

EFL Milaan Autumn Conference

Topic Group Energy Efficiency and Circular Construction



Ad Straub



Working at Delft University of Technology since 1991. Teaching and research interests: methods and instruments for property management, procurement strategies and (semi-)public-private collaborative relationships for energy and circular transition of the built environment, especially the housing stock.

- Member editorial staff | Dutch property management journal **Renda**
- Member Editorial Advisory Board of the International **Journal of Building Pathology and Adaptation**
- Ambassador Sustainable Housing route Netherlands
- Member Working group Methodology **Dutch Standard Condition assessment built environment**

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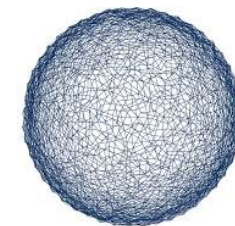
Game changers

EU

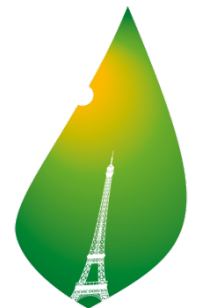
- Transition to a competitive, secure and sustainable energy system by 2050 and reducing greenhouse gas emissions > 80%
- New energy mix
- Transition towards a circular economy

Netherlands

- Phasing out natural gas 2030
- 2030 - 49% CO₂; 2050: 0 CO₂
- Circular economy 2050



COP15
COPENHAGEN
UN CLIMATE CHANGE CONFERENCE 2009



COP21 • CMP11
PARIS 2015
UN CLIMATE CHANGE CONFERENCE

Challenges

Social landlords

Sustainability related to Affordability (and Profitability)

- Higher renovation rates; NL: 200,000 deep renovations per year
- Lower investment per renovation
- Other heat supply, other climate systems, renewables, etc.

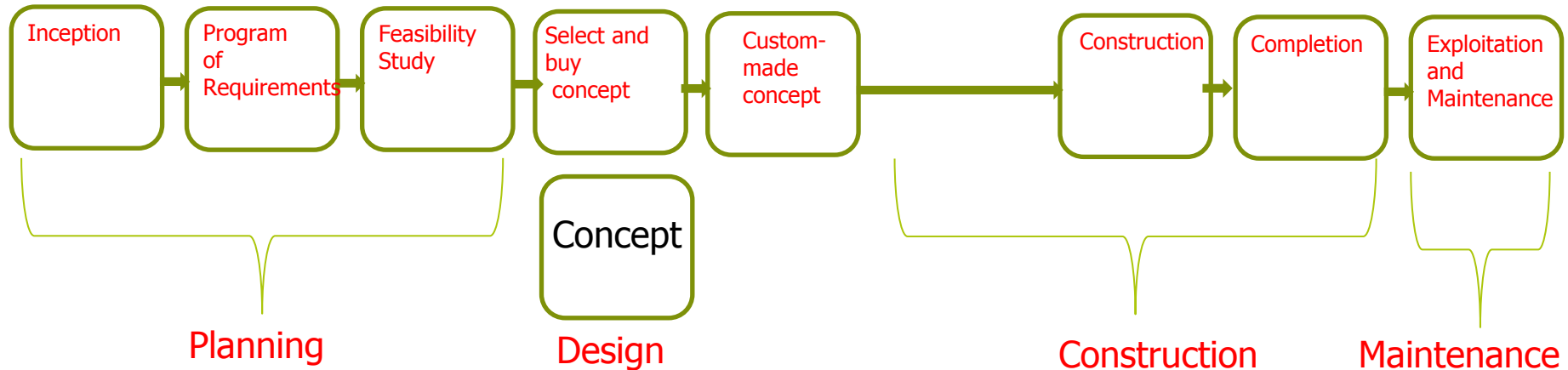
Building Industry

- Integrated Project Delivery (IPD) and New Services
- Total Cost of Ownership – Total Cost of Use
- New Actor Involvement, e.g. Energy Service Companies (ESCo's), Energy network companies
- Digitisation: e.g. Building Information Modelling (BIM) using Big data, IoT, sensing, Drones, AI, ...
- Prefabrication, Robotics, 3-D Printing, ...



Renovation

The market offering performance-based step-by-step and one-off renovation concepts for dwelling types



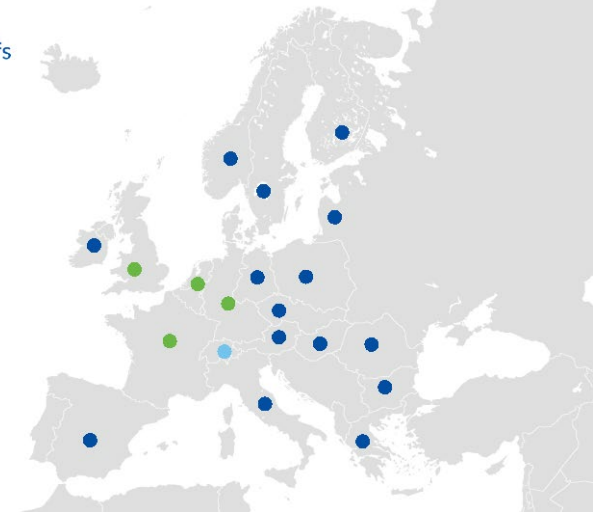
Integration and industrialisation of supply-chains, use of innovative products and technologies, off-site production, assembly of elements on-site



Building Market Briefs

Comparable reports of the developments and market potentials in European Countries for energy efficient houses (and other buildings)

- A: State of the stock + Policies
 - B: Drivers and barriers in the market
 - C: Modelling of developments to 2050
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- Ready: Netherlands, Germany, France, UK and Switzerland
 - Coming up: Spain, Italy and Poland

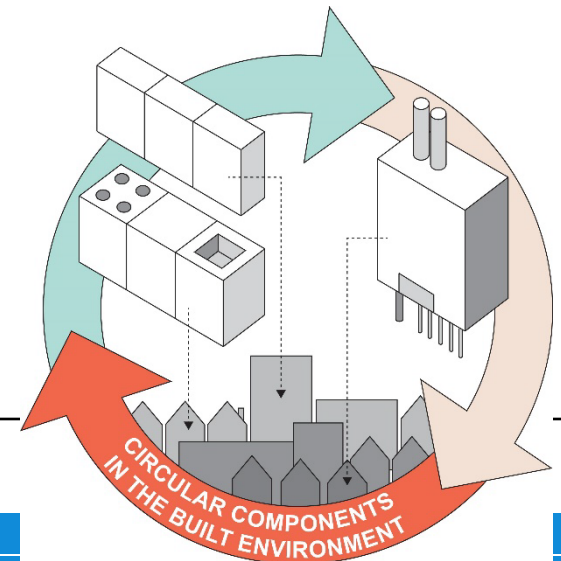


www.cuesanalytics.eu
contact@cuesanalytics.eu

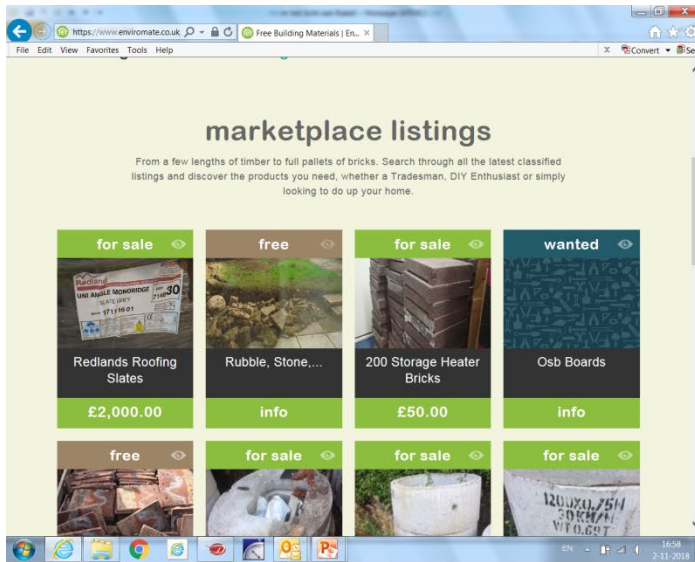
CHARM: Circular Housing Asset Renovation & Management – No More Downcycling

- ❖ The construction sector is responsible for more than 60% of the resource use in Europe
- ❖ More than 30-50 % of total material use takes place in the housing construction sector
- ❖ The sector generates about one third of all waste in the EU

Interreg North-West Europe
October 2018 – October 2022



CHARM



Activities:

1. Create and implement guidelines for a **circular procurement strategy** for social housing organisations
2. Create and implement **material exchange platforms** to enable circular flows of materials and building components
3. Circular housing **demonstration exemplars**
4. Securing Long term effects through **active knowledge transfer**



LoCal Homes

Partners



UNIVERSITY OF BIRMINGHAM

EFL Topic Group Meeting Delft 6-7 December 2018

Discuss nZEB renovation, ZEB new housing and affordability, CHARM, Housing 4.0 Energy, Solar Decathlon Europe 2019
Visits: Green Village TU Delft and energy efficient renovation projects



Green Village TU Delft



solar
decathlon
europe



Housing 4.0 Energy
Bouw Expo Tiny Housing Almere



EFL Topic Group Meeting Delft

Thursday 6 December 14.00 – Friday 7 December 14.00

JOIN!

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