Workshop

RENEWABLE COLLECTIVE SELF-CONSUMPTION:
ENERGY COMMUNITIES AND MINI GRIDS

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ENERGY REGULATORS REGIONAL ASSOCIATION

Energy Communities in Austria

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ERRA Workshop on Renewable Collective Self-Consumption: Energy Communities & Mini Grids
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The main ideas of energy sharing

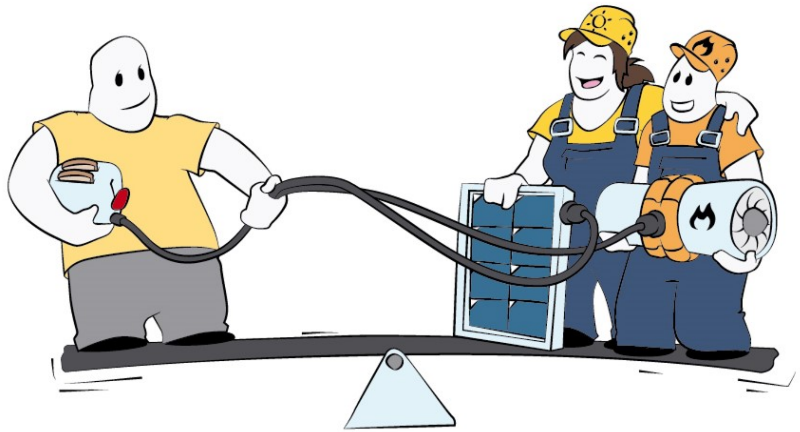
- Energy transition is **available** for everybody
- Everybody has the possibility to **participate**
- Energy transition is more **visible**
- More **independence** from the market
- **Optimized** and **efficient** use of the produced energy
- In some cases but without guarantee: reduced energy costs compared to the market

What we are doing in Austria

- We are implementing the **EU legislation** and transforming requirements in national legislation
- In detail:
  - **Citizen Energy Communities** according to the **Electricity Market Directive**
  - **Renewable Energy Communities** according to the **Renewable Energy Directive (RED II)**
  - Work in progress: implementation of energy sharing according the revised Electricity Market Directive
- Energy Communities for **electricity** are **regulated in the Electricity Act**
- **No** specific **regulations** for Energy Communities based on **gas** or **heat**
- Energey Communities are **NOT** a **Sand Box**

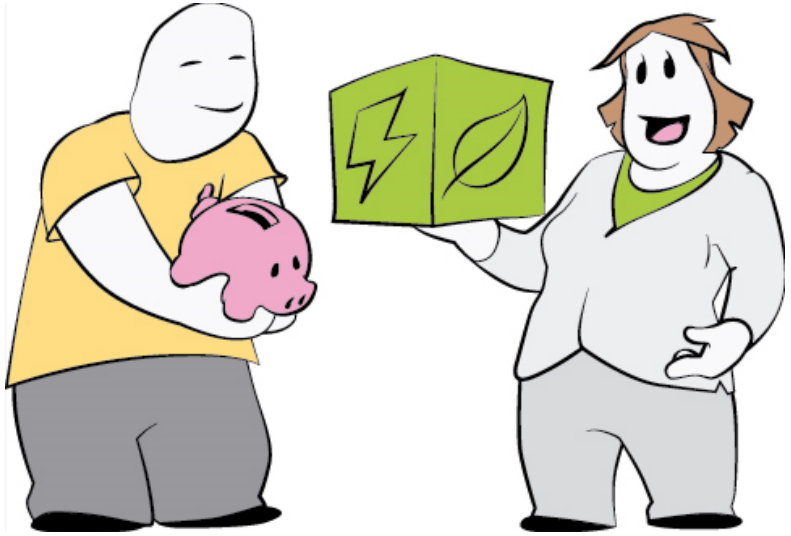
The cornerstones of energy sharing

- **Joint production, sharing, storage** of energy → not only electricity, but also biogas and heat
- Sharing energy on **local, regional** and **national** level
- **Excluding** ‚traditional' **energy companies** from energy sharing → energy communities operate as **non-profit-organisations**
- Focus on **households, public entities, small enterprises**
- **Main rules** (who is allowed to participate and who is not, responsibilities regarding data transfer, the role of market participants, etc.) are regulated in the **electricity act**…
- …the **details** (how to share, how to finance, how to participate) must be agreed on **private base**
- **Aggregation** of energy services (e.g. charging stations) is possible
- All principles of the **liberalized market remain** – individual meters, free choice of supplier (for full-supply)
- **Smart Meters** must be installed
- **Allocation** of the electricity on the basis of a **¼ h**
- No net-metering



How energy sharing is subsidized

- Power plants might receive public subsidies
- **The energy which is allocated among the members of RECs are subject to reduced system costs → assumption: for the REC-energy only the lower voltage levels are used and therefore the higher voltage levels are excluded from the total system costs (reduction between 40 – 60%)**
- Energy used within the REC is relieved from the energy tax
- Energy used within the REC is not subject to the green-electricity-finance-mechanism
- Administrative support for development and founding



What is implemented so far

3 Types of energy communities:

- **Jointly used generation units** in multi dwelling buildings
  - Limited to one building
  - Limited to production units in or on the building
  - All participants must be equipped with a smart meter
  - Focus: active customers in cities and densely populated areas
- **Renewable Energy Communities**
  - Regional or local
  - Voltage levels 7/6/5 including medium voltage bus bar (to voltage level 4)
  - Only RES (electricity, gas, heating, cooling)
  - Benefit from lower network tariffs
- **Citizen Energy Communities**
  - Up to nationwide level
  - Multiple DSOs involved
  - No exemptions for network tariffs

The role of the DSOs

- DSOs have to install Smart Meters among the customers (roll-out 95%)
- DSOs have to organize the calculational of the allocated energy
- DSOs have to know all contracts and mode of allocation (static or dynamic)
- DSOs have to correct the meter-standings
- DSOs have to charge the correct system costs
- DSOs have to allow energy communities **without any discrimination**
- Etc.

The role of the regulator

(and interaction with the DSOs)

- Setting rules for **data transfer** (market rules) incl. requirements for metering
- **Supervision** that all tasks and duties are fulfilled
- Joint working on **technical and organisational solutions**
- DSOs must provide data for **monitoring**…
- …regulator provides **monitoring-reports and cost-benefit-analysis** (with the focus on the impact on the network tariffs)
- **Dispute settlement** in case conflicts between market participants (Energy Communities and DSOs) occur

What has happened so far

RECs:

- 30.06.2023: 364
- 31.12.2023: 867
- 30.06.2024: 1.618 with ~ 28.000 participants
- 30.06.2025: 3.868 with ~ 144.758 participants

- Introduced 2021
- Most popular
- Mostly used by households but also local authorities, schools, public buildings
- Usual technology: PV

CECs:

- 30.06.2024: 247
- 30.06.2025: 737

- Introduced 2021
- Slow start
- Less incentivized compared to RECs
- Complex technical implementation at DSO-level

Jointly used PV in multi dwelling buildings:

- 30.06.2024: 2.906
- 30.06.2025: 5.043

- Introduced 2017
- Forerunner of “real” energy communities
- Sharing energy within a building without using public grid

What is the impact so far?

From a technical point of view:

- The additional volume of data causes problems – especially communication between grid operators, suppliers, consumers → missing data, need of calculating replacement values, etc.
- Impact on the grid infrastructure: none due to Energy Communities → the massive increase of PV causes troubles, but not directly related to Energy Communities

From the point of view of network tariffs:

- Especially the exemption from network tariffs has NO impact on the total system (so far)
- The Cost-Benefit-Analysis shows that the re-allocation of network costs has a minimum impact on the society (= payers)
- The tariff setting has still a high elasticity and allows a high number of additional Energy Communities

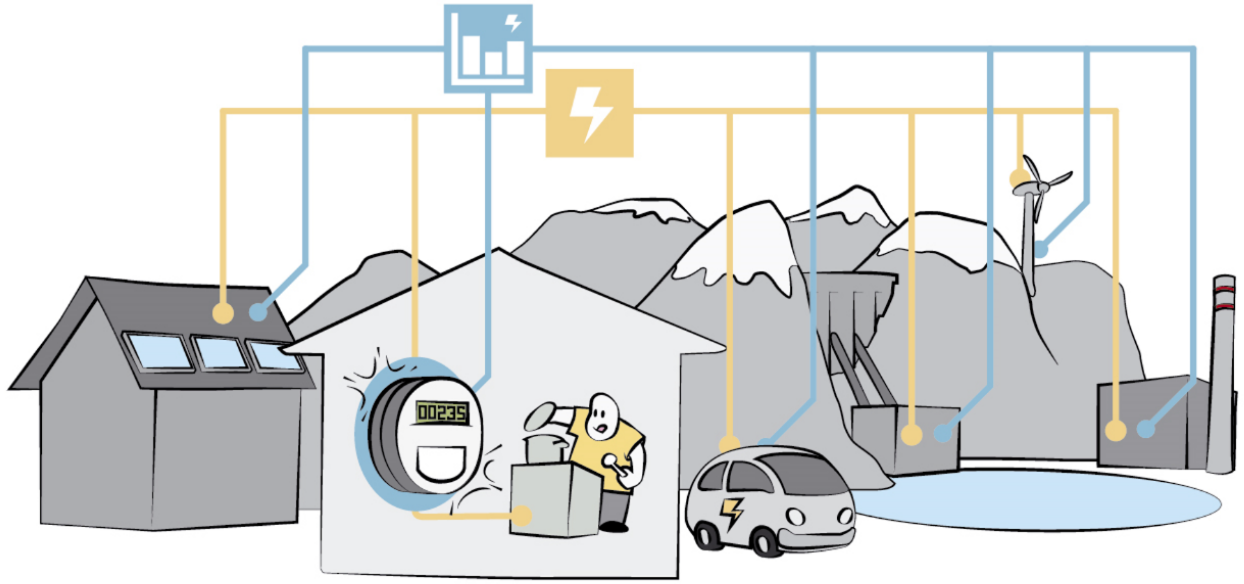
From the point of view of the market:

- The volume of energy which is allocated among participants of Energy Communities is still low and implies a minimal impact on the total demand = the sales of 'standard' energy suppliers do not decline due to Energy Communities
- But 'standard' energy suppliers prepare themselves for the future and develop services and models targeting Energy Communities

Next level – work in progress

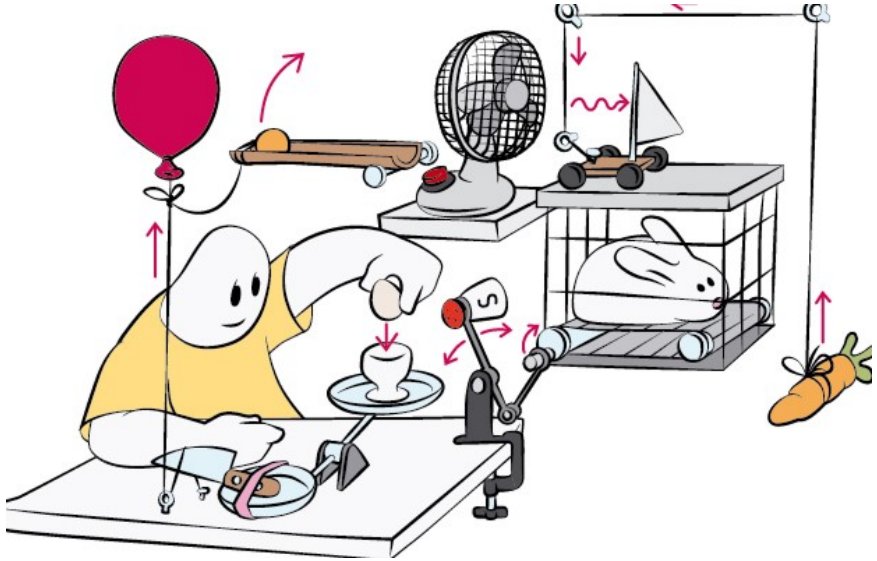
Progress in the upcomming Electricity Act:

- Foster the position and possibilities of so called ‚active customers‘
- Further development of regulations for Energy Communities:
  - A possible change in the definition of ownership of Energy Communities
  - Allowing to join multiple Energy Communities (or similar constructs) – possible limitation in joining max 5 ‚constructs‘
- Further development of energy sharing:
  - Introducing Peer-to-peer trading



Conclusion

- In general: Energy Communities are popular, and the numbers are growing
- DSOs represent a very important part in the realization
- Data exchange via DSOs is the most relevant but also most complex issue for the implementation of Energy Communities
- DSOs are partly still struggling (metering, transmission, communication, etc.)
- Major problem: data-exchange/communication between DSOs – mainly relevant for CECs
- Even numbers are increasing and the interest is still high: the impact on the overall system is a minor issue



THANK YOU FOR YOUR ATTENTION!

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