The Importance of Citizens-Energy-Cooperatives for the Production of Renewable Energy in Germany

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Partners of Connective Cities

Deutscher Städtetag

ENGAGEMENT GLOBAL Service für Entwicklungsinitiativen

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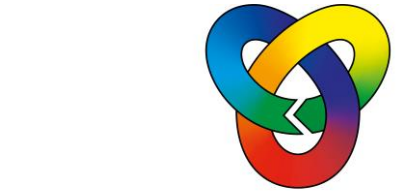
Who am I?

- Study of agriculture, thesis was about the heavy-metal transfer from soil to plants
- From 1991 until 2021 City Cleaning Company of Hamburg, since 2007 as agent for climate protection and energy efficiency



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- Since 2007 founding and management board member of [Citizen solar power plants] „Bürger-Solarkraftwerke Rosengarten eG“

Bürger-Solarkraftwerke
ROSENGARTEN eG
Sonnen-Energie für die Region

- Since 2013 founding and supervisory board member of [Energy Network] „Energienetz Hamburg eG“

ENERGIENETZ
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- Now: Early retirement

Definition of these cooperatives:

„Citizens' energy cooperatives (often simply referred to as energy cooperatives) are actors in the energy industry in the legal form of a registered cooperative, which usually pursue the goal of decentralized, group-independent and ecological energy production“

Main Goals:

- Public participation
- Bottom up
- Low-threshold offer
- One men one vote
- Local organisation
- Production of renewable energy
- Sometimes: reasonable green electricity for the members

Main Tasks:

- Planning
- Financing
- Construction Management
- Operation
- Supplier for direct consumers

Facts about Energy Cooperatives in Germany

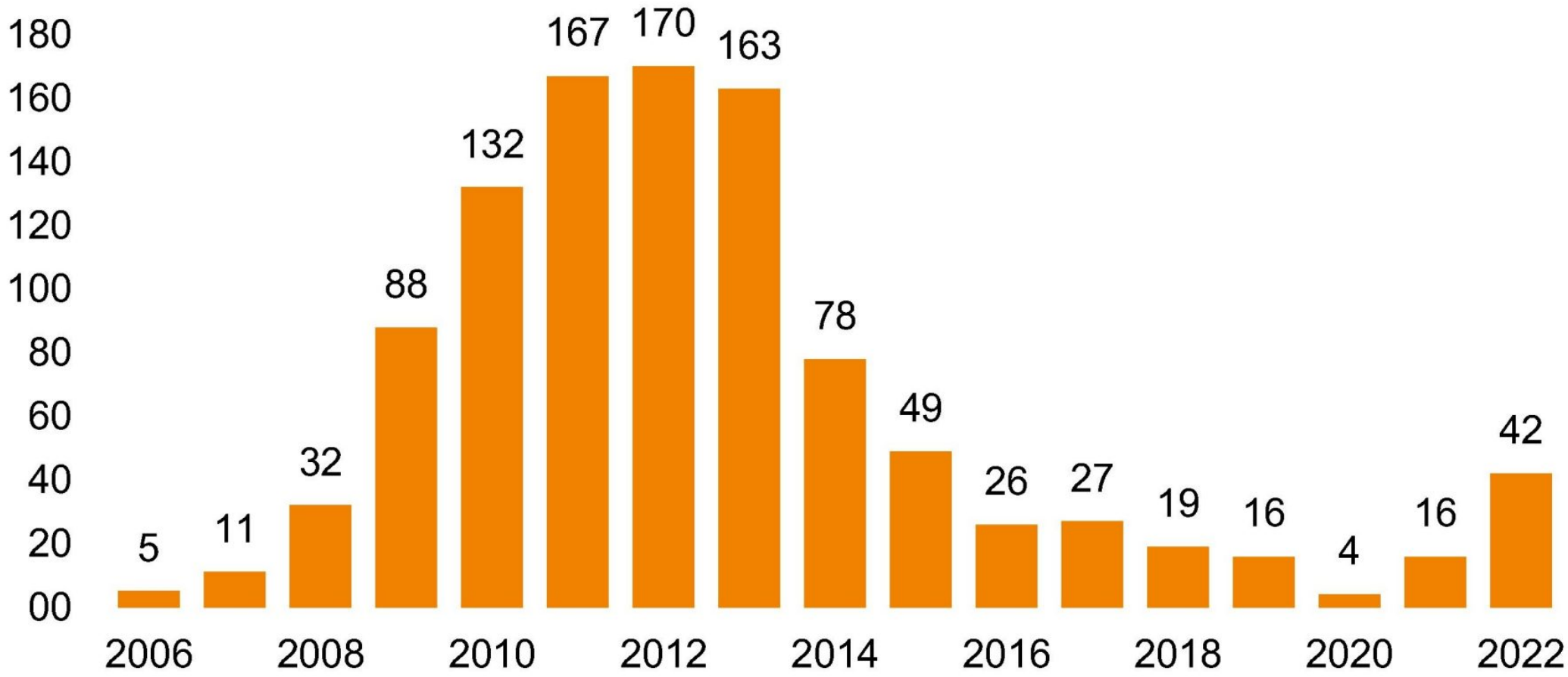
- 847 Energy Cooperatives exist
- 29 are foundet in 2021
- 220.000 Members in total
- 3.3 Mrd. Euro Investment in Renewable Energys since 2006
- 5.900 Euro average participation per member
- 8 TWh green energy from Wind and Solar
- 3 Mio t of CO_2 avoided per annum
- Very different returns (0-8%/a)

DGRV Stand 31.12.2021

Renewable Energy Act (EEG)

- The aim of the EEG is to promote electricity generation from renewable energies. The EEG guarantees the purchase of renewable electricity at a guaranteed minimum price for 20 years.
- The EEG has been in existence since 2000. It was changed in 2004, 2009, 2010, 2012, 2014, 2017, 2023
- The minimum price depends on the year of commissioning, the electricity generation technology, the size of the system and the type of electricity use.
- The minimum price is intended to bridge the difference between the market price for electricity and the electricity production costs of renewable electricity and make renewable electricity competitive.
- In 2010, the minimum price for PV electricity was significantly reduced because there were fears of over-subsidization. From 2014, a tendering process must be carried out for larger open-space systems in order to determine the feed-in tariff for the respective system. In 2023, the feed-in tariff was increased again in order to promote expansion more.

Annual establishment of energy cooperatives in Germany



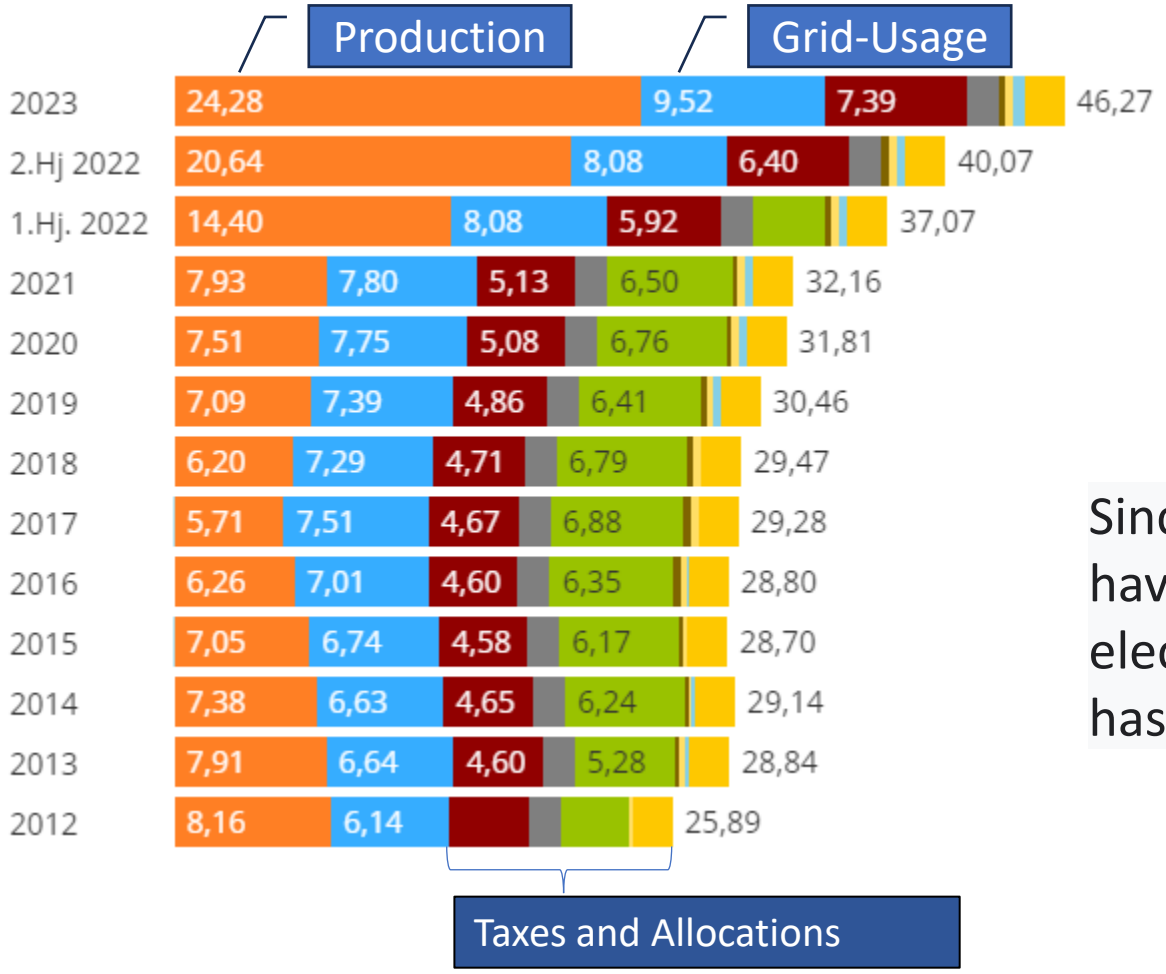
Auswertungen der Genossenschaftsregister-Meldungen durch DZ Bank

Renewable energy is usually cheaper than fossil energy

Electricity production costs in Germany (Cent/kWh) 2021

Statista, nach: Fraunhofer-Institut für Solare Energiesysteme ISE

Average electricity price for German households (Cent/kWh - 7/2023)

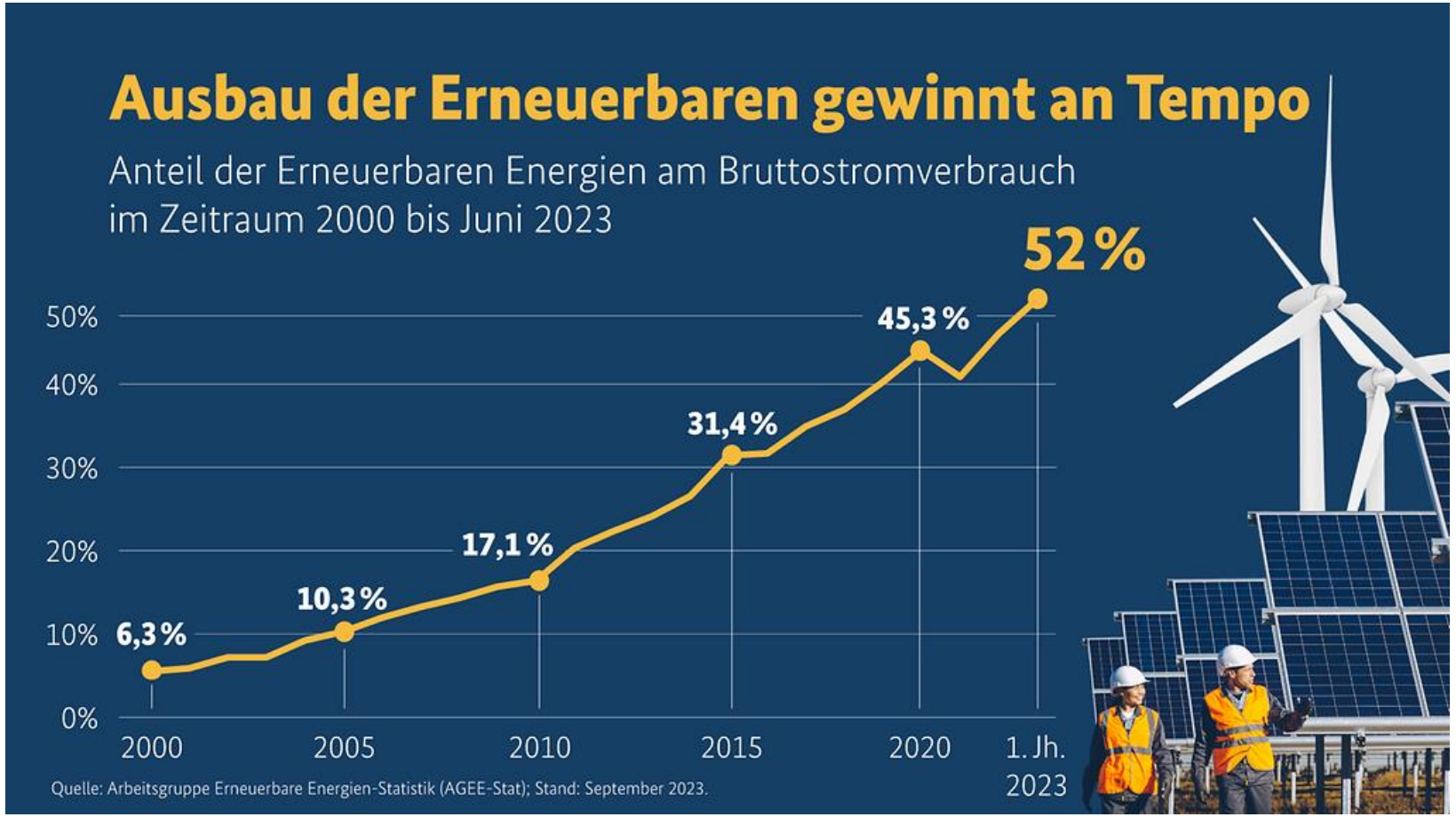


Since 2021, production costs have tripled and the price of electricity for households has risen by 44%

bdew

Share of renewable energies in gross electricity consumption in Germany

Our Goal: 80% until 2030!



Deutschlandfunk.de

a) Full feed-in of produced electricity

Bürger-Solarkraftwerke
ROSENGARTEN eG
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2007: Community hall 10 kWp
2010: Sports hall 26 kWp
2011: Block of flats 70 kWp
2013: Sports hall 88 kWp

2024: Machine hall 100 kWp

b) Direct power concept

Public buildings (e.g. schools) or commercial businesses with regular daily electricity consumption can cover large parts of this demand via the PV system on their own roof.

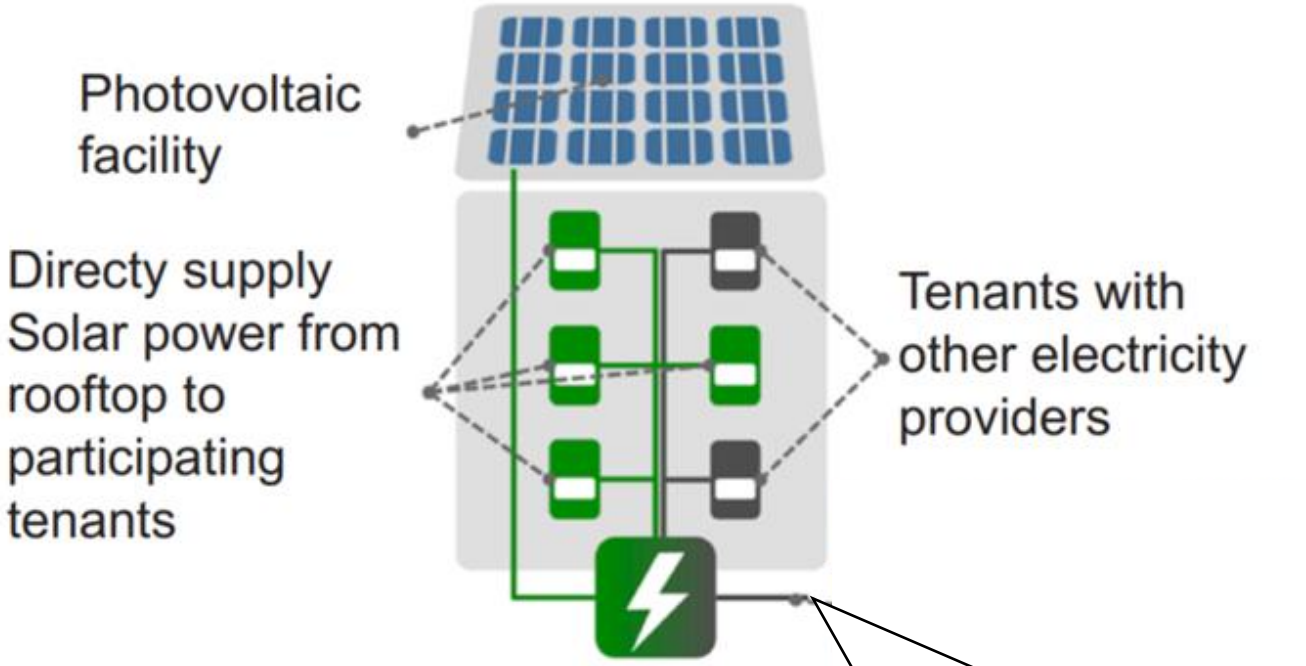
Here, as an example, is a sports club with a fitness center, training rooms, restaurants and permanently running ventilation systems.

The cooperative builds and operates the PV system and sells the cheap electricity to the association. Missing electricity is drawn from the grid and excess electricity is released into the grid.

Bürger-Solarkraftwerke
ROSENGARTEN eG
Sonnen-Energie für die Region

c) Tenant electricity for multi-family houses

Very people-intensiv, lots of contracts with the tenants and for every tenant also with the common electricity supplier.



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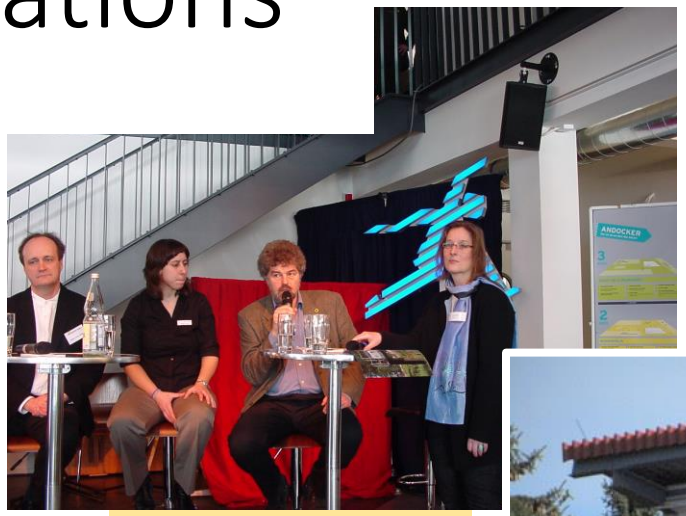
Public Relations



But: How do the municipalities behave?

Private balcony power plant

www.epp.solar

The so-called balcony power plants are currently particularly interesting for every tenant, apartment or homeowner. They generate up to 800 watts and can easily be connected to the power grid via a normal socket.

Over 500,000 of these systems have probably been installed in the past two years.

The electricity generated is used directly in the household. Excess electricity is released into the grid without compensation.

My own experience: The system produces 500 kWh per year, of which around 100 kWh goes into the public grid without compensation.

www.tagesschau.de

Renewable Energy

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