The role of MEPS as a key driver for energy renovation

Thursday, 22nd September
9:30 - 11:00 AM
Online
Introduction

Céline Carré
Saint Gobain – President of EuroACE
Instructions

Please send your questions via the Q&A box.

For YouTube: Use the chat
The European Alliance of Companies for Energy Efficiency in Buildings

Formed in 1998 by Europe’s leading companies involved with the manufacture, distribution and installation of energy saving goods and services

A business association working together with the European institutions to help Europe move towards an efficient use of energy in buildings (new and renovated)
EuroACE – Energy Efficient Buildings

Our members provide the products, equipment, and services that go together to provide energy efficient buildings for the peoples of the EU.
EuroACE – Energy Efficient Buildings

We know that improving the energy efficiency of buildings, especially renovating existing buildings, is the most cost-effective method of:

• Creating employment and securing economic growth
• Alleviating energy poverty over the long-term
• Achieving energy security
• Providing people with comfortable and healthy homes
• Meeting carbon reduction targets
2022 EPBD Webinar Series

Series of webinars focusing on different aspects of the EPBD which have the potential to considerably increase energy renovation rates in the EU.

Episode 1
https://youtu.be/Q831ueWSszY

Episode 2
https://youtu.be/ws5o0xBABRY
Today’s agenda

9:30 | Introduction and setting the scene – Céline CARRÉ, President of EuroACE

9:35 | Why the MEPS in the EPBD proposal are important for an energy-resilient building stock
     Serena Pontoglio, Team Leader - Buildings policy and Renovation Wave implementation, DG ENER.B.3, European Commission

9:45 | Minimum energy performance standards: a key driver for deep renovation
     Camille Defard, Research Fellow in EU Energy Policy, Jacques Delors Institute

9:55 | The impact of renovating worst-performing buildings on energy security
     Dr. Andreas Hermelink, Director, Guidehouse

10:05 | The role of MEPS & financing: the example of Belgium
     Sabine Pauquay, representative of Renovate Belgium

     James Hemphill, Head of Heat Regulation, Scottish Government

10:25 | Discussion

10:55 | Conclusions
Why the MEPS in the EPBD proposal are important for an energy-resilient building stock

Serena Pontoglio
DG ENER, European Commission
Why are minimum energy performance standards a key driver for deep renovation?

Camille Defard
Jacques Delors Institute
Why are minimum energy performance standards a key driver for deep renovation?

EuroAce webinar 22/09/2022

Camille Defard, Research Fellow EU Energy Policy
Renovation depth and pace must increase

Shares of annual renovation for the residential buildings in the EU

- non energy renovation
- below threshold / light energy renovation (below 30% savings)
- medium energy renovation (30% to 60% savings)
- deep energy renovation (60% savings and above)
- rest of the residential building stock

Source: EC 2019

Decreasing energy demand

- Reach 3% average annual renovation rate
- The bulk of renovations should reach at least 60% savings
Deep renovation can cut up to 90% of building’s energy consumption

![Energy demand and generation over the retrofit steps](image)

Source: Bostrom (2015)

(1. roof)

(2. air circulation)

(3. joinery)

(4. space and water heating)

(5. walls)

(6. floors)

Figure B: schéma des 6 postes de travaux nécessaires à la performance thermique (source: Dorémi)

Ademe, 2021. Renovation performante par étapes
**Key obstacles to deep renovation**

<table>
<thead>
<tr>
<th>Knowledge and awareness barriers</th>
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<tr>
<td>• Lack of well communicated decarbonisation trajectory</td>
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<td>• Lack of awareness of the benefits from households</td>
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<td>• Lack of technical support</td>
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<th>Financial barriers</th>
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<tr>
<td>• High up-front cost of deep renovation</td>
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<td>• Access to finance</td>
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<td>• Split incentives</td>
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<th>Supply chain</th>
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<td>• Fragmented market with multiple stakeholders</td>
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<td>• Lack of skilled workforce</td>
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<td>• Lack of quality insurance for quality renovation</td>
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**Deep renovation = a new car (20k€ to 50k€)**
Key obstacles to deep renovation

Solutions to tackle these barriers already exist but need to scale up.
• Only 5% of projects carried out with the support of one-stop-shops integrated solutions.
• 36% of the French housing stock could be renovated using the Energiesprong approach.

Key obstacle to scale-up identified by entrepreneurs: customer base uncertainty (JRC 2021, own exchanges with Energisprong France)

> Lack of long-term commitment to deep renovation in the residential sector (Italy, Germany, France...).
Policy actions to lift obstacles to deep renovation

➢ Goal: to align the construction sector with deep renovation needs

➢ Most important policy action: send a clear and predictable signal towards the decarbonization of the whole building stock (JRC 2021, EP 2016)

➢ Most effective policy tool: minimum energy performance standards with compliance dates
MEPS are regulated standards that require targeted buildings to meet a minimum level of energy performance at a future date or trigger point like rent or sale.

Guarantees a minimum level of renovation

Potential impact of MEPS

- Creating market certainty over future demand with MEPS will allow:
  - Manufacturers of high-quality insulation components to industrialize their production
  - Local artisans to upskill and hire additional workers
  - One-stop-shops to invest in marketing and ads to reach out new customers
  - Banks to set up in-house expertise and appropriate financial products (discounted rates in case of a good energy performance)

MEPS should be supported by stable government technical assistance, training, and funding programs.

Source of the figure: Regulatory Assistance Project
Designing ambitious MEPS

- **Target stock**: covering all segments, prioritize worst-performing buildings
- **Target performance level**: prioritize deep renovation wherever possible, A, B, C, D; heat-pump readiness
- **Target compliance date**: 2030 (typically 5 to 7 years required to ramp up solutions), 2040, 2050

The strong signal the construction sector needs to get moving, provided that framework is aligned with climate neutrality and coupled with credible monitoring and reporting requirements (public funding conditional to MEPS achievement, penalties in case of non-compliance, etc).
The impact of renovating worst-performing buildings on energy security

Andreas Hermelink
Guidehouse
The impact of renovating worst-performing buildings on energy security

22nd September 2022
Worst performing buildings in the EU

- EPC classes F & G (after re-scaling)
- Today about one third of total floor area in the EU
- Of which about three quarters are residential buildings
- Before the war in Ukraine the amount of gas used in worst performing EU buildings for heating equaled about 45% of total gas imports from Russia

Savings by moving from F/G to E („EU level MEPS“)

Final energy purchased by user

Savings by moving to deep renovation: ZEB-insulation, phasing out of fossil fuels and switching to heat pumps

Example for successful deep renovation (Hungary)

220 kWh/m²a

30 kWh/m²a

Source: www.solanova.org
Two-level MEPS

“EU MEPS” as kick-starter for “Member State MEPS” towards a climate neutral building stock

Worst performers
Min. by 2030

“ZEB\textsubscript{existing} Deep renovation
“ZEB\textsubscript{new} “

Seamless renovation journey, ideally implemented by BRP (Building Renovation Passport)
MEPS facilitate persistent and affordable energy security

- **Energy Security 1.0:**
  “EU MEPS” drive independency from fossil fuel imports

- **Energy Security 2.0:**
  “MS MEPS” must drive independency from renewable energy imports

- **Energy efficiency first** safeguards
  - persistent energy security
  - persistent affordability
    - lowest cost and highest acceptance of a climate neutral energy system
    - low electricity consumption and OPEX of heat pumps through high efficiency
The role of MEPS & financing: the example of Belgium

Sabine Pauquay
Renovate Belgium
The role of MEPS & financing: the example of Belgium

Sabine Pauquay,
Coordinator of Renovate Belgium
Belgium = a federal state

- 3 different Long Term Renovation Strategies
- 3 different government coalitions
- 3 different approaches to subsidies & MEPS

MEPS as of 2023

MEPS considered. Current work on improving EPCs
Financing renovation: the Belgian Recovery & Resilience Plans

60% of the RRF invested in the building sector, 17% in renovation

Brussels: by 2024, 1 billion for housing policy, with additional budget of 112 million for renovation of private and public housing

VAT reduction (21 to 6%) for buildings older than 10 years

Wallonia: by 2024, 1.2 billion for renovation of social housing (55.00 units)

Flanders: by 2024, 4.5 billion for social housing, 1.2 billion to support private renovation, additional budget of 422 millions for energy renovations
The link between MEPS & financing: the example of Flanders
First obligation through “housing quality” code: (limited) insulation obligatory for roof (2015), prohibition of single glazing (2020)
=> Housing declared “not fit for renting” if not compliant
Flanders: step 2: increased & simplified financing

Mijn VerbouwPremie (= “My RenovationSubsidy”)
- One-stop-shop merging renovation & energy efficiency subsidies
- Increased subsidy level (post COVID)
- Can be combined with reduced property taxation after renovation works
- Can also be combined with interest-free loan up to 60,000 €
Flanders: step 3 : MEPS

Obligation to renovate dwellings :
- As of 01/01/2023
- within 5 years of sale
- Label E or F must be renovated to label D or better
- Path will be strengthened progressively
Study by Prof. Albrecht carried out in Flanders in 2020:
- 40 to 51% of owners not able to finance climate renovations
- Offering limited subsidies make no difference: most owners lack 50,000 € or more
- Climate renovations are not a priority for homeowners (comfort, utilization or resale value are).
- Huge majority of phased renovations

Previous study (Broin et al, MURE database):
- 3 types of measures: financial, regulatory, informative
- Technical regulation has a predictable positive impact
- Impact of financial incentives & information is smaller
- Choice up to now: focus on information & financing
Financing renovation in Belgium (2/2)

Study by CLIMACT for BBL:

- 40% of households can only renovate if they have access to prefinancing
- 3 types of prefinancing, depending on the “fragility” of target groups:
  a. Interest free loans (up to 30 years)
  b. Payback based on saving on energy bill
  c. “bullet loan”: pay back when you sell the property

James Hemphill
Scottish Government
Heat in Buildings Strategy:
Achieving Net Zero Emissions in Scotland's Buildings

EuroACE Webinar: The Role of MEPS as a Key Driver for Energy Renovation

22 September 2022
Scotland’s Statutory Targets

Climate Change Emission Reduction Targets (Scotland) Act 2019
- Net-zero emissions by 2045; and
- 75% reduction in emissions by 2030.

Heat Networks (Scotland) Act 2021
- 2.6TWh supplied by 2027; and
- 6TWh supplied by 2030

Fuel Poverty (Targets, Definitions and Strategy) (Scotland) Act 2019
- In 2040: no more than 5% of households are fuel poor with <1% in extreme fuel poverty
Stock-take

- Buildings = 20% of Scotland’s total emissions (third-largest emitter)
- 2030 climate change target = c. 1,000,000 homes moving from fossil fuel heating (>45%)
- Total capital cost = c. £33bn (c. £14bn by 2030)
- Retail electricity = x3.3 > gas.
- Current installations = c. 3,000 p.a.
Heat in Buildings Strategy (HiBS)

Heat in Buildings Strategy
Achieving Net Zero Emissions in Scotland’s Buildings

Highlights:

• Investing at least £1.8bn in this Parliament (to 2025/26);

• New Public Engagement Strategy (2022)

• New National Public Energy Agency (2022-25)

• Commitment to primary legislation which will:
  o require all homes to reach EPC C (equivalent) by 2033;
  o phase out the installation of new fossil fuel boilers from 2025; and
  o Standards for non-domestic buildings from 2025.
# Heat in Buildings Standard

**HiBs Standard:**
1. **Requirement** to meet a minimum energy efficiency standard (equivalent to EPC C) by 2033; and,
2. **Prohibition** on the use of direct emissions heating systems (DEHs) after 2045.

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- **Possible Trigger Points**
- **Proportionality**

- **Heat Network Availability**
- **Refurbishment**
- **Property Purchase**
- **Change of Tenancy**
Defining the Standard

HiBs Standard – will be made up of 2 elements:

1. **Requirement** to meet a minimum energy efficiency standard (equivalent to EPC C) by 2033; and,
2. **Prohibition** on the use of direct emissions heating systems (DEHs) after 2045.

**Minimum Energy Efficiency Standard**

- a maximum space and hot water heating requirement (in kWh / m² / year) expected to be equivalent to **new** EPC C; or

- Installation of specified list of measures (where relevant), e.g.:
  - 270mm loft insulation;
  - cavity wall insulation (CWI);
  - draught-proofing;
  - heating controls;
  - hot water cylinder insulation (HWCI);
  - and suspended floor insulation.

**Next Steps:**

- Complete research into minimum energy efficiency standard (October 2022).
- Confirm level and form of cost-cap (late-2022).
- Reform EPCs to present max. heating requirement and ‘checklist’ of measures (ongoing).
- Consult (early-2023).

Estimated to cost **£14,000** for the average household, made up of approximately **£10,000** for heating system and **£4,000** for the associated fabric efficiency measures.
EPC Metric Reform

• EPCs in Scotland currently have two ratings, running cost and CO₂ emissions, alongside the Primary Energy indicator

• Our statutory climate change advisors recommend we reform EPCs to:
  • Remove “perverse incentive” favouring gas boilers over heat pumps / electrification due to high electricity price
  • “Ensue[e] EPCs drive deployment of the necessary energy efficiency measures”

• We are considering adding a new metric based on either energy demand or energy use as an option to meet the energy efficiency standard

• We have commissioned research to develop options for the new metric, and determine how this can be used as a basis for ‘equivalent to EPC C’ regulations

• The reformed EPC will have three metrics:
  • Energy Efficiency Rating (use or demand)
  • Energy Cost Rating
  • Carbon Emissions Rating

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<th>Current Metrics</th>
<th>Proposed Metrics</th>
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<td>Energy Efficiency Rating (£)</td>
<td>Based on running cost per m²</td>
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<tr>
<td>Environmental Impact Rating</td>
<td>Based on emissions per m²</td>
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<td>Energy Cost Rating</td>
<td>Based on running cost per m²</td>
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<td>Carbon Emissions Rating</td>
<td>Based on emissions per m²</td>
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<td>Energy Demand / Energy Use Rating</td>
<td>Based on energy per m²</td>
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Questions?

James.Hemphill@gov.scot
Discussion
Conclusions

Céline Carré
Saint Gobain – President of EuroACE
Thank you!