16.00 – 16.10 Take away's from the ENEFIRST partners

ENERGY EFFICIENCY FIRST #EE1ST SUMMIT

How to implement the Energy Efficiency First principle and boost Europe's Energy Security

MAY 31 - JUNE 1

In Brussels and online

sEEnergies 💸

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- Energy systems modelling is key for policymakers and private actors to make informed decisions in the scope of EE1st. Meanwhile, there is no time to wait for an all-encompassing model that properly factors in all relevant costs and benefits and thus provides ultimate evidence.
- Making EE1st a reality requires a broad policy response that goes beyond the classic portfolio of energy efficiency policy. To do so, the debate around EE1st should embrace policies that are often seen as "supply side". This includes market design, network company regulation, carbon pricing, and others.

- Short-term, myopic economic considerations are no good advisor for taking longterm strategic decisions. Still, economic considerations and assessments are mentioned explicitly in the EPBD (cost-optimality calculations), the EED (comprehensive assessment of efficient heating and cooling) and also regarding the EE1st principle.
- Thus, following aspects (would) need to be considered: (1) uncertainties regarding key input parameters, in particular energy prices need to be considered. (2) Multiple impacts of energy efficiency. However, regarding both aspects, there are key limitations for explicit consideration in cost-benefit analyses.
- Thus, the process should be more driven by long-term targets and the objective to build a resilient overall energy system.



Trade-offs between district heating and deep retrofits of buildings

- The improved building efficiency affects the boundaries of the economic viability of the DH networks in several ways (higher relative distribution costs, lower installed capacities, higher heat generation efficiencies)
- One of the major strengths of the district heating networks is the ability to combine many heat sources (fossil/ synthetic fuels and renewable heat) and balance the impact of high fuel prices
- Investment in buildings' envelope energy efficiency measures and connecting more buildings to district heating networks could act as a safeguard against high future prices and reduce the risk of energy poverty
- Municipal heat planning as a strategic approach can ensure a climate-neutral and affordable heat supply by properly implementing and monitoring the efficiency first principle



Trade-offs between heat pumps and deep retrofits of buildings

- Depending on the building type, envelop, and geographical location between 18% and 35% of the heat pump consumption can provide flexibility to the power system
- Flexibility potential in the EU-27 in 2050 estimated to be between 26.9 TWh and 32.01 TWh of the electricity consumption providing 8.4 GW to 10.03 GW flexible power capacity
- Some estimated cost saving potential from flexibility in residential heat pumps is expected, although strongly depends on fees, taxes, and other additional investments in local smart grid substations
- Replacing condensing natural gas boilers with air-water heat pumps brings substantial CO2
 emissions savings in most of the member states (CO2-intensity of electricity consumption in 2019)



The use of demand-side resources:

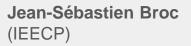
- is commonsense but not going to happen automatically
- \rightarrow Need for carrots and sticks
- essential to keep the cost and the social acceptability of the energy transitions
 → Consumers are both the goals and the means
- designing and mandating a CBA capturing a wide coverage of benefits is essential
 → never be perfect but there is room for improvement

- EE1st works if systemic approach is adopted: integrated planning and investment decisions where supply-side and demand-side resources are considered jointly
- EE1st is about addressing the complexity of the building & energy systems not looking for 'one fits all' solutions
- EE1st is a starting point to better manage available resources: towards sufficiency first?
- EE1st integrated in legislation & market practices will support optimal use of (scarce) material resources (decrease waste and energy losses, better use of construction and renovation materials, land, urban space, etc...)

- Energy demand solutions are / have been part of an energy system Even if not explicitly considered, all decisions have an impact on energy demand.
- EE1st measures are rare, but systemic thinking has a bidirectional impact Mainstreaming EE1st decisions improves overall decision making (e.g. leading to more integrated and overall cheaper solutions, better cooperation), while more collaborative decision-making leads to more energy demand becoming part of the portfolio and more cobenefits being acknowledged.

EE1st cannot be mandated and one-sized

Countries need to adjust the methods and requirements to their local specificities (in several areas, such as building sector and climate, governance systems, policy targets, etc.).



- Key challenge: closing the gap between the individual and collective perspective
- → The sum of decisions driven by individual investors' views will not deliver what is needed to face global challenges
- EE1st can be about reversing the burden of proof

 \rightarrow Supply-side options should demonstrate they are more cost-effective / less impacting than demand-side options

• The starting point should be "what is really needed"

→ beyond EE1st, Sufficiency First