Smart Energy System Conference
Alborg University, Copenhagen, Denmark
16/09/2025

Inclusive communication ecologies for just energy transitions

Case studies from Positive Energy Districts across Europe

Other institution logos

Presenter: Minh Thu Nguyen, PhD
Co-authors: Anders Horsbøl, Klaudia Tolstow, Kristian Borch, Mark Wiering, Martijn Gerritsen, Rolf Andre Leidland, Susana Batel

Context

- The rise of electricity prices and the urgent need to tackle climate change in Europe affects unequally vulnerable citizens (Sovacool et al., 2017)
- Positive Energy Districts (PEDs) proposed as solution to tackle energy vulnerability by offering affordable energy price and social solidarity (Hearn, 2022)
- However, citizen's participation in PEDs are mainstreamed as prosumer or consumer, which usually excludes energy vulnerable groups and collective actions (Nguyen & Batel, 2024)
- Misrecognition and limited platforms for vulnerable citizens to participate and organize themselves in PEDs contributes to energy poverty and energy vulnerability (Middlemiss, 2022)
- Political impact of energy injustices in PEDs may fuel the rise of far-right populism (Batel et al., 2024)

→ Research need: Energy support systems and participation platforms wherein vulnerable citizens are recognized and empowered to participate.

COPPER- Working Package 2

- **COPPER :** Creating, Optimizing and Planning Positive EneRgy districts: connecting citizens' energy at different geographical levels
- **Working package 2**: Human-centric PEDs and citizens' networks
- **Objectives**: Co-develop and assess citizens-based support and information systems, indicated as P2P platforms, in a way which is inclusive of energy vulnerable groups and which fosters active energy citizenship.

- Who are energy vulnerable groups?
- What are their lived experiences of energy vulnerability?

- How do current citizen support and information systems allow them to address their vulnerability (or not)?
- What knowledge and participation platforms do they need to deal with energy vulnerability?

-> Embedded in local context of PEDs, citizen engagement and vulnerability recognition is different across European countries

Communicative ecology framework
(Altheid, 1994)

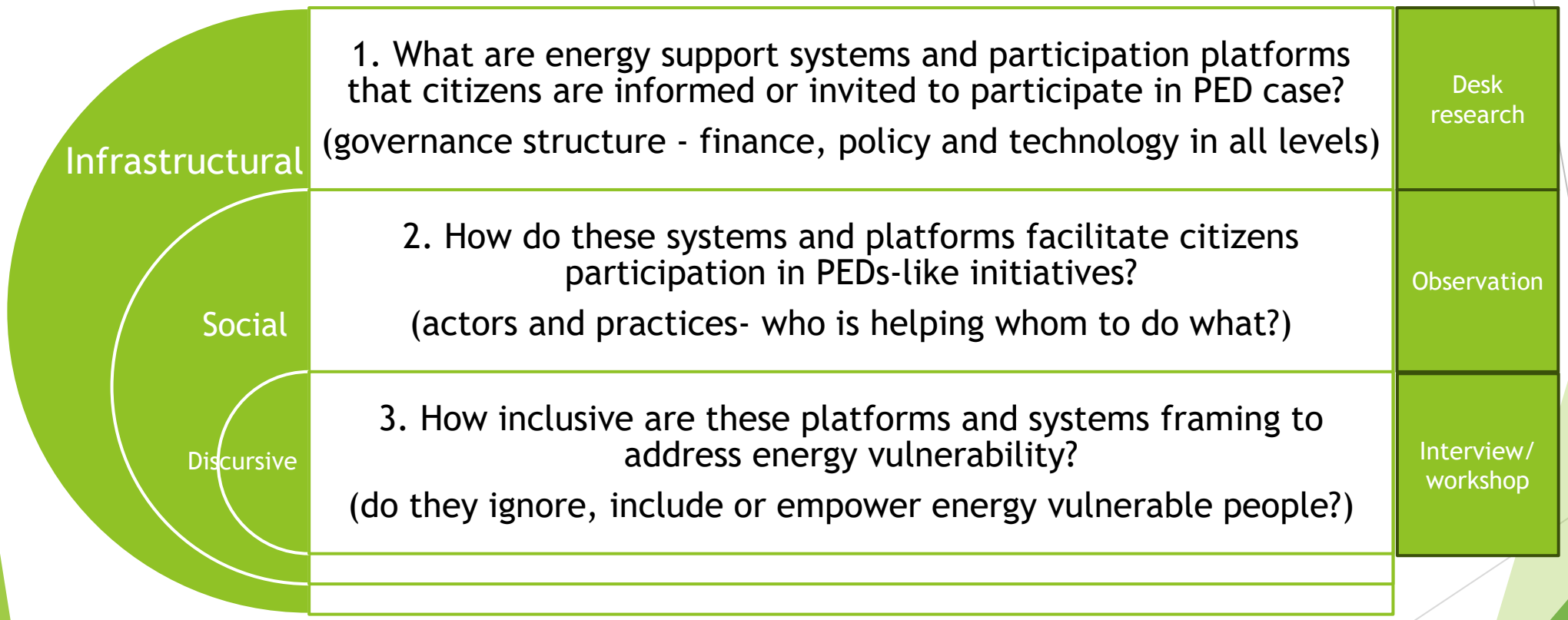
- *Communicative ecology as **a milieu of agents** who are connected in various ways by various **exchanges of mediated and unmediated forms of communication** (Tacchi et al., 2003).*
- *Emphasis on the **meaning** that can be derived from **the socio-cultural framing** and analysis of the **local context** which communication occurs in.*
- Three layers of analysis (Foth & Hearn, 2007):

- **Technological** (or infrastructural/material) **layer** – the devices and connecting media, (and governance structure), that enable communication and interaction.

- **Social layer** – people and social modes of organising those people such as friendship groups, community organizations, companies or legal entities.

- **Discursive layer** – content of communication, the ideas or themes that constitute the known social universe that the ecology operates in.

Research questions and methods used



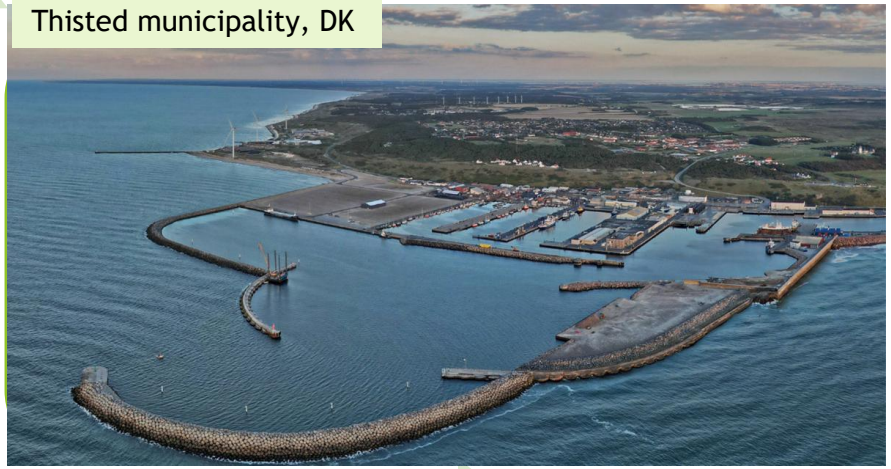
National contexts of energy support system and participation platforms

Countries	National level	Regional/intercity level	Local level
Portugal	**ERSE**: consumer survey and supplier's comparison tool, **DECO**: Energy advisory office to consult energy poverty	**Coopérnico**: Toolkit to set up REC for energy solidarity, **Somos Energia**: Energy literacy for solar adoption (by SEYN and EDP)	**Just a change**: Retrofitting and energy efficiency literacy **Others:** energy shop, sustainable fair, associations…
Netherlands	**Energie Samen**: energy cooperative platform and academy, **Local4Local program**: pilot energy sharing between ECs	**Large energy cooperatives** (e.g. Deltawind, Zuiderlicht, Grunneger Power): knowledge sharing platform	**Energy coaches**/fixers per neighborhoods **Grassroot P2P platform** (Burgersteunpunt Energietransitie Nijmegen)
Denmark	**Energifællesskaber Danmark**: knowledge sharing and generate interest for ECs	**EBO Consult**: EC consultancy and handbook for ECs, **Thy model**: Thisted municipality initiative	**Energy Associations**: Network meetings to share experiences in energy matters
Norway	**Smart Innovation Norway**: assists businesses and the public sector with networks, capital, and expertise in energy transition	**Nodes:** market platform provides a route to market for flexibility service providers	**Energy festival:** Energy literacy **Climathon: :** Awareness raising bout climate actions

PED cases selection

Hengsdalt, Nijmegen, NL

Thisted municipality, DK

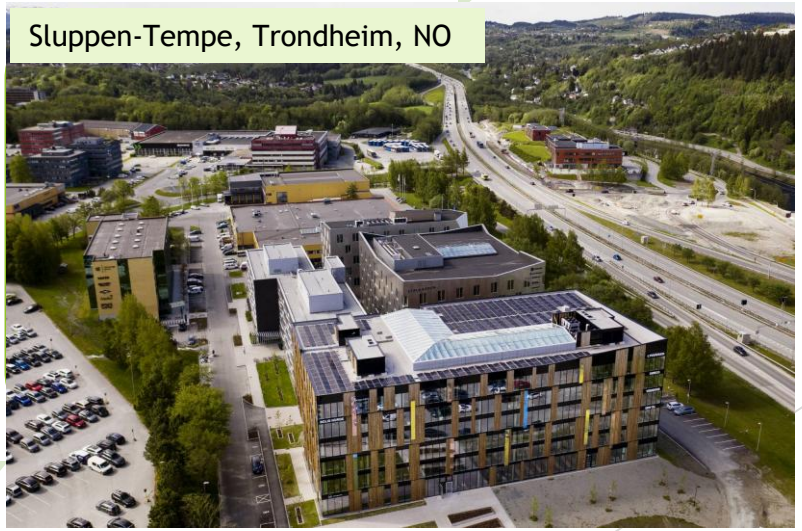


Positive Energy Districts development

Citizen engagement

En.S.Vicente, Torres Vedras, PT

Sluppen-Tempe, Trondheim, NO



Citizen’s participation platforms

What is an energy association?

An energy association looks after the interests of the local community when energy plants are to be planned in the local area. For example, solar cells or wind turbines.
An energy association can also have other members. This can include local businesses, local heating plants, local landowners and agriculture.

Thisted Municipality, DK

Open Access Article

Prevailing Approaches and Practices of Citizen Participation in Smart City Projects: Lessons from Trondheim, Norway

by Savis Gohari [1,*], Daniela Baer [2], Brita Fladvad Nielsen [1], Elena Gilcher [3] and Welfry Zwestin Situmorang [1]

“Usually people use a volunteer organization, called ‘Velforening’ in a private housing area, or board, called ‘styre’ within a corporate housing area (borettslag), to deliver their opinion to the municipality. Velforening or board does not have any legal authority but if many people join it and become active, it will have a power” (I8).

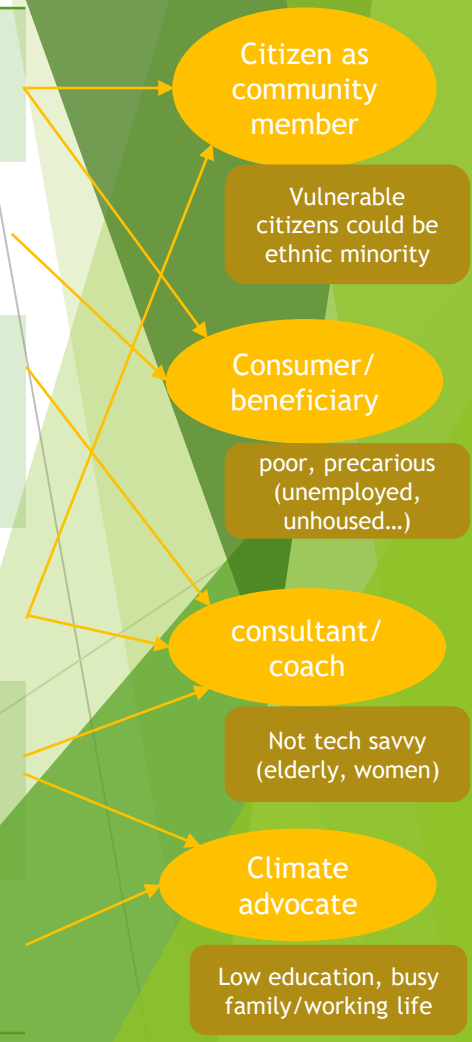
“The point is that it is better to deliver our opinion as a community group, since the opinion from a single person sometimes is not heard” (I9).

“People can use two channels to deliver their opinion: 1. through the politicians and 2. through the municipality’s administrative. The former can be more effective because politicians’ position depends on people’s election” (I10).

Sluppen-Tempe, Trondheim, NO

Result 1: Communicative ecology analysis of energy support and participation platforms

Platforms	Types and means (infrastructure layer)	Organisation (infrastructure layer)	Participation (social layer)	Framing of topics (discursive layer)
Somos Comunidade (PT)	Social network and workshops, meetings, news paper, TV	Citizen group, funded by local association and cooperative	Community and citizenship building of vulnerable residents	Healthy, inclusive neighbourhood and social solidarity
Smart AT, Locatee, Just a change (PT)	Energy shop, e-balcão and offline store, door-to-door, NGOs	Expert team, funded by municipality, EU program or volunteer	Technical and financial support for retrofitting and solar adoption	Energy poverty and climate action
Steunpunt Energietransitie (NL)	Energy coach, energy festival, energy shop, workshop, newsletter	Citizen group, in corporation with other association/CSO	Energy efficiency knowledge sharing and collective buying of solar PV	Public interest in energy solutions that move away from the use of natural gas
Buurtwarmteco öperatie Hengstdal (NL)	Meetings, information sessions, face-to-face, festival, newsletters	Citizen group, with help of kwartiermaker and municipal funding	Community building and knowledge sharing on heating	Affordability, involved in own neighbourhood and solidarity
Energy associations in Thisted (DK)	Website, citizen meetings, informal communication	Team Energy from municipality reaches to citizens through CSOs	Information on local project suggestions, independent consultancy	Contribution to green transition + local development fairly
Klimaløftene (NO)	Website, open meetings, open office hours	Municipality with Bold City Vision, integrating PEDs in urban planning	Citizens can comment on plans and suggest actions	Awareness and acceptance of PED, increase replication



Citizen’s workshop with vulnerable groups

LUNCHWORKSHOP - HATERT, EEN WIJK VOL ENERGIE!

ZIT JIJ ER WARMPJES BIJ, DEZE WINTER? LEREN VAN ERVARINGEN

De bladeren vallen, het is weer tijd om de verwarming aan te zetten. Maar voor lang niet iedereen is dit vanzelfsprekend. In Nederland zien zo’n 600.000 huishoudens op tegen een (te) hoge energierekening. Veel mensen zetten daarom de verwarming of heel laag of helemaal niet meer aan. De rekening blijft dan wel laag, maar de gevolgen voor gezondheid en welzijn kunnen zeer schadelijk zijn. Speelt dit ook in Hatert? En wat kunnen we hier dan samen aan doen?

Krijg jij hier ook energie van? Dan zien we je graag op 15 november! I.v.m. de lunch is het fijn als je je uiterlijk 13 november aanmeldt via de QR code --> of via: https://forms.office.com/e/LianmuVNrG

In samenwerking met:

STEUNPUNT ENERGIETRANSITIE · HAN UNIVERSITY OF APPLIED SCIENCES · BINDKRACHT10 · Radboud Universiteit · COOPPER · DUT · Co-funded by the European Union

*Deze activiteit is onderdeel van de **Nijmeegse Energie-4Daagse** die plaatsvindt van 12-16 november. Allerlei activiteiten in en om Nijmegen worden afgesloten met een gratis Energie-Markt in De Vasim op zaterdag 16 november van 11-17 uur. Voor het hele programma zie: **steunpuntenergietransitie.nl/energie-4daagse***

13.55u
Opbrengsten van de dag

Hatert, Nijmegen, NL

En.S.Vicente, Torres Vedras, PT

Result 2: Recognition justice and approaches to energy vulnerability

- Beyond accessibility and affordability of electricity, shifting from “to have” means to access energy services adequately to “to be” well and comfortable (Fromm, 1976)
- Recognition of energy vulnerability is ambivalent (Schick, 2022) and embedded in context, e.g. infrastructure and climate conditions, energy price and energy efficiency norms
- Intersection between energy, mobility and housing, between domestic and social spaces (Samora-Arvela et al., 2024)
- Redefining vulnerable groups from lack of information and means to participate in private sphere (Hearn et al., 2022) to lack of trust, skills and support networks to participate in public sphere (Nguyen & Batel, 2021)
- **Energy vulnerability is not only a condition (such as precarity) or a consequence of structural processes (such as dependency on central-grid electricity) but also a lived experience of navigating changes (such as energy flexibility in PEDs)**

Conclusion: Inclusive communication ecology for just energy transition

- **In planning:**

Breaking the sectoral silo in planning for PEDs, create inclusive infrastructures.

Intermediaries such as housing collective, NGOs to include more voices from vulnerable groups in policy advocacy and project design processes

- **In practice:**

Create platforms to foster social bonds and collaboration between different groups and actors such as group meetings, informal dialogues…

Direct and multi-channels to reach out to vulnerable groups such as radio, news paper, door to door, energy hub/association

- **In research:**

Communication ecology framework critically assesses and improves infrastructure, social and discursive layers

More creative methods and spaces for recognizing lived experiences of energy vulnerability such as co-creation workshop

Ethics in research on vulnerable groups: recognizing their agency and avoid stigmatization

Thank you!