



Promoting Effective Generation And Sustainable Uses of electricity Highlights

Newsletter No 4

Dear reader,

It is our pleasure to welcome you to the fourth edition of the PEGASUS Newsletter.

In the PEGASUS project, 10 partners from MED countries are working together to study into more details microgrids, focusing on 7 rural and island areas. The objective is to implement a set of tools and measures that aim to facilitate the development of microgrids.

The purpose of this Newsletter is to update you about the progress of the project. If you would like to keep up to date with all the latest developments of our project follow us on Twitter <https://twitter.com/PegasusPZ> and on the website <https://pegasus.interreg-med.eu>.

Kind regards, PEGASUS partners



Highlights on pilots

All pilots in rural and island areas are continuing the measuring and analyses of all measuring data's. In previously Newsletters we presented you four of our pilot projects and here you can read about the last three of them. First is the Potenza pilot, the second is Greek pilot and the last one is Preko pilot.

Potenza pilot: Santa Lucia escalator and swimming pool of Montereale Sport Park

The Potenza pilot involves Santa Lucia escalator, the most powerful and long escalator in the city and the swimming pool of Montereale Sport Park.

The Potenza pilot site aimed at demonstrating the achievable advantages (primary energy, peak shaving, reduction of energy bills) by the Municipality in two different sites: a swimming pool, where a 165 kW CHP is able to provide about 95 % and 85 % of the required thermal energy and electricity, respectively, and also to feed, through the existing distribution network, about 70 % of the electricity consumed by an electric escalator, having an installed power of 192 kW, used to transport people from the outskirts to the city centre.

The existing boilers in Montereale swimming pool will be partially substituted by a Combined Heat and Power system (CHP) driven by the heat demand of the swimming pool. The related generated electricity is used to meet the electric demand of Montereale swimming pool; the surplus is fed into the local distribution network in order to be used by Santa Lucia escalator, by virtue of the regulatory solution called "Scambio Altrove".

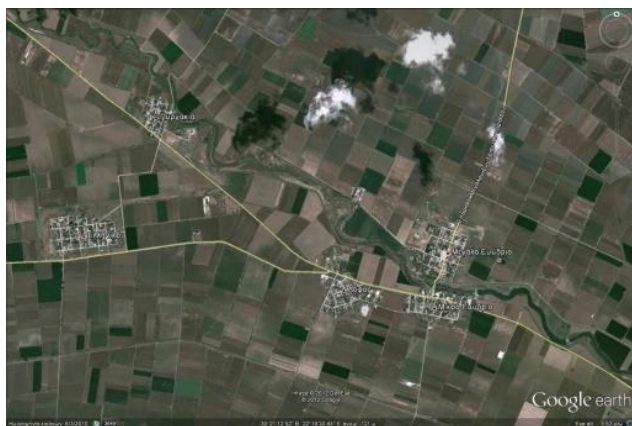
The assessment of the monitoring carried out on the acquired data in the period from November 2017 until May 2018 identifies in a CHP system, 120 kW in thermal power and 65 kW in electric power, the most profitable solution. In addition to the intrinsic energy benefits of the CHP system it has been evaluated 25 MWh/year of reduced losses on the electrical network related to the pilot.



Santa Lucia escalator and swimming pool of Montereale Sport Park

Greek Pilot: Mega Evydrio solution

The Greek pilot site is located in the Municipality of Farsala in the area of Mega Evydrio (Thessaly Region), and consists of public, commercial and private buildings and facilities.



The rural "Community" of Mega Evydrio and the nursery school in Mega Evydrio

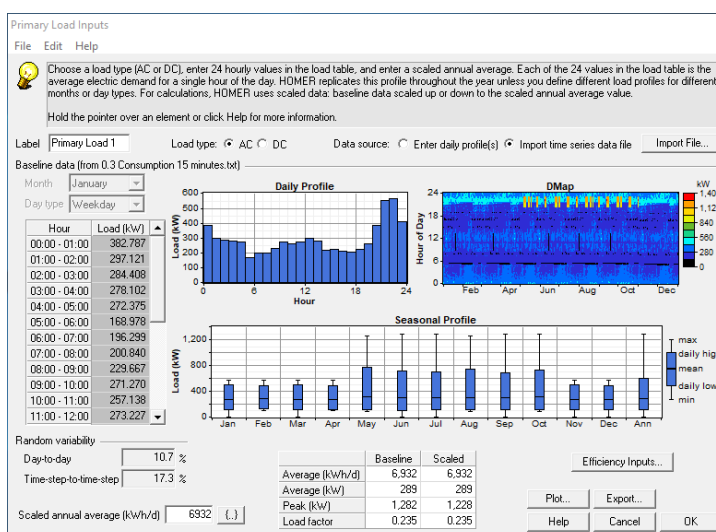
The number and type of the consumers in the area (community) of Mega Evydrio is: 295 houses, 16 shops, 4 public buildings, 471 public street lights, 2 public pumping stations for potable water circulation and 147 private pumping stations for irrigation.

The number and type of the prosumers is: 5 houses with PV systems on their roofs with a total installed capacity of 45 kWp, 75 houses with new (to be installed) PV systems on their roofs with a total installed capacity of 168.75 kWp, and 1 public building with a total installed PV capacity of 9 kWp.

In the area there are also 5 electricity producers (PV parks) with total installed capacity of 500 kWp (5*100).

The model that is being studied is the one of an "Energy Community" (local consumers & prosumers consortium), with one point of common coupling (PCC) with the distribution network.

The expected advantages of the micro-grid are a 30 % reduction on the CO₂ emissions (1,103 t CO₂) and the increase of the RES production in the energy mix (increase of the installed PVs from 545.00 kWp to 722.75 kWp).



Configuration of electricity consumption in the Greek pilot with the HOMER software

The main objective of the Greek pilot is to simulate a micro-grid operation, including storage systems and flexible electricity tariffs. The Greek pilot is going to be connected to the public grid, but it will be able also to operate in 'island' condition. The energy consumption monitoring started in March 2018, with measurements being taken every minute.

Preko Pilot: Olive oil mill building and PV-Pučko otvoreno učilište

Municipality of Preko is small island community situated on Preko Island. In 2015 municipality adopted Strategy of Sustainable Development where it is stated that one of the goals is long term energy efficiency and promotion of renewable energy.

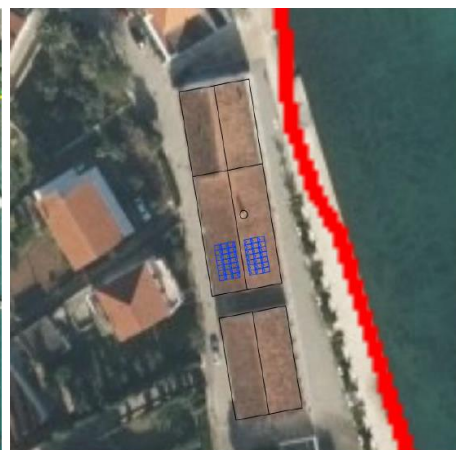


Location of Preko, Source: www.tzpreko.hr

Preko pilot consists of microgrid using PV as RES, installed on olive oil mill building acting as RES (Prosumer) and „Pučko otvoreno učilište“ building that is acting as Consumer.

Preko pilot project has 3 major goals:

- to prove feasibility as well as economic and environmental benefits of microgrid solution using PV as RES source,
- to develop sustainable and applicable business model that can be transferred to other Croatian municipalities and EU regions,
- to overcome existing legal barriers.



Location of Preko pilot and disposition of the future PV installation on rooftop of olive oil mill building that would act as Prosumer in the microgrid, Source: www.arcod.hr

10 kW PV installation on the roof top of olive oil mill, serves as RES source in Preko microgrid project. PV provides majority of electricity needed for neighbouring building of „Pučko otvoreno učilište. Currently both buildings are connected to the electrical grid and are owned by Municipality of Preko.

Olive oil mill building was built in the 60ties. Currently is being used as olive oil mill and has an average 300 kWh monthly el. energy consumption. It is important to mention significant peak that occurs in the season of olive oil production; when mill operates 24 hours, but only for couple of days, as current olive oil production on Preko is only 20 % of total capacity.

The building „Pučko otvoreno učilište“ was built in 1960 with total net area of 385,23 m². Currently is occupied with 4 different users; 3 public and 1 private. Each of the users has its own consumption meter installed. One office is used by „Pučko veleučilište“, second is Tourist board, third user is multimedia hall which is used for various local events and fourth is privately owned cafe bar. The building is connected to the local grid. As heating source during winter air conditioning units are used thus contributing to overall el. energy consumption. Average annual el. energy consumption is 12.145,00 kWh with annual cost of 1.671,33 EUR, corresponding to annual CO₂ emission from el. consumption of 2.8 t of CO₂ per year.

Currently Preko pilot is in finalising testing – metering devices were installed in November 2017 and metering started in late December 2017. Preko added microgrid also as a part of SECAP.

What is grid energy storage?



It is a collection of methods, instruments and equipment used to store electrical energy on a large scale within an electrical power grid. Electrical energy is stored during times when production (especially from intermittent power plants such as renewable electricity sources such as wind power, tidal power, solar power) exceeds consumption and returned to the grid when production falls below consumption.

Communication activities and Events

Project partners of PEGASUS thank GREENCAP team and ZRS Bistra Ptuj for all their support on the MED community conference in Ljubljana.

PEGASUS joined EU Sustainable Energy Week (EUSEW) in Brussel

PEGASUS project partners MIEMA, Municipality of Preko and FEDARENE joined the EUSEW 2018, held in Brussel from 4th until 8th of June.

During the Policy Conference, MIEMA delegation took part in the session "Smart Grids, renewables and storage – leading the transition towards a new European energy system". On the basis of the necessity of Energy Transition - imposed by climate change - the debate focused on the links between energy storage, renewables (wind and solar) and smart grids, and how these features will make the new energy system successful.



Municipality of Preko had presented PEGASUS project to Mr Tonino Picula, EU Parliament member from Croatia that attended the session on EU islands. He was very interested in the results, as topic of energy sustainability is on the top of EU agenda for 2030 and beyond.



PEGASUS at Interreg MED event - Advocacy Bootcamp in Faro

Ms Ivana Ostoic, represented PEGASUS project on the Interreg MED event, which was held in Portugal on 28th and 29th of June 2018. Around 50 participants were present. Main goal of the Bootcamp was to present tools for advocacy for projects.

On the first day participants attended workshop on "Building advocacy strategy and creating project narrative".

On the second day two EU lobbyists talked about influencing policy makers, effective tools and their experiences.

PEGASUS on MED community conference "Efficient buildings and renewable energy" in Ljubljana



5 PEGASUS partners (Municipality of Preko, Municipality of Potenza, MIEMA, University of Cyprus and ENERGAP) have actively participated in a working groups, round tables and the training sessions of the MED community conference on the 18th and 19th of October 2018 in Ljubljana.

On the first day Mr Marco Caponigro was one of the moderators on the session about Business Models. He illustrated the concepts of microgrids and local energy communities and the challenges faced by local communities with respect to legal and financial constraints.

Mayor of San Lawrentz Mr Noel Formosa from Malta pointed out the importance of microgrids for his town.

On the second day Pegasus partners had meeting with Mr Dennis Hesseling from ACER. They presented him PEGASUS, its objectives and agreed with him on organizing a meeting and joint workshop on microgrids in the year 2019.

Ms Dr. Vlasta Krmelj from Energap was one of the participants in the round table with EU high level actors. The debate was also about how do they see the future of the sharing systems, self-production and consumption policies (microgrids & prosumers)?

PEGASUS participated on ECOMONDO- The green technologies expo in Rimini



Representatives from 6 Interreg MED thematic communities have presented their achievements and shared challenges on the conference "Empowering territories for a sustainable Mediterranean", that was held in Rimini on 6th of November 2018 as a side event of Ecomondo expo.

PEGASUS was presented on the second panel "Innovation for sustainability in the MED Area". Ms Ivana Ostojic from Municipality of Preko explained what PEGASUS main ambition is as well a basic on micgordis. She presented all 7 pilots project state of the affairs.

PEGASUS business models for microgrids presented on the POLLUTEC

The Interreg MED Renewable Energy - GREENCAP hold a conference in POLLUTEC exhibition in Lyon on 29th of November 2018.

Ms Noémie POIZE from AURA-EE presented Designing business models for microgrids based on simulations of microgrid and stakeholder behaviour in 7 pilot sites.

PEGASUS 4th Steering Technical Committee project meeting in Preko, Croatia

PEGASUS project partners joined at the 4th meeting in Preko (Croatia). It was hosted by Municipality of Preko from 16th to 17th of October 2018. Partners presented the results and challenges of 7 pilot cases, implemented in 7 MED regions. They discussed about common indicators to monitor the short- mid and long- term results of planned actions.

The first day has been dedicated to the Bilateral meeting between Technical Partner and Responsible Partners from each Pilot and the second day to the work done in the Semester 3 and work plans for the Semester 4.

Partners also enjoyed in sunny weather, good Dalmatian food and sunny weather.



Next STC Project Meeting

PEGASUS 5th project meeting will be held in Malta in March or April 2019, hosted by Malta Intelligent Energy Management Agency, MIEMA.



Project Partners

- Municipality of Potenza (IT) – Led partner
- Centre for Renewable energy sources and savings, CRES (GR)
- Malta Intelligent Energy Management Agency, MIEMA (MT)
- Energy Agency of Podravje, ENERGAP (SI)
- Design and Management of Electrical Power Assets, DEMEPA (IT)
- The Auvergne-Rhône-Alpes Energy Environment Agency, AURA-EE (FR)
- University of Cyprus, UCY (CY)
- Municipality Preko, PREKO (HR)
- Abengoa Innovación S.A., ABENGOA (ES)
- European Federation of Agencies and Regions for Energy and the Environment, FEDARENE (BE)



Follow us on our website:

<https://pegasus.interreg-med.eu>



An Interreg Med project co-financed by the European Regional Development Fund.

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