enefirst.

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 839509. The sole responsibility for the content of this presentation lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.

Efficiency First, from words to actions: practical examples from the ENEFIRST project

C4E Forum
Brasov Poiana
September 22, 2021

Janne Rieke Boll
Project Manager

Why *Energy Efficiency First*?

EEF, EE1, E1st – there are many names but essentially 'Energy efficiency first' is one of the key principles of the Energy Union → socially optimal decarbonisation scenarios with long-term perspective

As a general principle to guide policy making, planning and investment, 'Energy efficiency first' **lacks concepts and guidelines to be operationalised** across policy areas

The Fit-for-55 legislative package strengthens the principle in its **EED recast proposal**:

Art. 3 (1), EED (COM(2021) 558 final):

"In conformity with the energy efficiency first principle, Member States shall ensure that energy efficiency solutions are taken into account in the planning, policy and major investment decisions related to the following sectors:

(a) energy systems, and

(b) non-energy sectors, where those sectors have an impact on energy consumption and energy efficiency."

Definition of Energy Efficiency First (E1st)
in the context of the ENEFIRST project

'Efficiency First' gives priority to demand-side resources

whenever they are more cost effective from a societal perspective than investments in energy infrastructure in meeting planning and policy objectives.

*It is a **decision principle** that is applied systematically at any level*

to energy-related investment planning

*and enabled by an '**equal opportunity**' policy design.*

For more details, see the first ENEFIRST report about background analysis

Considering energy systems as a whole

Energy efficiency first as an integrated approach

… in energy planning

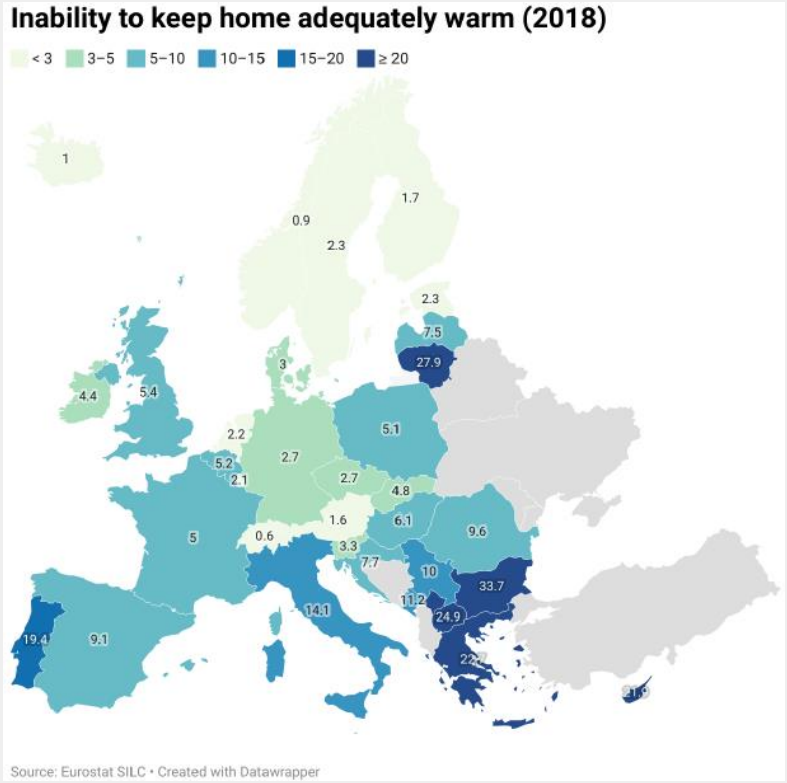
- Integrated district heating planning and operation
- Integrated energy infrastructure planning
- Long-term renovation strategies

... in energy investments

- Financial incentives for renewable energy systems linked to building performance
- Revenue recycling of EU ETS towards energy efficiency

Why is E1st relevant for the CEE region?

- Increasing (fossil-based) energy prices
- Need for upgrade or replacement of energy infrastructure with long-term impact
- High shares of energy poverty related to the inefficient building stock
- Window of opportunity with recovery funds and fit-for-55 policy reforms to push for increased investments in energy efficiency
- Any investments in upgraded energy infrastructure should consider the well-being of society assessing all multiple impacts generated



Identified policy approaches to implement E1st

Buildings

- Fabric first approach
- Financial incentives for renewable energy systems linked to energy performance
- Planning instruments for investments in buildings

Power sector

- Power market rules
- Transmission and distribution utility provisions
- Transmission and distribution incentives
- Dynamic tariff design

District heating

- Integrated district heating planning and operation
- Network access for third-party waste heat providers

+ other policy approaches identified in (ENEFIRST 2021)

Efficiency First example I –
Investment in RES linked to energy performance

Heat Pump Grant - SEAI, Ireland

→ Financial support is granted if minimum energy performance levels of the building are met (E1st conditionality)

Benefits:

- ✓ Adequate sizing
- ✓ Incentive to improve the building envelope with benefits for the indoor climate and residents' health
- ✓ Positive impacts on the whole energy system

- Concept of Fabric first used in most Irish support programmes
- Preventing lock-in effects leading to high investments later on
- Technical assistance and additional support for potential renovations is important

Main barriers to the design and implementation of E1st

Financial incentives for RES linked to energy performance

Policy design

- Lack of a reliable framework to monitor energy performance requirements
- Limited requirements for financial support schemes from EU-level

Policy implementation

- Additional costs for pre-assessment and possible required energy efficiency improvements
- Demanding eligibility criteria of a subsidy scheme decreasing the number of applications
- Lack of sufficient energy auditors for assessment of buildings' energy performance
- Insufficient information/advice and lack of expertise/ willingness to inform about integrated renovations

Solutions

- EU EPC framework enabling high-quality and comparable monitoring of buildings' performance
- Implement E1st in EU funding streams
- Additional financial support for the required pre-assessment
- Provide technical assistance and information campaigns for building owners
- Capacity building activities and wide-spread training/ secondary education for energy efficiency experts
- Information campaigns and cultural change among contractors/ in the industry

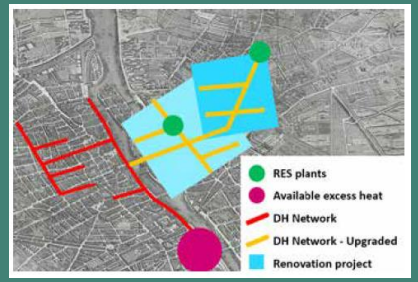
Who needs to act?

- **EU** institutions
- **National** authorities, **implementing** organisation
- **Regional** authorities, **energy agency**
- **Local** authorities

Efficiency First example II –
Integrated planning of district heating and cooling

Integrated DH planning of demand- and supply-side resources on municipal level

→ Policies and guidelines for national and local authorities and DH companies to evaluate the costs and benefits of all relevant investment options on demand- and supply-side



Benefits:

- ✓ Cost-optimal deployment of district heating and cooling from a societal perspective
- ✓ Reduced peak demand and opportunity to integrate renewable energies
- ✓ Increased ownership of energy transition in municipalities

- Considered in municipal heat plans/ roadmaps in several Members States
- Dependence on owner structure of DH companies
- EED proposal offers possibility to reform the CBA on efficient heating and cooling to integrated demand-side

Main barriers to the design and implementation of E1st

Integrated district heating planning and operation

Policy design

- Lack of **regulatory framework**
- **Split incentive** between building owners, DHC operators, and society as a whole
- **Supply-side** competition

Policy implementation

- **Lack of capacity** (tools, human resources) and practical experience
- Difficulties to assess the **impact of energy saving measures vs. heat supply**

Solutions

- **Integrated** regulatory framework (supply + demand); Adapt the CBA in EED Art. 14 assessment
- Revise incentive framework for DH companies; Investigate how “thermal comfort as a service” could be developed
- Enable national or local authorities to define zones where **connection to DH** networks is **mandatory**
- Information campaigns and cultural change among contractors/ in the industry
- Information campaigns and cultural change among contractors/ in the industry

Who needs to act?

- **EU** institutions
- **National** authorities
- **Regional** authorities, (local) **energy agencies**
- **Local** authorities

Key messages

- Deep renovation of inefficient building stocks are “no regret” options with long-term societal benefits (alleviation of energy poverty, health effects)

- Implementation of E1st requires concerted action by public and private actors as well as effective cooperation between and harmonisation of EU and national regulatory frameworks

- Overcoming silo thinking in policy making and implementation is crucial to assess supply- and demand-side options on a level playing field

Outlook

“Recommendation and Guidelines on Energy Efficiency First: From principles to practice” by European Commission to be published soon

Online Stakeholder Workshop
Friday, 8 October 2021 (10:00 to 12:00 CEST)

“Policy guidelines to implement Energy Efficiency First in planning and investment schemes for buildings and related energy systems”

Thank you

To go further:

Report on defining and contextualizing the E1st principle

Report on international experiences with E1st

Report on barriers to implementing E1st in the EU-28

Report on priority areas of implementation of the Efficiency First principle in buildings and related energy systems

Report on implementation maps on barriers and success factors for E1st in buildings

Janne Rieke Boll
Project manager
janne.rieke.boll@bpie.eu

Jean-Sébastien Broc
Project coordinator
jsb@ieecp.org

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 839509. The sole responsibility for the content of this presentation lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.