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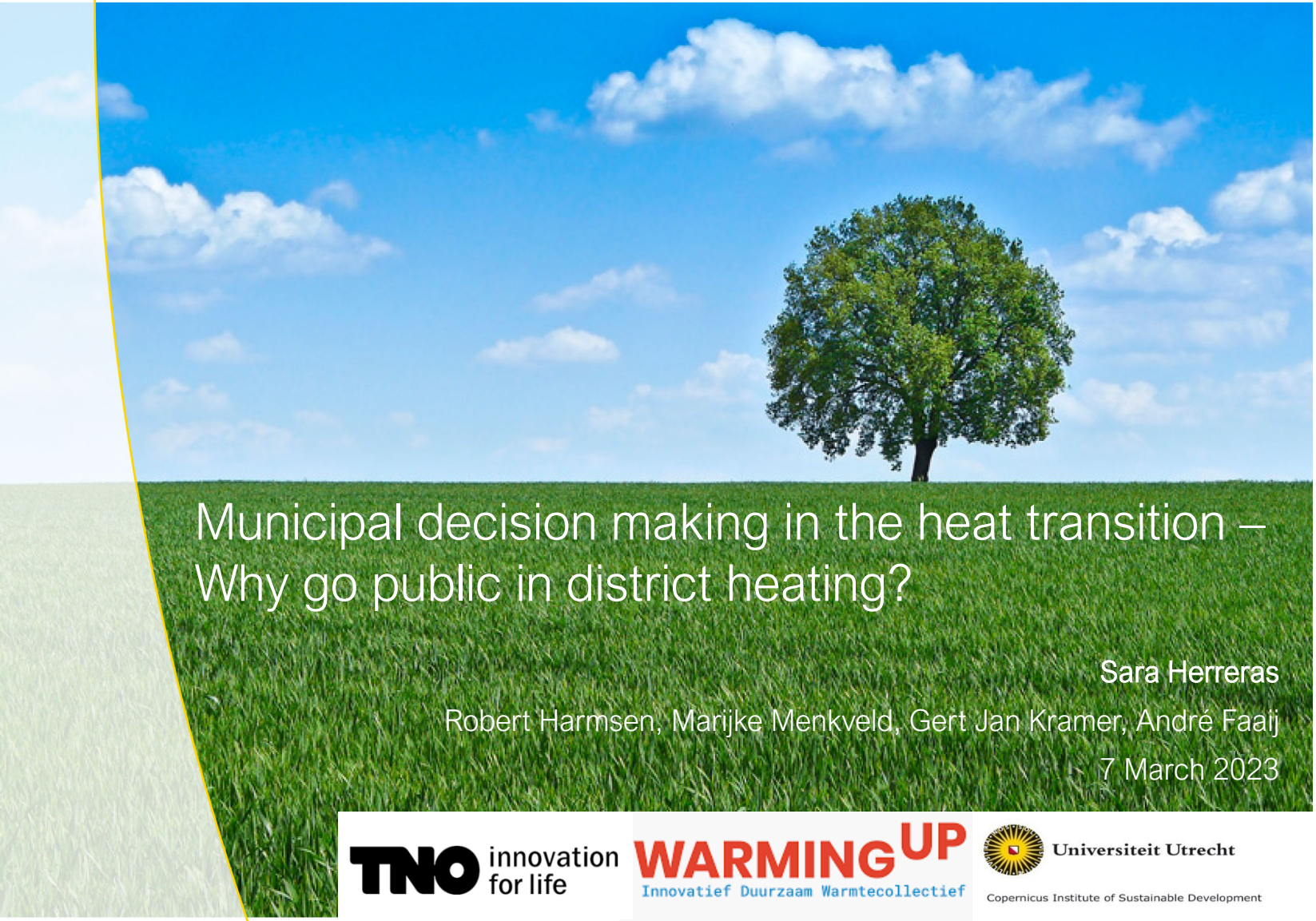

Municipal decision making in the heat transition – Why go public in district heating?

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7 March 2023

TNO innovation for life

WARMINGUP
Innovatief Duurzaam Warmtecollectief

Universiteit Utrecht
Copernicus Institute of Sustainable Development

Universiteit Utrecht

PhD: Decision-making of municipalities during heat planning and implementation

2020 — End 2023

Techno-economic analysis of potential decarbonization pathways at the local level

(Herreras *et al*., 2021)
Link publication

Techno-economic model for heat planning

- What are the strengths and shortcomings of current techno-economic assessments at the local level?

Municipal strategies during heat planning and implementation and main challenges

(Herreras *et al*., 2022)
Link publication

Urban planning and implementation

- Which choices (systems and areas) and under which criteria?
- Which are main challenges and policy recommendations?

Governance and organization

(in preparation)

Governance and organization district heating networks (today's focus)

- Which are public models?
- Why municipalities desire to safeguard public values in the roll out of district heating networks and what are critical views?

Challenges for the roll-out of citizen's cooperatives in the heat transition

- Which barriers encounter Dutch cooperatives?
- What best practices from Denmark and Germany can be applied to the Dutch context?

Why go public? – Motivation and research design

Previous research (2021):

Some municipalities unsatisfied with private models: seeking more control, several public companies being created

Discussions around public ownership during development new Heat Act (warmtewet)

Proposal central government	Production	Transport and Distribution	Supply	Share public in transport and distribution
Fully public	x	x	x	100%
PPP	x	x	x	≥ 51%
PPP		x		100%
PPP		x		≥ 51%

Research questions

1. Which governance models are found in existing and emerging public district heating projects?
2. What are the underlying reasons for public ownership in these projects?
3. What are the views of public and private stakeholders regarding public ownership of district heating projects?

Reflect on findings and draw policy recommendations

Research design:

- 16 (semi)public projects
- 31 interviews (74% public, 26% private)
- Document analysis

Analysis: Deductive and inductive coding

Five (semi)public models

DSO: Alliander | Stedin | Enexis

Model 1
Fully public
Vertically integrated

SVP, HVC, WarmteStad, Eindhoven

Model 2
PPP
Partial unbundling
(production unbundled)

Westpoort

Model 3
PPP
Unbundling of transport from distribution network and generation. Distribution and supply integrated

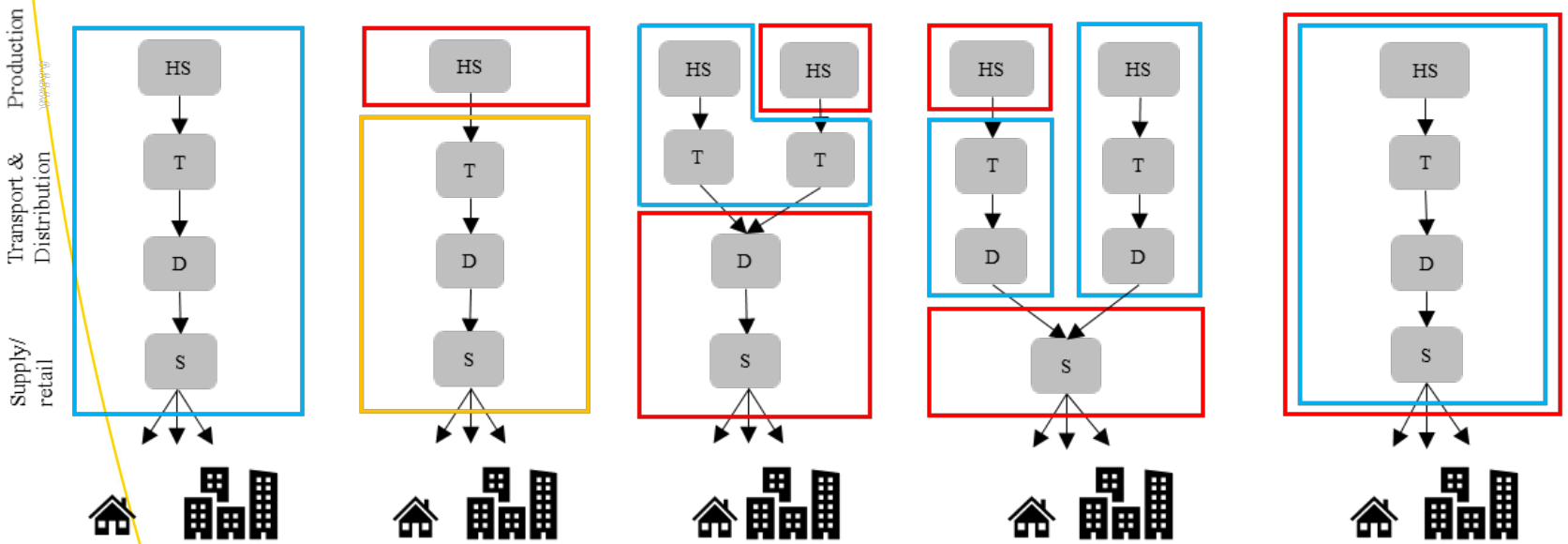
Indigo, WbR

Model 4
PPP
Full unbundling

Zaanstad, Montferland (under development in Dukenburg, Deventer, Haarlem, Apeldoorn, Lingewaard, GWIB model)

Model 5
PPP (public ownership, DBFMO contracts)
Vertically integrated

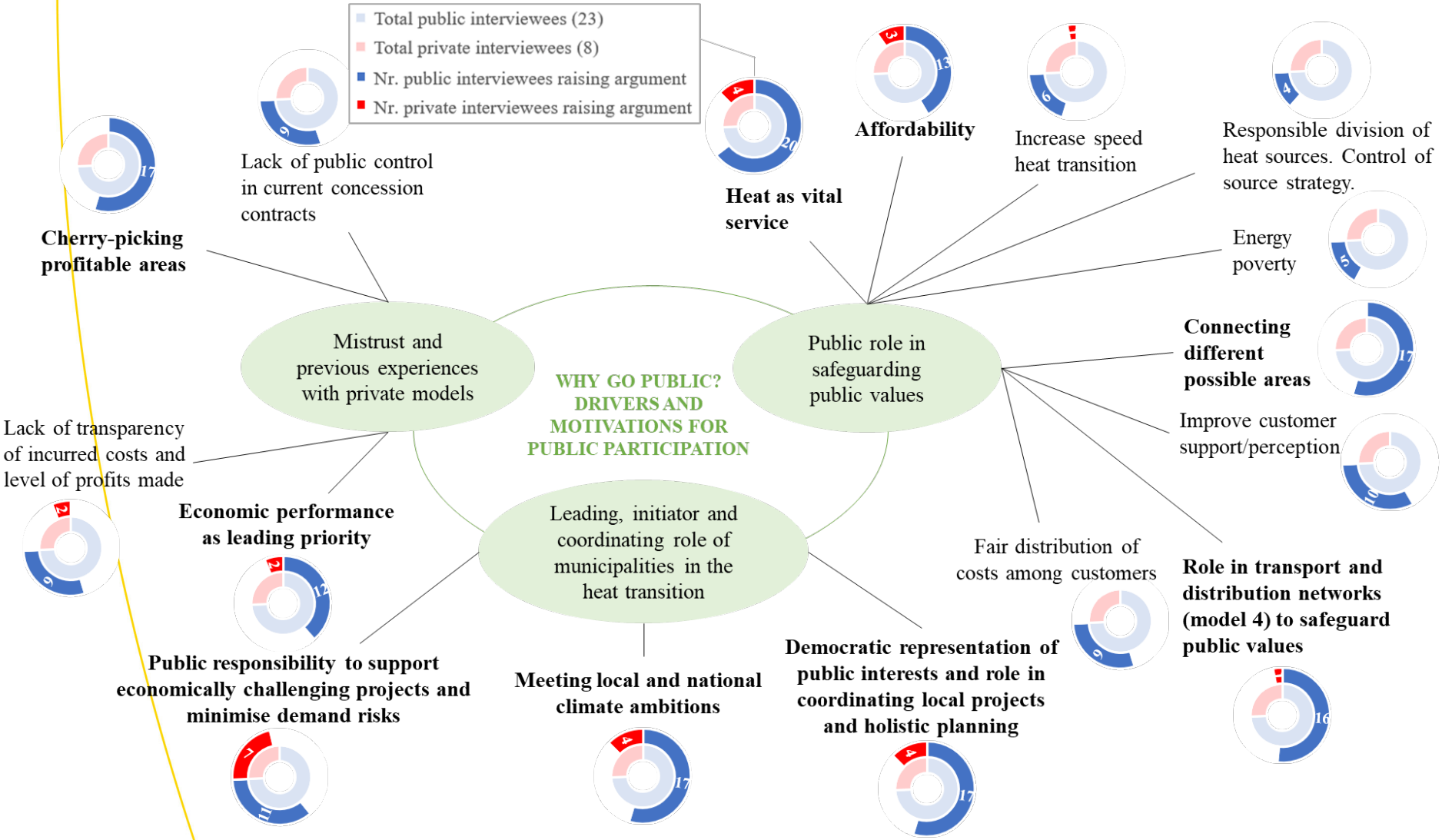
(under development in Katwijk)



HS: Heat source
T: Transport network
D: Distribution network
S: Supply to customers

Private | Joint venture public-private | Public

Drivers and motivations to go public



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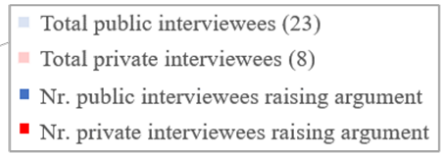
Critical views to go public



No guarantee for increasing the speed (some public models difficult to replicate in the short-term, complexity model 4, risks private investments on hold)

Shared responsibility to ensure affordability, sustainability, security of supply, and meet goals

Cherry picking to build scale and CO_2 reductions

No guarantee for lowering the costs

Risks of prescribing public ownership

Alternative arguments on safeguarding public values

Profits in private projects are used for social benefits and further development of DHNs

Limits flexibility, excluding other potential and workable models

WHY GO PUBLIC? CRITICAL VIEWS AND ARGUMENTS

Public values can be safeguarded in well-designed concession contracts and regulation

Existing and emerging public models raise critical questions

Problems of (existing) public models:

- **Lack of municipal capacity and expertise**

- Inadequate decision-making

- Ideologically-influenced decision-making

- Poor financial performance of some public companies

Problems of unbundled models (model 4):

- **Costly, complex, insufficiently demonstrated**
- **Influence role network operators (DSO) and their public/private character**

- **Unattractive business model for some private parties**

Final reflection

Disparities in views among public/private parties how to move forward, e.g.,

- Cherry-picking is a major issue or a good first strategy?
- Public ownership or outsourcing with public co-financing (subsidies)?
- Unbundling (public ownership in transport and distribution) a good model or not?
- Costs transparency versus commercial confidentiality
- Reduce rates of return or cover risks sufficiently?

→ Potential organisation challenges in PPP

But also, **key points of agreement**:

- Both public and private acknowledge the importance of each other's role → PPP needed (shared responsibility)

- Mandating public ownership may limit the flexibility of other workable models

Why go public? policy implications

Public role is key, but we'd like to challenge the notion of using public ownership as an instrument to solve current challenges:

1. Developing a shared vision, and successful cooperation between public and private actors might take time to develop fully, being essential to approach this process with patience. Could we expect full cooperation in the short-term from private parties? (minority voting rights)

2. A one-size-fits-all solution may hamper natural re-organisations and prevent the benefits of other models (e.g., Westpoort, Rotterdam, municipalities that prefer outsourcing)

3. The timely establishment of regulatory changes that safeguard public values may be more critical at this stage than prescribing nationwide public ownership → no other country with ownership prescription

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Thank you for your attention!

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