

# Integrated district heating planning and operation

Main barriers and solution pathways

## Implementation map

Please find detailed information on the policy approach in the ENEFIRST report [“Priority areas for implementing Efficiency First”](#)

<https://enefirst.eu/reports-findings/>



## Short introduction to the policy approach

### Integrated district heating planning and operation

In light of the E1st principle, district heating planning and operation should determine an optimal mix of both various **supply options** (generation, network, storage) and **demand-side measures** (e.g., thermal renovations in buildings). Such an integrated planning approach essentially requires **guidelines** for national and local authorities and DH companies to evaluate the costs and benefits of all relevant investment options, as well as effective **regulatory instruments** to incentivise private DH companies to exploit demand-side potentials.

Business as usual	E1st scenario
District heating system expansion and upgrades based on <b>exogenous energy demand</b>	District heating system expansion and upgrades based on <b>endogenous energy demand</b> (e.g., taking into account expected impacts from energy efficiency policies)
District heating companies have <b>no direct incentive</b> to bring about demand-side energy savings	District heating companies are incentivized to bring about demand-side energy savings through <b>DSM</b> (Demand-Side Management) <b>measures</b>

# Overcoming the main barriers to the design and implementation of E1st Integrated district heating planning and operation

## I. Policy design

*Main barriers to policy design*

Stakeholders required to act

*Solutions to overcome the barrier*

Main barriers

Possible legislative or other changes

Lack of **regulatory framework**

Lack of information and knowledge for new innovative services

**Split incentive** between building owners, DHC operators, and society as a whole

Supply side competition

EU

National authorities

National authorities

Local authorities

Existence of **long-term visions** and policies + **integrated** regulatory framework (supply + demand)

Research projects and experience sharing

Incentive framework: **Balanced instruments** that enable good conditions for demand- or supply investments

Regulations allowing national or local authorities to define zones where **connection to DH networks is mandatory**

Revise **Art.14 and Annex IX of the EED** to include demand-side resources in the scope of CBA

**Calls for projects. Support** to activities (working groups, conferences, guides, etc.) for experience sharing

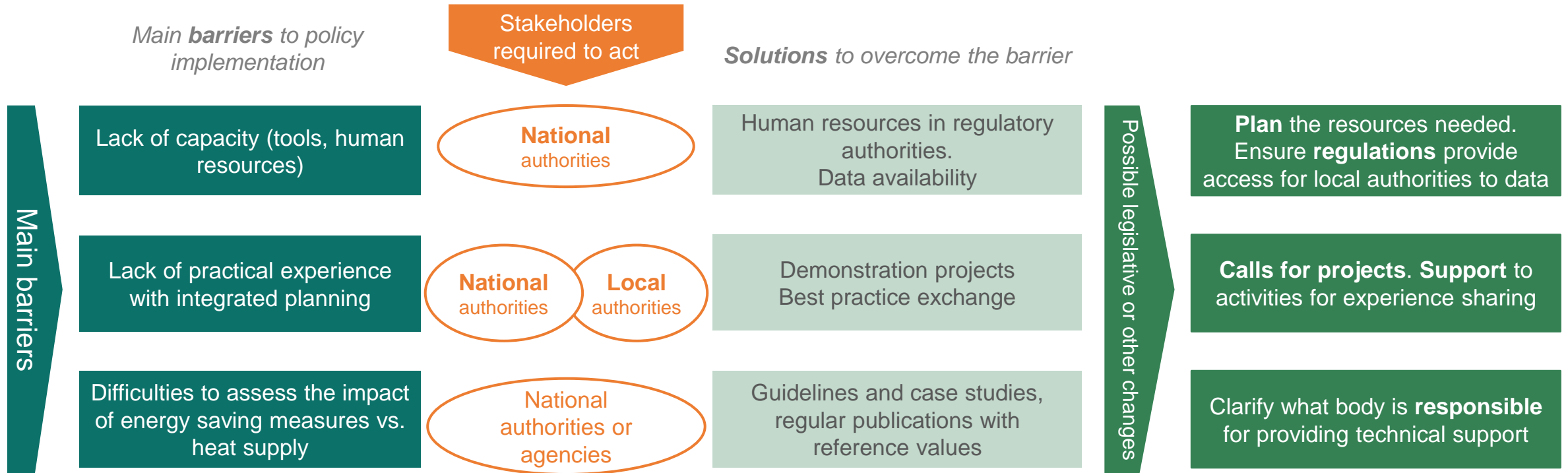
Revise **remuneration schemes** for DH companies. Investigate how **“thermal comfort as a service”** could be developed

Transfer of good practice models (see regulations with different conditions in e.g., Denmark and France)

# Overcoming the main barriers to the design and implementation of E1st

## Integrated district heating planning and operation

### II. Policy implementation



# Further reading

- ENEFIRST report [“Priority areas for implementing Efficiency First”](#)
  - Chapter 3.4.3 Identified policy approaches about district heating
- Suggestions of relevant references:
  - Chittum et al., 2014. [How Danish communal heat planning empowers municipalities and benefits individual consumers](#). *Energy Policy*, 74, 465–474.
  - DEA, 2017. [Regulation and planning of district heating in Denmark](#). Danish Energy Agency.
  - Rutz et al., 2019. [Upgrading the performance of district heating networks. Technical and non-technical approaches](#). Munich: WIP Renewable Energies.