



# LUND UNIVERSITY

## Smart grids, grid tariffs, and household voices in Sweden

Reindl, Katharina; Palm, Jenny

2026

[Link to publication](#)

*Citation for published version (APA):*

Reindl, K., & Palm, J. (2026, Jun). Smart grids, grid tariffs, and household voices in Sweden. IIIIEE, Lund University.

*Total number of authors:*

2

### General rights

Unless other specific re-use rights are stated the following general rights apply:

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Read more about Creative commons licenses: <https://creativecommons.org/licenses/>

### Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

LUND UNIVERSITY

PO Box 117  
221 00 Lund  
+46 46-222 00 00





LUND  
UNIVERSITY

Policy Brief  
JUNE 2026

# Smart grids, grid tariffs, and household voices in Sweden

KATHARINA REINDL, JENNY PALM

IIIEE – THE INTERNATIONAL INSTITUTE FOR INDUSTRIAL ENVIRONMENTAL ECONOMICS,  
LUND, SWEDEN

## INTRODUCTION

The electricity system around the world, including in Sweden, is changing to handle more renewable energy and higher electricity demand. As a result, smart grids and new grid tariffs are key parts of this change. Households are expected to play a big role in the future electricity system being asked to respond to price signals, invest in smart technology, or accept new tariff structures. Thus, policies regarding smart grids and new grid tariffs often expect households to use electricity more flexibly, for example, by shifting use to different times of day and they commonly see households as one unified group. However, household policies are often developed with little or no input from the households themselves. There is a risk that this leads to unfair outcomes, low public trust, and ineffective policies in practice.

In our research, we examined how households are represented in Swedish policies on smart grids and grid tariffs, exploring what these policies expect households to do, whether households are included, how much influence they have, and whether questions of justice are taken into consideration. The analysis focused on national smart grid strategies and grid tariff reforms, drawing on policy documents, consultation responses, and semi-structured interviews with representatives from organisations involved in or commenting on the policy processes, as well as other relevant stakeholders, such as public authorities, industry organisations, consumer and housing associations, research institutes, and consultants.



# Key findings

For our analysis we developed four analytical dimensions to operationalise energy democracy in smart grid and tariff policymaking. We focus on how household representation is structured in policymaking, including

which actors participate, how households are framed, what responsibilities they are assigned, and how justice concerns are recognised in the design of smart grid and tariff governance.

Dimension	Key question	Our empirical material
<b>Actors and representation</b>	Who has a voice in the policymaking process? Who represents households?	<b>Households have little voice in policymaking</b> Households are usually not directly represented in smart grid and grid tariff policy processes; most participants are experts, consultants, grid companies, and authorities. Consumer and housing organisations are sometimes involved but often lack time and resources. Therefore, decisions are made about households without households actually being meaningfully involved.
<b>Framing</b>	How are households portrayed and positioned in policy discourse?	<b>Households are treated as system tools, not democratic actors</b> Policies mainly describe households as electricity users who should react to new technology, price signals or provided information. Households are often regarded as a unified group and are expected to adapt to the system rather than influence how it is designed. Participation is framed as changing behaviour, not as helping shape decisions.
<b>Capacity and responsibility</b>	What capacities are assumed? What responsibilities are assigned to households?	<b>Policies assume households have similar abilities and resources</b> Many policies assume households will simply understand complex tariffs and all have equal access to smart technologies. In reality, households differ in income, housing type, health, age, or their daily routines, and thus in their control over energy use. For example, people in apartments, low-income households, and elderly users often have limited ability to respond.
<b>Justice and equity</b>	How are fairness, distributional impacts, and diverse household circumstances addressed?	<b>Risks of unfair outcomes are acknowledged but not fully addressed</b> Many interviewed stakeholders and organisations responding to the consultation warn that new tariffs may benefit households that can afford automation and technology. And there is the risk that other households pay more simply because they cannot change their electricity use. Despite these concerns, justice and equity are rarely built into policy design in a systematic way.

## WHY CURRENT APPROACHES FALL SHORT

Even though consultation processes are formally open, mainly professional actors contribute. Often, technical and economic thinking dominate, while everyday experiences are overlooked. Further, this leads to the situation in which the same actors contribute, and the same ideas are reused over time, limiting learning and innovation. This creates a gap between ambitious policy goals and the real-life situation of the different households.



# Policy implications

---

## 1. STRENGTHEN HOUSEHOLD REPRESENTATION

Smart grid policies affect households in real ways. Policymaking should include actors who can represent household interests, such as consumer and tenant organisations, municipal energy advisers, or citizen panels.

## 2. LINK PARTICIPATION TO REAL IMPACTS

Participation should reflect who is affected by smart grid policies. Expert only processes risk overlooking fairness issues and limiting learning.

## 3. ADDRESS EQUITY DIRECTLY IN POLICY DESIGN

Policies should recognise that households have different resources and capacities. Equity concerns should be considered before policies are implemented, not after.

## 4. SUPPORT INTERMEDIARIES PROPERLY

Meaningful representation requires clear mandates, sufficient resources, and organisational capacity for actors who speak on behalf of households.



## 5. DO NOT ASSUME DIGITAL SYSTEMS ARE AUTOMATICALLY INCLUSIVE

Digital and smart energy systems do not automatically lead to more democratic governance. Inclusive outcomes require deliberate design and strong participation processes.

For smart grids to be socially sustainable, households should not be viewed simply as users, but recognised as stakeholders. It is important to create better representation, clearer attention to fairness, and realistic assumptions about the everyday lives of different kinds of households. A successful energy transition is not only about efficiency and technology, but it is just as much about legitimacy, trust, and justice.



## Are you interested in finding out more?

### The research article this brief is based on:

Palm, J., & Reindl, K. (2026). Smart grids and energy democracy: How households are represented in Swedish energy policymaking. *Journal of environmental policy & planning*.

### The overall project:

<https://portal.research.lu.se/sv/projects/electricity-transition-through-intermediaries-consultants-in-the-/>

### Related policy brief

[https://lucris.lub.lu.se/ws/portalfiles/portal/194522217/Circular\\_Economy\\_Integration\\_in\\_Smart\\_Grids\\_Policy\\_Brief.pdf](https://lucris.lub.lu.se/ws/portalfiles/portal/194522217/Circular_Economy_Integration_in_Smart_Grids_Policy_Brief.pdf)

### Blog post based on the article:

<https://iiieenergyblog.wordpress.com/2026/05/21/smart-grids-flexible-electricity-use-and-the-missing-household-voice-in-the-energy-transition/>

<https://www.linkedin.com/pulse/smart-grids-flexible-electricity-use-qj41e/>

### Related blog posts based on smart grids:

<https://iiieenergyblog.wordpress.com/2024/05/28/circular-economy-in-smart-grid-developments-a-pathway-to-sustainable-energy-systems/>

<https://iiieenergyblog.wordpress.com/2024/01/31/the-story-of-electricity-and-the-grid-on-its-way-to-becoming-a-sustainable-and-smart-grid/>

<https://iiieenergyblog.wordpress.com/2026/04/29/smart-grids-then-and-now-lessons-from-the-past-and-future-directions/>

### CONTACT:

Katharina Reindl: [reindl.katharina@gmail.com](mailto:reindl.katharina@gmail.com)

Jenny Palm: [jenny.palm@iiie.lu.se](mailto:jenny.palm@iiie.lu.se)

### ACKNOWLEDGEMENTS:

This brief is based on the study "The cloud has wires: Toward circular governance of smart grids", written and conducted by Georgios Pardalis, Jenny Palm, and Katharina Reindl. The research was supported by the Swedish Energy Agency (50538-1) and the Kamprad Family Foundation.

Open-access funding is provided by Lund University.