

**SteuerBoard
Energie**

Governance Mechanisms
in a Future Polycentric
Energy System

SELF-CONSUMPTION IN ENERGY COMMUNITIES

Swantje Gährs

Impulse for the panel discussion

Summer School Energy
*Financing, participation, and
environmental protection in community
renewable energy projects*

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WHY SELF- CONSUMPTION IS AN ISSUE

_The energy transition first requires a change in energy generation

_This results in further necessary change

_Flexibility in consumption

_Relief for the power grid

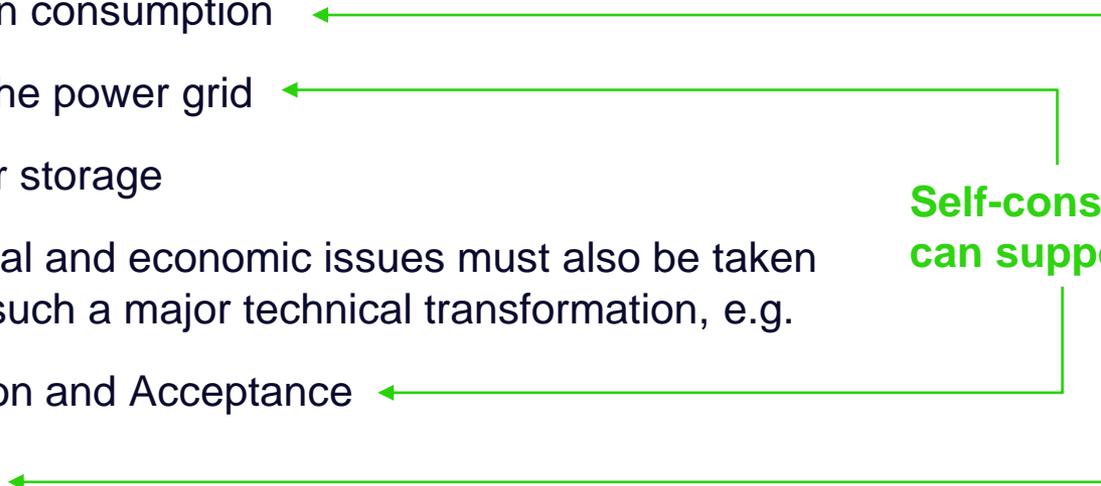
_Options for storage

_Social, ecological and economic issues must also be taken into account in such a major technical transformation, e.g.

_Participation and Acceptance

_Financing

**Self-consumption
can support these**

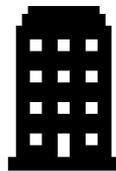


AVERAGE PV SELF-CONSUMPTION IN GERMANY

Single family house



Multi family house



District



City / Region



Self-consumption

~40 % [1]

~60 % [2]

~60 % [2]

~26 % [3]

Self-sufficiency

~20 % [1]

~30 % [2]

~30 % [2]

**Different assumptions
for PV sizing!!**

Sources: [1] Doračić, Borna; Knoefel, Jan; Naber, Nanda (2020): Report on local, national and EU scenarios. (<https://doi.org/10.5281/zenodo.3726912>)
 [2] Astrid Aretz, Swantje Gährs, Jan Kegel (2022): Mieterstrom zukunftsfähig machen. Ecoronet Berlin Policy Brief Nr. 3 ([Download](#))
 [3] Wiesenthal, Jan; Aretz, Astrid; Ouanes, Nesrine; Petrick, Kristian (2022): Energy Sharing: Eine Potenzialanalyse ([Download](#))

REGULATION AND ECONOMICS

_Feed-in tariff [e.g. Germany]

_Whether self-consumption or feeding in is more feasible, relies on the difference between electricity price and FIT

_RE plant might not use the whole space, e.g. roof top, because its not feasible

_(Virtual) Net metering [e.g. Greece]

_“Good” size of RE plants can be calculated quite easy and the calculations are transparent

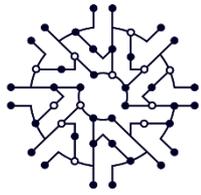
_There is no incentive to relief the grid or be more flexible

_Several other concepts like net billing [e.g. Spain] or Time-of-Use Tariffs

HURDLES AND GOOD PROGRESS

- _Self-consumption, especially if its not behind the meter, is often a regulatory patchwork and very different across Europe
- _There is often a clear strategy missing on what to encourage (RE expansion, level-playing-field, grid relief, flexibility) and how
- _But since the clean energy package is in force, things slowly start to change
 - _A lot of member states passed new laws on collective self-consumption and energy communities
 - _Energy sharing is already possible in some member states

The first few steps are done, but there is still a long path to walk!



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Thank you.

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