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PILOT SITES PROGRESS UPDATE

OCTOBER 2020



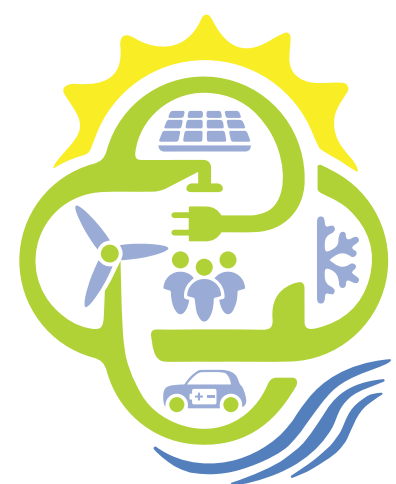
This project has received funding from the European Union's Horizon 2020 research and innovation programme under the grant agreement N° 824424

COMPILE PILOT SITES

This presentation was made to give you a short update on our pilot sites activities and progress made so far.

The whole COVID-19 situation is making our work more difficult, especially due to limited travel and field actions. Nevertheless, all of the COMPILE partners are trying hard to continue their work towards the projects goals!





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pilot site

LUČE

SLOVENIA



The Luče goal

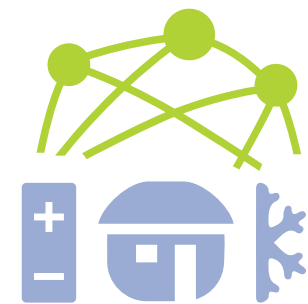
Set up a local energy community in an isolated village in alpine valley and solve the issue of limited integration of RES due to weak local low voltage network and solve problems with frequent power failures.



Progress being made



→ Establishment of the first Slovenian self-sufficient Renewable Energy Community



→ Installation

→ Additional 102 kW PV panels (152 kW in total)

→ Community battery (150 kW/333 kWh)

→ 5 household batteries

→ EV community charging point



→ Integration

→ Micro-grid controller

→ Home Energy Management System



ACTIVITIES: PV installation



ACTIVITIES:

Household battery installation



BEFORE

AFTER



ACTIVITIES:
Community battery



ACTIVITIES:
EV community
charging point

COMPILE Tools development progress

GridRule

Enables the community managers (aggregators, Micro-grid operators, etc.) an operation and management of the local grid within network limits.

Enables data collection and presentation in a user-friendly manner.

Features various control strategies that optimize all the available flexibility in the network with a goal of maximizing the benefits of the community:

- Community battery management,
- Community self-consumption optimization,
- Community island mode,
- Ancillary services provision.

HomeRule

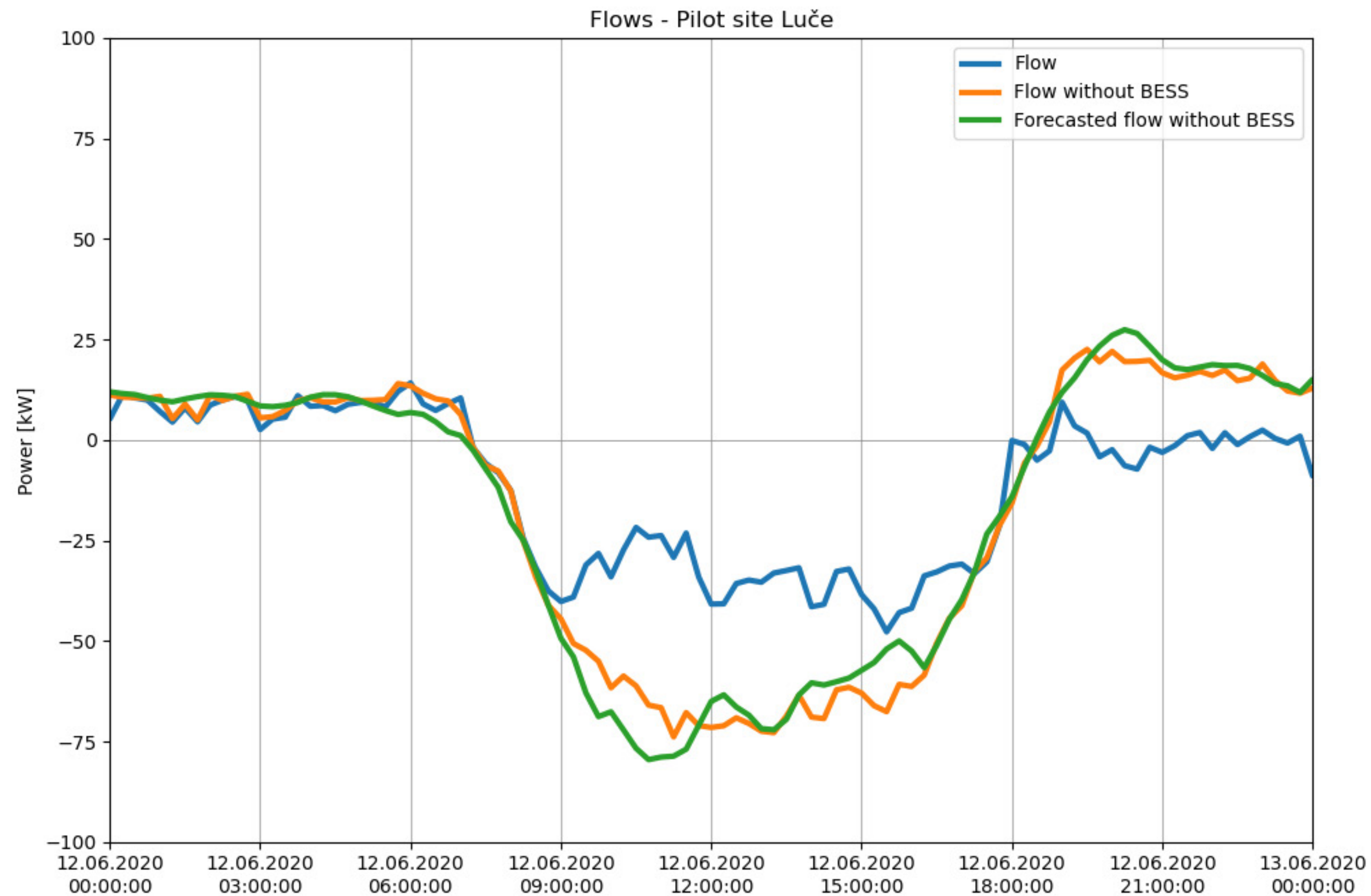
Manage one building/home energy needs.

It encompasses different features which bring new possibilities of management and control of various technologies that result in added value for end-user:

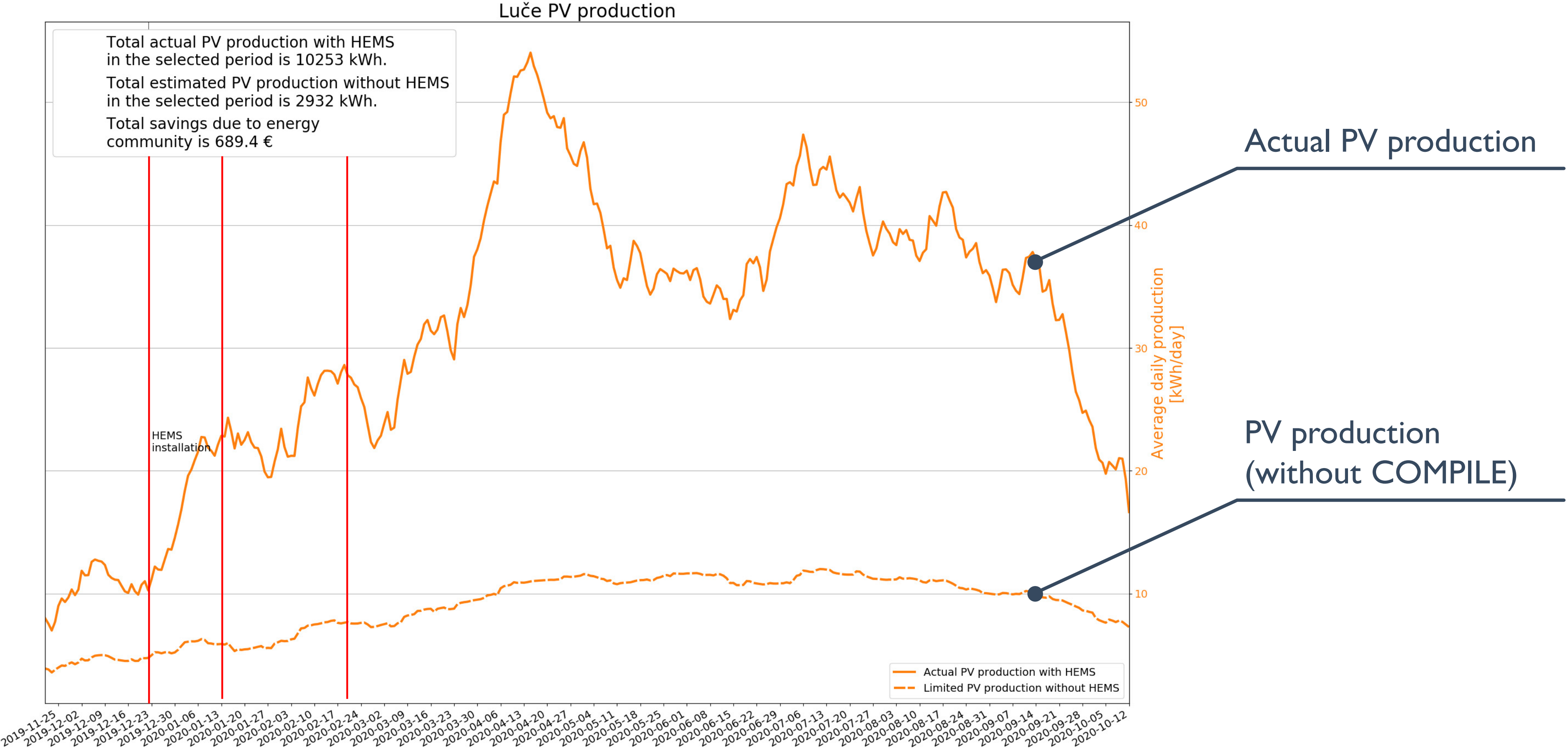
- Advanced PV Curtailment,
- Voltage Support,
- Connection to PV,
- Connection to home battery,
- Economic optimization,
- Connection to EV charger,
- Connection to SmartHome and management of energy related devices (e.g. heat pumps),
- Islanding Mode.

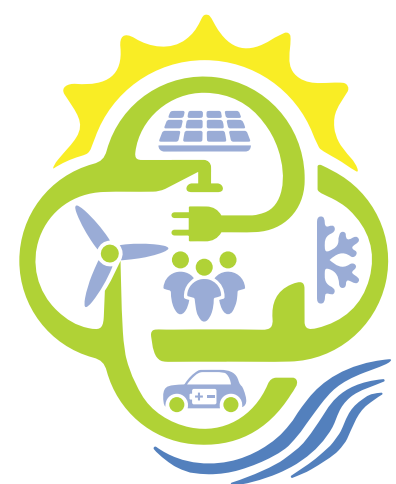
COMPILE effects: Flows trough TS

**SELF-
SUFFICIENCY
RATE: 58–75 %**



COMPILE effects: PV production





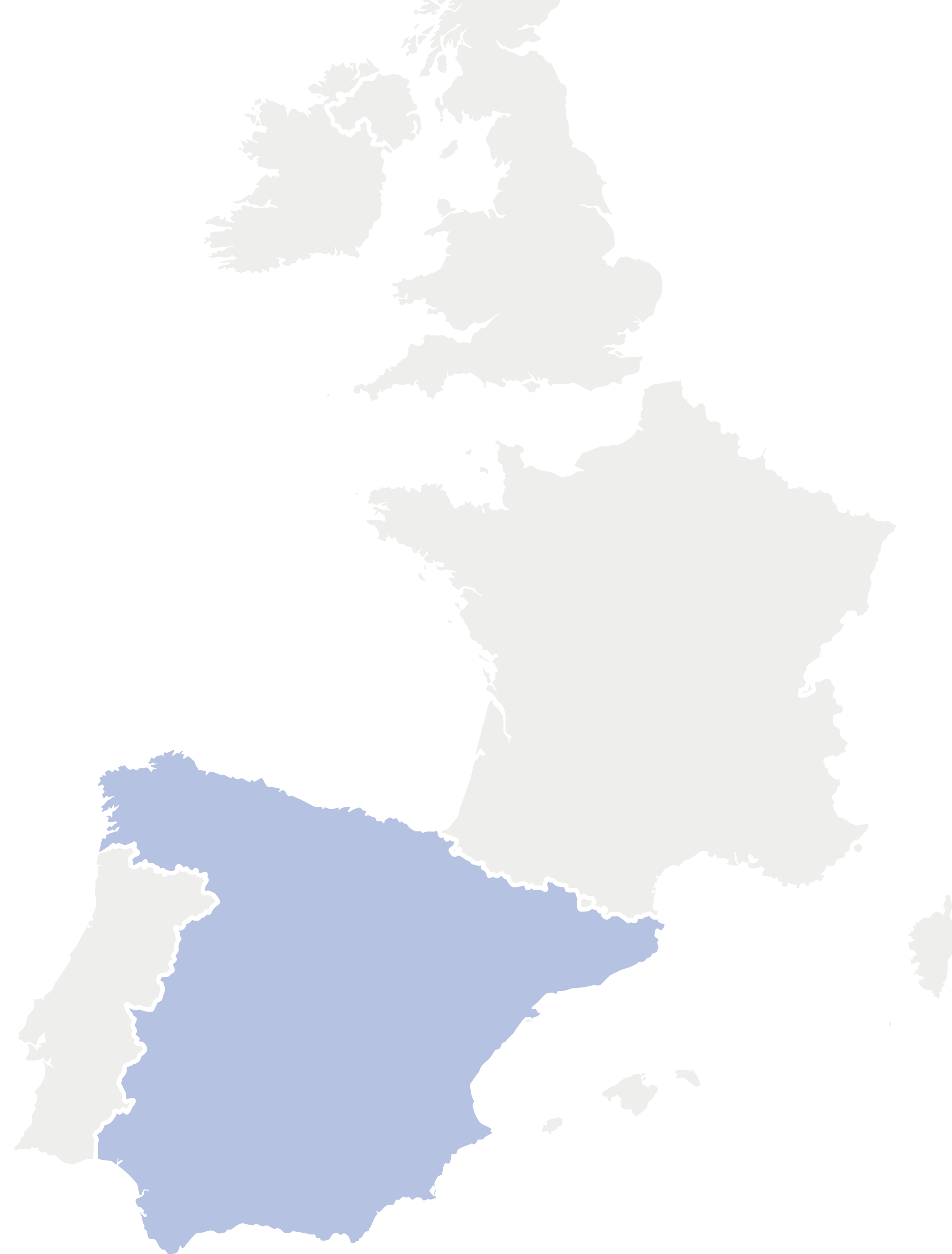
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CREVILLEN

SPAIN

.....



The Crevillent goal

ENERCOOP is small local DSO one of the oldest energy cooperatives in EU with a few already successfully concluded smart grid and RES projects and bold RES vision for the future. The goal in the project is to use COMPILE tools to increase the energy independence of the city and create energy communities that would invest in further RES capacities and participate in demand response schemas.



One primary substation
(132kV/20kV) 43 secondary
substations



Distribution
grid, compose
by 11 general
branches



40 MVA
Transformer



PV pannels on
roof (Mortuary
and nursing
home)



PV Farm "El Realengo"

Activities: Enhancing the grid observability

June 2019

To identify the building or buildings to be monitored – **DONE** ✓

To identify the end users to deploy the SLAMs – **DONE** ✓

To identify the fleet of EV/charging points – **DONE** ✓

September 2019

Installation of required new IT infrastructure (server, SLAMs, etc.) – **DONE** ✓

January 2020

Deployment of COMPILE Tools to be tested – **DONE** ✓

Autumn 2020

COMPILE Tools deployed and integrated – **DONE** ✓



ACTIVITIES:

Enhancing the grid observability

Activities: SLAMs deployment

1

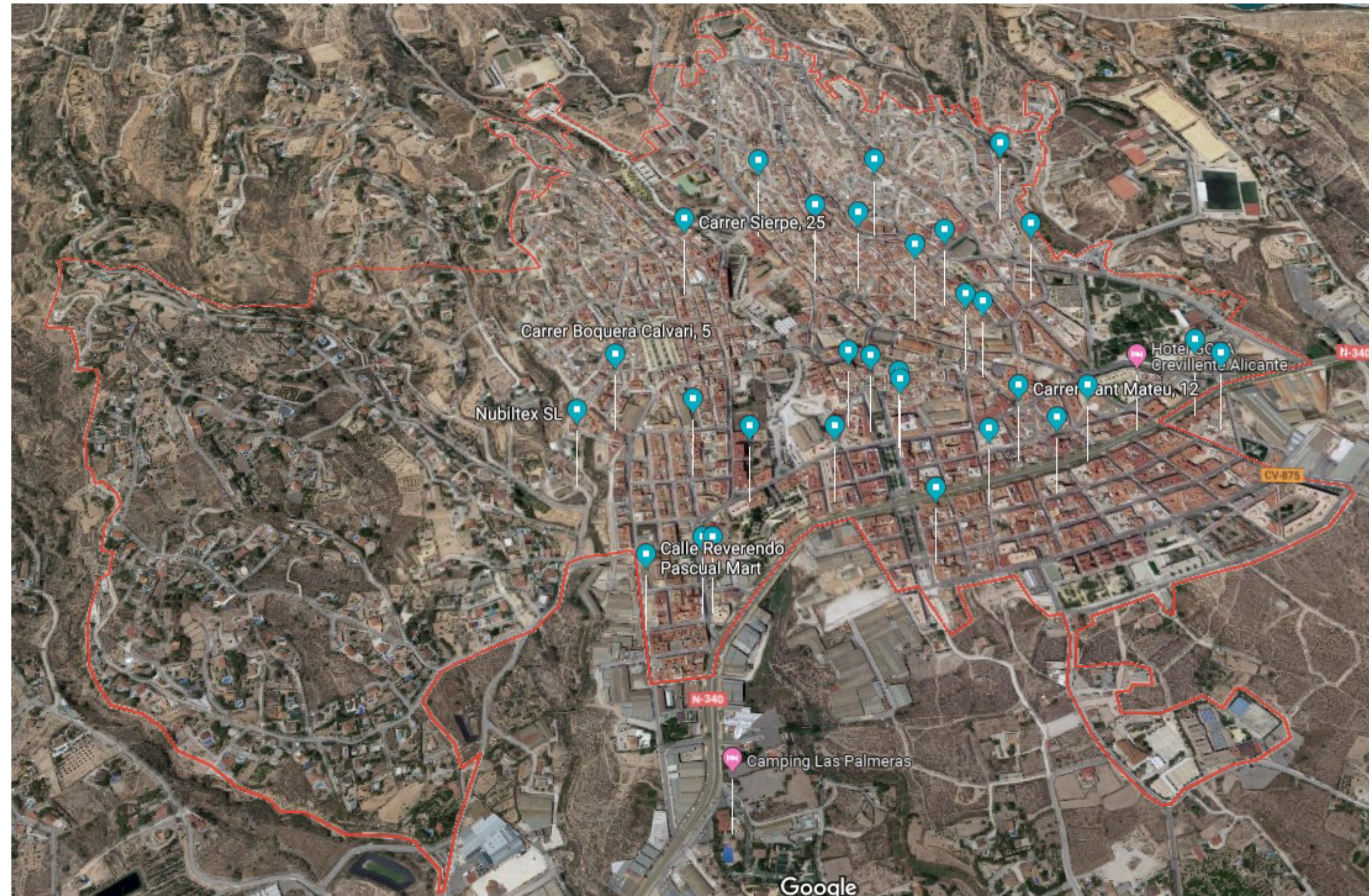
44 potential sites
were identified

2

10 SLAMS have
been installed

3

10/10 fully
operational



Activities: Establishing the energy community

June 2019

To identify potential members of the community (individual members, citizens organizations, ONG, etc.) – **DONE**



September 2019

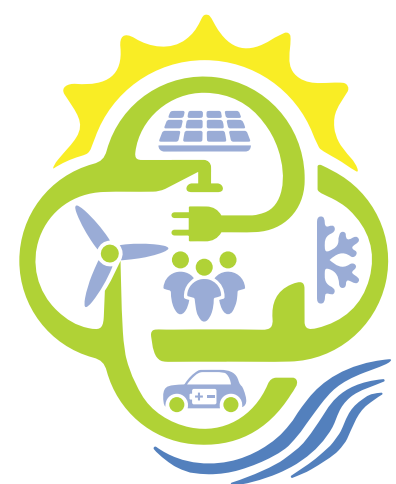
(November 2019)
To organise 1st workshop with first groups of users – **DONE**



2020/2021

Next workshops and other activities with community members





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KRIŽEVCI

CROATIA



The Križevci goal

The goal of Križevci pilot site is to establish an energy community that would replicate the success of crowd-funded PV plant on Urban technology development centre – technology park with new actions for further investments in RES, especially PV.

Additional goal is to use COMPILE tools to increase self-sufficiency of technology park, and support the operation and management of EnC by blockchain technologies.



Activites: Crowdfunding actions

1

PV plant on Technology Park

- 30 kW
(crowdfunded in 10 days, 50+ small investors)

2

Heat pump for heating and cooling the TP

3

PV plant on Library

- 30 kW set from Aug (crowdfunded in 2 days, 50+ small investors)

4

EV charging station – attained co-financing

- installation in progress

BEFORE



AFTER



COMPILE positive results

1

As a result of
COMPILE, Križevci
EnC took form
of an energy
cooperative

2

Citizens +
Municipality support,
planned involvement
of local SMEs and
NGOs

3

Started in early
2020 and already
developing new
RES projects
and attracting
new citizens and
investments



Activities

Increase RES
production

DONE ✓

Establishing Energy
Community in Križevci, HR

DONE ✓

Optimize the existing
system at pilot-site

IN PROGRESS →

Increase self-sufficiency and
security of supply

IN PROGRESS →

Testing new technologies
(tools and equipment)

START: fall 2020

P2P electricity
trading (blockchain)

START: fall 2020



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RAFINA

GREECE



The Rafina goal

The goal of Rafina replication site is to explore the possibilities of COMPILE tools integration in several public buildings available in order to help municipality optimize their energy needs and explore the possibilities of creation of EnC enabled by Greek new energy law and what benefits could be achieved.



Activities: COMPILE events towards creating EnC

“Energy in citizen hands” workshop
(ICCS & Electra Energy)



**Meetings with
groups of citizens**

1

Meltemi energy
community
opening

2

Circular
Economy
Workshop

3

Athens
Roundtable

4

Ist COMPILE
Workshop

5

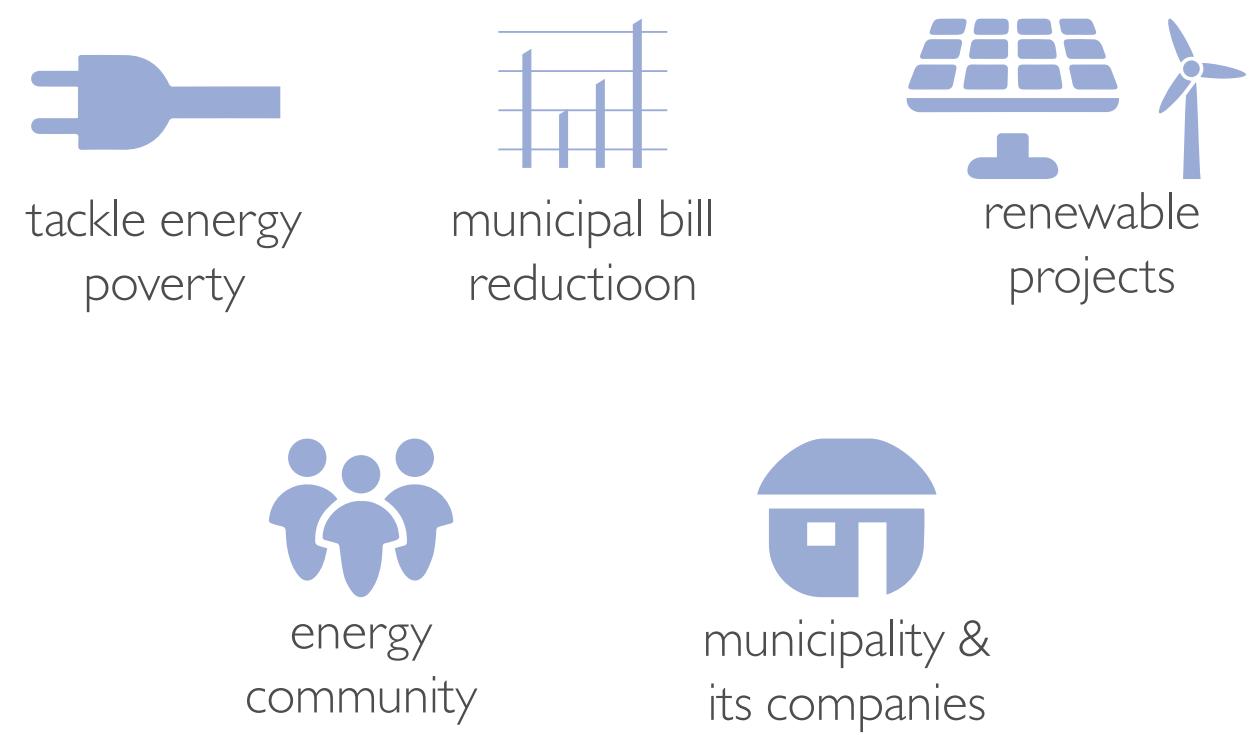
2nd COMPILE
Workshop

Results of COMPILE activites

TWO MUNICIPALITY'S EnC MODELS INVESTIGATING:

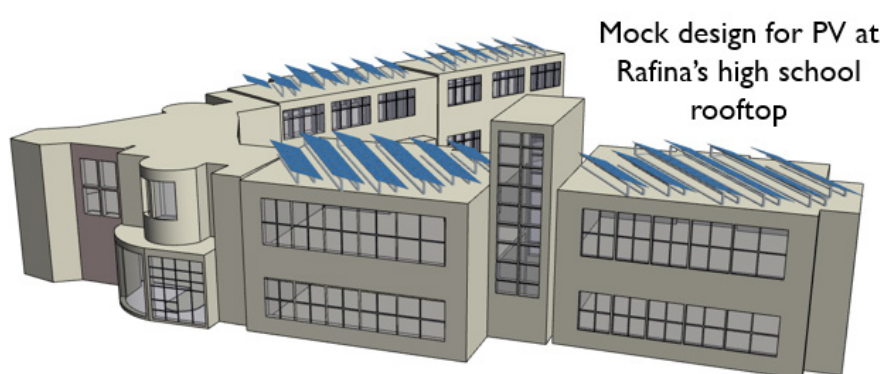
1ST MODEL

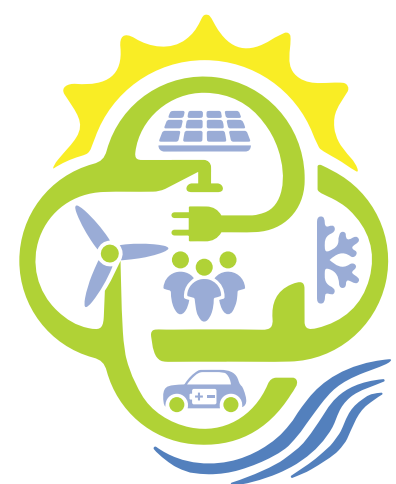
The municipality + municipal development companies + interested individuals will investigate the possibility of developing energy projects and applying virtual net metering to reduce municipal bills and tackle energy poverty



2ND MODEL

The municipality provides available infrastructure to citizen energy communities for the development of renewable projects and becomes a member of the EnC or get a share of the project as “rent”



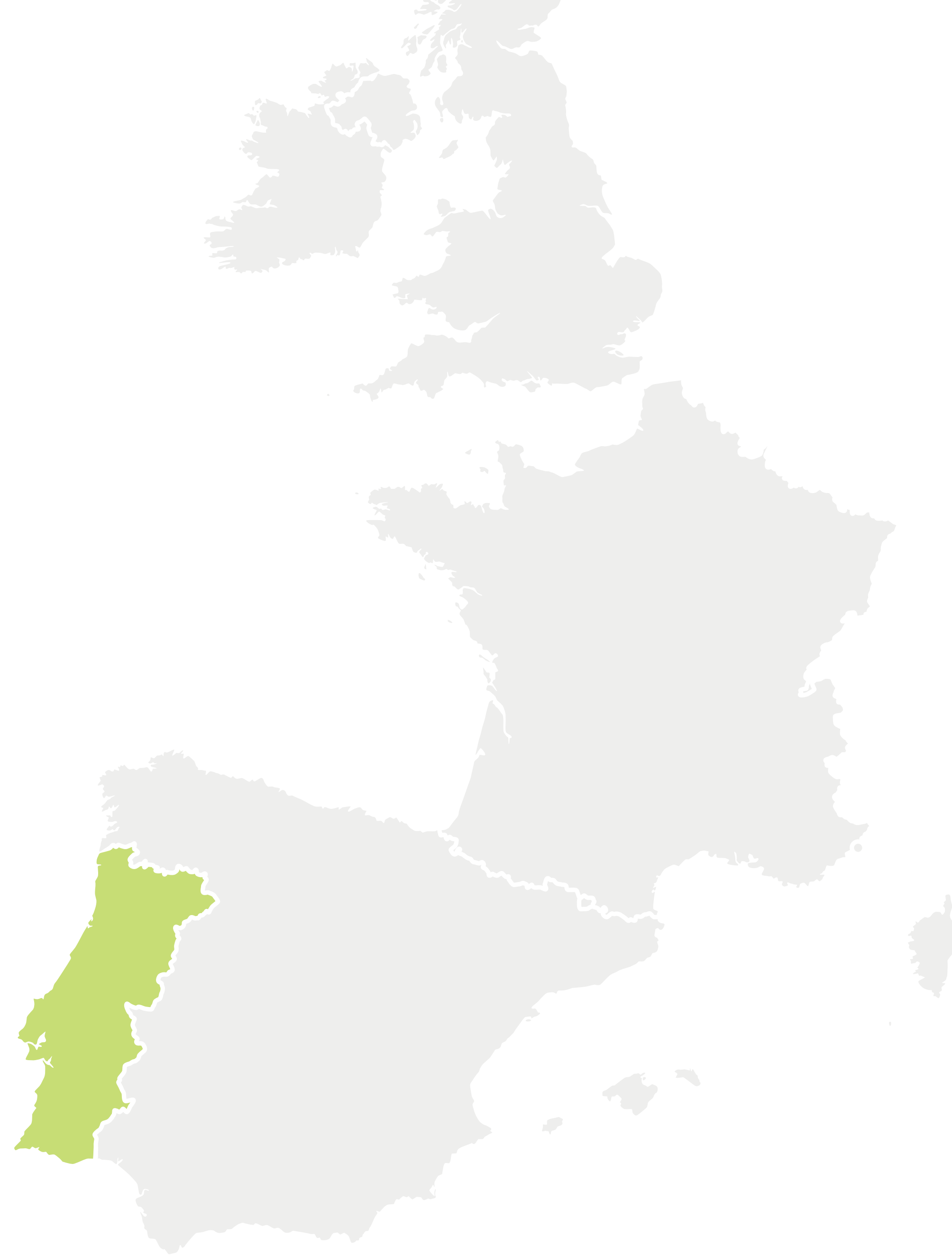


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LISBON

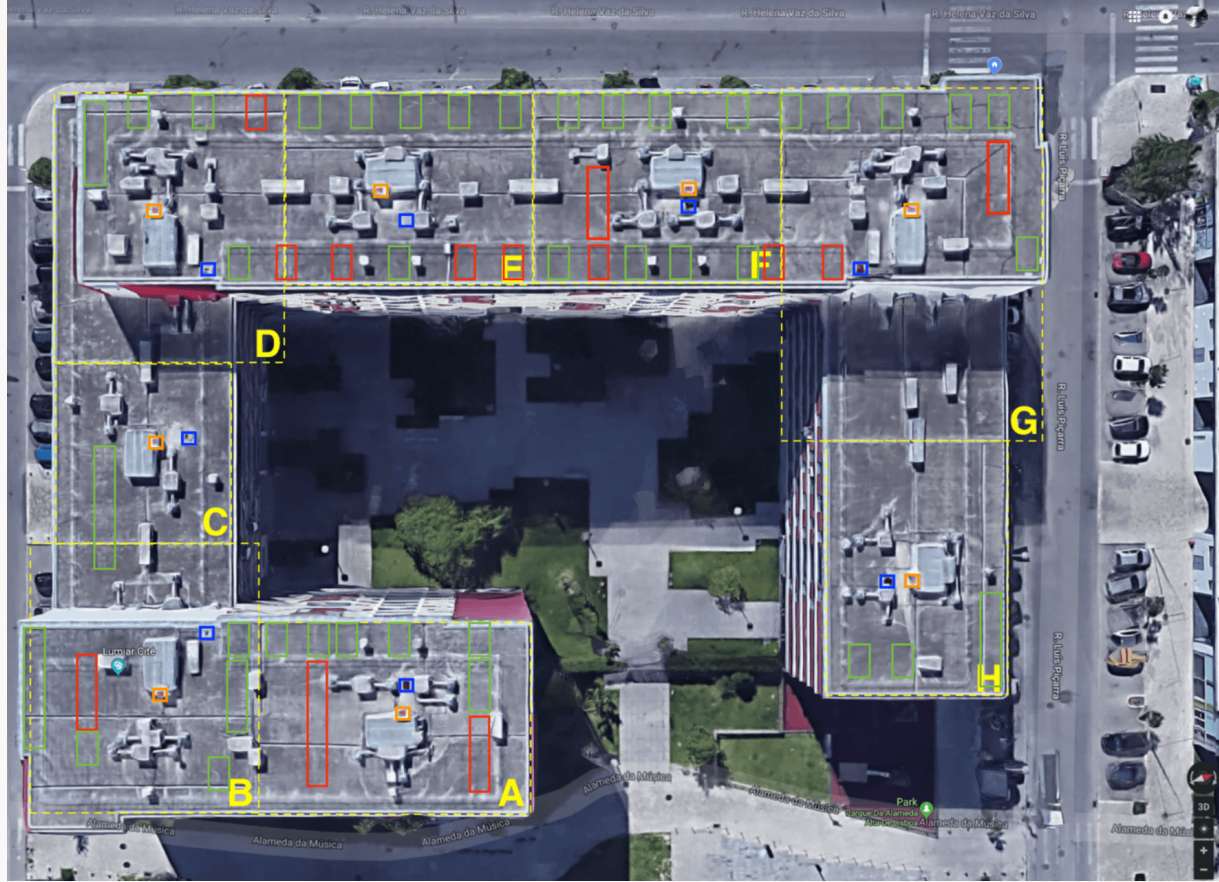
PORTUGAL



The Lisbon goal

The goal of Lisbon replicaton site is to show a good example of creation of energy community and with the help of COMPILE tools set up a model for multi-apratment building (8 apartment buildings - 150 flats) that would enable them operation and managment fo EV chraging and new community investments in PV on the roof the budiling.





Activites: Done & ongoing

Co-organise the Energy
Community Conference

DONE ✓

EnC Training
workshop

DONE ✓

Conclude the Social
Impact Questionnaires

DONE ✓

Support the definition of
legal framework in Portugal

DONE ✓

Data Gathering (production,
consumption, PV capacity &
SLAMs to be installed...)

ONGOING (affected
by COVID-19) →

Registration
of EnC

ONGOING (affected
by COVID-19) →

Additional PV to be installed
≈ 42 kWp; Crowdfunding/EC
investment (studying legal
financig options)

ONGOING (affected
by COVID-19) →

Integration of
COMPILE tools

ONGOING (affected
by COVID-19) →

Common garage
+ 2 private EV chargers

Currently in place ✓

Installed total
capacity = 17,6 kWp

Currently in place ✓



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Compile Project



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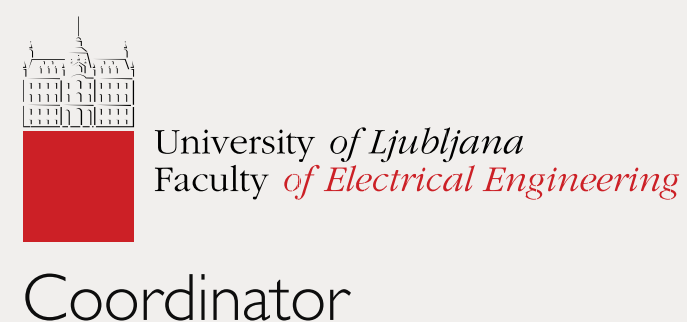
@CompileH2020



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