A ROADMAP FOR DH WHICH KEEPS THE EU’S DEAL BOTH GREEN & WARM

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DH - FROM PART OF THE PROBLEM TO PART OF THE SOLUTION

CO2 emissions from DH plants in the Czech Republic

Emissions (tons CO2)

- 2013
- 2014
- 2015
- 2016
- 2017
- 2018
- 2019
- 2030

Potenciál Emissions (tons CO2)
HEAT NETWORK

Flexible and balancing technologies

- Peak boilers gas, electricity
- Heat storage

Power – heat technologies

- Heat Pumps + waste heat
- CHP (biomass, biogas, waste)

Renewable energy technologies

- Geothermal energy
- Solar energy
Lessons learned - policy level

For transformation/development of DH you need:

1. Clear vision of DH systems role in overall energy system / decarbonization effort
2. Transformation plan for DH outlining costs, benefits, solutions on national and regional level
3. Level playing field = uniform cost of carbon for DH and local heating solutions
4. Proper incentives for DH refurbishment/development
5. Open dialogue with stakeholders / public support
Legislative support and action plans for the modernisation of DH

- The legislative support for the modernization of DH is **not always clearly defined** and, especially at the local level, it is not elaborated into detailed plans
- KeepWarm partners have therefore created **action plans** in which they propose specific solutions
- Seven national action plans for DHS retrofitting have been developed in national contexts in consultation with the KeepWarm project partners and other interested stakeholders
- Specific targets and **measures have been identified**
- **Negotiations with national authorities** on the incorporation of these solutions into national legislation were held
Lessons learned – DH system level

- Reflect on the current and future needs of your DH system
- First prioritize energy efficiency measures (improve operation, insulate pipes, decrease heat losses etc.)
- Have clear long-term decarbonization goal and path, avoid unnecessary fuel shifts to other fossil fuel
- Acquire in-depth knowledge of sustainable resources available in your region
- Don’t rely on single source of energy – look for synergies of different sources
How to retrofit DH system?

You will need to:

• understand the **current state of the DH sector** in your country, identify key challenges in the decarbonisation process

• evaluate **prerequisites and a potential for retrofits** of the DHS

• assess **legislation that provides conditions, barriers, and opportunities** for DHS modernization

• recognize the **roles of individual stakeholders** and their impact on the process

• implement **DH retrofits** contributing to European decarbonisation objectives

• identify **critical risks influencing DH modernisation processes**, as well as measures to mitigate or eliminate these risks

• take **concrete steps forward for public authorities**, policy makers, potential investors and other key stakeholders
KeepWarm solutions to overcome main obstacles of DHS modernisation

<table>
<thead>
<tr>
<th>The main obstacles</th>
<th>KeepWarm specific solutions</th>
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<tbody>
<tr>
<td>Lack of the national heating strategy</td>
<td>Action plans with specific solutions were created</td>
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<td>Competition and profitability of heating providers</td>
<td>Negotiations with state authorities on equal conditions for all heat providers</td>
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<td>Training of staff in new technologies</td>
<td>Offer and organization of regular educational seminars</td>
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<td>Decreasing in heat demand and heat load</td>
<td>Reaching new customers and expanding heating networks</td>
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<td>High investment costs for RES</td>
<td>State aid negotiations</td>
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**Final Piece of Wisdom**

- **Confucius:** „Better a diamond with a flaw than a pebble without.”
- **William Shakespeare:** „Striving to better, oft we mar what's well.”
- **Voltaire:** “The best is the enemy of the good.”
- **Robert Watson-Watt:** "Give them the third best to go on with; the second best comes too late, the best never comes."

While waiting for perfect solutions we will loose fight with climate change.
Let’s be deliberately imperfect and win!
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Thank you!