



# SUSTAINABLE SOLAR — EUROPE 2024

# Session 6: From Brussels to the Ground: How Innovative Models of Engagement Support Communities' Empowerment

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# Session 6: From Brussels to the Ground: How Innovative Models of Engagement Support Communities' Empowerment



**Michael Schmela**

Executive advisor and Director  
of Market Intelligence,  
SolarPower Europe



**Claudia Ferre**

Energy Officer,  
València Innovation Capital



**Aron Lazarchick**

VP Marketing and Growth,  
CleanWatt



**Sofia Barbosa**

Director Regulatory Affairs,  
Greenvolt

# Sofia Barbosa

Director Regulatory Affairs,  
Greenvolt



SUSTAINABLE  
SOLAR \_\_\_\_\_  
EUROPE 2024



# Sustainable Solar Europe

Sofia Pinto Barbosa | Director of Regulatory Affairs, Greenvolt Group



# 1 The Greenvolt Group

## 2 Our Approach to a Community Business Model

### 2.1 Energy Sharing

### 2.2 Inclusive Energy Sharing

## 3 Beyond Business | Engaging Society in the Energy Transition

### 3.1 S.T.O.P – Rethink you Impact – Program

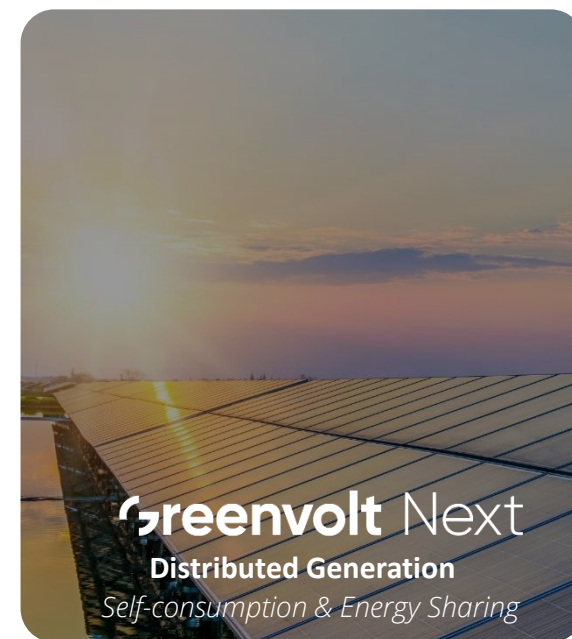
### 3.2 Utility-Scale Community Engagement

### 3.2 Plug Into Knowledge

**01**

**The Greenvolt Group**

# Greenvolt is a renewables player that operates in three different business clusters



**02**

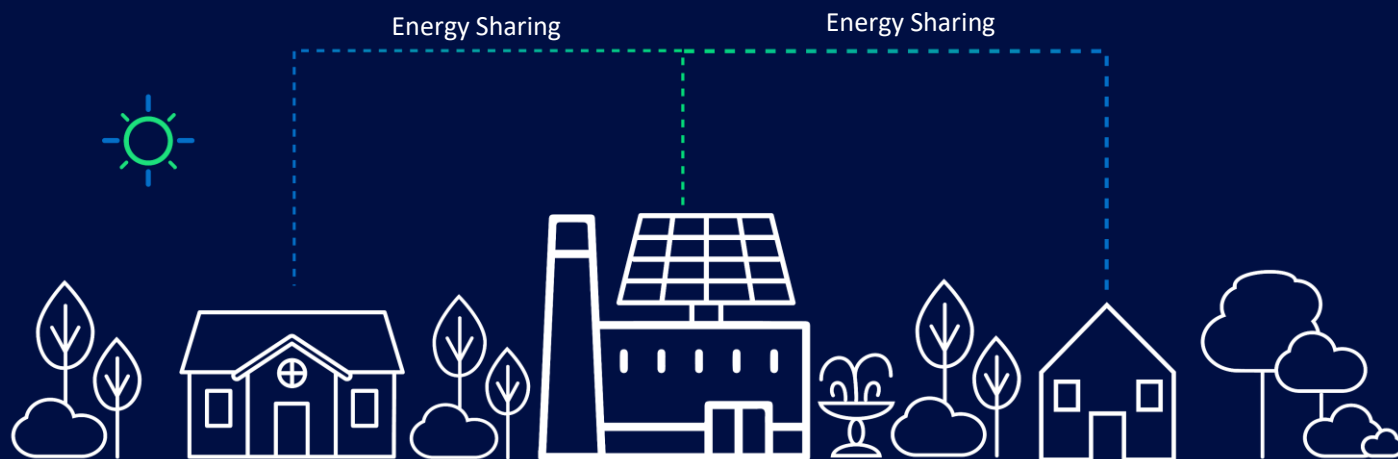
## **Our Approach to a Community Business Model**

What if we could create a business model that allows clean, local and cheap energy to be shared with the community?

## The Energy Sharing Model enabled by the Portuguese Framework



- Finance 100% of the PV installation
- Support setting-up the solar community
- Communicates with DSO how the surplus energy is to be shared
- Management of the monthly settlements



### Consumer Members

20% reduction

They consume shared energy

### Anchor Member

- ✓ No upfront capex
- ✓ Maximizes self-consumption of renewable energy
- ✓ Pay as consume
- ✓ Monetized benefits from part of the sale of the energy shared

### Consumer Members

- ✓ Consume shared renewable energy at lower prices
- ✓ Pay as consume
- ✓ Continue to be supplied by their preferred supplier for the consumption of electricity which is not shared

## The Energy Sharing Project between Belenenses Football Club, Champalimaud Foundation (Hospital and Research Center) and surrounding households

“The innovative concept of Energy Community that is now born around the Restelo Stadium brings Belenenses closer to its neighbors and to the whole surrounding community, bonds that the club naturally seeks to create and preserve permanently.”

Patrick Morais de Carvalho

Presidentt of Football Club “Os Belenenses”



**1 100** kWp

Installed Capacity

**75%** Surplus

Shared with Champalimaud  
Foundation (Hospital)

**25%** Surplus

Shared with Families around the  
stadium



Champalimaud  
Foundation

**800** kWp

Installed Capacity

**0%** Surplus

A family of four is captured from behind, running through a field of tall, golden grass. The father, on the left, wears a red and black plaid shirt over a white t-shirt and dark pants. The mother, on the right, wears a blue and white striped shirt and a red plaid skirt. Between them are two young children; the girl on the left wears a red and white striped shirt and a straw hat, and the boy on the right wears a red and black plaid shirt. All four have their arms outstretched towards the horizon. The background shows rolling hills under a warm, hazy sky at sunset or sunrise. The text "And what if this same model could serve as a powerful tool for driving social and environmental responsibility?" is overlaid in white at the bottom of the image.

And what if this same model could serve as a powerful tool for driving social and environmental responsibility?

## Bicesse Kindergarten - The First Inclusive Energy Community

Greenvolt has put in place an energy sharing model through a partnership with Santa Casa da Misericórdia de Cascais (SCMC), a social institution which operates a kindergarten in the municipality of Cascais.



**50%**

Daytime energy cost  
reduction for the Bicesse  
Kindergarten

**10 households**

will receive Energy almost  
free of charge, alleviating  
their energy poverty  
situation

**No upfront capex**

**72 KW**

Installed

**34K**

Saved in 15 years

**29 ton/year**

CO<sub>2</sub> emissions avoided

**=1294**

Planted trees



**Sharing energy since February 2024**

Households have already saved about **80%** on their  
electricity bills in the hours they consumed from the  
community

# The Bicesse Kindergarten model has been increasingly replicated and is now adopted by three additional social institutions

## Associação 2000

**75** kWp

Installed Capacity

**72** MWh

Surplus shared with  
Families around the  
association

**15**

**Households**

Benefit directly from  
the association  
surplus

**+ 350**

**Other People impacted**

Benefit indirectly



## Centro Social do Esmoriz

**44** kWp

Installed Capacity

**52** MWh

Surplus shared with  
Families around the  
association

**2**

**Households**

Benefit directly from  
the association  
surplus

**+ 350**

**Other People impacted**

Benefit indirectly



## Centro Social de Paços de Brandão

**94** kWp

Installed Capacity

**50** MWh

Surplus shared with  
Families around the  
association

**21**

**Households**

Benefit directly from  
the association  
surplus

**+ 450**

**Other People impacted**

Benefit indirectly



# 03

## Beyond Business | Engaging Society in the Energy Transition

3.1 S.T.O.P – Rethink your Impact – Program

3.2 Utility-Scale Project Engagement

3.3 Plug Into Knowledge

# S.T.O.P Program

Our program allows us to be **close to the communities** where our activity has o could have an impact. Through our renewable energy, we seek to increase sustainability, innovation, justice and energy independence together.

✓ Greenvolt Group Social and Sustainability program

**Share** affordable and inclusive energy by supporting vulnerable people and a social/environmental institutions, with clean and cheaper energy.



250,000  
Vulnerable People

**Talk** to future generations to increase energy and environmental literacy.



1,500  
Children and young people

**Offer** equal opportunities to address social inequalities issues and our time in voluntary initiatives.



100  
Merit scholarships  
2  
Volunteer initiatives per year

**Protect** the environment through projects to conserve and preserve biodiversity and ecosystems



Annually  
In different geographies

2030 Goals



# Utility-Scale Project Engagement (Poland)

Connecting with local communities and bringing them closer to our large-scale projects.

As part of the S.T.O.P. program, in 2024 Greenvolt Group have been developing a series of community engagement activities in the areas where we install our projects, particularly in Poland, where we operate mainly in the Utility-Scale segment.



16  
EVENTS



2  
COMPETITIONS



12  
LOCATIONS



25 K  
PARTICIPANTS



Workshops for farmers



Workshops for kids



Harvest festivals

# Plug Into Knowledge

## Workshop at our solar farm in Alentejo

Gathering between two generations - **children and seniors** - at one of our solar parks in Alentejo region, south of Portugal, to explore solar and wind-powered models, learned how a photovoltaic module works, and engaged in meaningful dialogue about integrating green solutions into everyday life



## Plug into **Knowledge**

The First Step to the Energy Transition

The background is a dark blue gradient. On the left, there are several concentric circles in a lighter blue color. On the right, there is a complex wireframe grid pattern that appears to be a 3D representation of a surface, possibly a dome or a series of overlapping planes, rendered in a light blue color.

# greenvolt

Shaped by Nature

[www.greenvolt.com](http://www.greenvolt.com)



# Claudia Ferre

Energy Officer,  
València Innovation Capital

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EUROPE 2024



# València Pilot Projects

Inclusive energy sharing models to fight  
energy poverty & empower citizens

Sustainable Solar Brussels, 12 Dec 24



This project has received funding from the European Union's Horizon 2020  
research and innovation program under Grant agreement No. 101033940

# València objective: Promotion of different models

- **Renewable Energy Communities**
- Public service of renewable **self-consumption**
- **Crowlending** PV plant on a Municipal rooftop

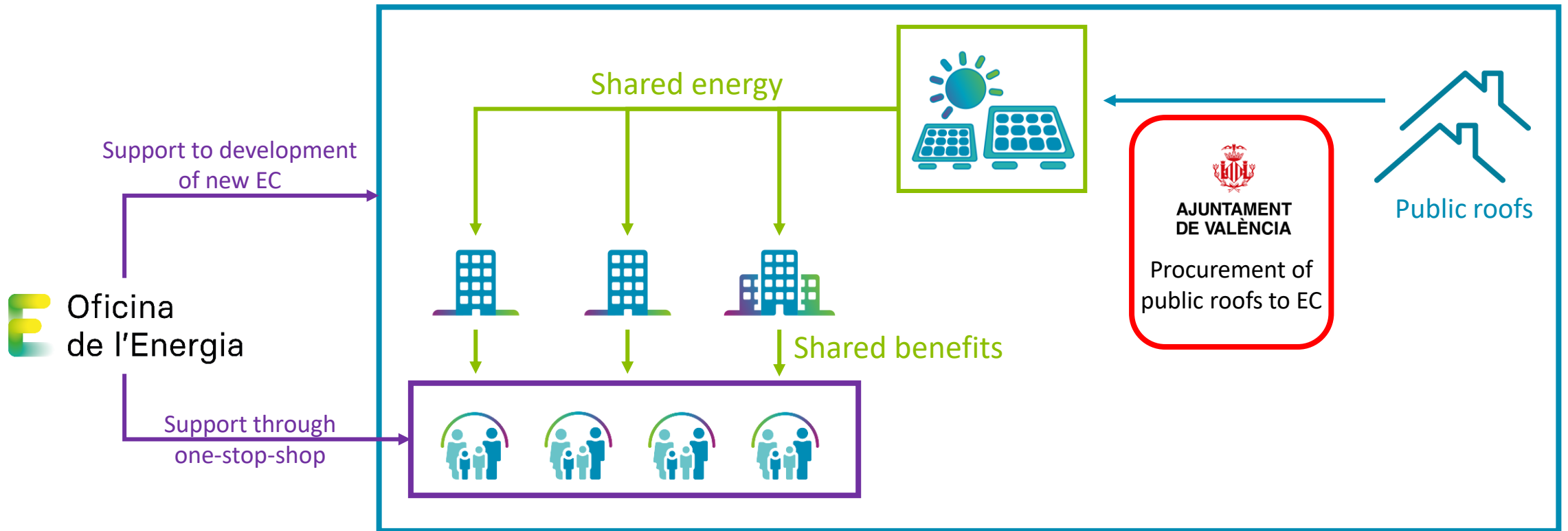




# Neighbourhood Energy Communities

# Valencia Pilot – Energy Communities (EC)

Energy communities



# CEL Castellar-L'Oliveral

*[First successful case of Energy Community in València]*



## Municipality Role



- Technical, legal and administrative support from the municipal foundation VCE through its Energy Office, as well as information and recruitment campaign
- **Intermediation** between association, installation company, DSO, licensing authorities...
- **Facilitator** of public roof lent to the association during the project lifetime (at least 25 years)
- VCE as member, acquires and distributes for free 3 kWp among **vulnerable households** (signs on behalf of vulnerable participants and keeps control over their participation).
- Beneficiaries selected in coordination with **Social Services** (vulnerability criteria)

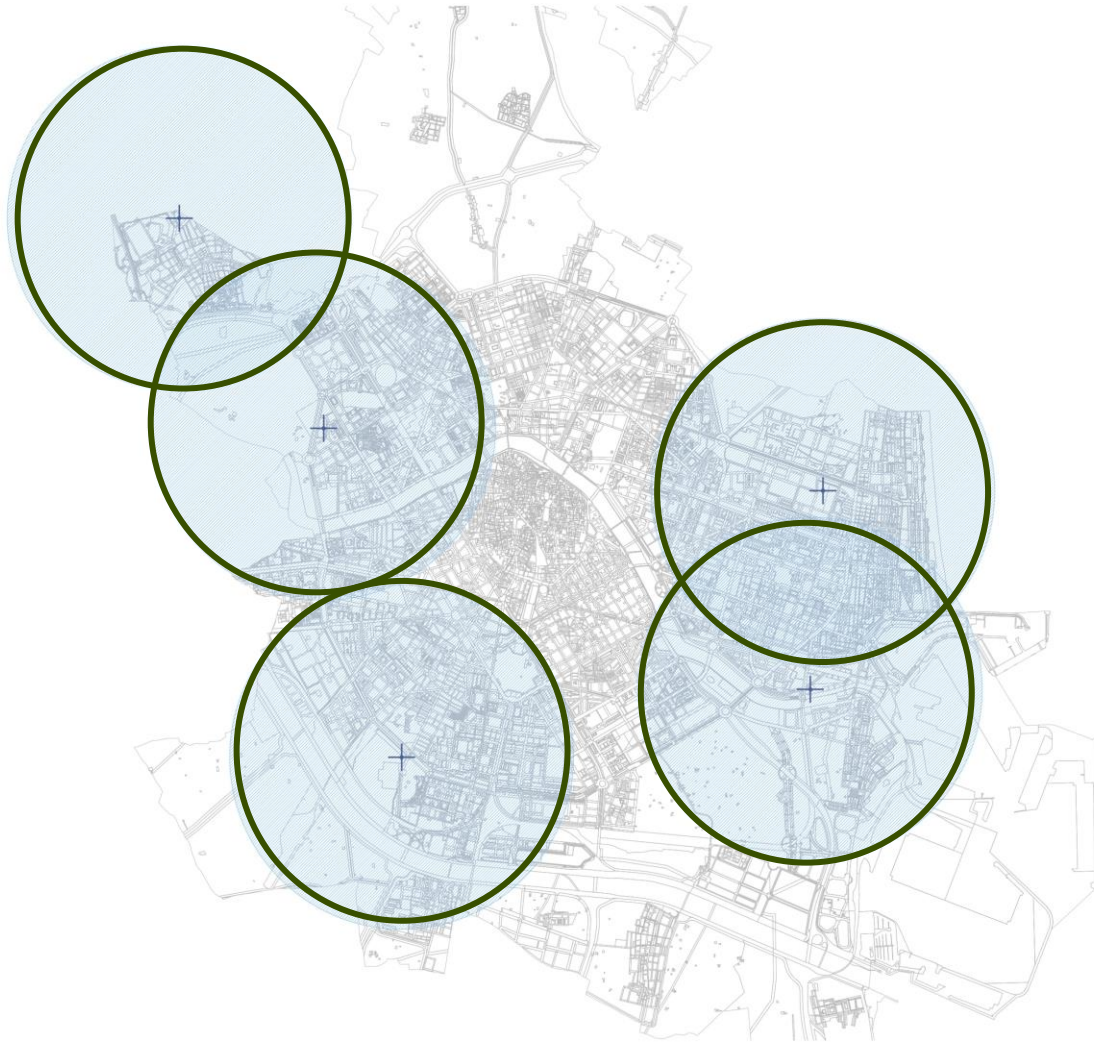


# Réquiem in Power (RIP) project

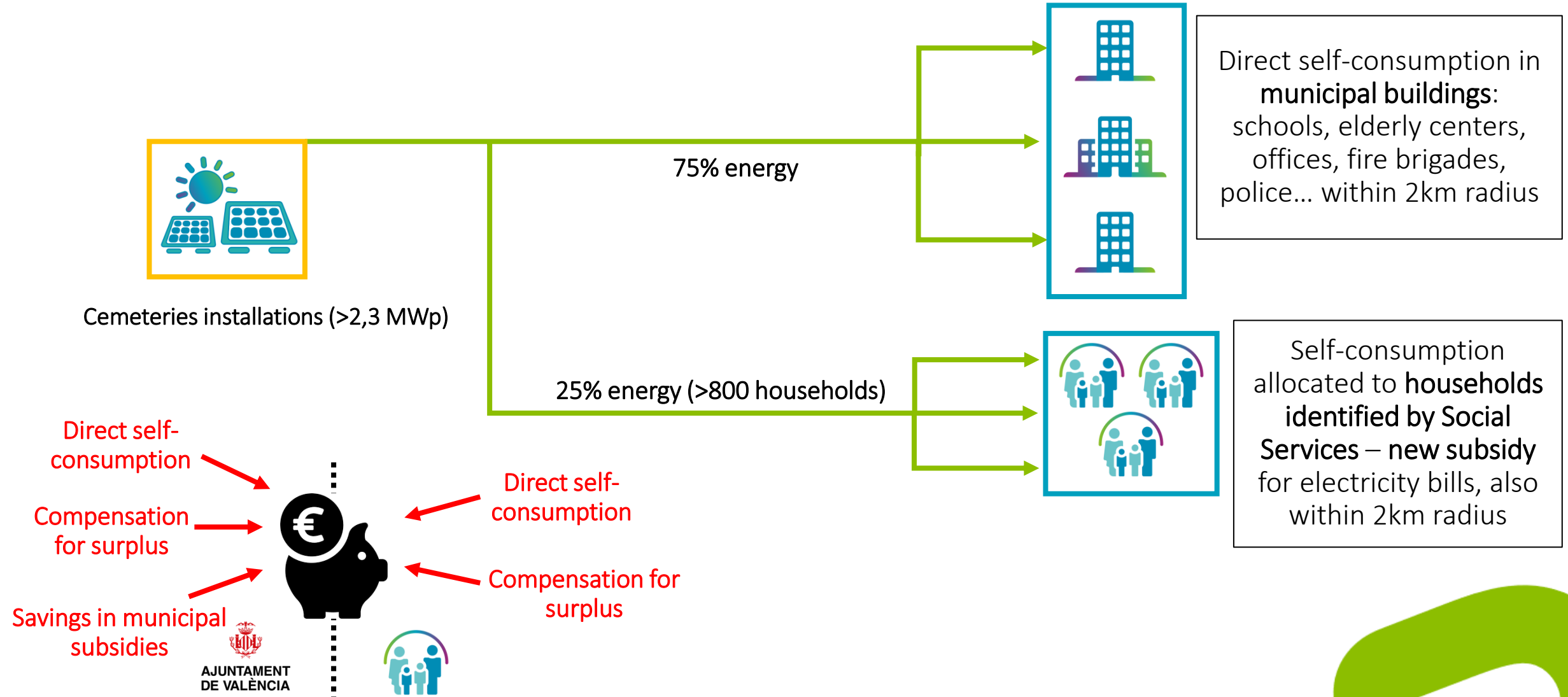
Public Service of Collective Self-consumption



# Valencia Pilot – Public Service Model



# Valencia Pilot – Public Service Model

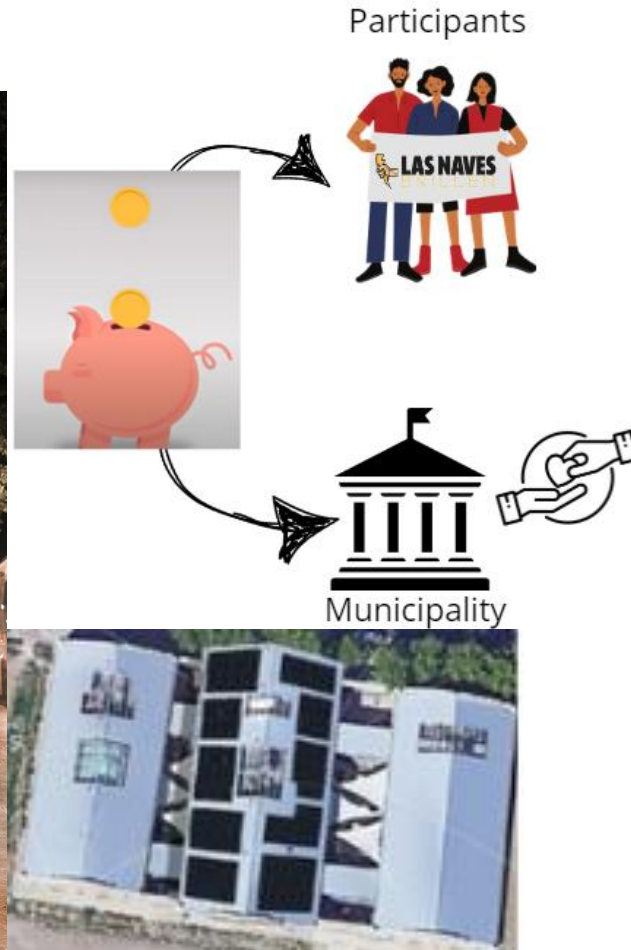




# Las Naves Brillen

Green and innovative citizen investment





- **Collective citizen financing model** (citizen crowdlending) for the installation of a municipal PV plant (in Las Naves)
- More than 60 citizens invested between 100 y 2.000€
- The revenue (savings) generated by the PV plant becomes an economic return for the investors & the municipal revenues will be reinvested in **energy poverty mitigation measures** (energy efficiency kits)

# Opportunities



## Citizens' empowerment

Fosters citizen's participation in the energy transition, helps create a network of Energy Communities in the city, having the Right to Energy as one of the core principles.



## Pilot projects – Public service

Demonstrate the viability of innovative projects to show the way to the whole society, creating a more accessible model.



## Energy transition acceleration

Social leadership and energy culture is the key to accelerate the pace, producing radical and lasting transformations.



## Just and democratic transition

Cooperation and association models that promote a fairer, more efficient and **collaborative use of energy**.

*Thank you!*

[Claudia.ferre@lasnaves.com](mailto:Claudia.ferre@lasnaves.com)  
[victoria.pellicer@climaienergia.com](mailto:victoria.pellicer@climaienergia.com)



**AJUNTAMENT  
DE VALÈNCIA**



València  
Innovation  
Capital



València  
Clima i Energia

# Aron Lazarchick

VP Marketing and Growth,  
CleanWatt



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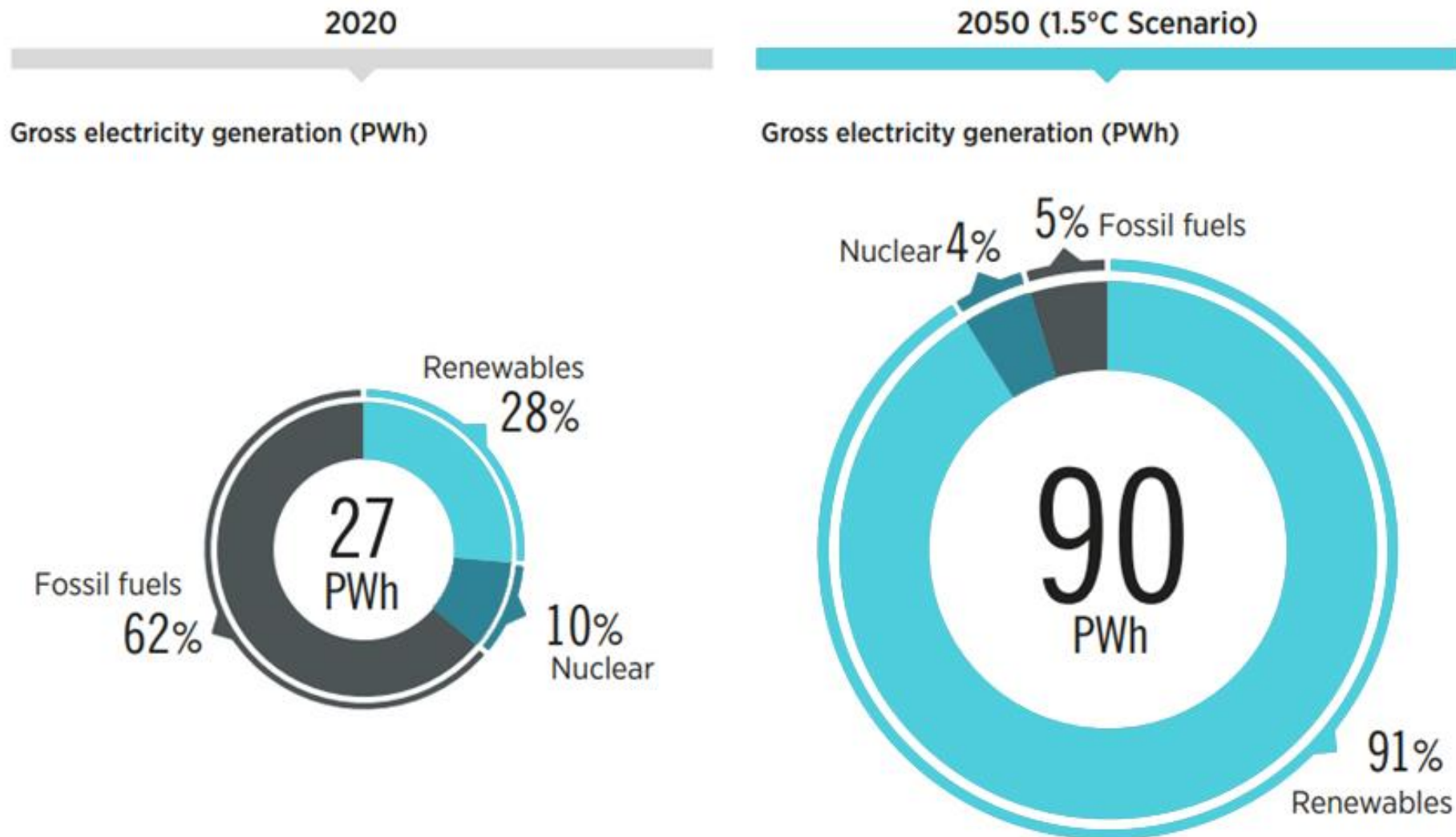


cleanwatts®



**Pioneering Energy Sharing  
in Portugal and the UK**

# Electricity generation needs to triple by 2050 in the 1.5°C Scenario

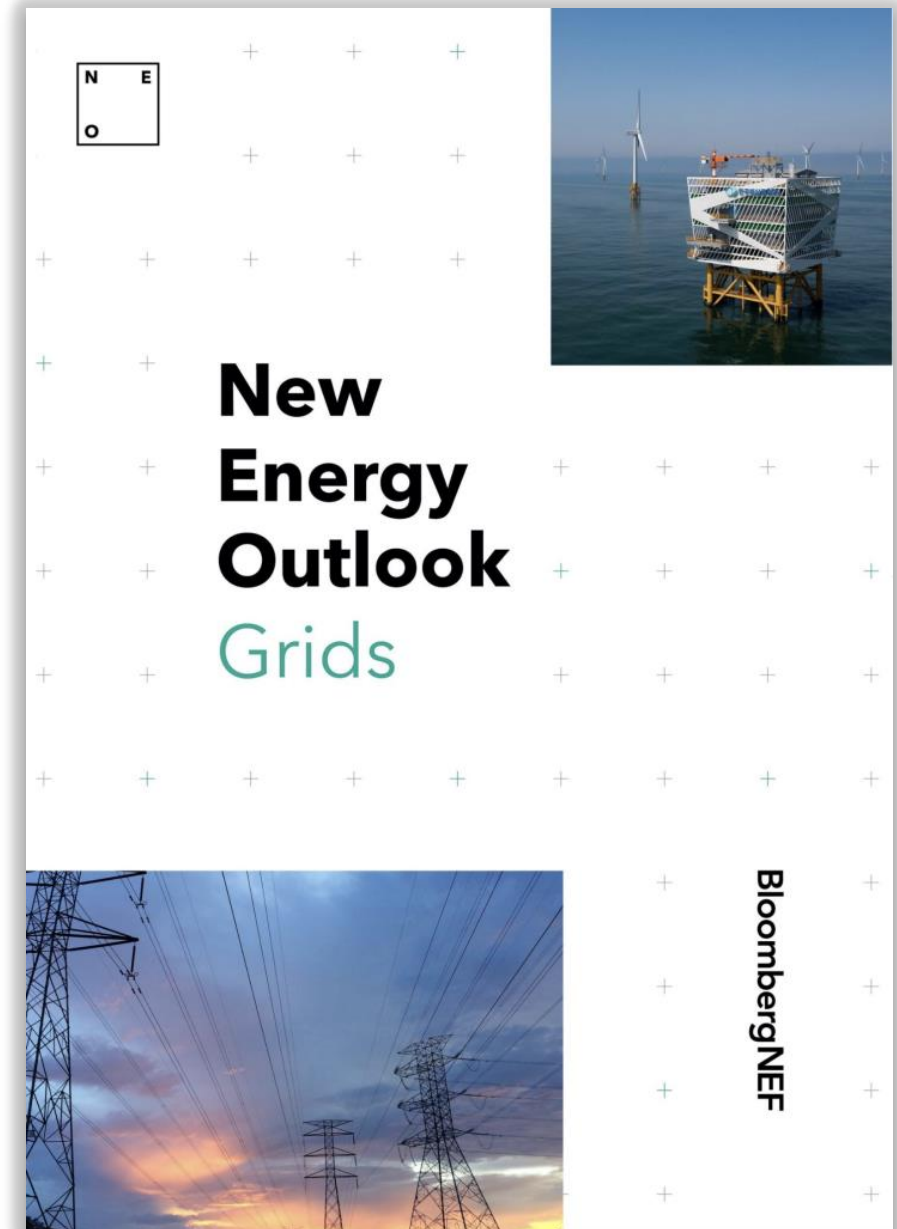


**Note:** PWh = petawatt hours

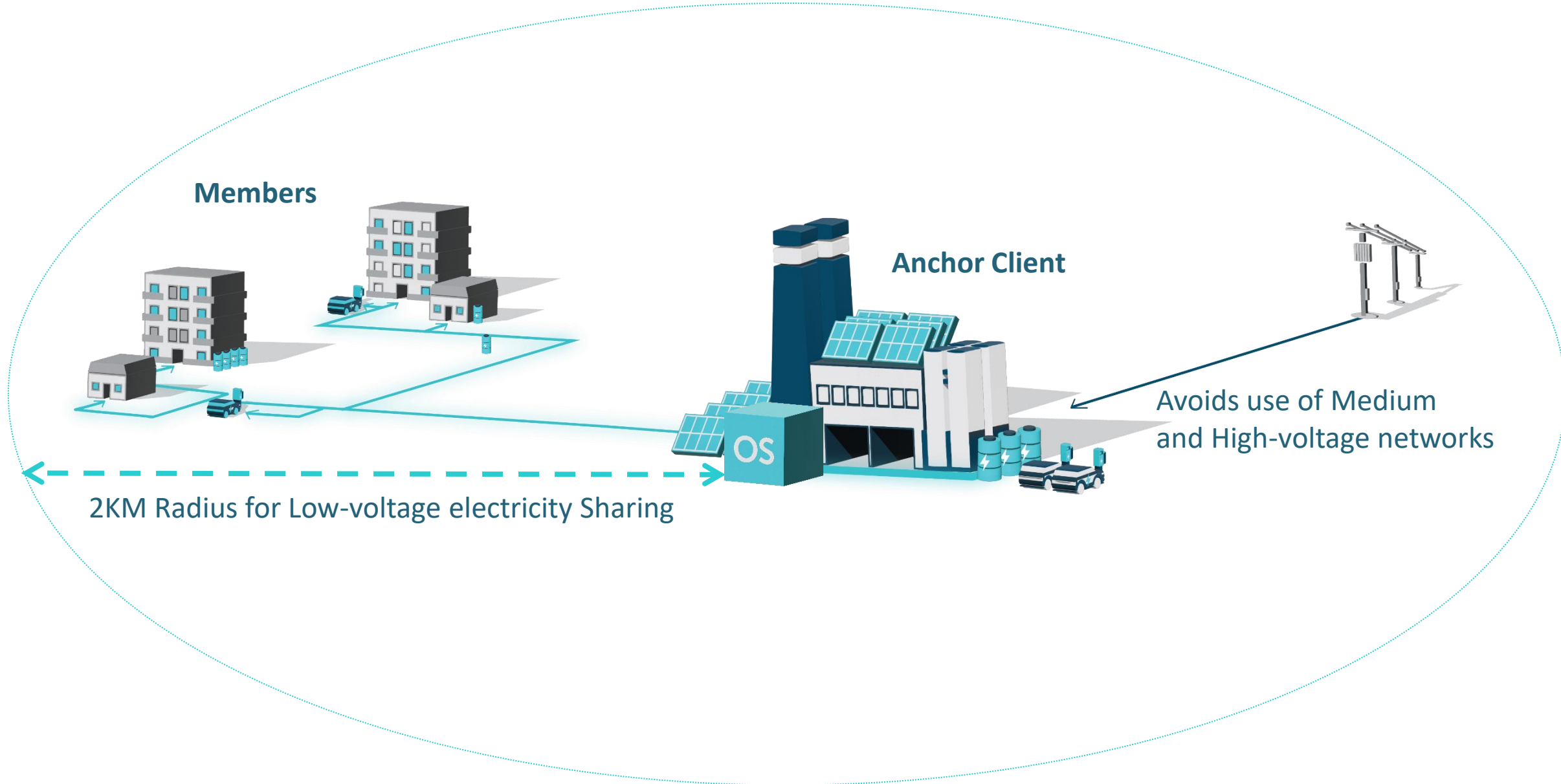
**Source:** IRENA

“At least **\$21.4 trillion** needs to be invested in electricity grids by 2050 to support a global net-zero trajectory.”

-Bloomberg NEF

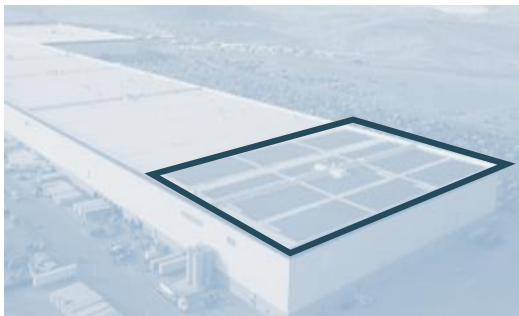


# Energy Communities In Portugal



# How Cleanwatts is Transforming the Energy Landscape:

## Traditional approach to Business PV

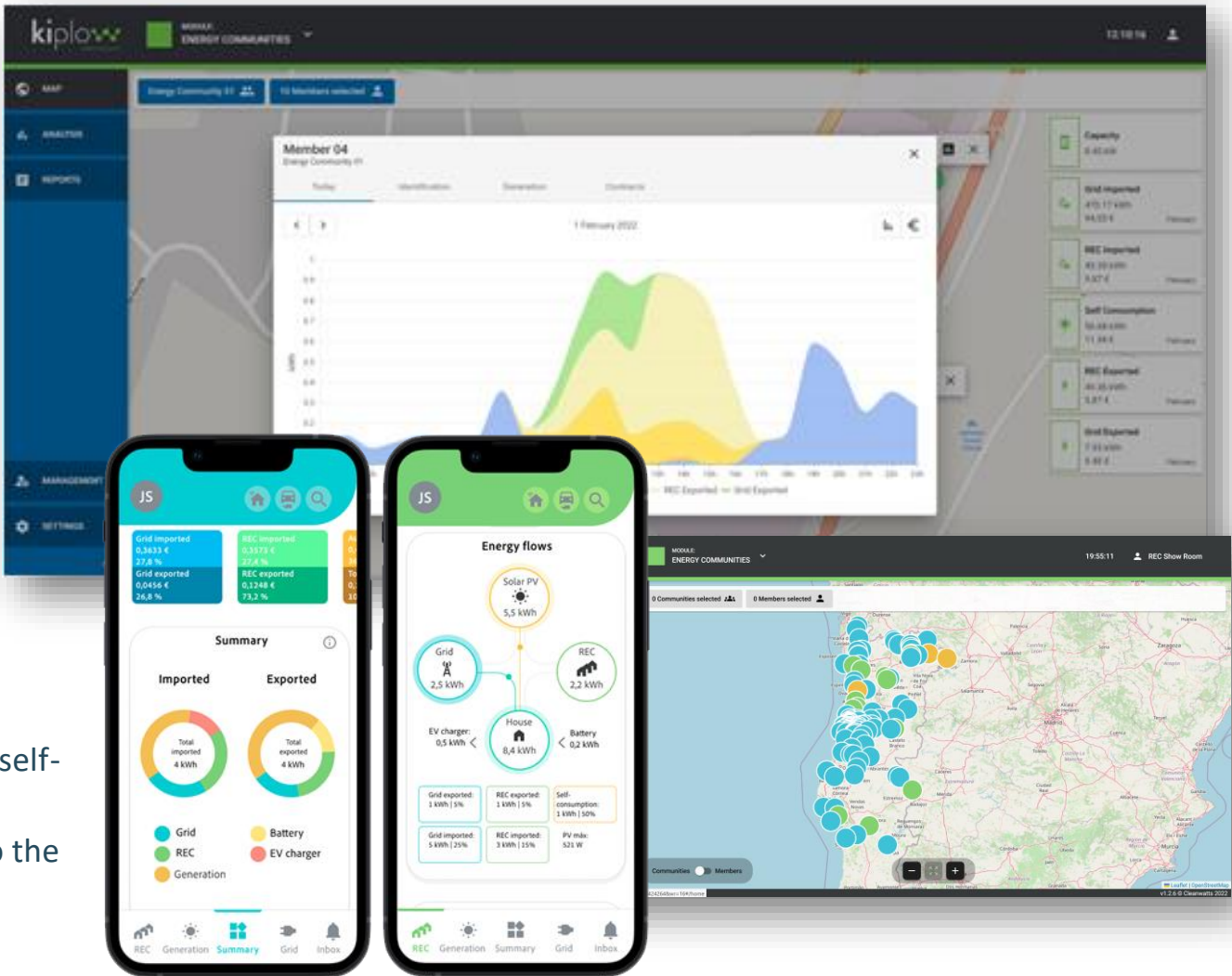


- ✗ Partial coverage
- ✗ No energy optimization

## Cleanwatts' approach to Business PV



- ✓ Full coverage usage
- ✓ Higher percentage of self-consumption
- ✓ Energy surplus sold to the Community



## One platform: modular, interoperable and localizable

### Front of the meter

#### Virtual Power Plant:

- ✓ Flexibility services
- ✓ Energy market Integration

#### Community management:

- ✓ Management of all energy assets Including generation, consumption & storage
- ✓ Peer to Peer sharing, trading and balancing

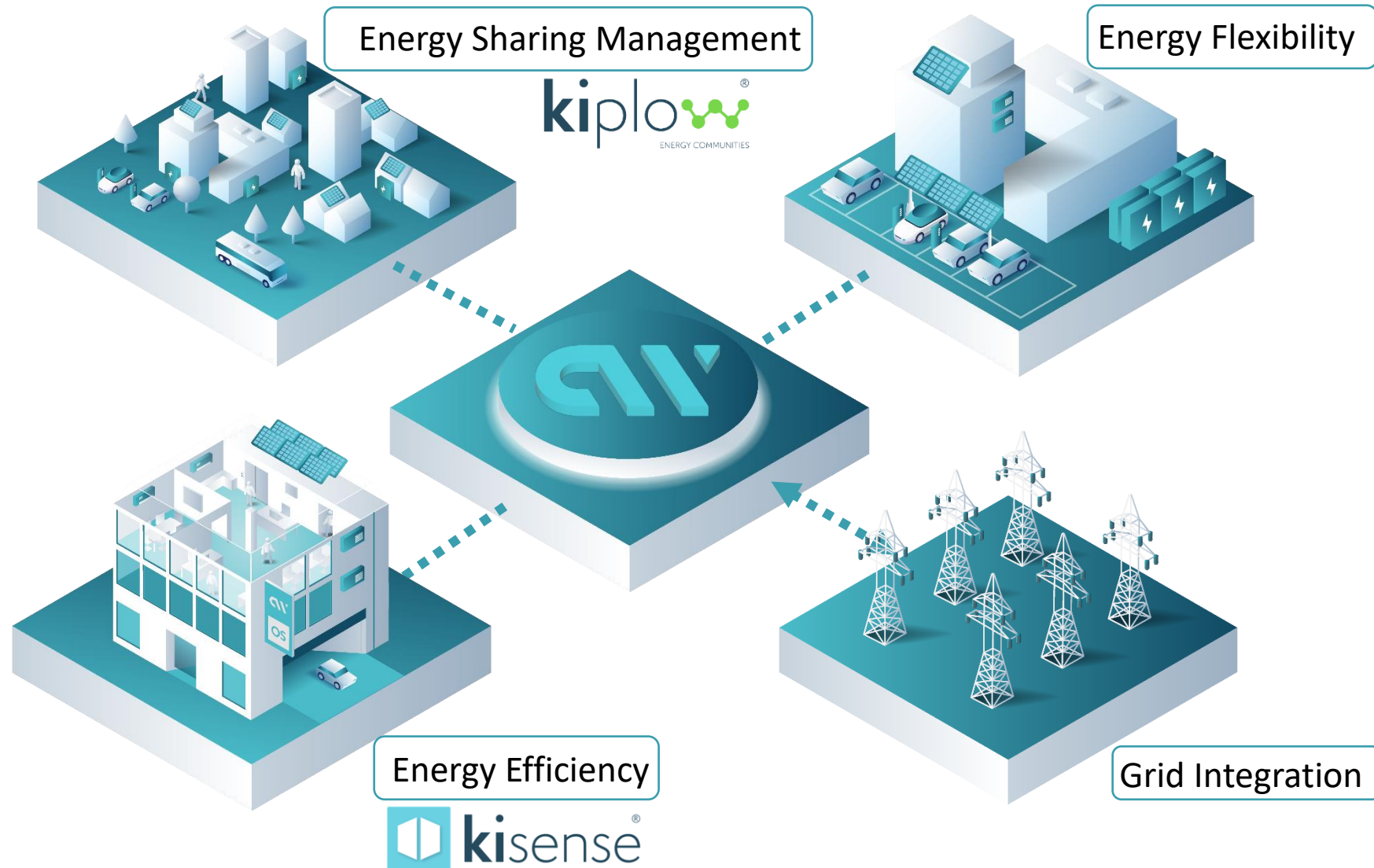
### Behind the meter

#### Platform for Commercial and Industrial

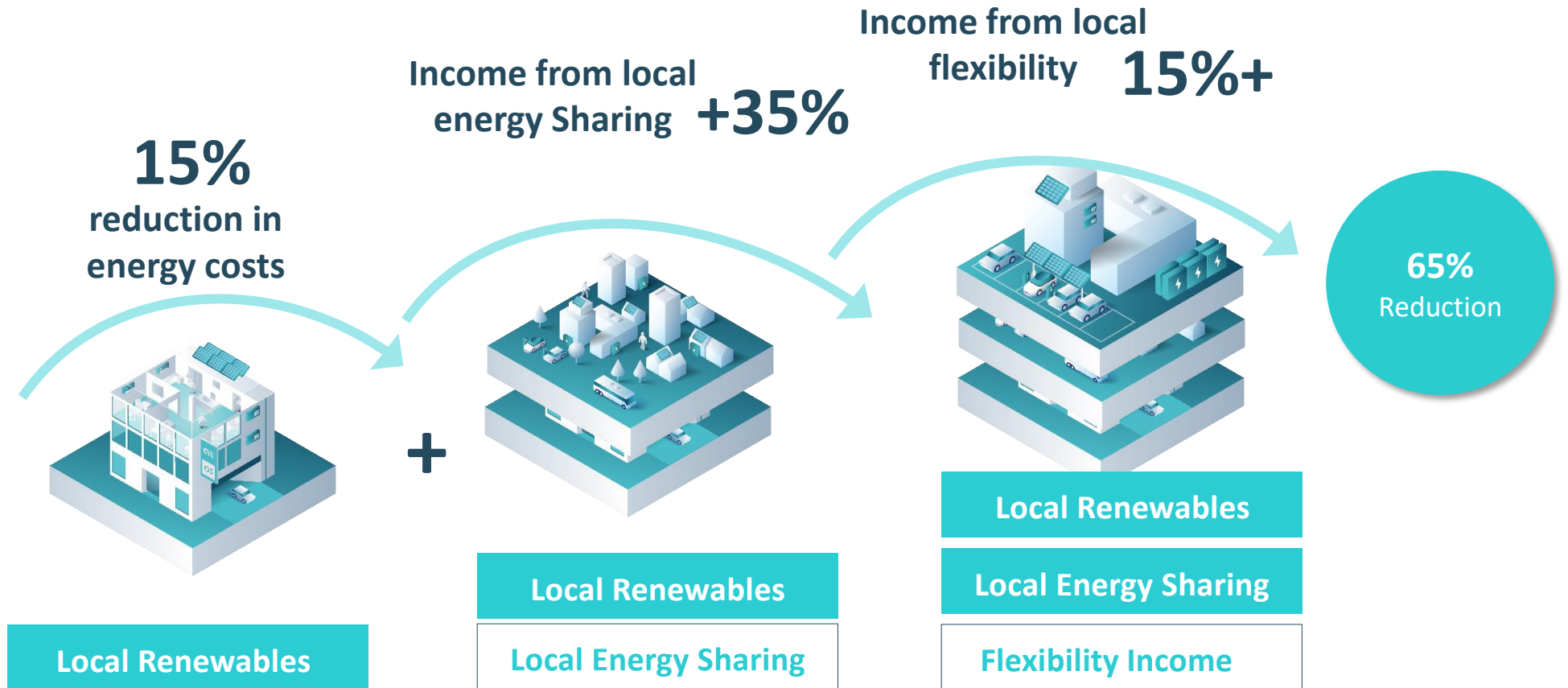
- ✓ Behind the meter energy management & efficiency

#### App for Residential Users

- ✓ Smart home and Engagement app for energy community members



# Business Case for local energy sharing



- ✓ Installing **local Renewables** can lead to **about 15% savings** on energy costs
- ✓ **Local Energy Sharing** can lead to additional 35% reduction in energy costs
- ✓ Adding local flexibility e.g. **battery management** creates at least 15% more value



# Energy Sharing in The UK – Community DSO

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# The Communities



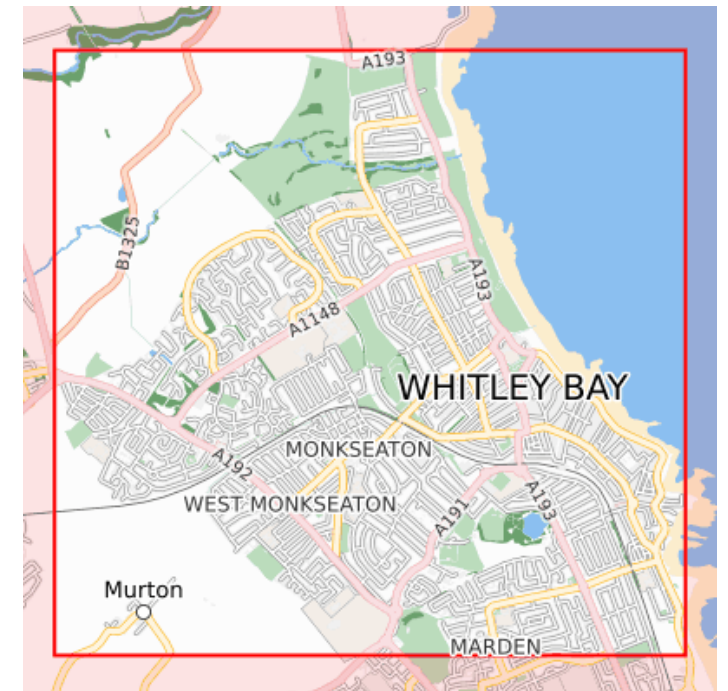
66+ Houses

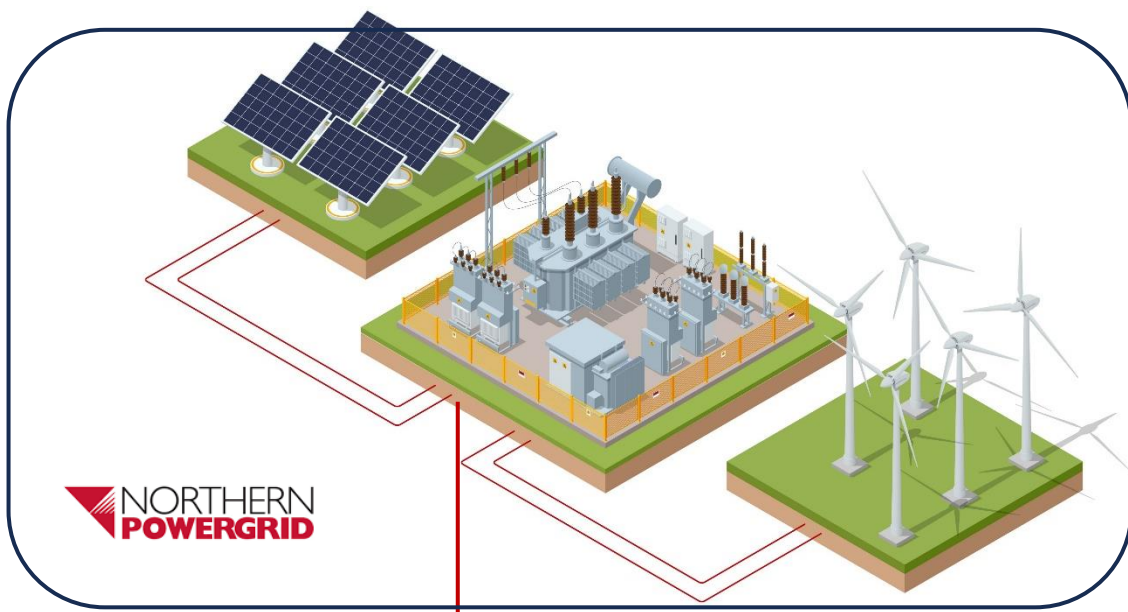


50 houses  
24 Flats



Up to 374 Houses  
25 Commercial Buildings





- Connects to DSO
- Monitors grid status and flex needs



- Receives flex requirements from SMPnet
- Connects and algorithmically trades on intraday/interday Markets



**Cleanwatts:**

- Manages the Community Energy assets
- Responds to flex requests from NODES
- Controls local assets
- Provides user engagement via app

**EV.Energy**

- Manages all EV charging within the community
- Smart Charging APP

# Daily Peak Allowance

## Engaging and Rewarding Community Members through Smart Energy Use

### House A:

- Exceeding its daily allowance.
- Contributing Extra or receiving allowances from House B.



- **Rewards Smart Energy Use:** Households staying within their allowance earn rewards
- **Engages Community Members:** trading allowances fosters participation in energy management.
- **Supports Grid Stability:** Balancing demand locally avoids congestion

### House B:

- Under-utilizing its daily allowance
- Earning rewards for unused capacity



# cleanwatts®

Shaping the future  
of sustainable energy



**Aron Lazarchick**

VP Growth & Marketing  
[Linkedin.com/in/alazarchick](https://www.linkedin.com/in/alazarchick)



EU HORIZON 2020 Project (2021-2025)

## POWER UP

The catalyst  
for social innovation  
in the energy market

[www.socialenergyplayers.eu](http://www.socialenergyplayers.eu)



**POWER UP** aims to promote the emergence of local energy market players with a **socio-ecological** agenda via **engaging vulnerable households** to co-design **new business schemes** around **renewable production** and **energy efficiency**

# Panel discussion



**Michael Schmela**

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Greenvolt

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# THANK YOU



**Solar Promotion GmbH**

Kiehnlestraße 16  
75172 Pforzheim, Germany  
Phone: + 49 7231 58598-0  
info@TheSmarterE.de  
www.TheSmarterE.de



**SolarPower Europe**

Rond-Point Robert Schuman 3  
Brussels 1040, Belgium  
info@solarpowereurope.org  
www.solarpowereurope.org