



# PROSPECTS FOR ENERGY COMMUNITIES

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# 1. INTRODUCTION

## Motivation:

- \* **Europe: The clean energy package → energy communities**
- \* **It is not possible to force variable renewables into the system**
- \* **A strong desire of some customers to participate in electricity supply**

## Goals of the Clean Energy For All Europeans Package



Putting energy efficiency first



Demonstrating global leadership in renewables



Delivering a fair deal for consumers

An opportunity to...



...create **jobs & growth**



...spur **investment**



...secure **energy supply**



...make the **market** fit for purpose



...bring down **GHG emissions**

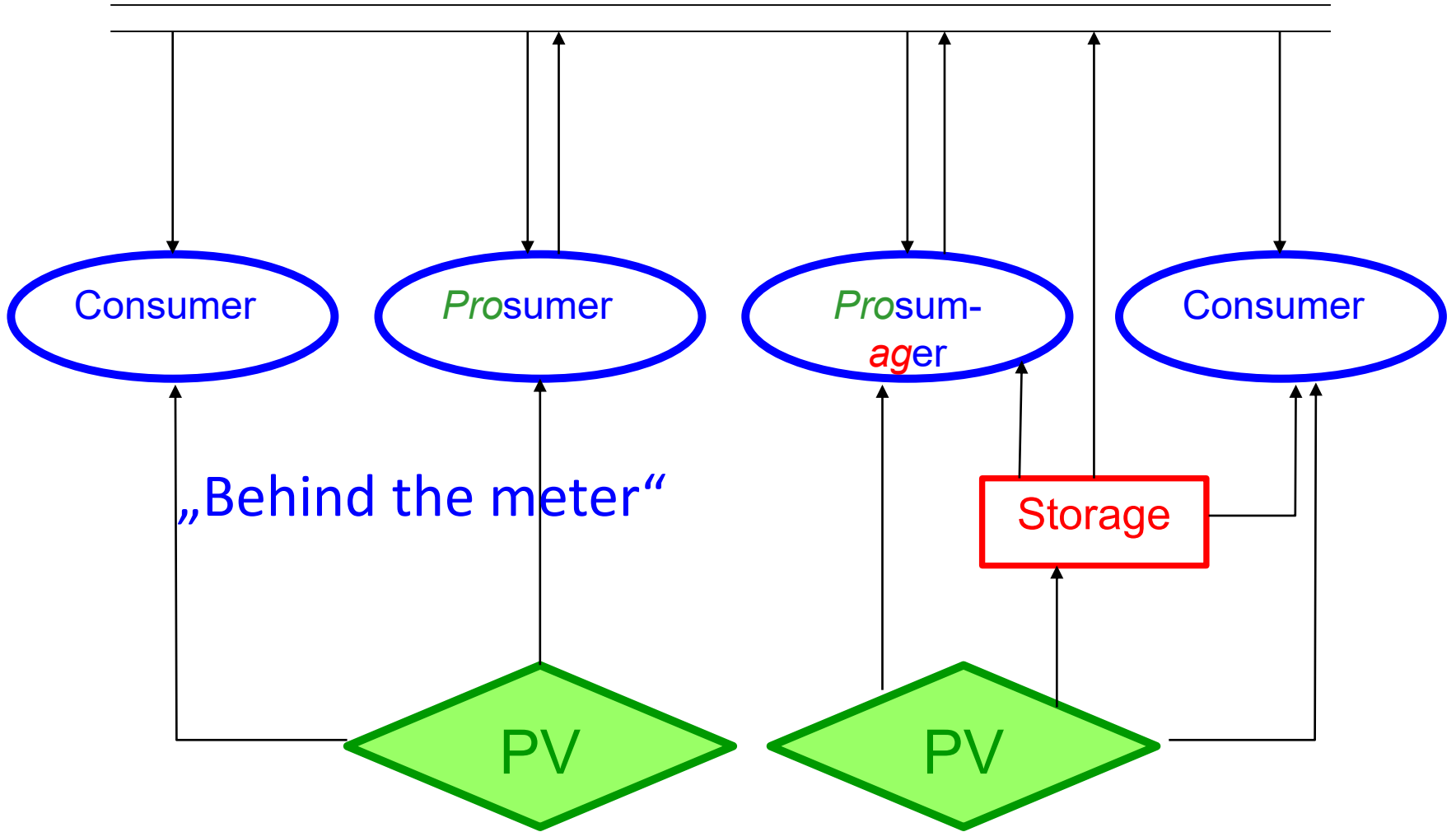


...foster **innovation**

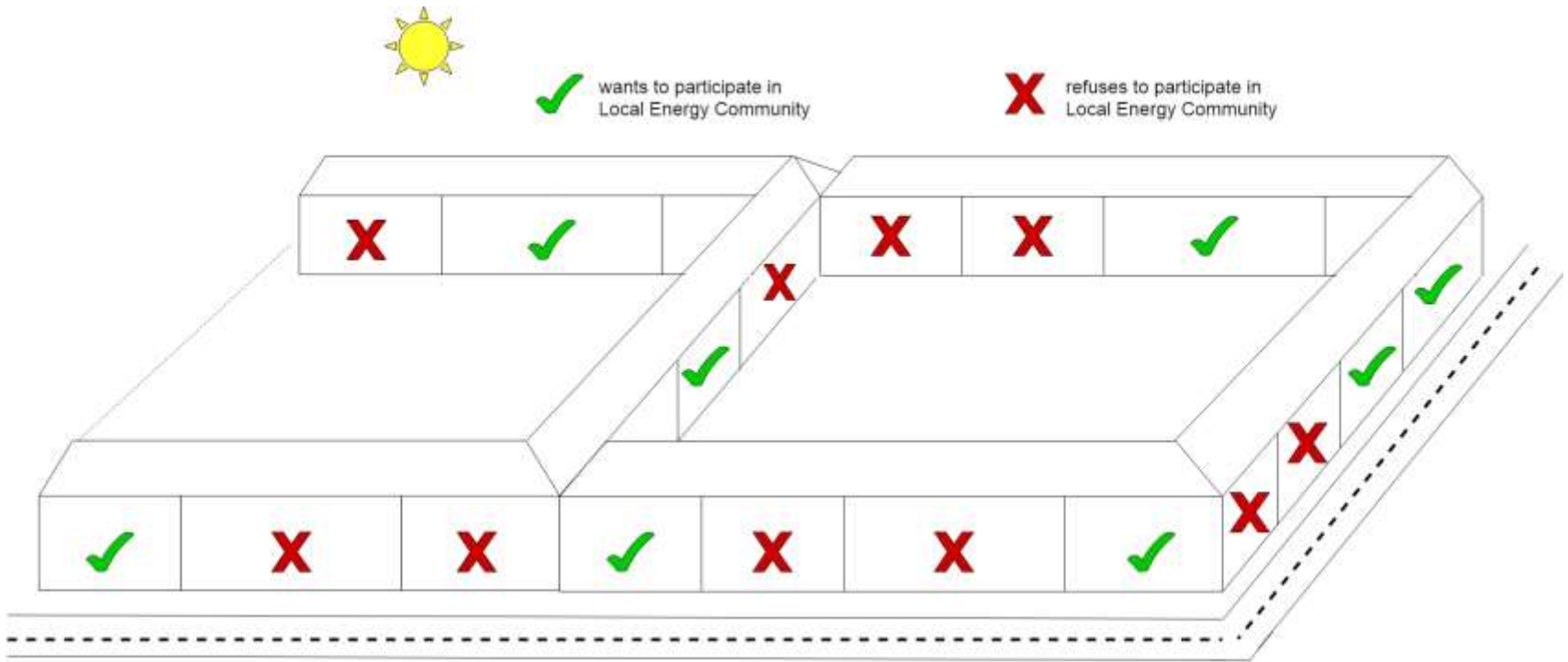


# THE IDEA OF „ENERGY COMMUNITY“

## Distribution grid



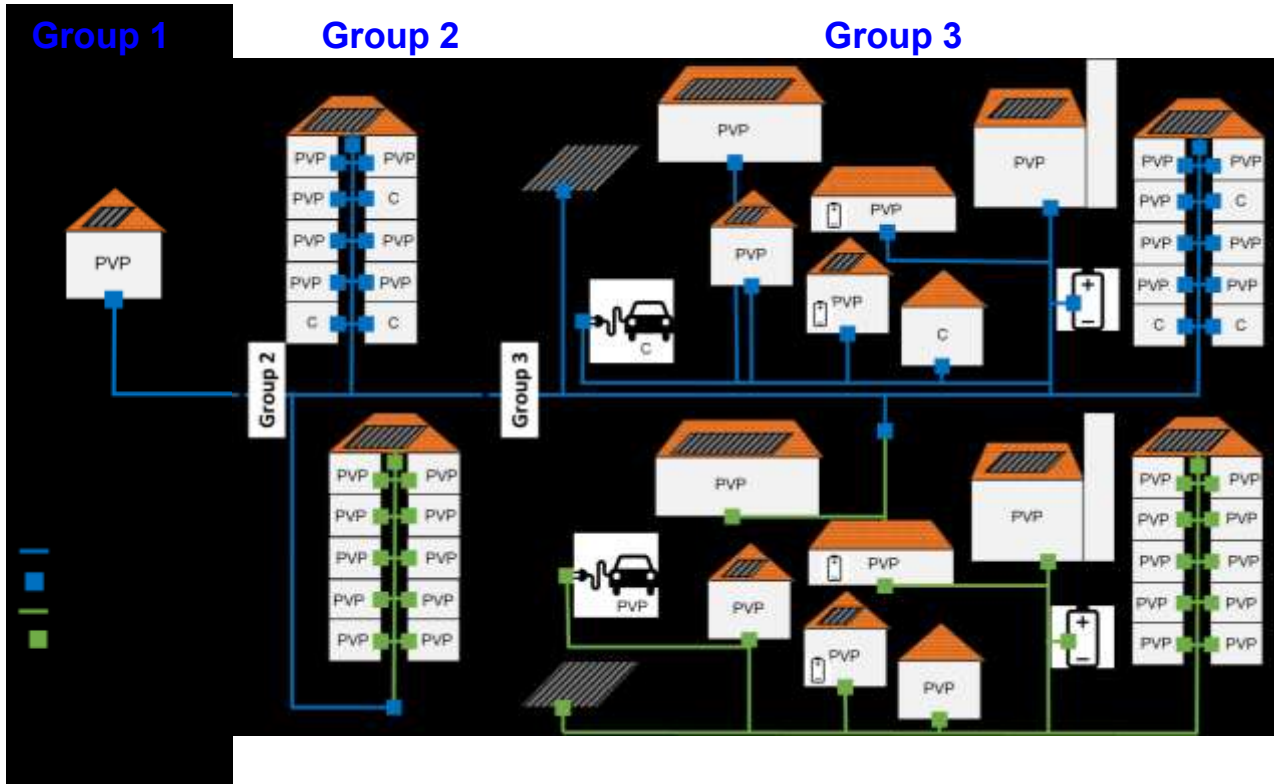
# Example: city area



Cost savings by implementing PV systems / PV sharing:

- For individual buildings: ~ 8.3%
- For an EC of 5 buildings: ~ 9.2 %

# Klassifikation von PV Prosumer Konzepten



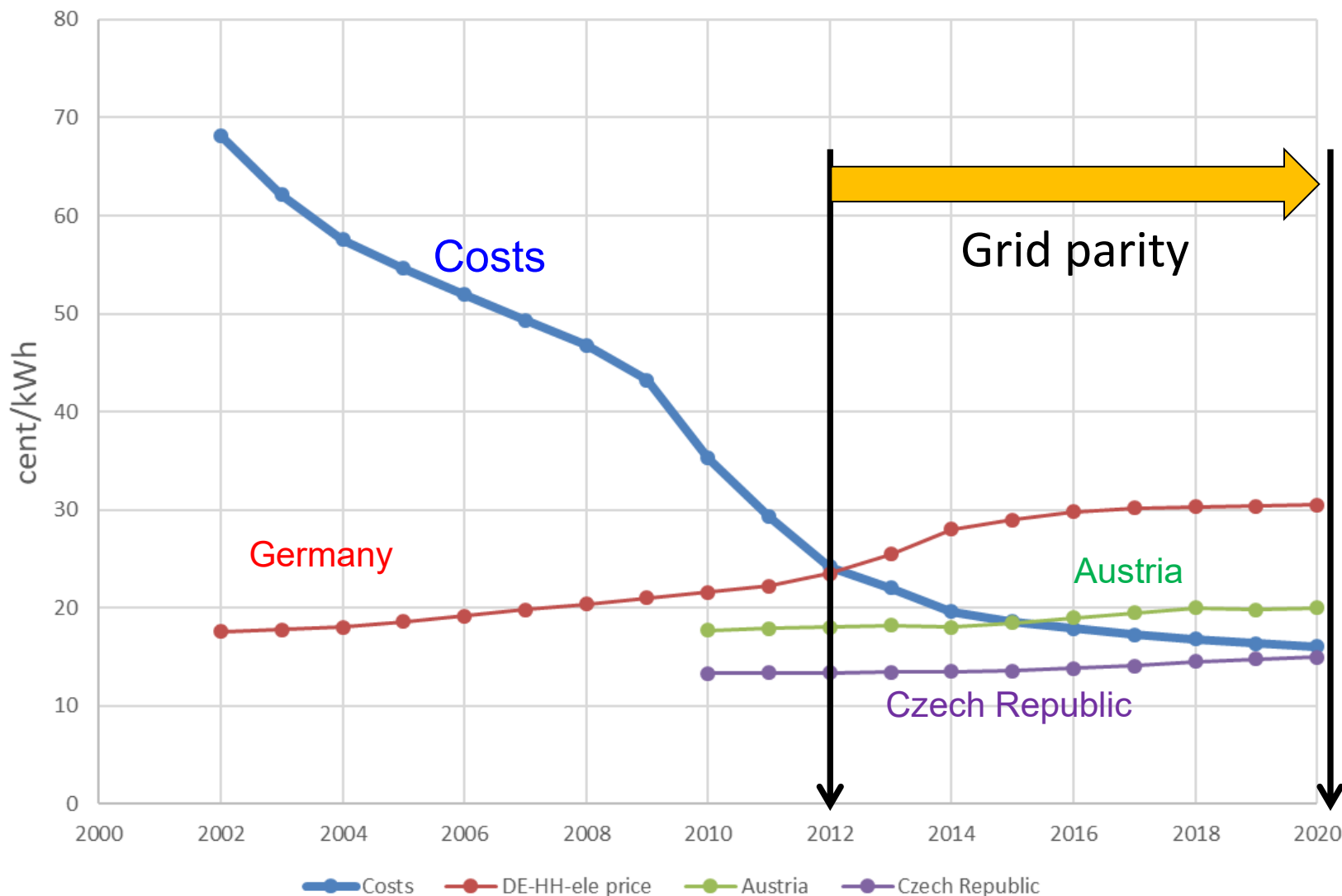
Source: Lettner G., Auer H., et al. "D2.1 - Existing and Future PV Prosumer Concepts", Public Report, 2018.

# IS THE TIME FOR SUBSIDIZING RENEWABLES OVER ?



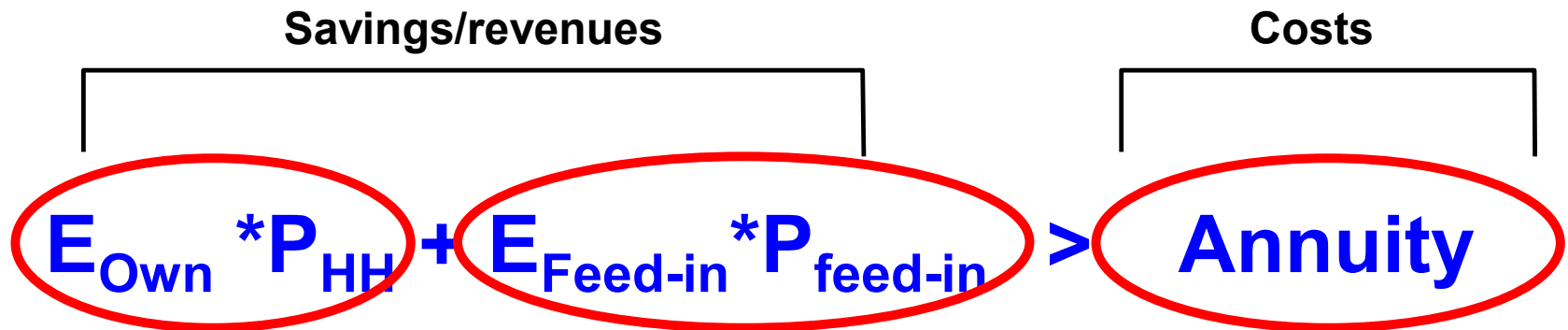


# Grid parity: PV-costs and household electricity prices





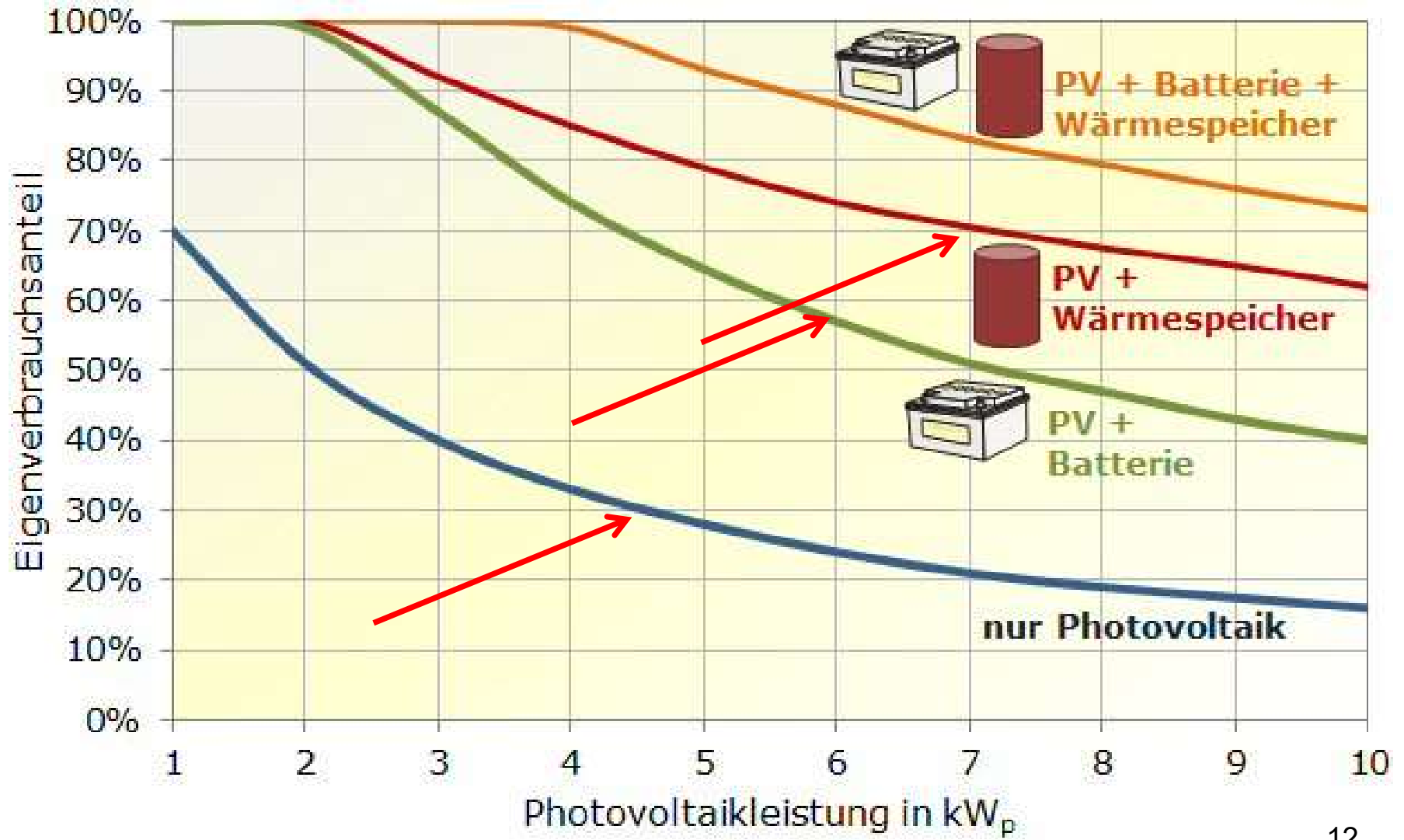
# Assessment of Grid Parity



Grid parity term

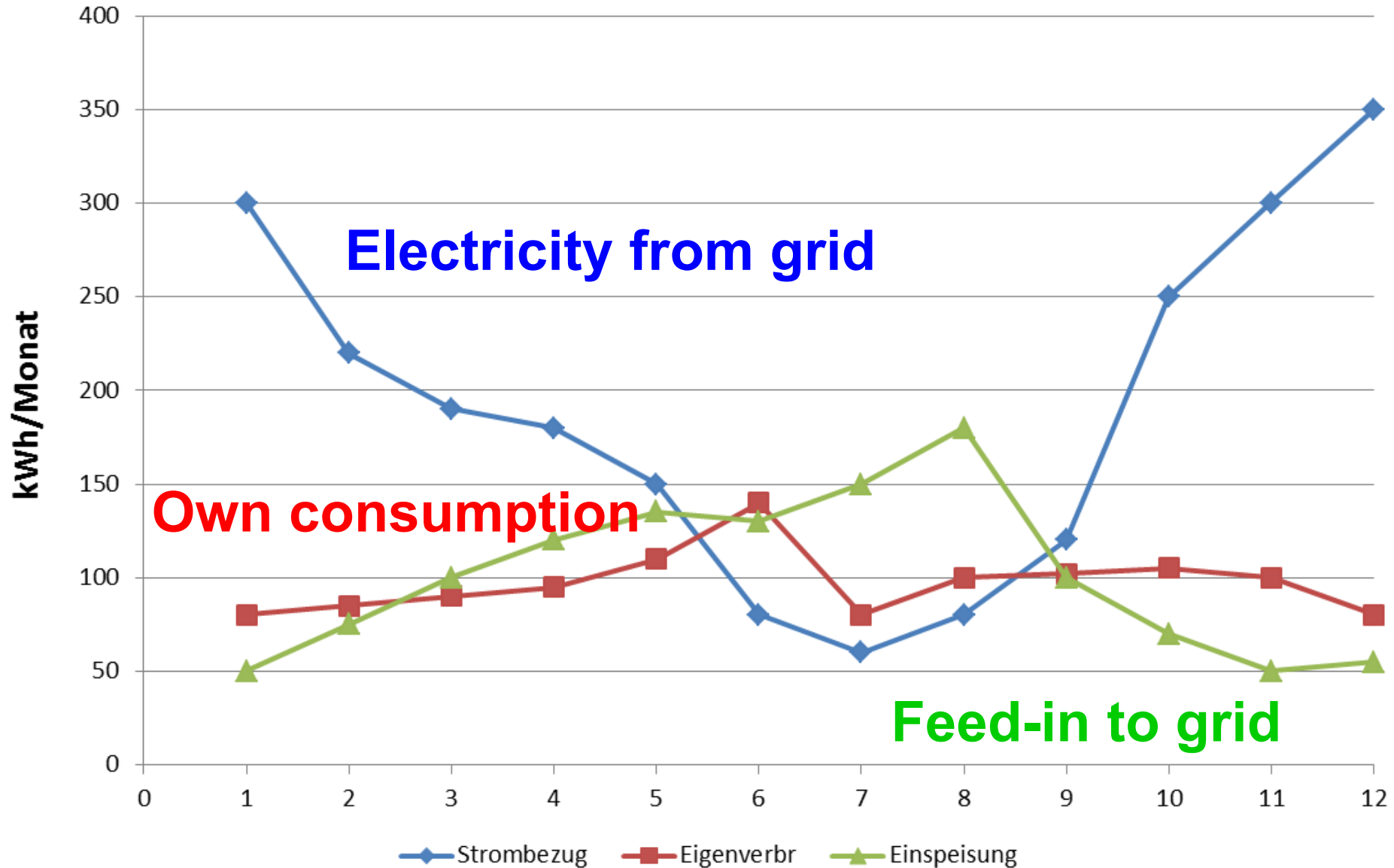
**Subsidy still necessary?**

# Share of own consumption



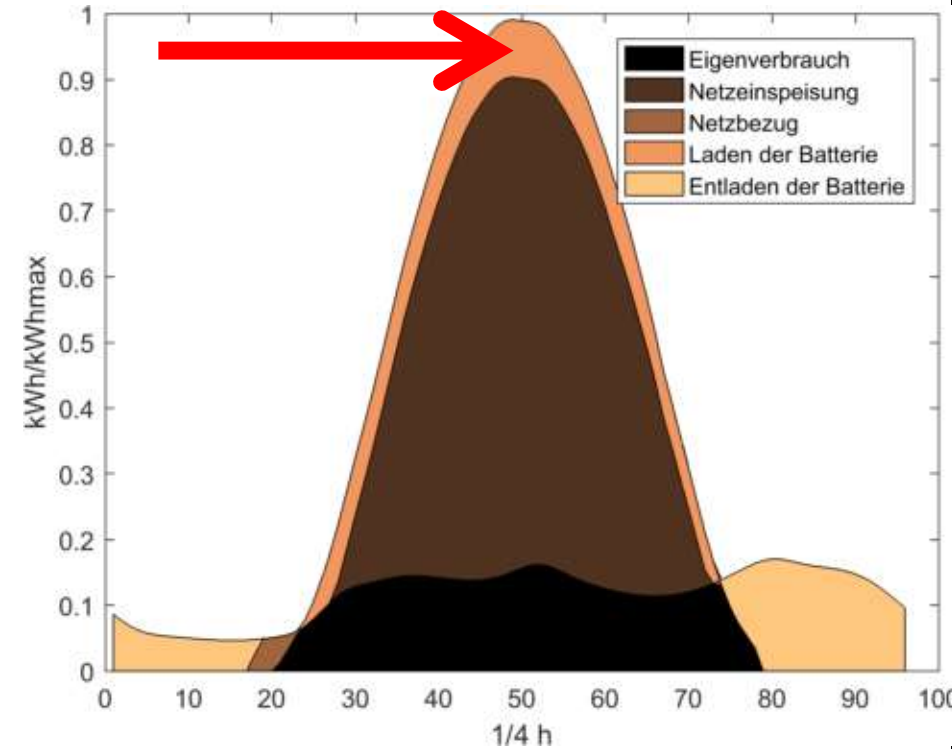
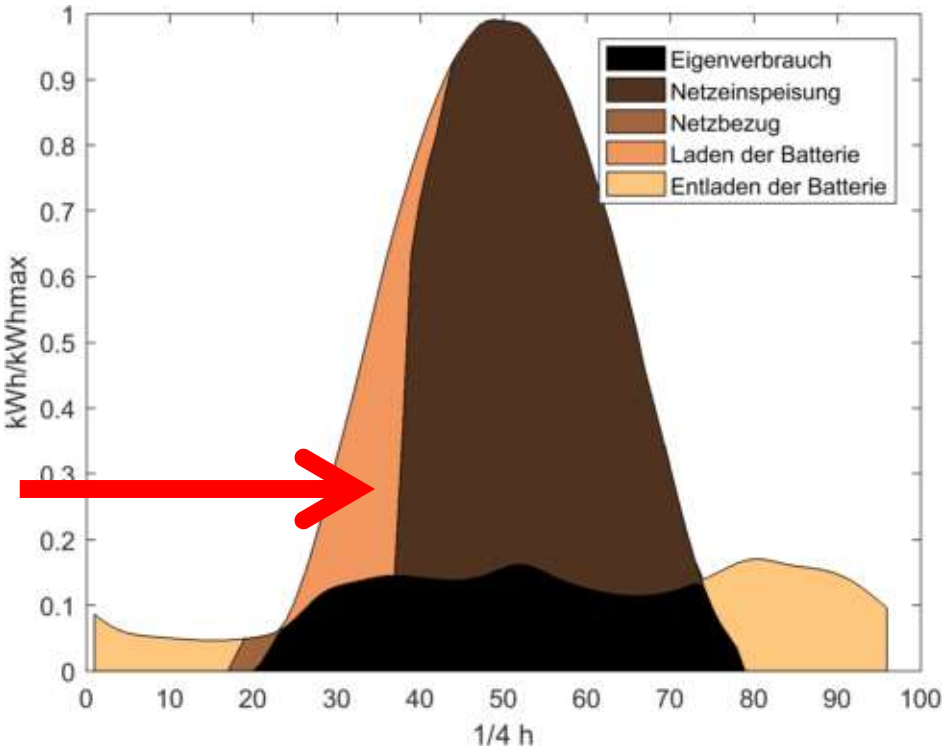


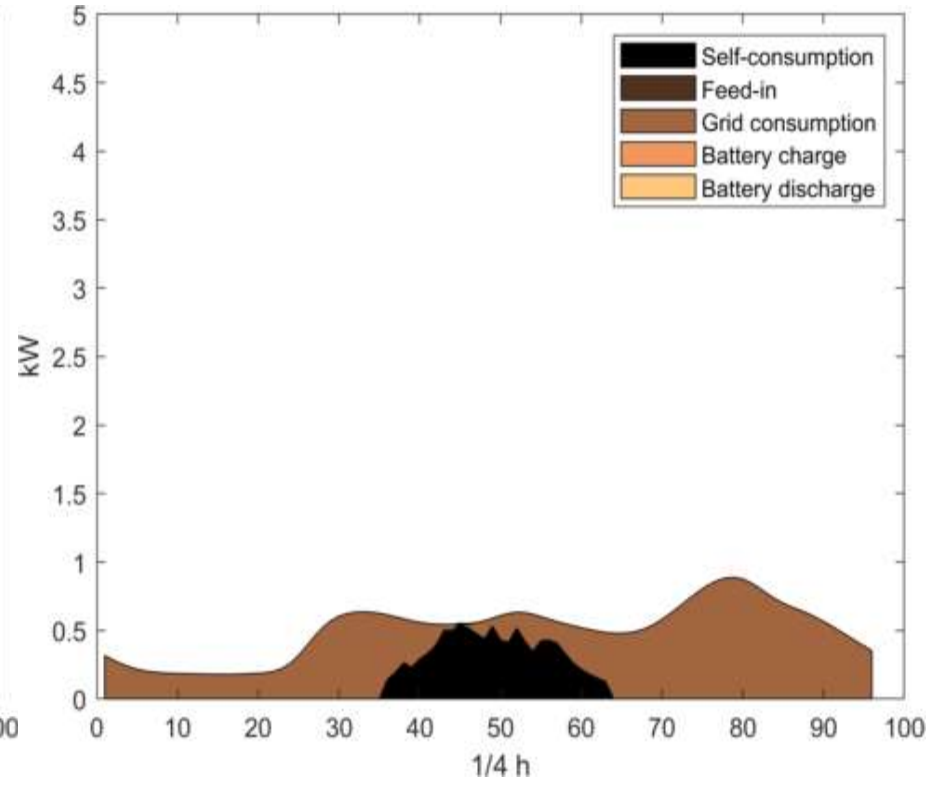
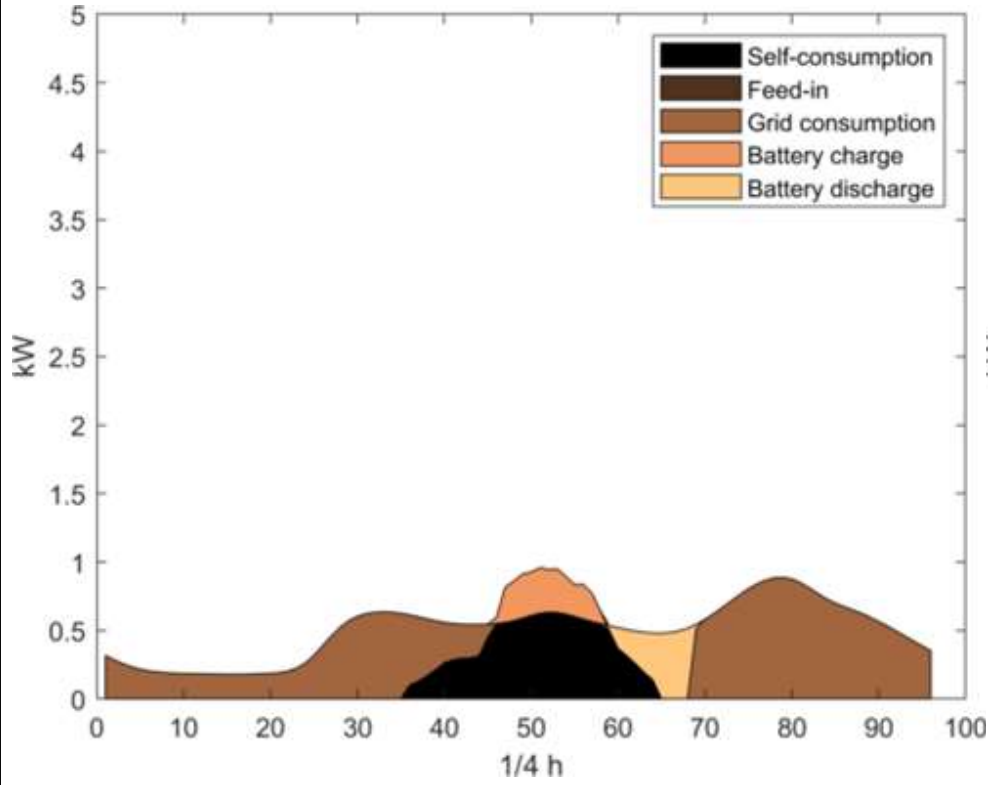
# But the balance over a year:





# Uncoordinated vs grid-friendly storage use in summer





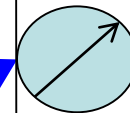


# Tenant electricity model and Blockchain

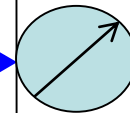
PV-System on the roof

Tenant electricity model:  
Contracted PV-electricity

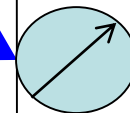
**Balancing  
Group/  
Supplier**



Customer 1



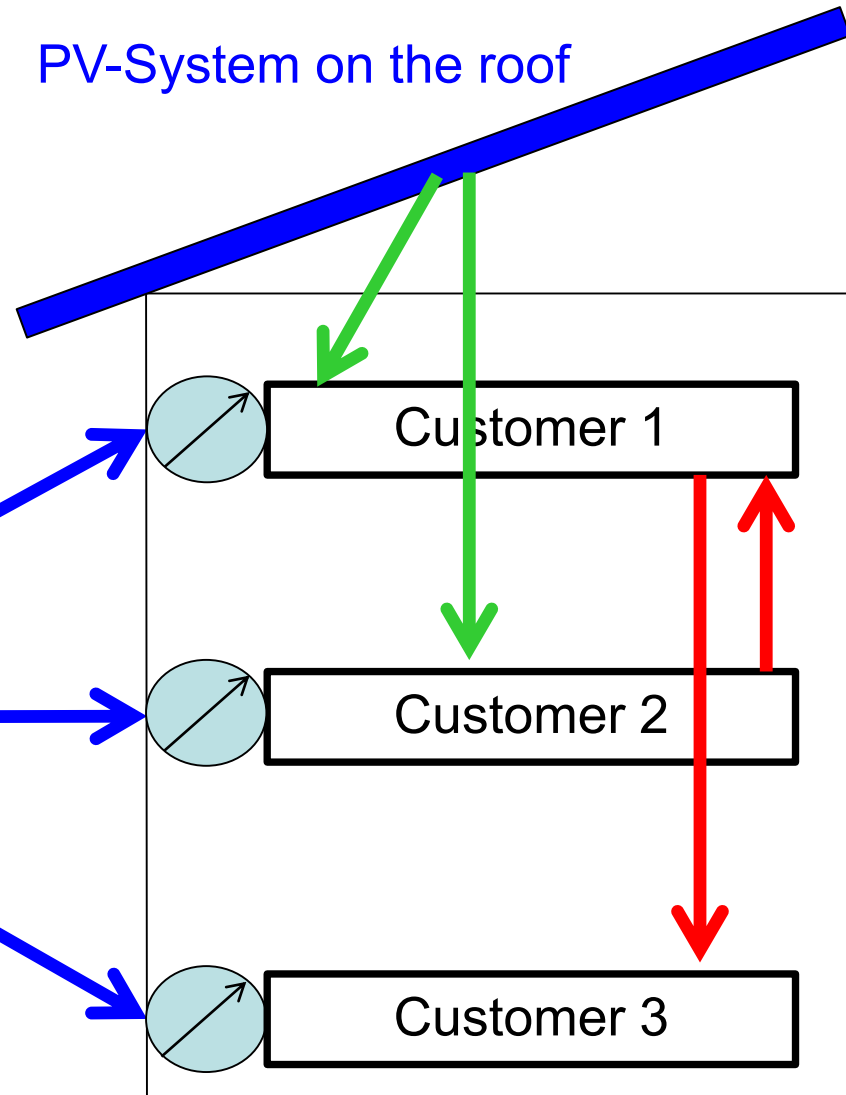
Customer 2



Customer 3

Meter

Blockchain





# CONCLUSIONS

- Sustainable electric. system → integration of a broad technology portfolio & demand-side options
- No quick fix, no one size fits all solutions
- Behind the meter: a completely new category in the electricity system
- most urgent: exhaust full creativity for flexibility of all market participants
- Prospects for storage: less bright than argued
- New key players: retailers / balancing groups