

Mapping Public Values in Local Energy Systems

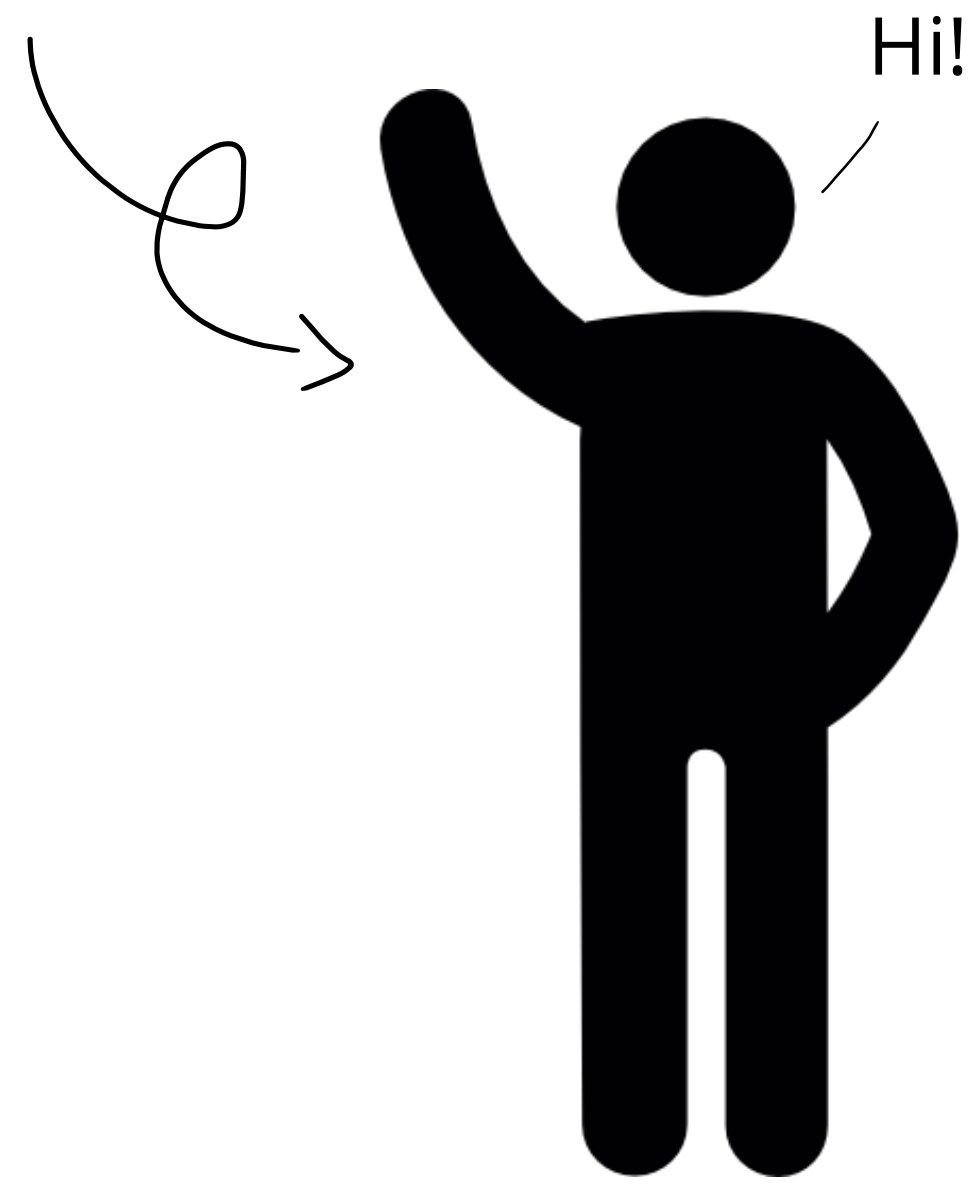
Identifying value conflicts, overlaps and mismatches in the development of local energy systems in disadvantaged neighborhoods

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This is you



You have been blessed by the Energy Transition gods..



..to develop a local energy system

Research question

What conflicts, overlaps and mismatches exist between the value patterns of disadvantaged households and those of system designers?

Local energy systems

Local energy systems are IT systems in which energy assets are monitored and (automatically) controlled through software to align local energy supply and demand and, as a result, alleviate net congestion.

Public values

Public values are collectively imagined forms of the social good (Demski et al., 2015). In other words, public values express ideas about both *how* and *to what end* local energy systems should be designed. These ideas are subjective, context-dependent and dynamic (Meynhardt, 2009; Taebi et al., 2014)

Value conflicts, overlaps and mismatches

Value conflicts occur when value patterns of designers and disadvantaged households are incompatible (Van de Poel, 2009). Value overlaps, on the other hand, indicate shared ideas of what constitutes the social good. Value mismatches occur when value patterns are not reciprocal.

Case: LIFE City Platform in the Netherlands

- Four-year pilot project
- Aim: Develop an inclusive local energy system
- Area: A mixed-use district in Amsterdam featuring large entertainment venues and a disadvantaged neighborhood
- Consortium: Local government, businesses, DSO, knowledge institutes and societal partners.

Q-methodology

The Q-methodology is a mixed qualitative-quantitative approach consisting of four steps (Sneegas et al., 2021):

Step	Description	Approach in this study
1	Identify participants (i.e., p-set)	P-set consists of designers (see 'Case: LIFE City Platform in the Netherlands') and disadvantaged households
2	Create a set of subjective statements that are representative of the different viewpoints on a certain topic (i.e., the q-set).	Q-set is created through participant observation in the LIFE project, document analysis, expert interviews and literature review
3	Let participants rank-order the statements from most to least corresponding with their view (i.e., the q-sorts).	In-person rank-ordering including a follow-up interview to gain insight in the motivations behind participants' prioritizations.
4	Analyze and interpret the q-sorts using the PQMethod software.	Conduct factor analyses and identify value patterns based on the results of the analyses.

Contact

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You are a self-respecting academic..

..so you start reading



What public values must the system adhere to?

Local energy systems must be just, affordable, reliable and sustainable!

In your infinite wisdom, you declare..



But then, it dawns on you



Justice, affordability, reliability and sustainability can be interpreted differently

Does justice equal equity, autonomy, privacy or transparency?

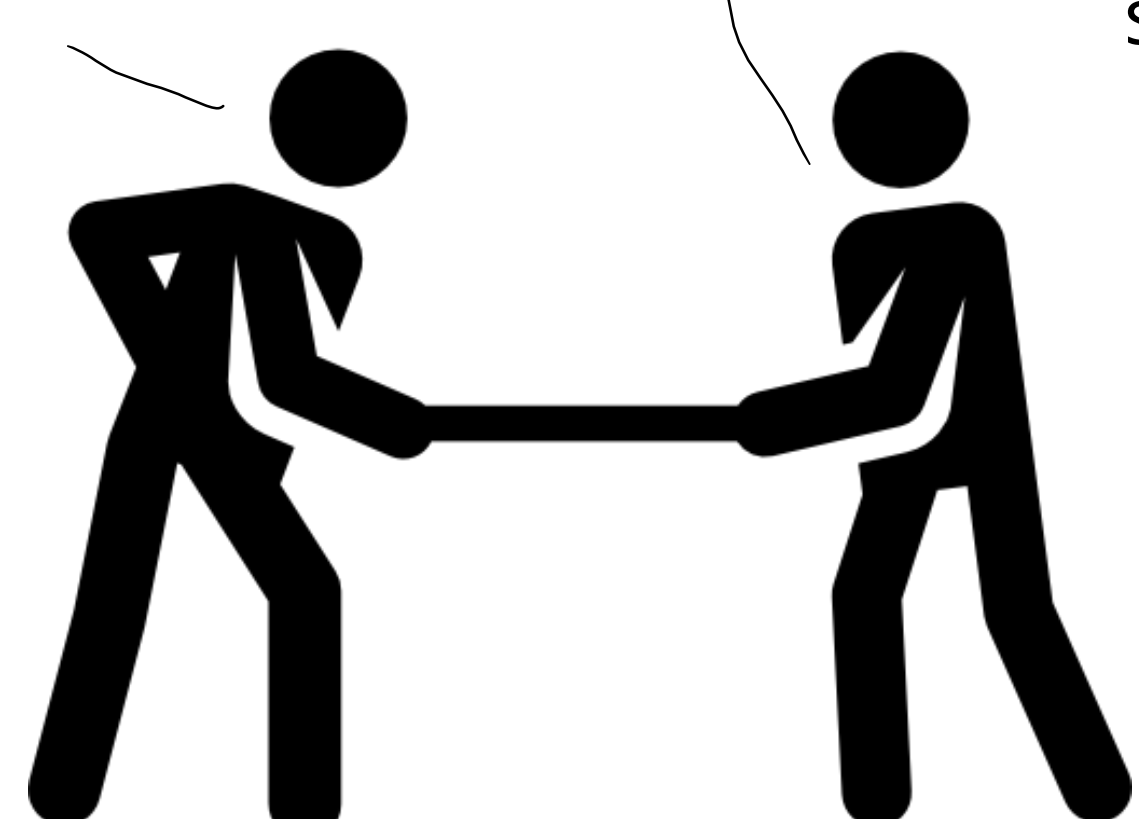
The problem does not stop there

Justice, affordability, reliability and sustainability can be prioritized differently

Do I choose privacy or controllability? Equity or efficiency? Profitability or environmental protection?



Autonomy and environmental protection!

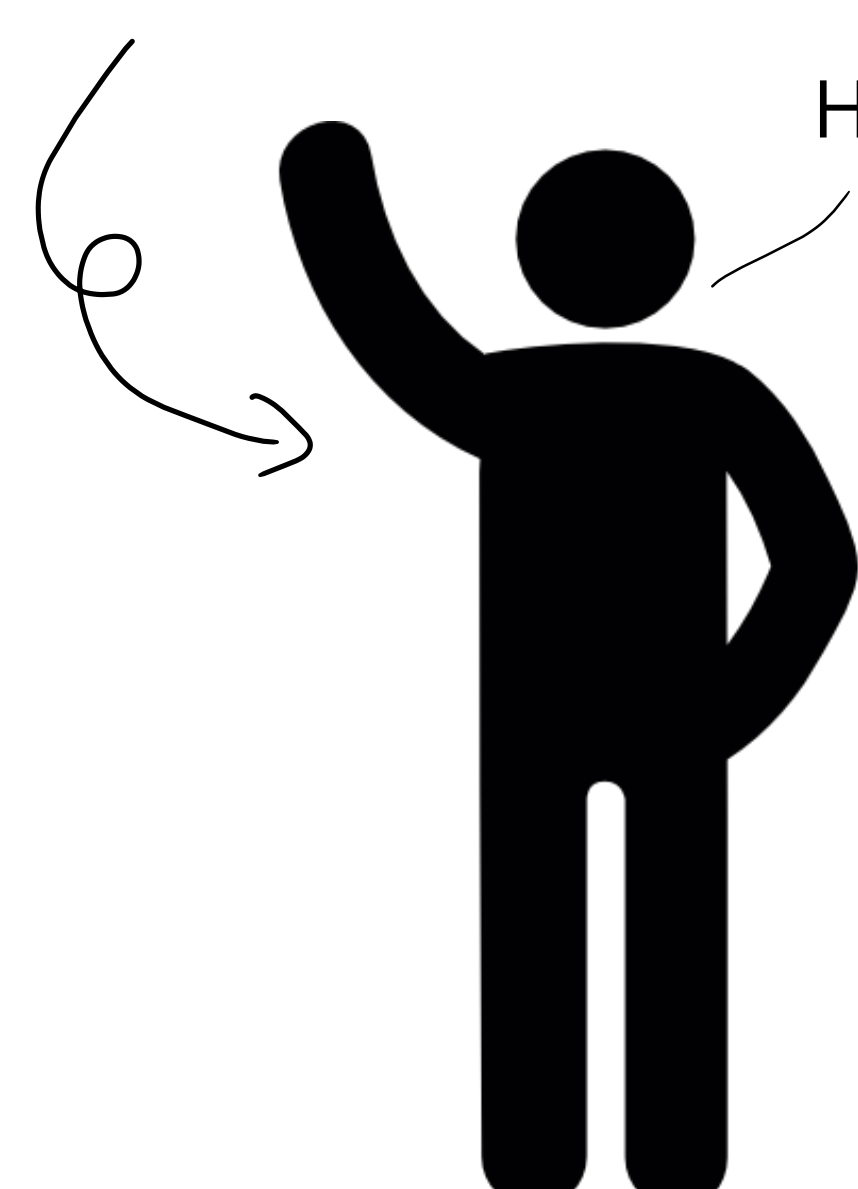


And the choices that you make as a designer..

No! I'd rather have a lower energy bill and security of supply!

.. may be different from the choices made by users

This is me



I am mapping the public values of designers and users

I focus on the understudied context of disadvantaged neighborhoods

Read more about my research on this poster or get in touch

1. Demski, C., Butler, C., Parkhill, K. A., Spence, A., & Pidgeon, N. F. (2015). Public values for energy system change. *Global Environmental Change*, 34, 59-69.

2. Meynhardt, T. (2009). Public value inside: What is public value creation?. *International Journal of Public Administration*, 32(3-4), 192-219.

3. Taebi, B., Correlje, A., Cuppen, E., Dignum, M., & Pesch, U. (2014). Responsible innovation as an endorsement of public values: The need for interdisciplinary research. *Journal of Responsible Innovation*, 1(1), 118-124.

4. Van de Poel, I. R. (2009). Values in Engineering Design. In A. Meijers (Ed.), *Philosophy of Technology and Engineering Sciences* (pp. 973-1006). Amsterdam: Elsevier.

5. Sneegas, G., Beckner, S., Brannstrom, C., Jepson, W., Lee, K., & Seghezzi, L. (2021). Using Q-methodology in environmental sustainability research: A bibliometric analysis and systematic review. *Ecological Economics*, 180, 106864.