



2050
Heat Roadmap Europe
A low-carbon heating and cooling strategy

Market Uptake Dialogue
How can an integrated approach be ensured in practice?

Business cases & strategies for decarbonising districts

Country-specific relevance of identified solutions

Berlin, January 24, 2019

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Business Cases & Strategies...

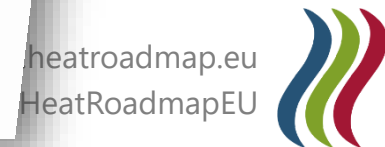
Information on

- barriers
- solutions
- strategies
- applicability in the 14 countries
- real cases

...available in the report →



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Barrier categories



Knowledge barriers

Awareness, uncertainties, general information and/or technical details about the technology/solution



Economic barriers:

Pricing (OPEX and CAPEX), expenses, financing sources, investment types, feasibility, etc.



Process barriers:

Relationships, interactions, process-specific, administrative and/or organisational challenges, including framework conditions (including political)



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Challenges across countries

- Lack of awareness on the best practice and most efficient solutions (particularly energy savings)
- National authorities reluctant to increase energy savings and low-carbon energy supply targets
- Large upfront capital costs
- Fragmented construction value chains can make renovation or installation process complex and disruptive

Particularly in Czech Republic,
France, Germany, Hungary,
Poland and Romania

All countries and all pillars

All countries and all pillars

“Experienced DH countries”:
Seldom when connecting new
consumers. (Other barriers e.g.
competition with alternatives)

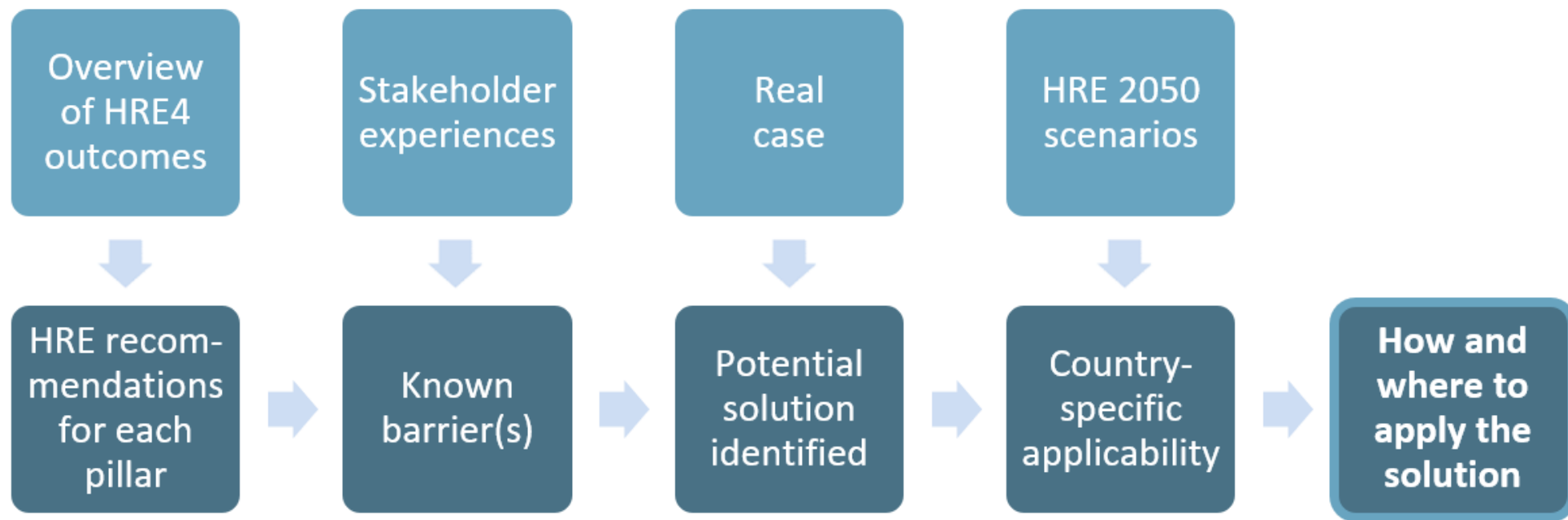


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Country-specific relevance



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Country-specific relevance

Category	Barrier	1	Solution	Austria	Belgium	Czech Rep.	Finland	France	Germany	Hungary	Italy	Netherlands	Poland	Romania	Spain	Sweden	UK
		2															
		3															
?	Lack of awareness of best practice for building performance measures.	Minor relevance /Not applicable	Provide advice and guideline to building's owners regarding building energy performance measures. See the case in section 5.1.	2	2	3	2	3	3	3	2	2	3	3	2	2	2
?	Miscommunication and a lack of integrity between the energy sector stakeholders and final customers.	Relevant	Energy companies to liaise with network operators in the DH development projects and raise DH solutions awareness among customers. See the case in section 5.2.	2	3	3	1	3	3	2	3	3	2	1	3	1	3
?	Inadequate understanding and use of existing resources and locations for low-carbon H&C sources.	Very relevant	Energy companies to utilise relevant tools and data generated by HRE outlining the sustainable energy resources and providing detailed information on decarbonisation options for the H&C sector (e.g. <i>Peta</i>).	3	3	3	3	3	3	3	3	3	3	3	3	2	3
?	Inadequate knowledge on the feasibility and suitable locations to apply district energy.		Energy companies to utilise relevant tools and data generated by HRE outlining potential locations of district energy systems incl. cost estimations. See <i>Peta</i> for more information.	2	3	3	1	3	3	2	3	3	2	1	3	1	3
€	High investment costs in energy savings measures for end-users.		Energy saving agreements with mutual benefits for both an energy service provider and a building's owner. See case in section 5.4.	2	2	3	2	3	3	3	2	2	3	3	2	2	2
€	High investment costs in low-carbon energy supply for end-users.		Alternative business model involving flexible heat pump sale subscription. See case study in section 5.3.	3	3	3	3	3	3	3	3	3	3	3	3	2	3
€	High investment costs for connecting to a thermal grid for end-users.		Connection fee spread over several years i.e. included in the annual fee. Further information in [4].	2	3	3	1	3	3	2	3	3	2	1	3	1	3
€	High disproportion between peak and base heat demand, resulting in (increased costs of) supply capacity units with fewer full-load hours.		Improve energy efficiency of buildings to shave heat demand peaks.	2	2	3	2	3	3	3	2	2	3	3	2	2	2



Country-specific relevance

Category	Barrier	1	Solution	Austria	Belgium	Czech Rep.	Finland	France	Germany	Hungary	Italy	Netherlands	Poland	Romania	Spain	Sweden	UK
		2															
		3															
		Minor relevance /Not applicable															
→ 1	Reluctance of national/regional/local authorities to pursue ambitious energy savings targets while underestimating the needs for energy savings to decarbonise the energy system.		Businesses can engage in strategic partnerships with local governments to set stricter requirements for the demands in buildings and industrial processes. See example in [4].	3	3	3	2	3	3	3	3	3	3	3	3	2	2
→ 2	Reluctance of national/regional/local authorities to pursue ambitious energy/climate targets, while underestimating the future needs for efficient low-carbon energy capacity.		Businesses can engage in strategic partnerships with local governments to set stricter requirements for the energy production. See example in [4].	3	3	3	3	3	3	3	3	3	3	3	3	3	3
→ 3	Reluctance of national/regional/local authorities to pursue ambitious energy/climate targets and underestimation of the possibilities that district energy holds.		Businesses can engage in strategic partnerships with local governments to facilitate DH network development with enabling legislation and urban-planning instruments. More info in case 5.2 and in [4].	3	3	3	2	3	3	3	3	3	3	3	3	2	3
→ 4	Fragmented construction value chains, making the energy-saving (e.g. renovation) processes complex and disruptive to customers.		Improving the communication between stakeholders and educating craftsmen and end-consumers. Facilitate the process for the consumer. See the case described in section 5.1.	2	2	3	2	3	3	3	2	2	3	3	2	2	2
→ 5	Fragmented construction value chains, making the implementation process of low-carbon individual H&C supply complex and disruptive to customers.		Improving the communication between stakeholders and educating craftsmen and end-consumers. Facilitate the process for the consumer. See the case in section 5.1 (applies though renovation related).	3	3	3	3	3	3	3	3	3	3	3	3	2	3
→ 6	Fragmented construction value chains making the implementation process of DH/DC systems complex and disruptive to customers.		Improving the communication between stakeholders and educating craftsmen and end-consumers. Facilitate the process for the consumer. See the case in section 5.1 (applies though renovation related).	2	3	3	1	3	3	2	3	3	2	1	3	1	3



Business strategies

1

Sell a service, not just a unit

Providing a **service rather than selling a piece of technology or a renovation** measure itself, can prove to be a business opportunity for companies related to energy-savings measures, H&C supply units and district energy



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Business strategies

1

Sell a service, not just a unit

Providing a **service** rather than **selling a piece of technology or a renovation** measure itself, can prove to be a business opportunity for companies related to energy-savings measures, H&C supply units and district energy by **overcoming a main economic barrier**, namely the **large up-front investment costs** (in order to achieve lower operation costs).



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Business strategies

2

The keyword is “easy”

The companies should **make interaction** as **straightforward** as possible. Customers with an initial interest in a given solution should **easily locate** the relevant companies. It should be **simple for them to evaluate the benefits** and the customers should be **guided through the process** in a clear manner – ideally by a **single point of contact**. Interactions should take up only a **minimum of a customer’s time**, so that it is not experienced as an administrative burden to engage/be engaged in the process.



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Business strategies

2

The keyword is “easy”

Case: One-stop-shop model
supplying a deep energy
renovation package



Customer
reveals
interests

Discussion
around
possibilities
and
boundaries

Review of
the building

Customised
offer

Quality-
assured
renovation
process



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Business strategies

3

Collaborate on a common decarbonisation strategy

By engaging in a **common decarbonisation strategy together with local authorities and other stakeholders**, relevant businesses can **secure their role in the future** decarbonised energy system and **make sure that the process is structured** across different stakeholder groups.

Commit & mobilise

Political acceptance
Support from citizens
Acceptance from all stakeholders



Framework mapping

Status of the local/
regional energy system
Energy balance
Potentials & challenges



Model calculations

Reference scenario
Assumptions & possible actions
Future scenarios



Plan & implementation

Target setting and integrated action plan development
Specific heat sector plan
Finance & action implementation



Monitor & evaluate

Monitor
Evaluate and report
Enhance

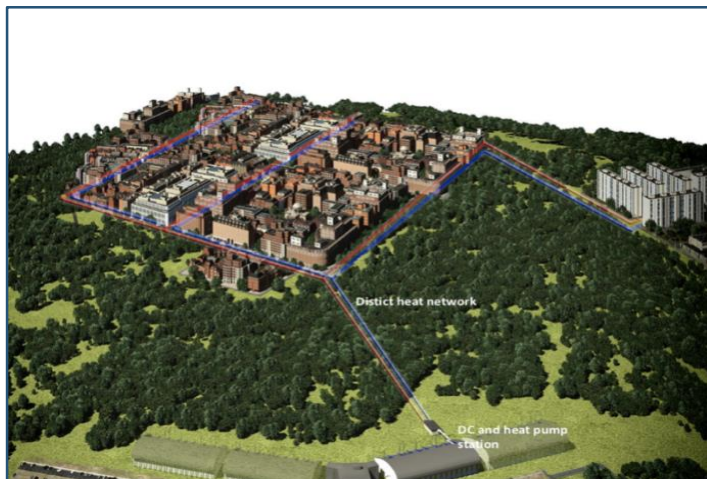


Business strategies

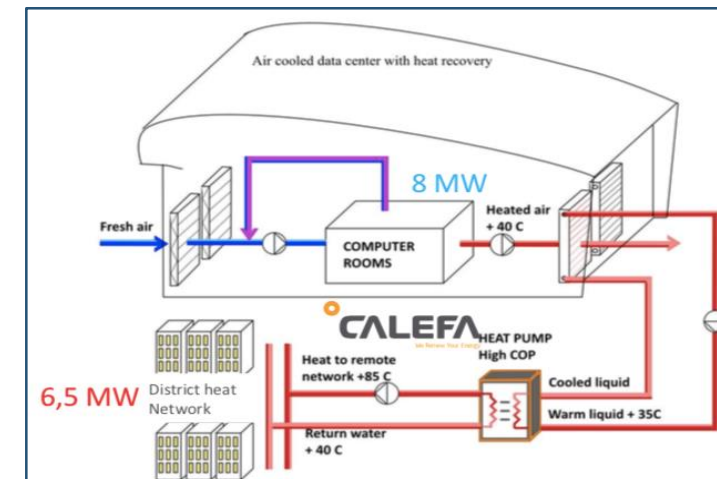
4

Engage in partnerships

Energy **technology providers** whose products and/or services are perhaps not economically feasible (enough) to be implemented as stand alone should be encouraged by the findings of HRE4 to **explore the integration** of other **components or even cross-sectorial elements** to develop a future-orientated **business case**.



Case: Excess heat
(but many options)



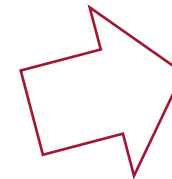
Competitiveness of district energy

- Careful planning
 - Evaluate feasibilities (utility and consumer)
 - Secure minimum connection rate
- Integrate RE and/or excess heat improves efficiency, feasibility and attractiveness
- Thermal storage can cost-effectively facilitate the flexibility services requested from increased VRE
- Sensors in the network/at consumers to identify improvement possibilities
- (New) price models
 - Reflecting the value of each customer (i.e. cost for the utility)
 - Provide incentives for consumers to optimise heating system

*Key points for
old/new DH*

Tariff options:

- Fixed fee [€]
- Energy tariff [€/MWh]
- Flow tariff [€/m³]
- Peak load tariff [€/kW] (?)



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An integrated approach is key

- Long-term planning with continuous review and steps
- Include relevant stakeholders
- Consider available resources and synergy options available
- Engage in partnerships
- New structures may be useful (e.g. new tariff structures and/or services)
- Who can (will) handle the complexity?
- What is the expected lifetime of your companies? How will they look in 2030/2040/2050?



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Thank you!



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Business cases & strategies report: www.heatroadmap.eu/project-reports



PlanEnergi: www.planenergi.eu



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...And now: Your turn!

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Market Uptake Dialogue

Strategic integrations for a decarbonised energy system

- Format
 - Split in groups (approx. equally sized)
 - Roundtable discussions – “What are your experiences?” (see next slide)
 - Please state your name & affiliation so we know who is speaking
 - Summary from each table & wrap-up
- Purpose
 - Share your experiences
 - Get inputs from other stakeholders
 - Help us shape the project communication to the stakeholders’ needs (technical/political/business)

Please take 2 min. to provide feedback after the session. Thanks!



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Open floor discussions

Strategic integrations for a decarbonised energy system

- Which examples of strategic partnerships/integrated approaches do you know of? (Where would they be replicable? What are the barriers?)
- What kind of business cases should deserve the highest priority? (Technologies, type of business model, etc.)
- Which policy recommendations can you provide from your experience at local/national/European level?
- How do you balance choice of investments in district energy, savings and supply technologies?
- Where did HRE make an impact? (Or what would be needed?)



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