

June 2018

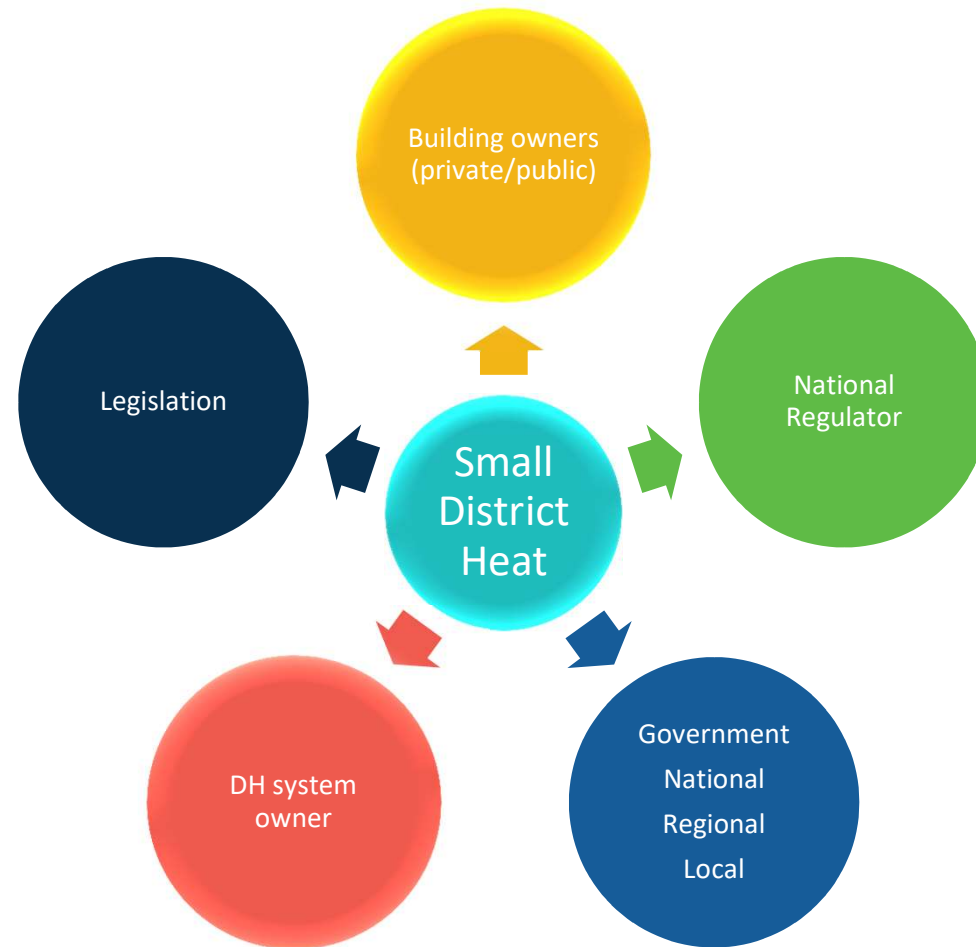
# Local actors and integrated planning in modernizing small district heating systems

C4E Forum, June 2018

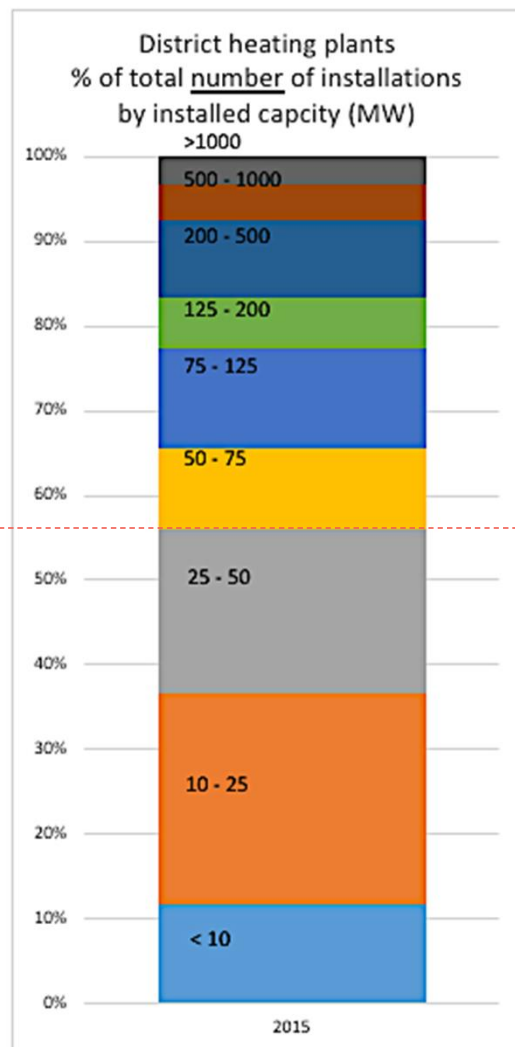
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# Focus of today's presentation







**2030 will be very  
different from 2020**

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# Two case studies

	System 1	System 2
Population (town)	6 500	17 200
Ownership	Town (100%)	Town (100%)
Scope of company	Heat supply and ESCO	Heat supply
Temperature	85/65 °C	135/80 °C
Central boilers (coal)	4.18 MW (3 units)	39.9 MW (2 units)
2016 contracted capacity	4.29 MW	21.1 MW
Fuel	Coal	Coal
Additional boilers (gas)	3 units, 2MW total	13 units, 2MW total

Small systems face unique challenges

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# Integrated planning





# Efficient technologies



Generation

## Competitive



Individual gas boilers



Biomass

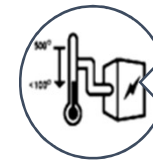


CHP (gas)



Air source heat pump\*

## Not competitive



ORC



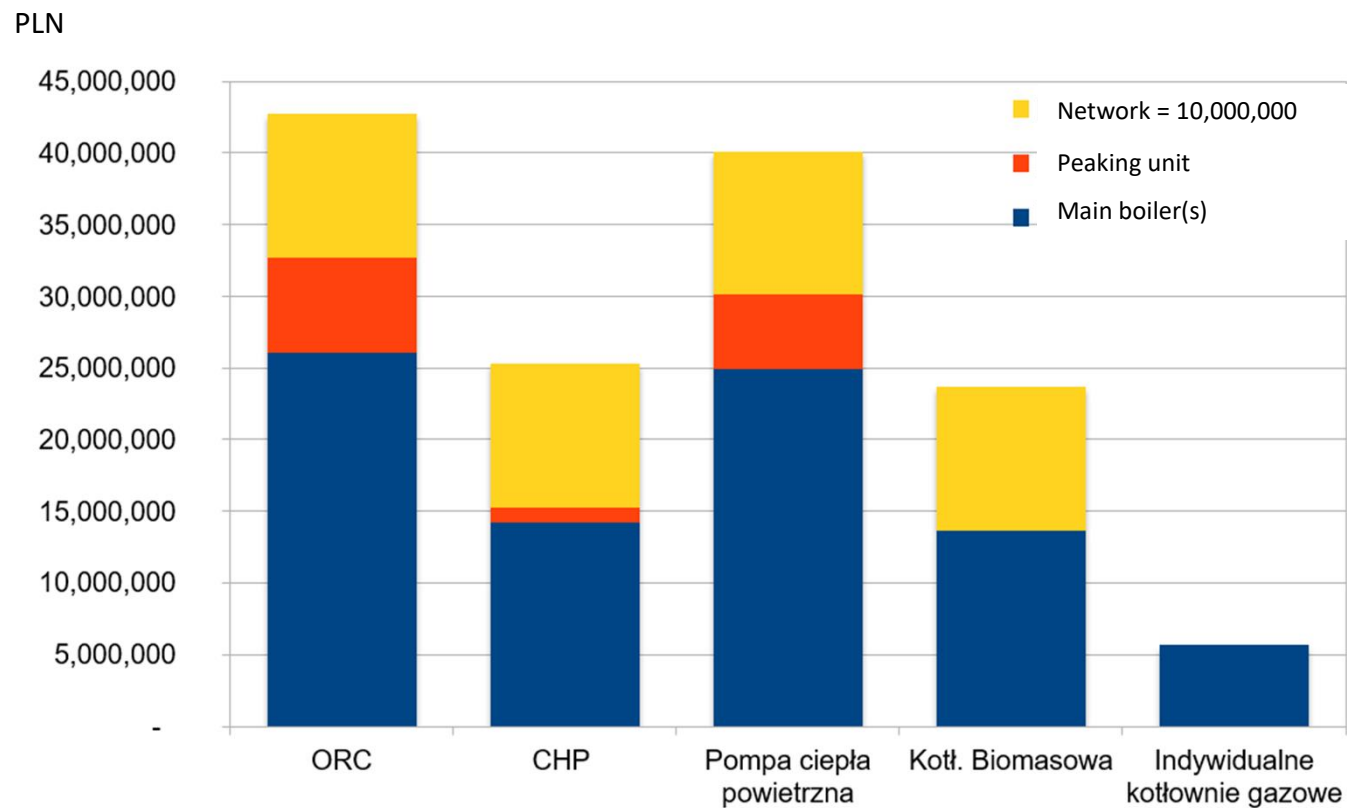
Ground source  
heat pump

\*Only an option for system 1 (low temp)

# Cost of upgrading networks

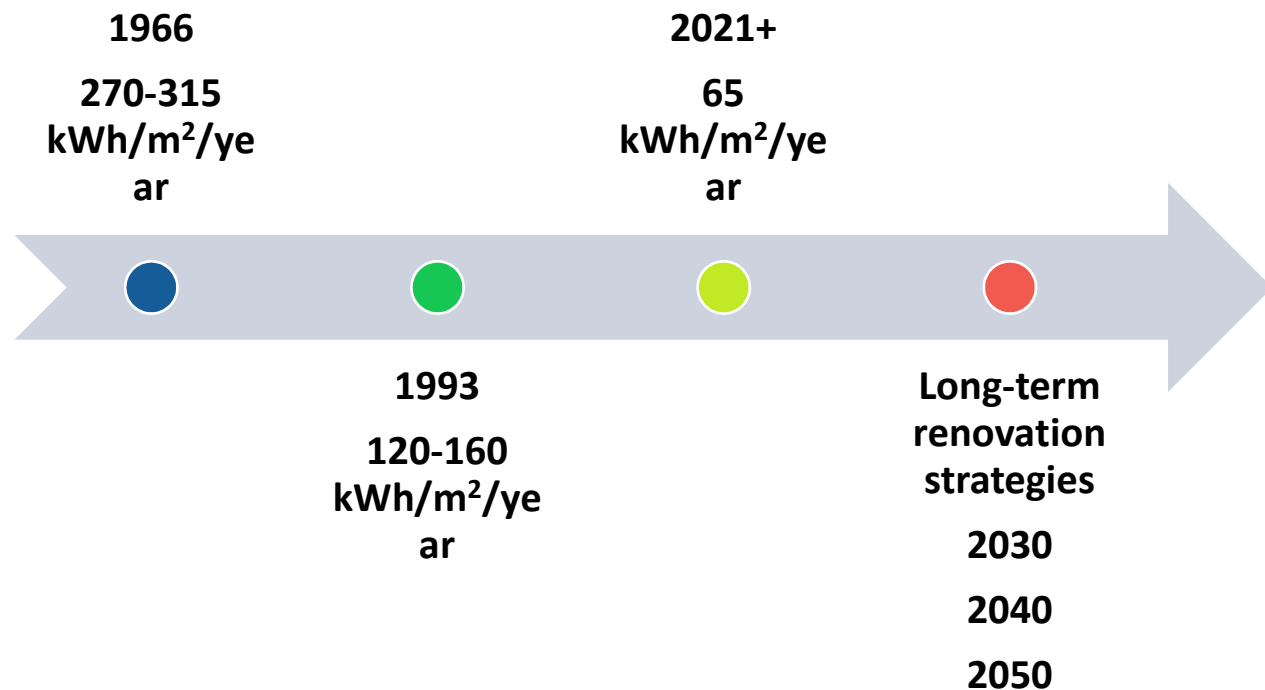
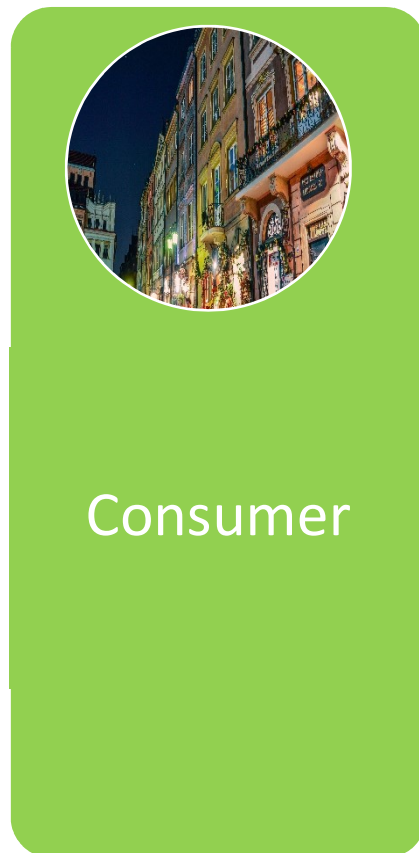


Distribution

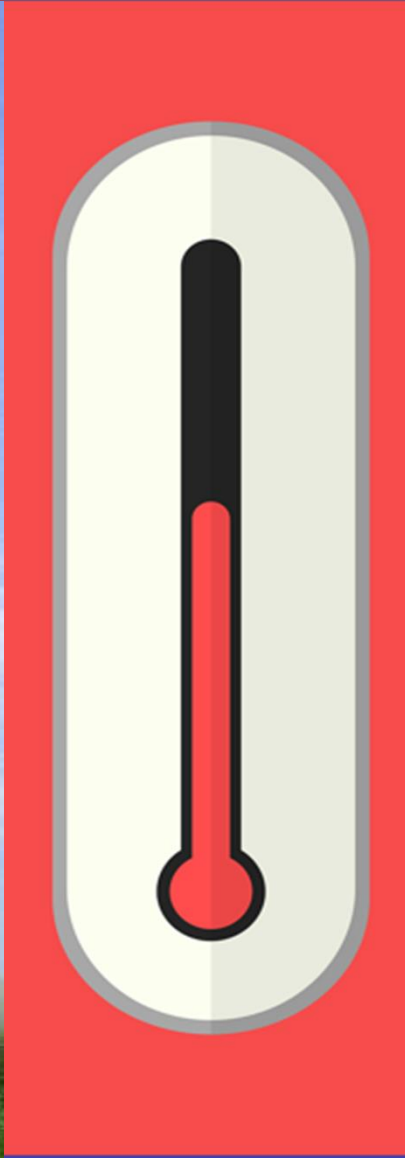




# Evolution of building\* standards

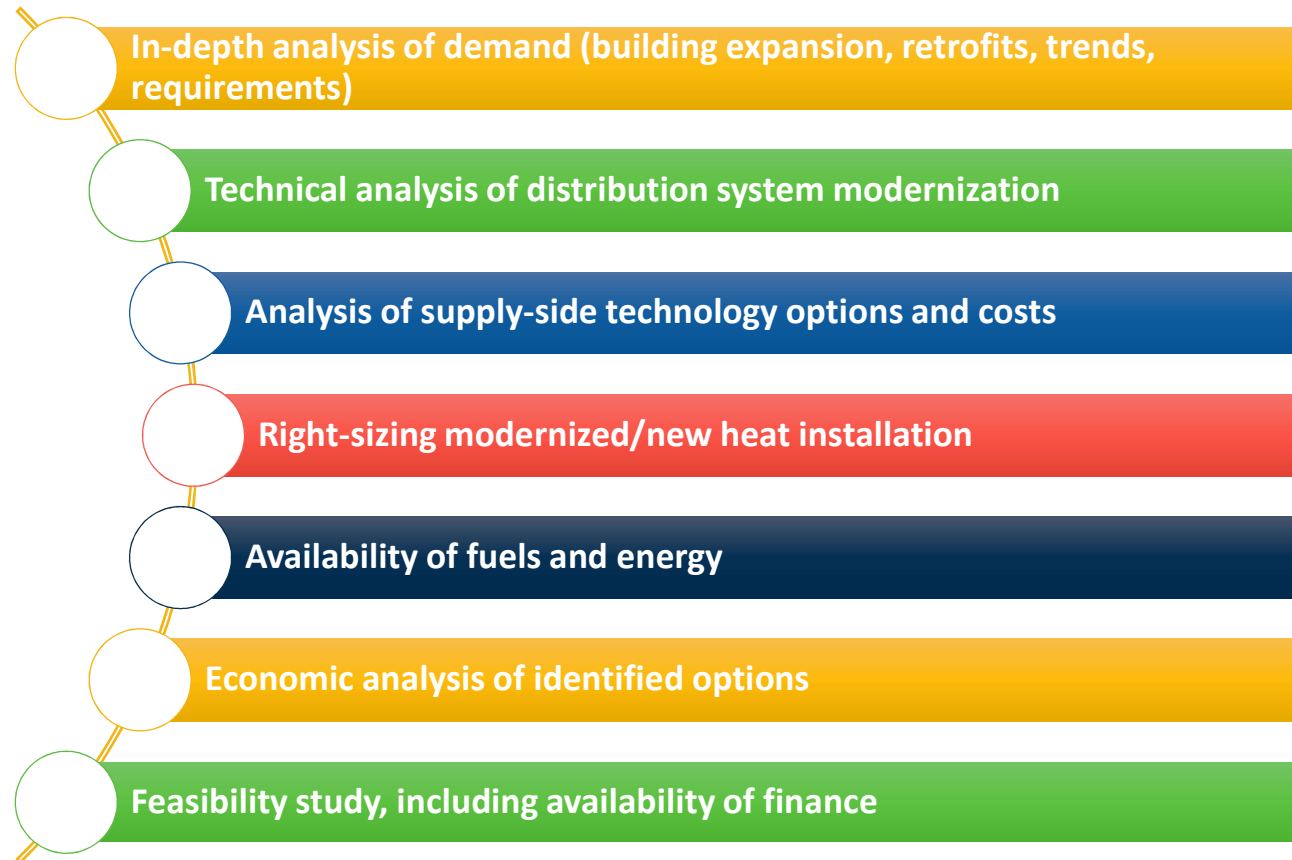


\*Residential, multi-family building for heating, ventilation, hot water.



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# Municipal planning roadmap



For an integrated approach to district heat modernization

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# Additional considerations for integrated planning

**New business models**  
(heat supplier + supplier  
of heat services)

- Does the regulatory framework allow for this?

**Municipal planning**

- Does the municipality carry out energy planning?
- How is supply and demand side considered?
- Is there room for more integrated thinking?

**Engagement is key**

- Engaging building owners, cooperatives
- Municipal buildings taking the lead – change in Eurostat guidelines

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# Resources

- Mazur J. and Bayer E. (2018): **Ścieżki modernizacji małych systemów ciepłowniczych**, Regulatory Assistance Project. (Modernization pathways for small district heating systems) <http://www.raponline.org/knowledge-center/sciezki-modernizacji-malych-systemow-cieplowniczych/>
- Rączka J. (2017): **Transformacja ciepłownictwa 2030, małe systemy ciepłownicze**. (Heat transformation 2030, small district heating systems) Forum Energii, RAP, CZliTT. [http://forum-energii.eu/files/file\\_add/file\\_add-100.pdf](http://forum-energii.eu/files/file_add/file_add-100.pdf)
- Rubczyński, A. and Rączka, J. (2017): **Ostatni dzwonek dla ciepłownictwa w Polsce**. (Last call for district heating in Poland) Forum Energii, RAP, CZliTT. [http://forum-energii.eu/files/file\\_add/file\\_add-97.pdf](http://forum-energii.eu/files/file_add/file_add-97.pdf)



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