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# Who are we?



**Unie  
komunitní  
energetiky**



**Hnutí DUHA**  
Friends of the Earth Czech Republic



**iea**



**Unie  
komunitní  
energetiky**

## **Union of community energy**

*“Our goal is to increase the share of local clean sources in energy production and consumption.”*

- Established in 2023
- Led by NGO Friends of the Earth and FrankBold – legal NGO
- over 100 members
  - associations of municipalities, Local Action Groups, housing cooperatives, Solar Association, Developers’ Association
  - established energy communities
  - cities and villages
  - companies: solar, IT, developers, consultants



## What do we do?

- **Our goal** to establish favourable conditions for community energy and support projects through experience sharing
- **Advocacy**, political and public relations, expert capacities
- **Services for members**: know-how sharing, trainings, webinars





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# Community energy timeline

**2021**

Transposition deadline

**2023**

Energy bill adopted

50 pilot projects starting supported from the EU RRF

**2024**

Energy data centre operational

Energy sharing starts

**2025**

**16 000 sources + 25 000 consumers** sharing **3,3 GWh** of electricity

Komunerg investment subsidy programme launched under Modernisation fund

**2028 ?**

Final Energy data centre





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# Legal definitions

Energy bill ammendment approved by all the parties in the parliament, both government and opposition

## Energy community

- legal personality: cooperative or association
- inline with EU definitions (non-profit, no large enterprises etc.)
- energy sharing among both members' and community sources
- limited to 1000 connection points
- area limited to 3 municipalities: circa 140 000 people, 1150 km<sup>2</sup>

## Active consumer

- any energy producer
- energy sharing: one power source shares to max. 10 connection points
- no geographical limitations





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# Energy sharing

**Purpose:** enable consumers that cannot install their own RES to take their share and directly benefit from their production.

- **direct relation** producer - consumer
- energy from RES is shared when available
- in the rest of the time receive energy from commercial suppliers
- 15 minute metering period
  
- **accounting operation**, not physical flows
- volume of shared energy is deducted from the volume of energy the consumer pays to his/her commercial supplier

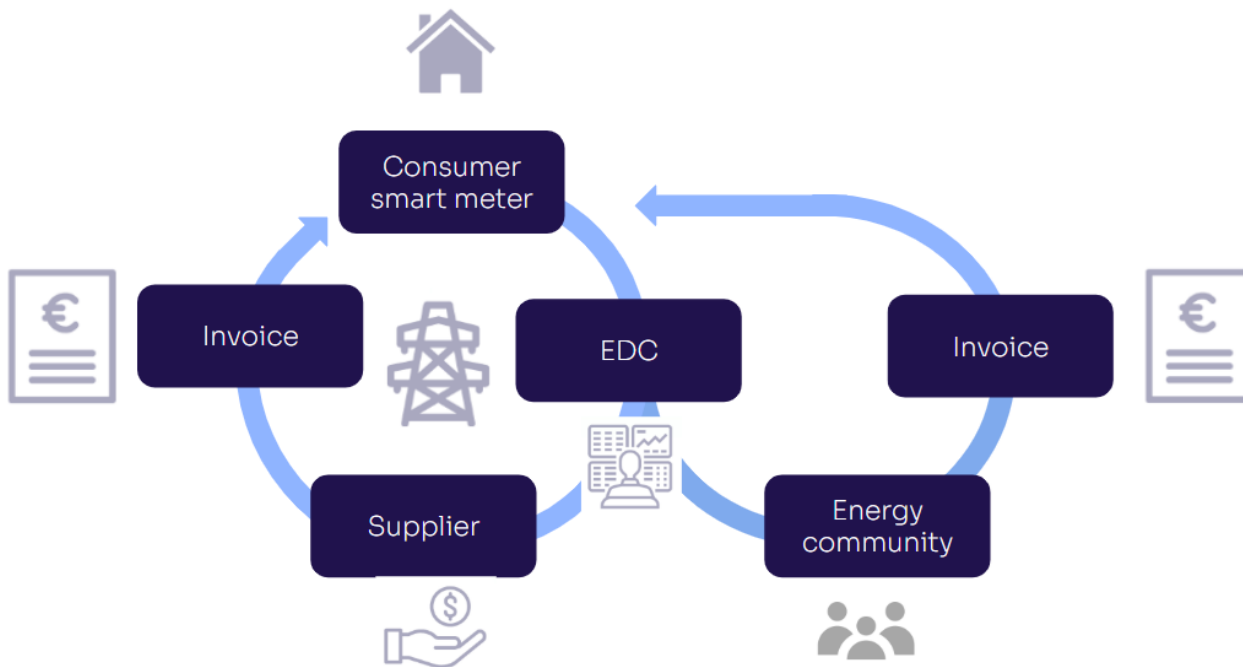
- key condition: **smart meters**
- data managed by the Energy data centre

- **distribution fees apply** - no discount on local sharing



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# Energy sharing data flows





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# Key conditions

## Smart metering

- obligatory installation by the grid operator -
- **free**, in 3 months
- data available to DSO, not the consumer

## Allocation keys

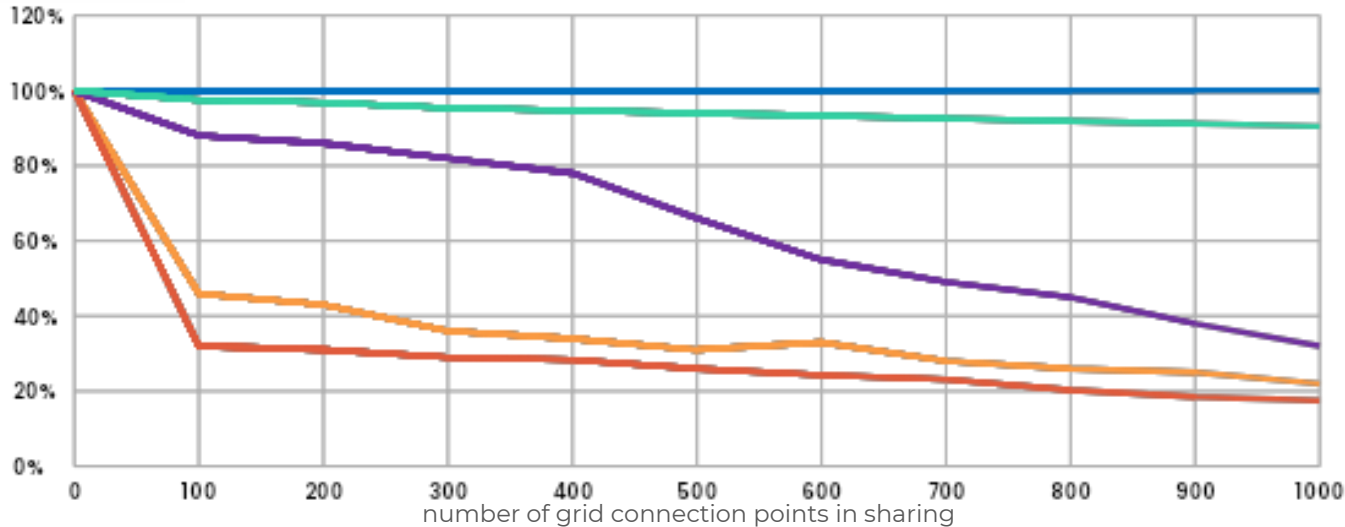
- allocation of currently produced energy among members
- each member has a **share %** registered in the Data centre
- **static allocation: fixed % - use it or loose it**
- dynamic allocation: unused allocation redistributed to other members
  
- same allocation key applies 24/7
- change possible once a month, problematic



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# Static allocation key impacts

% of energy shared



**Allocation method**

dynamic

AI optimisation

basic optimisation

static manual

static even

- Very complex for communities
- Optimisation impossible without advanced IT technologies
- High cost of optimisation passed onto communities



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# Energy data centre

**Ownership structure:** 3 private DSOs + national TSO

## Purpose

- data processing and providing to market participants, incl. sharing
- support for flexibility and aggregation
- monitoring and management of the grid

## Issues

- missing API access
- no real time data
- limitations in sharing (5 PVEs / sharing group)
- flexibility and aggregation not implemented
- temporary solution, delays in final implementation

## Highlights

- it actually works, no major technical issues
- user support





# Public finance support

## The KOMUNERG programme

### Support intensity

- **45%** energy sources: photovoltaic, wind, biomass cogeneration, biogas
- **30%** batteries, software, metering, energy management
  - include **sharing optimisation SW**, invoicing, management of members etc.

### Financial instruments: **subsidies and / or soft loans**

- Coverage of up to **90% of project costs**
- Total allocation available: **€ 80 million**

### Applicants

- Energy communities only - non profit
- Location on members' buildings !

### Restrictions

- obligation to share 60% of daily production and 80% of annual production of the sources

### Feedback from the communities: doubts

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# Current outlook

## **Energy sharing hardly economically viable**

- static key disables use of part of the energy
- high IT costs and necessary skills

## **Small scale PVE investments not viable for sharing**

- commercial competition: spot price in solar peaks low / zero
- high transaction costs of sharing

## **Flexibility possibilities limited**

- members of communities motivated, energy managers ready to implement
- limited impact of flexibility on sharing with static key
- data too late, necessary investment to auxiliary metering



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# Lessons learned

- Even though legislation is good and systems do work, implementation and technical details matter to the point that they are a make or break factor for the projects.
- Energy communities need economical motivation and technical conditions to be able to deliver flexibility.
- Millions of Euros may not help to overcome minor flaws in the design of sharing.
- Legal and technical conditions must be set right to enable flexibility
- Public services should be controlled by the state: Large energy enterprise will not help a whole new sector to be established.



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# Examples from our members

## Energy Cooperative Hotař

