

# SOCIAL SUSTAINABILITY- In the Context of DH Business Models

Project Summary

December 2025



LUND UNIVERSITY



DBDH



Research Institute for Urban Management and Governance



vito



City of Burnaby

Coordinator



# Project Team



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# The project

**The project:** Identifying social values in the context of DH competitiveness

- Social sustainability is not much discussed in the context of DH value generation
- Capitalizing on social values can increase the competitiveness of DH
- Understanding what social values can be capitalized in DH, resorting to a case study

**Project introduction and communication (link to the project webpage):**

<https://dbdh.org/can-a-sustainable-dh-business-model-be-decisive-for-future-competitiveness/>

**The project supports DH companies in strengthening their competitiveness**

# Objective and foreseen impact

## The objective of the project is:

- to understand if the social dimension of sustainability can change the business models of DH companies and increase their competitiveness

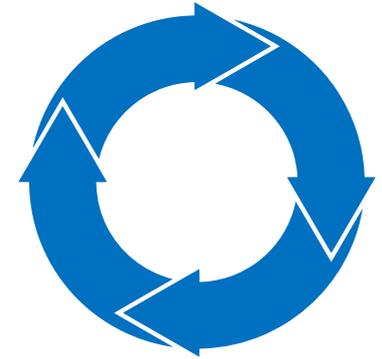
## The foreseen impact of the project is:

Meeting the objective will lead to raised awareness in DH companies on how to identify potential factors to generate social sustainability values as well as an understanding on how to start capitalizing on them

# Process of research

## An iterative process

- Value chain analysis (mature: SE, DK and maturing markets: BE, CAN): are there any social values in the value chains?
- Literature screenings (sustainable business models & socially sustainable business models & social key performance indicators)
- Interviews with stakeholders in a maturing DH market (Canada) setting a DH system based on waste to energy up in the Metro Vancouver area: open to including social sustainability values in the business model starting from the procurement phase
- Triple layered business model canvas was resorted to for the business model impact analysis



# Process of research

## The case study

- A maturing DH market: Canada
- The City of Burnaby in Metro Vancouver
- DH system to recover waste heat from an existing waste to energy plant
- Fully developed the system will supply heat to approximately 25 000 apartments and have a total length of 11 kilometers
- Will be one of the largest DH systems in Canada and reduce 30 000 tons of CO<sub>2</sub> /year
- The system will be owned and operated by the City of Burnaby
- The system will be commissioned in 2026-27

The case study was chosen because it is (i) in a DH market not yet mature, (ii) it was still in the planning phase allowing the research team to actively contribute to the business model features and (iii) the system has large economic and environmental values allowing a focus on the social element



# Process of research

## Interviews

- Based on literature review and value chain analyses an interview guide was developed and relevant stakeholders identified
- In one week 28 physical interviews were held in the area of Burnaby: allocated across the following stakeholders:

Stakeholder group	Number of respondents
1. DH companies (in Metro Vancouver)	7
2. Burnaby team	4
3. Policy makers and customers	10
4. Engineering companies	3
5. Architects and developers	4

# Results

- 24 relevant social key performance indicators were identified
- In Burnaby, the largest potential for social sustainability values were related to:
  - i) to create local jobs
  - ii) ensure transparent communication across the value chain
  - iii) invest in buildings to signal sustainability value
  - iv) keep the DH price at the same level or lower as other heating alternatives
  - v) engage in partnerships with the local community
  - vi) offer both heating and cooling
  - vii) consider sector coupling between DH and electricity.

# Conclusions

- DH companies have a potential to capitalize on social values to increase their competitiveness- by embedding the company into the local context
- It is not only DH companies that can work with social values, the values were also extended to electricity and gas as one part of the analysis in the project: however, in none of the sectors social values beyond the expected ones (related to employees' safety and wellbeing) social value capitalization was undertaken to any large extent
- To engage with social value creation needs to be an explicit, top down decision
- There is no need to make big shifts fast to realize the social values, rather a step-by-step approach seems feasible for shifting business logics and cultures towards increased social value creation

# Communication activities

- **Initial webinar**

<https://dbdh.org/social-sustainability-and-district-heating-in-canada-watch-now/>

- **Project diary –team onsite in Burnaby, October 2024**

<https://youtube.com/shorts/WS5BeK0tOwA?feature=share>

<https://www.youtube.com/shorts/s6YbSYNgrXU>

- **Podcasts** (<https://rss.com/podcasts/dbdh/>)

- Collaboration is bringing district heating to Burnaby in Metro Vancouver (SO3 E01)
- Embedding social sustainability in the district energy business model (SO3 E05)

# Communication activities

- **Joint event, Burnaby October 2024** (opened by the Mayor, 75 people attending): Powering Growth: District Energy In Burnaby + Beyond

<https://dbdh.org/powering-growth-district-energy-in-burnaby-beyond/>

- **HOTCOOL Magazine publications**

- District Energy in Burnaby, Canada, James Lota, Published in Hot Cool, edition no. 1/2025

- Embedding Social Sustainability in the District Energy Business Model, Kristina Lygnerud, Hot Cool, edition no. 2/2025

- **Smart Energy Systems Conference, 2025**

Video from presentation enclosed to final report as final recording from project

Scientific paper sent to Energies, invited post conference (on review when project was closed)

# Contact us!

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