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

Introduction

Workshop | 8 October 2021

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MAKING **THE ENERGY EFFICIENCY FIRST** PRINCIPLE OPERATIONAL

Project funded by the European Union's Horizon 2020 programme under grant agreement No 839509

Energy Efficiency First (E1st) ?

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**

Supply-side resources

Demand-side resources

Fossil fuel supply and plants

Energy efficiency

Renewables

Energy sufficiency

Networks

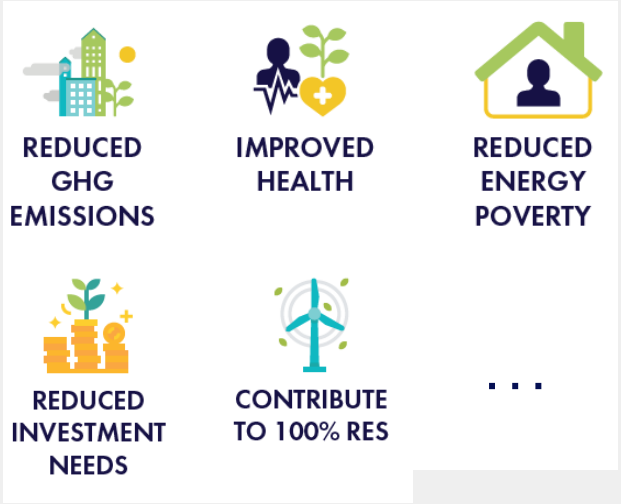
Demand flexibility & demand response

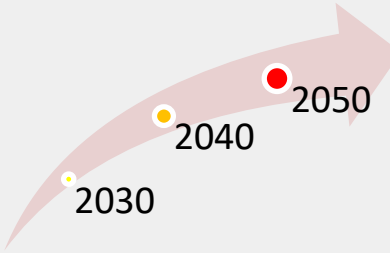
Storage

With a **societal perspective**

=

Multiple impacts **+** Long-term perspective





Check-list for implementing E1st

1) **Are demand-side resources considered** when comparing / planning / deciding investments?
   (*especially when planning / deciding investments in energy infrastructure*)

2) Are demand-side resources **assessed and valued on a fair basis** compared to supply-side investments (or other investment types)?

3) What is the ultimate decision-making rule once the assessment is done? Is a **priority** given to demand-side resources **when relevant**?

See **‘real-life’ examples** on the website

Example of decision*policy at building level

Replacing the heating system → policy promoting RES/decarbonised heat

Efficiency **First**

→ Incentive IF minimum energy performance of the building envelope is met first (E1st conditionality)

- ✓ Right sizing
- ✓ Positive impacts on the whole energy system

Example: Fabric First Approach applied in the SEAI Heat Pump system grant

Efficiency **Last**

→ Incentive based on the expected heat demand or amount of heat produced

- ✓ Over-sizing
- ✓ Negative impacts on the whole energy system

(see e.g. Rosenow & Pato (2020). Efficiency First must tackle implementation issues to be effective)

Example at local level (+ electricity sector)

Possibility for the DSO to experiment programmes where they procure **demand-side resources as alternatives** to investments in the network infrastructures in congested areas

Social Constraint Management Zones to harvest demand flexibility (UK)

See presentation at the first ENEFIRST webinar

Example at macro level (+ all energy carriers)

Comparing **long term scenarios** to meet carbon neutrality, with different mix of interventions / **balance between demand-side and supply-side investments**
(with a 'total system cost' perspective)

Under modelling by ENEFIRST (EU level)

See also examples at national level:
e.g., RTE study to investigate the impact of heat pumps deployment according to various levels of improvements of the building stock
(presentation at second ENEFIRST webinar)

Introducing ENEFIRST

‘making the E1st principle operational’

Objectives

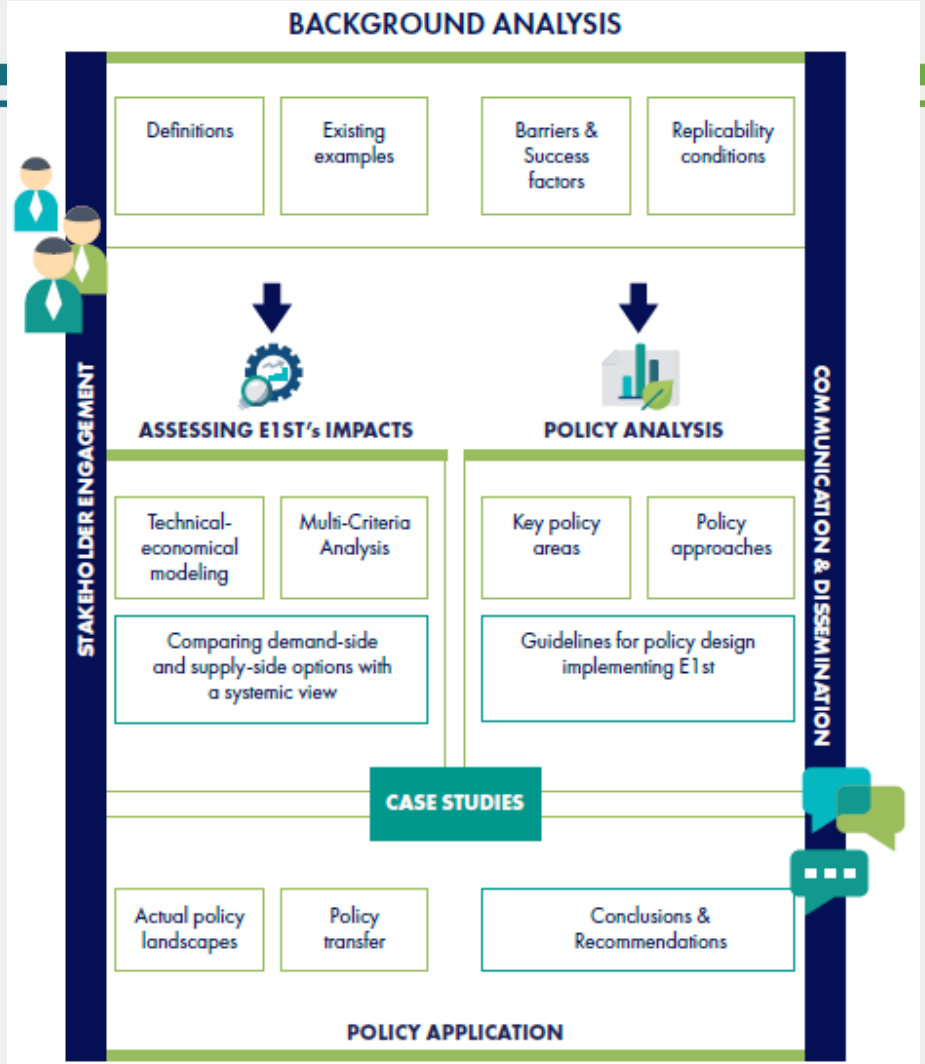
- To define the E1st principle in practical terms
- To map how E1st has been applied internationally and in the EU
- To assess the value of applying E1st across different policy areas
- To quantify potential impacts

- To develop & test policy proposals for the implementation of E1st

Focus on buildings' end use and related energy systems

Other initiatives / projects on E1st with broader scope

- European Commission's Recommendation and guidelines
- sEEnergies ; EERAdata ; ODYSSEE-MURE ; MICAT



IDENTIFICATION of the most relevant policy areas where the E1st principle can be applied to achieve the highest impact in terms of energy system benefits

APPLICATION of E1st in existing policy instruments, through assessing the applicability & transferability of international E1st approaches and quantifying the impacts of E1st

ENGAGEMENT with stakeholders to apply E1st through the design of new policy instruments and analyse their application in country case studies

The ENEFIRST team

"policy analysis" team

RAP®

BPIE

+ communication & dissemination

CEU CENTRAL EUROPEAN UNIVERSITY

IEECP
INSTITUTE FOR EUROPEAN ENERGY AND CLIMATE POLICY

Coordinator

+ stakeholder engagement

"modelling" team

Fraunhofer ISI

TU WIEN TECHNISCHE UNIVERSITÄT WIEN Vienna | Austria

IREES research for future.

Next steps

Policy guidelines

- Finalizing the report — End of October 2021

Modelling / quantitative assessment

- Workshop to discuss the results — December 2021
- Final results — End of 2021

Applicability

- Specific analyses done on 3 countries: Germany, Hungary and Spain — From now to January 2022
- Regional/national workshops — January-February 2022

+ webinars, and hopefully an in-person final conference !

Two upcoming events on E1st as part of EUSEW 2021

In the EUSEW Extended Programme

Energy Efficiency First: let's walk the talk!

Thursday 21 October 2021

(09.00 to 10.30 am CEST)

In the EUSEW Policy Conference

Energy efficiency first principle: How to make it work

Tuesday 26 October 2021

(09.00 to 10.30 am CEST)

Today's **workshop**

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

Following the work on barriers, success factors and implementation maps

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)

Todays' workshop

Objectives

- discuss the draft **policy guidelines**
- highlight ways to promote **integrated approaches**

Agenda

- Overview of the report / guidelines
- Breakout sessions

Integrated power infrastructure planning	**Integrated buildings and heat roadmaps**	**E1st in households' investments related to energy**	**E1st in public financing**
Zsuzsanna Pato, RAP Songmin Yu, Fraunhofer ISI	Jean-Sébastien Broc, IEECP Mostafa Fallahnejad, TU Wien	Janne Rieke Boll, BPIE Benigna Boza-Kiss, CEU	Senta Schmatzberger, BPIE Ivana Rogulj, IEECP

- Reporting back from the breakout groups
- **Insights on the proposed EED recast** (Lelde Kiela-Vilumsone, DG ENER)
- Final discussion

Website:
https://enefirst.eu/

Newsletter:
https://enefirst.eu/stay-in-touch/

Thank you

Jean-Sébastien Broc

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