Nantes | Hamburg | Helsinki   Bydgoszcz | Rijeka | Palencia

Final Conference

14 - 15 September 2022
Hamburg (Germany)

SMART PEOPLE – SMART ECONOMY – SMART CITIES

my SMART Life

14/09/2022

PALENCIA FOLLOWER CITY

Smart Transition of EU cities towards a new concept of smart Life and Economy

my SMART Life

Palencia follower city

Lessons learnt

Initial list of replicate action which were closer to Palencia interest, including in the set of action of mySAMRTLife project

Building & District
- ❑ Replacement of fossil fuel boilers of public buildings
- ❑ Smart Control

Building Integrated RES

Mobility
- ❑ Electric Vehicles
- ❑ Charging Stations
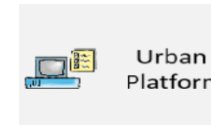- ❑ Smart Urban Mobility
- ❑ Optimization of urban in low-use lines

Electric Vehicles

City Infrastructure
- ❑ Municipal lighting installations
- ❑ District Heating system

District Heating

Urban Platform

Urban Platform

- ❑ Smart metering in public buildings
- ❑ Smart water metering at dwelling case.
- ❑ Intelligent automatic irrigation
- ❑ Intelligent Transportation System
- ❑ Open data GIS platform

Domotics & Smart Controls

No technical actions
- ❑ Citizen engagement

Policy Improvements

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Palencia follower city

Lessons learnt

Set of Palencia replicated actions maintained throughout different studies within WP6

Follower City	Smart Actions	Current State	PESTEL (D6.1-6.3)	Energy scenarios (D6.6)	Techno-economic analysis (D6.7)	Replication plans (D6.8)	Social acceptance (D6.12)	Business models and public procurement (D6.13)
Palencia	DH with biomass	Under Implementation						
	EV for municipal fleet	Already replicated						
	Smart Citizen Platform	Already replicated						
	Energy monitoring of public buildings	Already Replicated						
	Public LED lighting	Already Replicated						
	New heating systems in public buildings	Under Implementation						

Lessons learned

- To discover new tools and methods to define the city energy strategy

- To be aware of the results obtained to continue supporting smart actions in the city

- To understand the relevance of having a good database of municipal information

Data

3D Model

LEAP-Energy scenarios

Techno-economic analysis of supply chain

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Palencia follower city

Lessons learnt

New tools and methods for urban planning

- **To define most convenient solutions for urban planning**

    - Benefits and risks of measures identified through PESTEL *(*First periodic report)*

    - Energy demands of building stock in 3D model

    - Techno-economic-analysis of solutions and future energy scenarios & LEAP tool

- **To determine the best locations for the implementation of the measures**

    - Energy demands of building stock at city level and for two selected districts
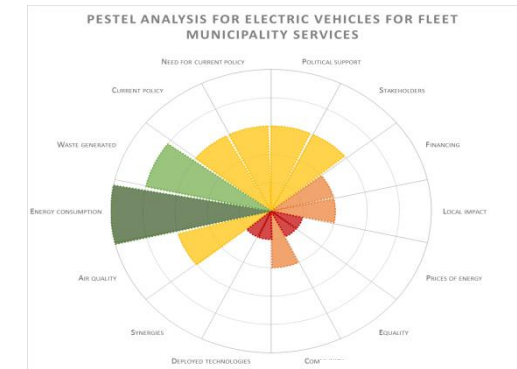

PESTEL ANALYSIS FOR ELECTRIC VEHICLES FOR FLEET MUNICIPALITY SERVICES

10 Main orientation of building façades in Palencia study area (Red=North, Blue=South, White=West, Green...)

Figure 15 SHP Buildings in LoD1 for one of the areas of the city of Palencia

Palencia follower city

Lessons learnt

The success and technical feasibility of the actions of LH and FC helped us to implement our actions

Replicated Intervention	Intervention category	Specific intervention related to it from the lighthouse pilots
DISTRICT HEATING with biomass in public and private buildings	District Heating (CITY INFRASTRUCTURES)	HAM action 13: District Heating with a share reneawable hydrogen
ELECTRIC VEHICLES for municipal services fleet	Electro-Mobility (MOBILITY)	HAM action 22: Electrification of public vehicle fleet
SMART CITIZEN PLATFORM for all municipal services	ICT for citizen engagement (NON-TECHNICAL ACIONS)	NAN action 39: Engagement Portal for citizens
ENERGY MONITORING of public buildings	Smart metering & management (URBAN PLATFORM AND ICT DEVELOPMENTS)	NAN action 47: Energy data monitoring of public buildings

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Palencia follower city   Lessons learnt

In order to implemented strategy of four actions selected by the city of Palencia in the replication plan, we have considered the experience a of our lighthouse cities:

- The implementation of **District Heating** in residential areas could be financing by public funds from the municipality to face this initial investment as well as the implementation of ESCO models to maintain and manage its exploitation.

- To face the lack of interest in electric vehicles in the citizens, information campaigns focused on the economic benefits of **EV** in comparison with conventional cars, deployed of EV in municipal fleet and increase in infrastructure to charging points, benefit a change of tend.

- **Energy monitoring in Public Buildings** with the intention to reduce the expenses of energy bills which influence to extend these initiatives to private buildings.

- The **Citizen Platform** influences the modernization of the economy and the society of the city is a source of citizen opinion information.

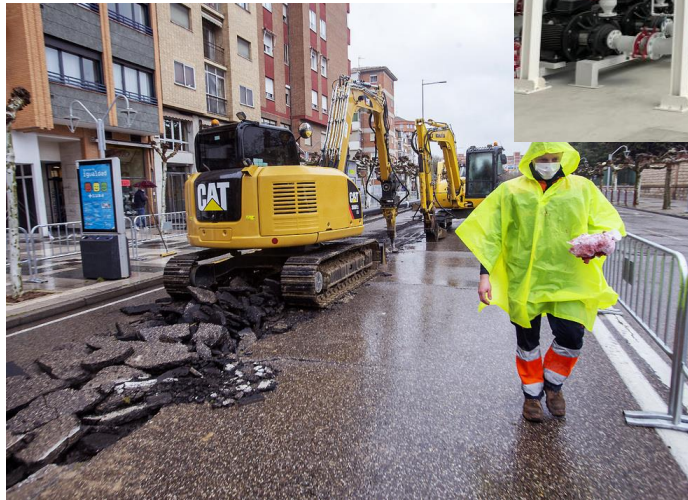# Palencia follower city   Lessons learnt

In order to implemented strategy of four actions selected by the city of Palencia in the replication plan, we have considered the experience a of our lighthouse cities:

- Palencia studied the solutions of lighthouse cities in the social consultations and ICT tools applied in his

Social Campaign (Task 6.3 Social Acceptance, D6.12). Nantes taught us using Kiosks demonstration

encourages the interest and good opinion of actions.

- Implementing actions in public facilities with public founds has overcame the social and economic barriers
- Financing schemes and business models are very useful tools to upscale these actions towards the private sector
- Actions needs commitment of government of the city council.

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Palencia follower city   – Set of actions taken into replication in Palencia

DH with biomass

By the end of 2022, Palencia DH would have been supplying Heat and DHW to some 4,600 dwelling and not-residential buildings in Palencia thanks to a 28Mwt Biomass boilers plant, reducing 26,275t of CO_2 gas emission per year and 20% of fossil fuel consumption.

Palencia District Heating

- Reducción del 95,54% en el consumo de Energía final (fósil): 74,18 GWh/año.
- Reducción del 96,24% de las Emisiones de CO_2 eq.: 17.861,71 tCO2 eq./año.

Ver proyecto

Palencia follower city – Set of actions taken into replication in Palencia

<u>EV for municipal fleet</u>,

Eleven vans and four electric motorcycles have replaced conventional vehicles used by municipal services since September 2019 aim to face the lack of interest in electric vehicles in the citizens. Furthermore, we managed to avoid the emission of 4,700 kg of Co2 per year and the consumption of 19,140 liters of gasoline per year.
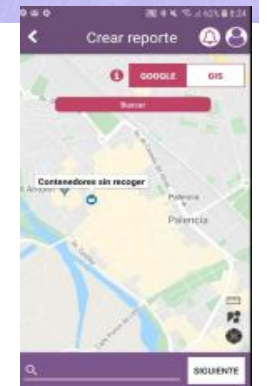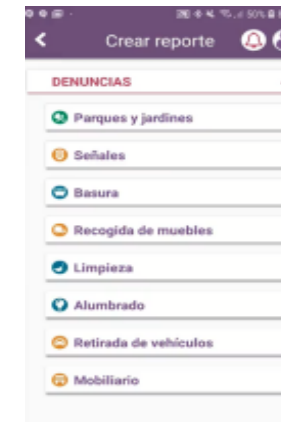
Palencia follower city – Set of actions taken into replication in Palencia

Smart Citizen Platform

In 2021 Smart Citizen Platform was put in service. Since then, 2,443 reports have been received from citizens, of which 2,016 have already been resolved and more than one hundred are in process, which means that 82.74% of all the complaints uploaded to the platform have been answered.
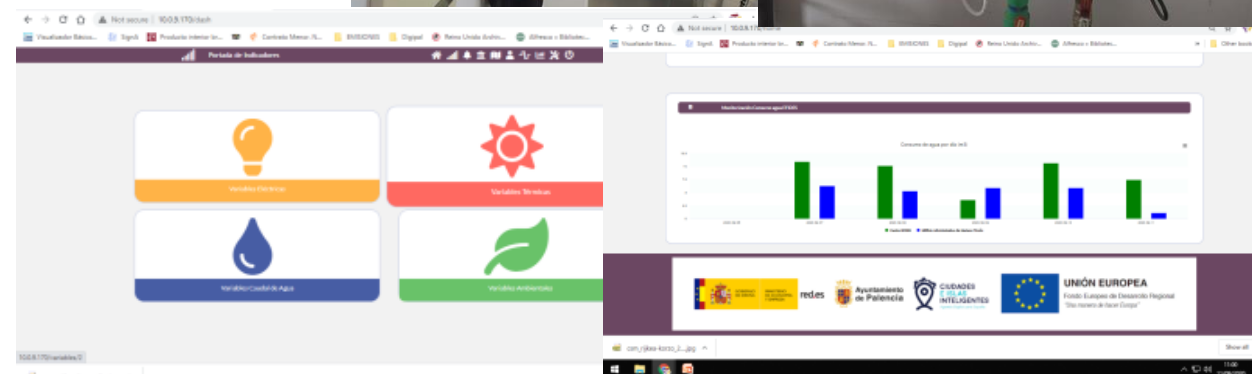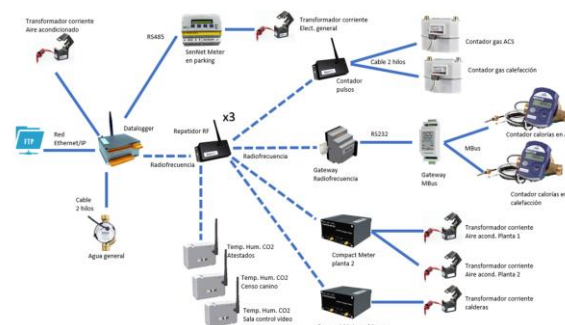
This app aim to facilitate the dialogue between citizens and all municipally service.

Palencia follower city – Set of actions taken into replication in Palencia

Energy monitoring of buildings.

The energy efficiency platform that has been monitoring energy consumption in three municipal buildings since 2020 through environmental sensors and energy meters have contributed to knowing the energy and resources they consume and optimizing their use, reducing the energy bill by 6% in the first year.

Thank you for your attention!

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