

Telheiras Renewable Energy Community

MIGUEL MACIAS SEQUEIRA

LOCAL PARTNERSHIP OF TELHEIRAS & CENSE NOVA-FCT

19/09/2024



ENERGY COMMUNITY BENEFITS

Economic

- ✓ Reduction in electricity bills
- ✓ Local investment with positive return
- ✓ Security in the face of price volatility

Environmental

- ✓ Renewable energy production
- ✓ Reducing the carbon footprint
- ✓ Decentralized production

Social

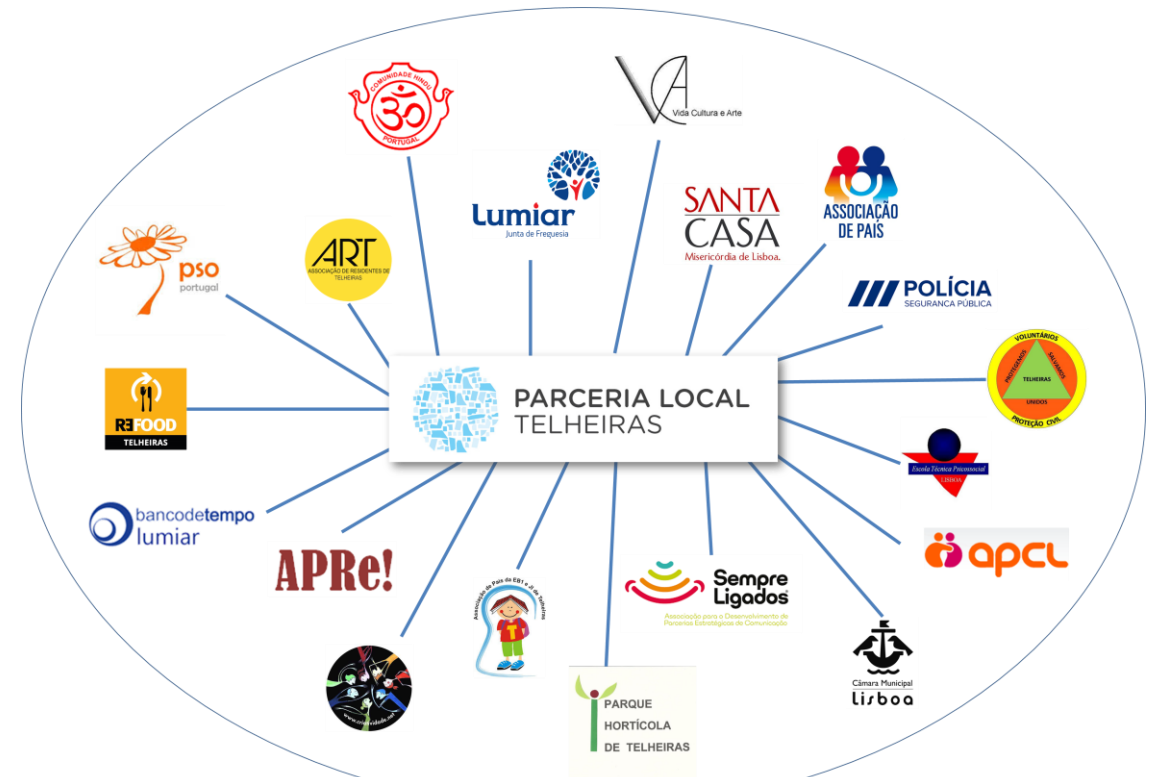
- ✓ Social support for vulnerable families
- ✓ Active participation in the community
- ✓ Community empowerment



10 STEPS TO BUILD A RENEWABLE ENERGY COMMUNITY



Location of the Telheiras neighborhood and the Lumiar Parish in Lisbon, Portugal



The Local Partnership of Telheiras brings together more than 20 local stakeholders since 2013



Collection of ideas (September 2020)

1) PITCHING THE IDEA TO THE LOCAL COMMUNITY

“Let’s produce our own renewable energy and share it among neighbours!”

Volunteer-based working group active in since November 2021:

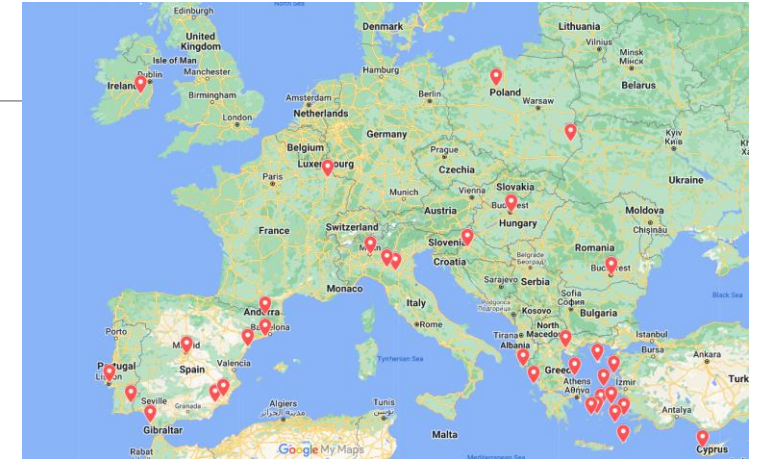
- Communication and awareness (6 articles published)
- Free counselling (more than 30 requests answered)
- **Renewable electricity production and sharing** (one solar PV pilot project waiting license)



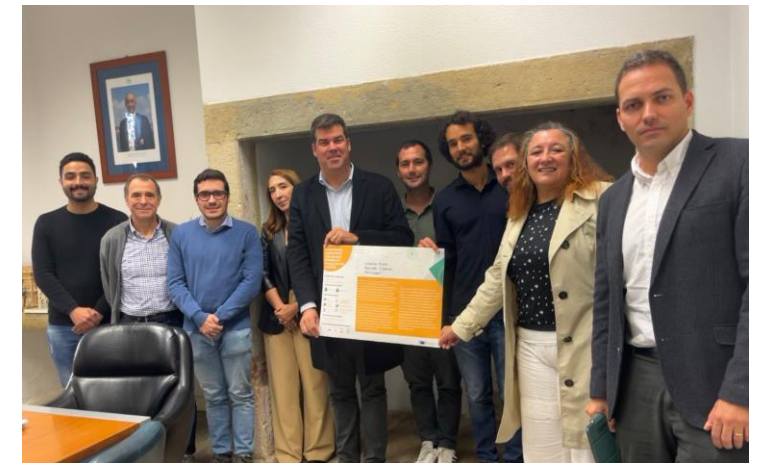
Brainstorming session (September 2021)

2) SEEKING BENEFICIAL PARTNERS

- REC Telheiras, promoted by the **Local Partnership of Telheiras** and the **Lumiar Civil Parish**, was one of 23 projects selected by the **European Union Energy Poverty Advisory Hub (EPAH)** for the 1st call of the technical assistance.
- Support by **Coopérnico** and **CENSE NOVA-FCT**.
- From October 2022 to July 2023.
- **Goal:** setting-up one of the first citizen-led and inclusive renewable energy communities in Portugal, tackling energy poverty and promoting energy democracy.



1st call of EPAH technical assistance



Kick-off meeting of the technical assistance (October 2022)

3) ASSESSING THE LEGAL AND REGULATORY CONTEXT

- Members must be within a **2 km radius** (low-voltage) or **4 km radius** (medium voltage).
- It is only possible to share the electricity which is not self-consumed in the building.
- Electricity sharing through 2 types of coefficients: **fixed or variable**.
- Virtual metering and sharing of the electricity every 15 minutes through **smart meters**.
- The REC needs to **pay grid access tariffs** to use the public grid.



4) SELECTING LOCATIONS AND SIZING RENEWABLE ENERGY SYSTEMS

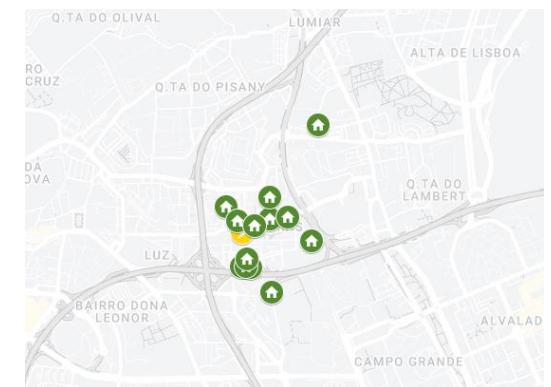
The pilot project will have 17 participants:

- The building itself managed by the Lumiar Parish,
- 13 member (families/residents) that have already signed up to invest in the project and consume the electricity generated,
- 3 social members (vulnerable families) identified and selected by the Lumiar Parish which will be beneficiaries and active participants.



Pilot project location "The Old Winery of Saint Vicent's Farm"

Area	50 m ²
No. PV panels	13
Installed power	7,15 kWp
Electricity generation	11,5 MWh/ano
No. members	17



Technical characteristics of the pilot project and radius of REC Telheiras

Note: participants must be in a 2 km radius from the solar PV system.

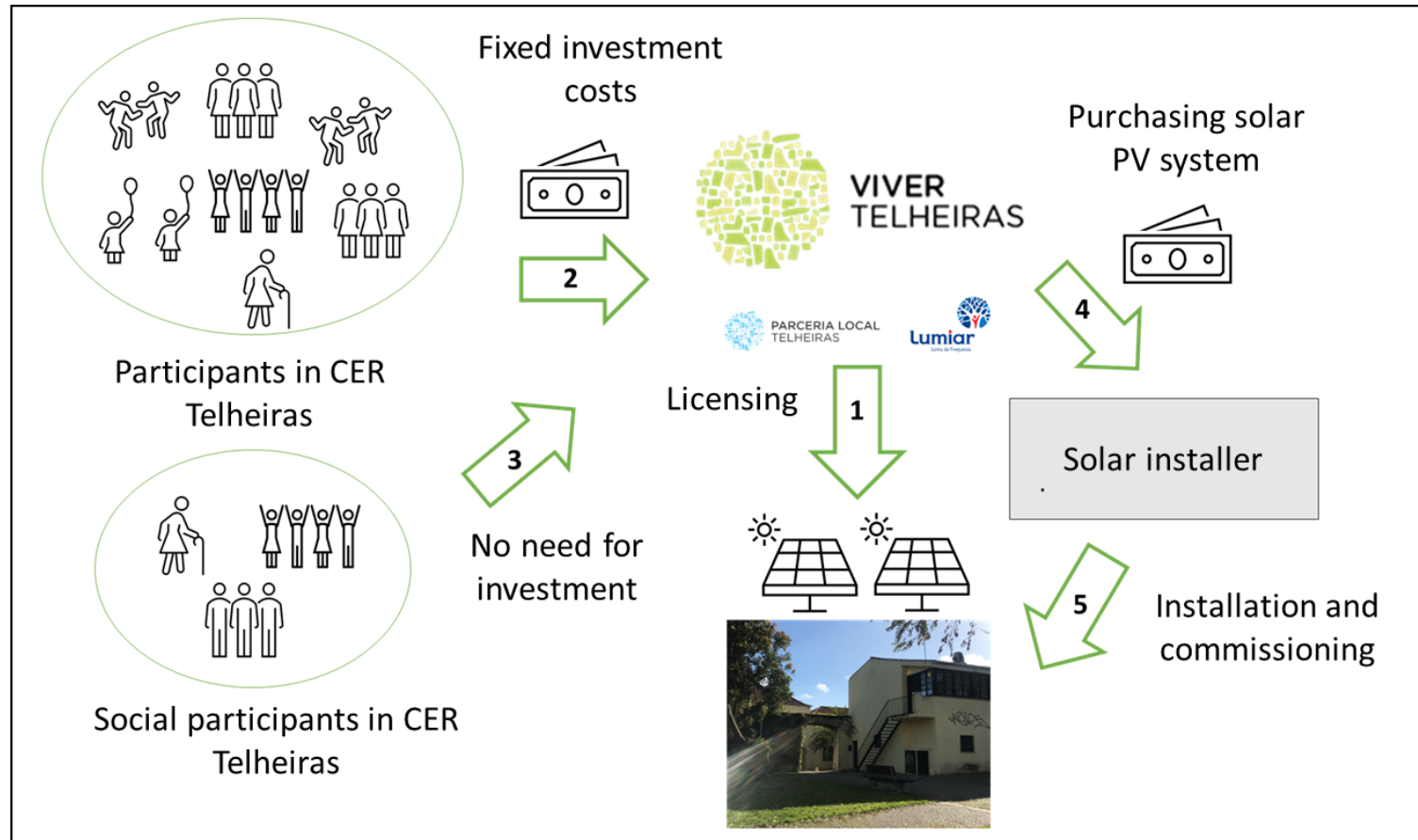
5) DEFINING THE LEGAL ENTITY

- Updating the statutes of an **already existing non-profit association**.
- Creation of a nucleus within the association dedicated to the energy community members.
- Adoption of a secondary NACE for renewable energy production.
- The Association has management responsibilities for REC Telheiras, in which decisions are taken at the **General Assembly** by the associates who are the members of REC Telheiras.



ASSOCIAÇÃO
VIVER TELHEIRAS

6) DEVELOPING THE FINANCIAL AND OPERATIONAL MODEL – INSTALLATION PHASE

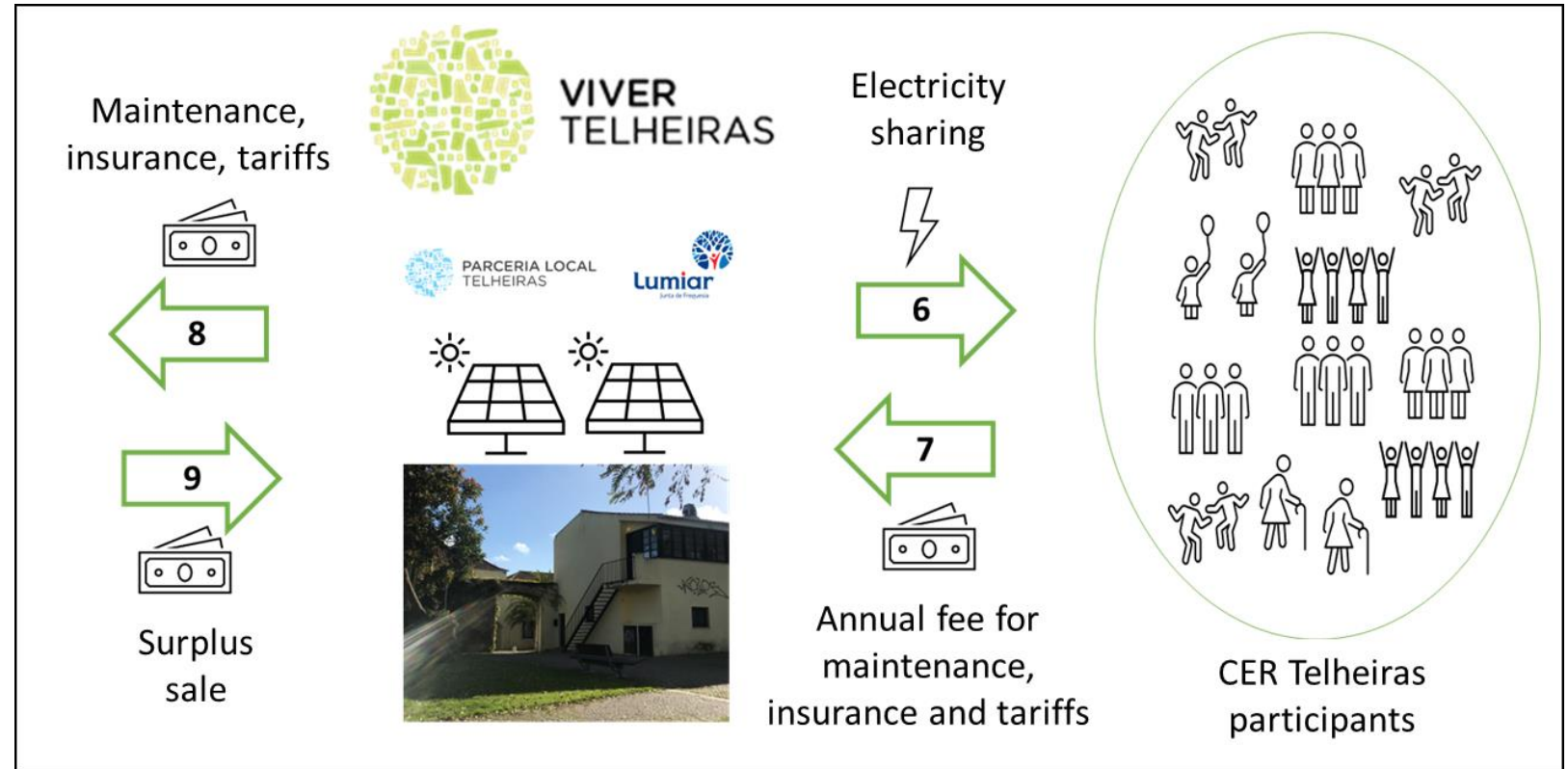


Partners meeting (August 2022)

6) DEVELOPING THE FINANCIAL AND OPERATIONAL MODEL – OPERATION PHASE



Partners meeting (March 2023)



7) DEFINING INTERNAL REGULATIONS

➤ Internal regulations (approved by the members) define:

- i) types of members and their rights and duties,
- ii) member access requirements,
- iii) departure of members,
- iv) electricity sharing mode,
- v) payment of annual fees,
- vi) destination of surplus production,
- vii) general assemblies and decision-making method.

➤ **Each member has the right to one vote in general assemblies.**



First General Assembly of REC Telheiras (November 2023)



**VIVER
TELHEIRAS**

All members are associates of
the association.

8) COMMUNICATION WITH THE COMMUNITY

- Work with the local stakeholders of the Local Partnership of Telheiras.
- Open and transparent participation in all processes for the local population.
- Local communication channels (events, social media, posters, word-of-mouth).
- Easy-to-read informative guide about the REC Telheiras pilot project.



Telheiras Festival (June 2022)



Flyers REC Telheiras



Social media post



Public session (May 2023)



Energy bills workshop (September 2023)



9) IDENTIFYING VULNERABLE FAMILIES

- Identified by the Lumiar Civil Parish and its social partners, **as they already receive social support.**
- Selected according to their location (2 km radius) and specific socio-economic indicators.
- Engaged by the social assistants and other intermediaries, **whom they already trust.**
- Active decision to join the project and **equal voting rights**, promoting social inclusion.
- Random lottery to decide the participants that join the pilot project and the ones that must wait for the next one.

10) LICENSING THE ENERGY COMMUNITY

- Licensing with national authority (Directorate-General for Energy and Geology) from June to December 2023.
- Municipallicencing started in early 2023, approval obtained from the heritage department in April 2023, previous notice of installation in May 2024.
- Installation complete in May 2024.
- Registration of the unit and civil liability insurance.
- **In process:** send the internal regulations of the energy community to DGEG, communicate the sharing coefficients to the DSO and sign the contract for the use of the grid.



Technical visit with installer (December 2023)

REC TELHEIRAS - CHALLENGES AND LEARNINGS

- Weak social movements, dependent on volunteers and with low energy literacy → **engage with a network of local partners** and build on existing community dynamics.
- Insufficient information, lack of knowledge, and few practical examples → seek partners that can provide **targeted support to citizens' groups, associations, and local governments**.
- Financing difficulties, especially for energy-poor families → find **dedicated financing for non-profit energy communities** and/or that include energy-poor households.
- Grid capacity limitations → **careful selection of locations** and adequate sizing of renewable energy systems and analyze the **possibility to reinforce the grid capacity**.
- Still unclear electricity sharing process by the Portuguese DSO → include a **safety margin**.
- Bureaucratic and slow licensing process lacking transparency and accountability → wait for the license, keep on with other activities, and **plan the next steps**.

Thank you!



Comunidades de energia: O passo para a democratização energética (ZERO, 2024)



@ m.sequeira@campus.fct.unl.pt

in www.linkedin.com/in/miguelmmsequeira

🐦 @MMaciasSequeira

W www.vivertelheiras.pt/certelheiras