

“How scenarios can facilitate local energy planning in cities”

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“How scenarios can facilitate local energy planning in cities”

Scenarios

Decarbonised energy system scenario with balanced and sustainable local energy demand and supply

Local energy planning

Objectives and actions determined and assigned to achieve decarbonised local energy system



“How scenarios can facilitate local energy planning in cities”

Right now decarbonised energy scenarios insufficiently facilitate local energy planning

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Due to

1. The users of the scenarios

and

2. The way scenarios are made and presented



1. The users of the scenarios

City authorities generally do not do “energy planning”

Authorities occupy themselves with urban planning tasks (direct actions and measures)

They focus on shorter term goals (5-10 years)

Long-term scenarios are not seen as practical

They extract from scenarios but do not use them as a guide

They outsource the development of scenarios and take what they see relevant



2. The way scenarios are made and presented

Scenarios are often based on techno-economic system engineering

City authorities and related actors do not think about energy systems

The role of city authorities and related actors is unclear in the energy transition

Scenarios should be aimed at numerous actors such as intermediaries (e.g. ProjectZero in Sonderborg)



Energy System Integration Turn and Future research agenda

Research already done on

Energy scenario cases in cities

Urban planning for climate change

Methods available for scenarios and Integrated Energy Planning, Socio-Technical scenarios

Energy System Integration Turn

New concept shifting from Smart City

to Smart Integrated City

New focus shifting from Energy City Networks

to Energy Associations/Energy NGOs/Intermediaries

New scenario context shifting from only system engineering (rationality-centred)

to Socio-Technical Scenarios (actor & rationality-centred)

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Relevant studies

- Maya-Drysdale, D., Jensen, L.K., Mathiesen, B.V. (2020) **Energy Vision Strategies for the EU Green New Deal: A Case Study of European Cities**. *Energies*, 13, 2194. doi:10.3390/en13092194
- Ben Amer, S., Gregg, J.S., Sperling, K., Drysdale, D. (2020) **Too complicated and impractical? An exploratory study on the role of energy system models in municipal decision-making processes**. *Energy Research and Social Science*, 70. doi: 10.1016/j.erss.2020.101673
- Johannsen, R.M. , Østergaard, P.A., Maya-Drysdale, D. (2020) **Designing tools for energy system scenario-making in municipal energy planning**. Unpublished.



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