Meeting Europe’s building renovation challenge
“Building Market Briefs Project”

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EIT Climate-KIC, Brussels
Unlearning by doing
United States, gross value-added*
Per hour worked, 1947=100

Agriculture

Manufacturing

Wholesale and retail

Overall

Construction

Source: McKinsey Global Institute
*At constant prices
They don´t know...
...and they don’t know either...
Key demands:

- Comparable across countries
- Not too high level (IPCC)
- Not too granular (the insulation market of south Italy on 800 pages)
- The character of the market needs to be visible
- Science based facts
- Transparent methodology
- Updated regularly
- Data related to single technologies as well as systemic solutions
The reports and the complementary data consists of three parts:

**Chapter A (literature based)**
- Statistical data from public international (Eurostat) and national sources
- Methodological aligned data to allow comparability of national sources
- Information on building codes, subsidy schemes and policy

**Chapter B (survey based)**
- A survey covering the complete value chain and all stakeholders
- An assessment on technology solutions and preferences by building typology and project type
- Barriers and drivers to technologies by stakeholder group
- Decision drivers and influence of different stakeholders on specific decisions

**Chapter C (building stock model based)**
- Synthetic building inventories of buildings that allow for exact modelling
- Two market development scenarios, on based on current policy and one target scenario
- Market volumes per technology in different RoI segments (from high to low profitability)
Energy and climate goals
Grid mix, emission factors and implications of climate goals

Table A3

Graph showing grid mix, emission factors, and implications of climate goals.

Legend

Links to additional reports or market experts comments (subjective, qualitative)

Main text (objective, quantitative)
B7.1 – Perceived barriers to insulation in Germany. (preliminary results)

- Lack of ambitious and clear political environmental targets
- Lack of affordable products
- Lack of comprehensive information about alternatives and advantages/disadvantages
- Lack of short or easy installation or maintenance
- Lack of environmental awareness
- Lack of reliable technologies
- Lack of trust/awareness of lower life cycle/running costs
- Lack of qualified organizations/employees
- Lack of trust/awareness in heat comfort
- Lack of education
- Lack of simple production process
- Low energy prices
- Lack of subsidies
- Lack of interest in attractive design
- Lack of a comprehensive legal framework
- Lack of implementation of legal standards
- Lack of high performance technologies
- Lack of trust/awareness in higher acoustic comfort
- Lack of a comprehensive building standards
- Lack of tax incentives
- Lack of comprehensive financing models

- Lack of comprehensive information about alternatives and advantages or disadvantages 12%
- Lack of environmental awareness 10%
- Lack of trust or awareness in heat comfort 10%
- The centralized energy production 8%
- The decentralized energy production 8%
C1.2 – Greenhouse gas emissions per square meter of the status quo of the building stock.
The figure depicts the greenhouse gas emissions in kg-CO₂-equivalents per m² and year of the status quo of the building stock ordered according to decreasing emissions from left to right. The bars represent the average value for a given typology, the red line represents the ordered costs across the 10'000 modeled representative buildings of the building stock.

28 kgCO₂-eq/m² year
Average GHG emissions
32 Typologies
10,000 Representative buildings
527 M. m² Total heated floor area
C.5.1 Change in Equivalent Annual Costs for the renewable energy focused approach

The figure depicts the change in the equivalent annual costs through the refurbishment of the building stock ordered according to increasing costs from left to right. The bars represent the average value for a given typology, the red line represents the ordered costs across the 10'000 modeled representative buildings of the building stock.

- 32 TYPOLOGIES
- 10'000 REPRESENTATIVE BUILDINGS
- 527 mil. m² TOTAL HEATED FLOOR AREA
- 9.3 EUR/m² year AVERAGE CHANGE IN ANNUAL COSTS

Legend:
- Office
- Large Multi Family House
- Small Multi Family House
- Single Family House
- Parametric Sensitivity
Fig. 4. Distribution of various attributes across the created synthetic building (top) and dwelling (bottom) stock based on the initialization step. The synthetic stock data are shown in green and the input data in blue bars. The shares are weighted based on the number of buildings/dwellings in the stock.
download / contact: www.cuesanalytics.eu

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