

## Local Energy Communities

29<sup>th</sup> April 2022

# Market deployment experience of renewable energy communities (RECs)

Luísa Matos | Co-founder & CIO/COO



Clean energy. Decentralized, digitized and democratized.

# What is an Energy Community ...and why does it matter?

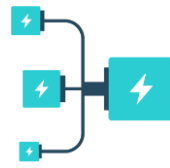
*"The global energy transition starts with local solutions"* – World Economic Forum

- ✓ Interdependent and highly resilient ecosystem of diverse consumers, prosumers, controllable energy assets and DERs
- ✓ Municipalities, sub-urban agglomerations, rural villages, islands, resorts, transport hubs, business parks, industrial zones...
- ✓ **Drivers:** commoditization of DERs; decentralization policies and legal frameworks; electrification (mobility, heating/cooling, etc.)
- ✓ **Critical need:** advanced digital systems designed to deliver tangible benefits for all participants, both individually and collectively
- ✓ **Deliverables:** smart efficiency; cheap clean energy from shared generation/storage; monetization of assets; network stability
- ✓ Energy Communities now booming across EU, US, BR and Asia... all shaped by similar drivers, seeking similar deliverables

## Energy Communities are essential for a clean and fair global energy transition



**Optimizing energy production & consumption**



**Providing flexibility, critical for successful transition**



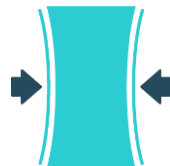
**Boost public acceptance of renewables projects**



**Positive social impact through local employment**



**Lower investments in grid and utility scale power plants**



**Increase resilience, as climate events become more frequent**



**Attract private investments into local clean energy**

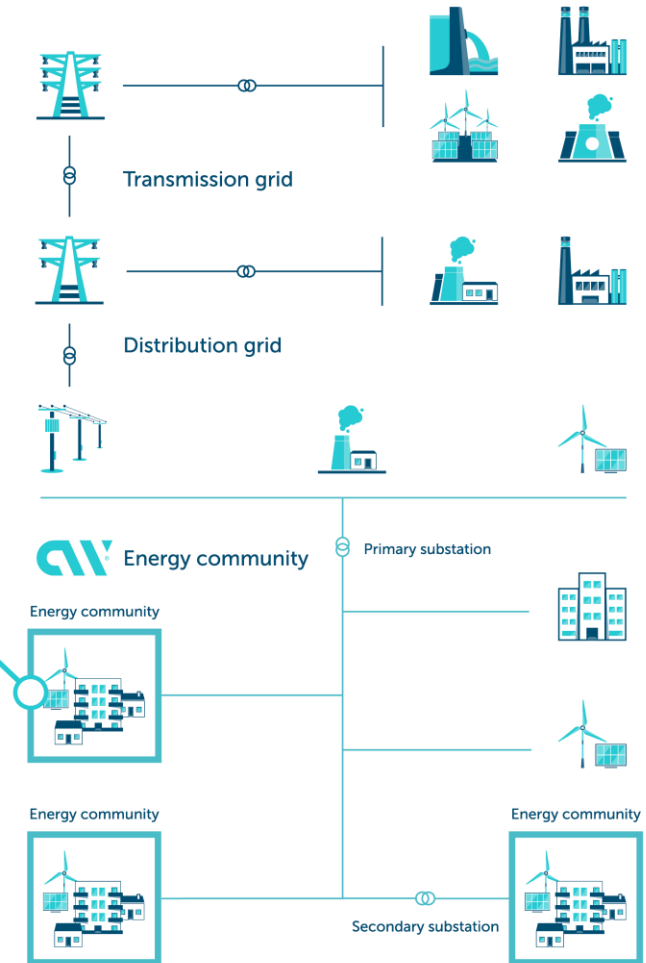


**Tangible local benefits: lower electricity bills and CO<sub>2</sub> emissions**

# Cleanwatts Operating System for LECs

## Modular, interoperable and localizable

- ✓ **Simplify community management**
  - Manage contracts
  - Access data
- ✓ **Access tools to support community optimization**
- ✓ **Manage community dynamic tariffs for implicit DR and maximize community self-consumption**
- ✓ **Communicate well and clear**
- ✓ **Engage with community participants**
- ✓ **Create a local market**



# The path towards Active Energy Communities and Local Markets

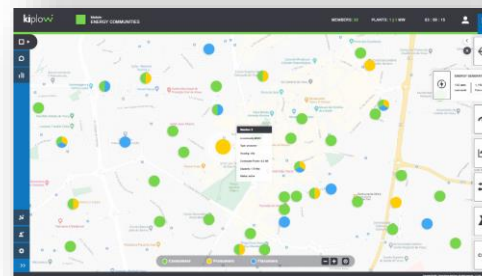
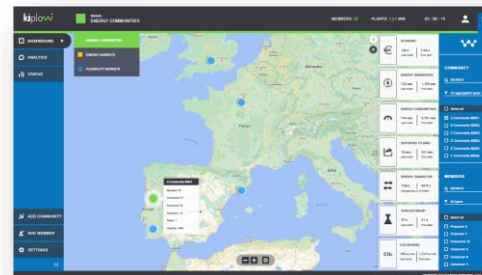
Now



- RECs are being established to share energy surplus
- Wide deployment of REC enables access to a channel to engage with new flex providers
- RECs can become actively managed by incorporating control over Storage, EV charging and flexible loads (heat pumps, hot water heating, etc...)



Digital platforms



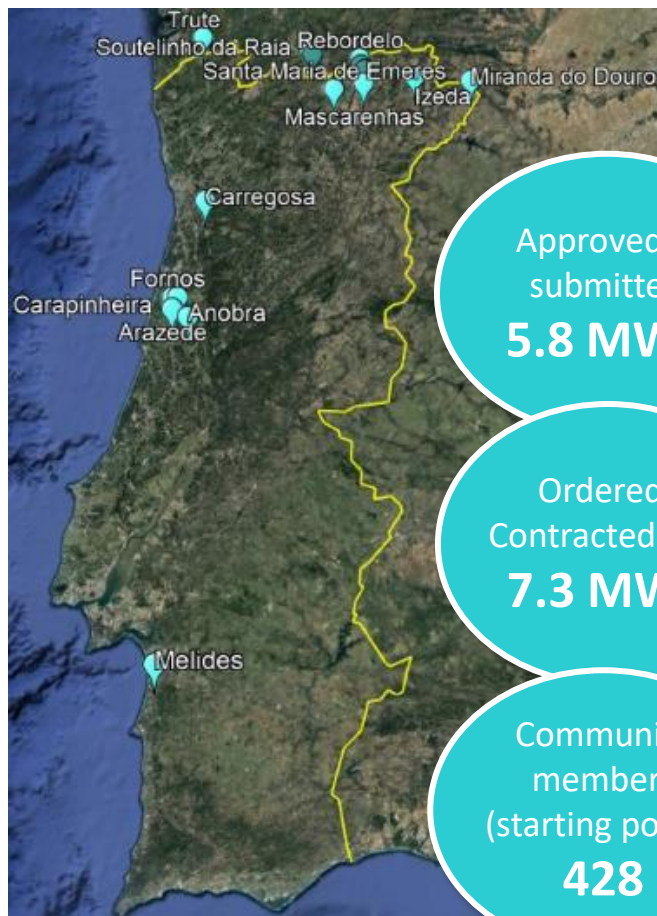
Near future



- An Active Energy Community manage flex to increase own (each member) and collective self consumption
- Community manager as an aggregator to support the grid
- Potential of IoT platforms and advanced AI
- New business models and engagement strategies for consumer/prosumer
- Nascent market with Energy Communities and Local Energy Markets



# Cleanwatts experience in Portugal



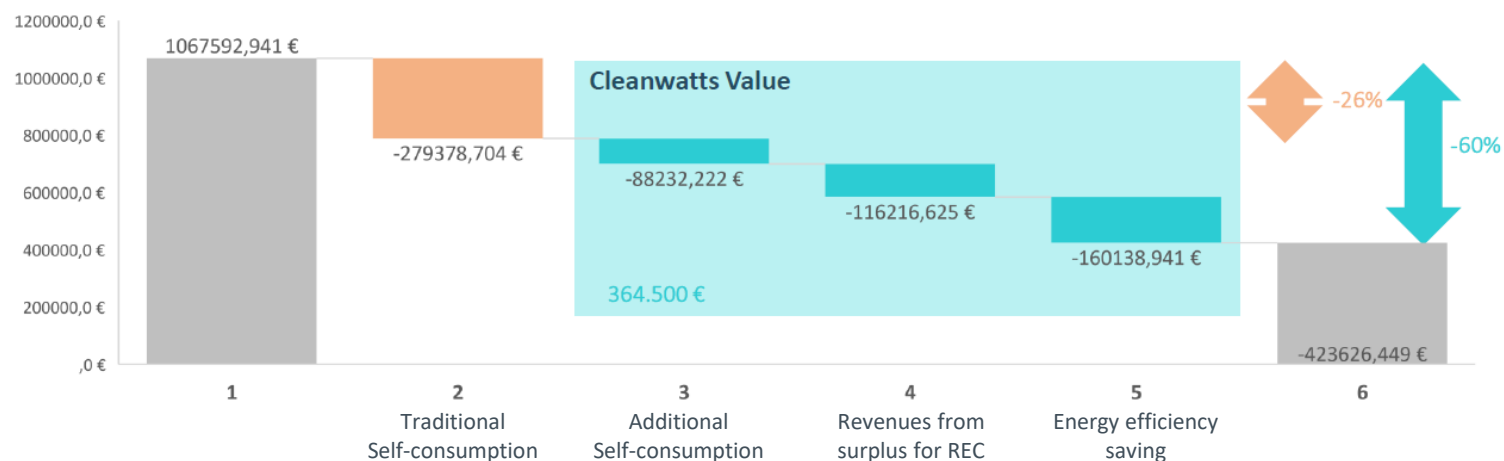
Approved & submitted  
**5.8 MWp**

Ordered/  
Contracted (PV)  
**7.3 MWp**

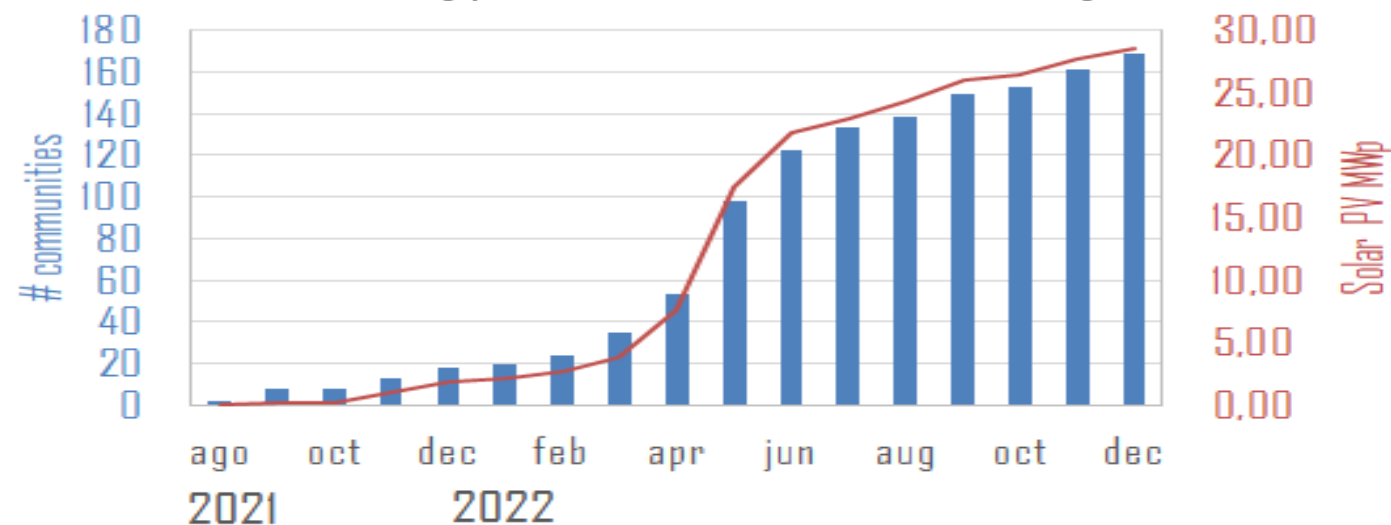
Community  
members  
(starting point):  
**428**

100 Energy  
Communities to  
fight Energy  
Poverty

  
**100 ALDEIAS**



## CW Energy Communities In Portugal





Clean energy. Decentralized, digitized and democratized.

---



Thank you!

Luisa Matos

lmatos@cleanwatts.energy

