- Digital Deconstruction (DDC) promotes the development of the technology and market readiness of an innovative integrated digital system that supports reuse and high-quality recycling of building materials in North-West Europe.

- The project contributes to the establishment of regional innovation networks mobilizing key innovation stakeholders and SMEs in the construction and demolition sector and assists the market creation for recovered building materials

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Results

Up to now

- Development of individual modules
- IT-Architecture of integrated platform
- Regional & transnational Innovation Hubs
- Started with pilots NL, F, LU, B

To be achieved

- an INTEGRATED DDC SYSTEM at TRL7,
- TRANSNATIONAL NETWORK & REGIONAL INNOVATION HUBS,
- 5 PILOTS,
- an interactive DDC NAVIGATOR;

- *(Unforeseen) challenges – Worldwide economic situation*

Pushing results one step further

- TRL9 is reached via further development & integration of the system.
- As a result, reuse & high-quality recycling building materials (target: 25% recovery rate).

- Challenges that remain for the future is the transformation of the building and demolition industry to a circular industry

Partnership

Added value NWE-level

- Collaborations, scale, diversity and areas of knowledge.
- Cultural and economical differences
- The NWE-level also indicates the urgency of the issue

- Our partnership is a solid mix of different expertise whom all have a great intrinsic motivation to actively contribute to the project. These are great ingredients to continue working together after the project

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Thank you!

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How Green Construction will be covered in 2021-2027

- Aim:
  - Overview about future priorities of the NWE Programme 2021-2027 that are relevant for Green Construction
- To be confirmed (tbc):
  - Draft is still under discussions
  - Provisional timeline: Submission to COM in June 2021; Approval of COM end of 2021

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Territorial challenges

Further reduction of the impact of built environment is needed:

- Construction sector consumes about 50% of primary raw materials in Europe
- NWE area is one of the highest energy-consuming regions in EU;
- Energy performance in buildings is still low in many programme areas;

Green Construction roll out

Make it greener

Make it more competitive

Make it more widely available

→ Close the loop of material streams

→ Bring price down

→ Find and share replicable solutions

→ (Develop and) implement new standards and integrated strategies: from local to EU level

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Thematic orientations

Priority 1
Smart climate resilience of NWE territories

2.7

2.4

Priority 2
Smart and just energy transition

Energy efficiency

Renewable energy

Priority 3
Transition towards a place-based circular economy

Circular and resource efficient economy

Priority 4
Fostering innovative capacity in NWE regions

1.1

Priority 5
Transition towards a socially inclusive and resilient society

4.1

4.4

4.5

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Transitioning to a place-based circular economy:

Challenges

Circular Economy Action Plan (EC 2020)

Benefits unevenly distributed across sectors, geographies and societal groups in NWE

Local and transnational scale of circular economy to be tackled

Project impact (tbc.)

- **Capacity building:** e.g. strategies and **uptake of solutions** for waste reduction, reduced raw material consumption, increased waste collection and recycling.
- **Activities for future cooperation:** e.g.
  - implement, demonstrate, test new **place-based strategies and concepts**,
  - implement solutions to close the **material stream loop in NWE**,
  - **train workers** in the building sector.

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Realizing a Smart and Just Energy Transition:

Challenges

EU 2030 Climate and Energy Framework

Low energy performance in buildings in many NWE areas

Energy poverty a common challenge to urban areas of NWE

Project impact (tbc.)

- **Knowledge & capacity building**: e.g. on energy performance of buildings and connecting of district heating and cooling networks; on increasing the share of renewable energy; on applying energy efficiency principles.
- **Activities for future cooperation:** e.g. joint strategies and action plans, training schemes, test and demonstrate technologies and solutions for:
  - energy efficiency in the building sector
  - uptake of renewable energies,
  - consumer engagement and acceptance.

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What can transnational cooperation do? Responses from the NWE public consultation:

… and what do you think?

To **tackle regulatory discrepancies** between countries

Value chains are largely international thus **circular solutions and collaborations need to be international** to succeed

Link local and cross-national value chain as an extension of each local ecosystem

To **overcome sectoral boundaries** in thinking and acting

Strengthening **the qualifications of workers in the building sector**: Challenges are the same throughout NWE. Enhancing the skills and competences of workers is essential and cooperating together on this challenge can only be beneficial.

Share best practices, know-how and successes as there is still a lot to be learned from each other in this field especially from more experienced regions.

The only possibility to reach the **critical mass**. Most relevant circular economy business models will not work if they remain in their national limited dimension