



Sobreiro Social Neighbourhood

The main stage for launching the PED exercise has a total of 47 blocks overall, is located at the urban core of the city and its being supporting its urban renewal since 2012, and is still being implemented. The major objective of intervention is to open the neighbourhood to the City, achieving a changeable, healthy and responsible rehabilitation, where increasing the thermal comfort and energy efficiency improvements of the buildings are a key figure!

2019



Positive Energy District with an Energy Community

- A cluster of diverse municipal energy assets is consolidated to function as a single entity, paving the way for a future Virtual Power Plant (VPP).
- Organized in a collective self-consumption unit, progressing towards the establishment of a Renewable Energy Community.
- Anchored in a comprehensive baseline analysis (encompassing technological, financial, legal, governance aspects).
- Ongoing decentralized photovoltaic (PV) production in municipal facilities and social housing, creating conditions for the development of a Positive Energy District (PED).
- Availability of Electric Chargers and a Municipal Electric Fleet.
- Development of data harvesting and interoperability solutions is underway.
- Retrofitting of the biggest Social Housing Neighbourhood tackling energy poverty.
- Testing cutting-edge solutions in municipal buildings, including Building Integrated Photovoltaics (BIPV) experiences.



2020

City Vision 2050

Strengthening our City Development Strategy, with the City Vision workshop, Maia started a foresight and planning exercise which represents the synthesis of a collaborative work developed with a wide range of entities from local and regional ecosystem based on five strategic areas, "Sustainable Urban Development", "Mobility", "Smart City", "Inclusive and Integrated City" and, of course, "Energy Transition" where Renewable Energy Communities and PED's play a major role.

Virtual On-site Assessment

A city assessment was conducted, following the City Lab Methodology for sustainable urban development, consisting on the analysis of strategic documents, data collection, a virtual site tour, interviews with key local actors and a co-creation phase, which was dedicated to formulating project ideas together with local experts.

2021



Partners



Key Numbers & CO2 Potential

	Production capacity kwh/year	Predicted consumption kwh/year	Estimated energy bill savings %	Reduction Potential tonCO2e/year	N.º Inhabitants directly involved in engagement activities
SOBREIRO	507496	1394921	-	10,87	120
TECMAIA	489348	3238759	12,0%	176	NA
Other Municipal Buildings*	629512	2445969	26,7%	826	NA

*Sports, educational, among other municipal facilities

Plans for replication

The initial phase involves consolidating the ongoing implementation actions for the PED. Nonetheless, a prior analysis of the municipal building stock has been conducted, focusing on PV implementation infrastructures, with identified potential for replication. It is foreseen that the most favorable locations are sports facilities due to their spacious roofs enabling the installation of larger capacities for PV Systems.

Additional studies and projects are scheduled for future development and implementation.

Continuous collaboration with the community remains a key aspect of our plans to accelerate the energy transition.

Enablers

- Asset ownership by the municipality and the Social housing company.
- Funding opportunities from the RRP and the forthcoming EU Funds.
- Municipal commitment and willingness to execute the strategy towards carbon neutrality.
- Substantial expertise among partners and key stakeholders.
- Establishing synergies with other European Innovation Projects in the Maia territory focused on sustainability and energy transition.

Barriers

- Insufficient technical information of buildings.
- Budget and funding constraints.
- Absence of governance structure and defined roles among participants
- Unexpected outcomes resulting from the complexity of process
- Limited awareness among tenants regarding benefits (potential distrust).
- Bureaucratic hurdles in the licensing of Renewable Energy Communities.
- Planification and tender procedures complexity causing delays in project implementation.



2022

Implementation Plan

An Implementation Plan with a set of 15 projects chosen to be top contenders worked within a "City Lab Innovation" and collaborative workshop, after which two projects were selected to feed the project development phase, namely Virtual PED with an Energy Community and the City Digital Transformation.

These two projects have full alignment with SPARCS main objectives, complexity, dimension, and combine into their components other identified project ideas and are umbilically related, as the City Digital Transformation project assumes a horizontal and instrumental nature, being absolutely fundamental for energy transition.

Roadmap for Urban Transformation

Represents an additional step in the exercise of collaborative prospective reflection that provides a starting point based on the current context of development in the key strategic areas and the "ending point".

This work was carried out in close connection with Maia 2030 Action Plan, a strategic exercise where specific investments and projects were selected to be supported by our Regional Operational Programme Norte 2030, in which we included "Maia Positive City", a set of activities to promote energy transition that represents our replication strategy.

2023



2024

Project Development

Positive Energy District with an Energy Community – a cluster of diverse municipal energy assets is consolidated to function as a single entity, paving the way for a future Virtual Power Plant (VPP). Organized in a collective self-consumption unit, progressing towards the establishment of a Renewable Energy Community.

City Digital Transformation aims to, gradually, transform the city management into a system supported by automation mechanisms, anchored on data communication infrastructures and processes, in an integrative and interoperable way, in a data platform, on the assumption that they will bring value, expressed through greater efficiency of the urban services.

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