Project co-financed by the European Regional Development Fund

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StoRES

Promotion of Higher Penetration of Distributed PV through Storage for all

Dear Readers,

It is our pleasure to welcome you to the fifth edition of the StoRES Newsletter! "StoRES — Promotion of higher penetration of Distributed PV through storage for all" is an ambitious Interreg MED modular project, implemented by a consortium of 18 highly capable and well established organisations (both private and public) spanning across the Mediterranean region.

Through this edition we would like to share with you important news about the project as it reaches the end of its life cycle.

If you would like to keep up to date with all the latest developments of our project follow us on Facebook & Twitter.

Kind Regards,
The StoRES Consortium

IN THIS ISSUE

About StoRES

StoRES foresees the development of an optimal policy for the effective integration of photovoltaics (PV) and energy storage systems (ESS) via testing smart solutions in 5 MED islands and rural areas.

StoRES aims to increase PV penetration in the energy mix of islands and rural areas in the MED region by integrating PV and ESS. This could be feasible, under an optimal market policy by removing the constraints of grid reliability and RES intermittency.

The primary challenge is to achieve high PV penetration in their energy mix through solving all market/ technical/ grid/ tariff issues without compromising grid stability and security of supply.

The project involves regions facing specific needs and challenges: islands with isolated networks, almost 100% fossil-fuel dependency and increasing energy demand; rural areas exhibiting weaker networks, possibly greater energy needs, and higher environmental impact.

Duration:
36 months

Budget:
€2m

9 Partners

The Living Lab provides an interactive web platform where the measured data acquired from the pilot sites can be displayed. In addition, multiple ***indicators*** are depicted, including the ***self-consumption*** and ***self-sufficiency*** rates. The platform also enables the display of average profiles and the comparison between different pilot installations. The platform can be used for PV+Storage installations, as long as the required installation data is provided accordingly.

The graphics display both time series and average profiles (PV generation, total building consumption, self-consumption indicator, battery charge and discharge). The time series are entirely displayed and the user is able to zoom in on a specific period using dedicated cursors. The pilot data are contained in the page anonymously and can be visible by any visitor. Figures 1 and 2 below illustrate the graphic display of the web platform.

In addition to the web platform developed, which will be accessible to all interested parties, project partners will proceed with the promotion of this tool and with other actions for the further promotion of the Living Lab.

More specifically, on-site tours, workshops etc. will be held by partners in order to promote the Living Lab and subsequently the StoRES project to stakeholders, interested parties and finally, the wider public.

Figure 1: Graphic display of the pilot site's data

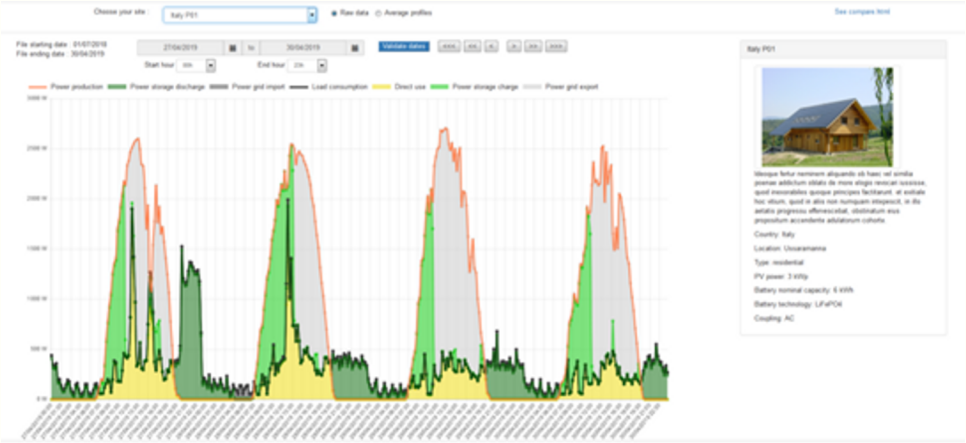
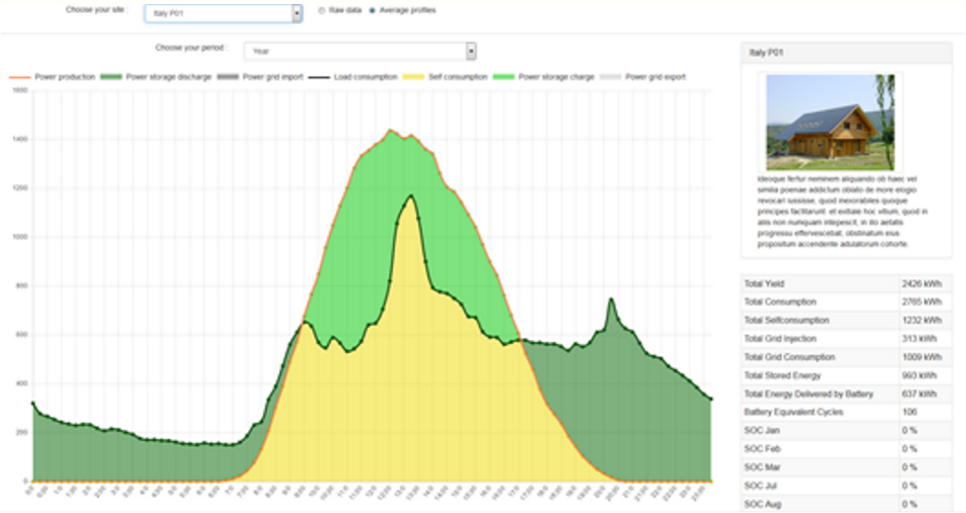
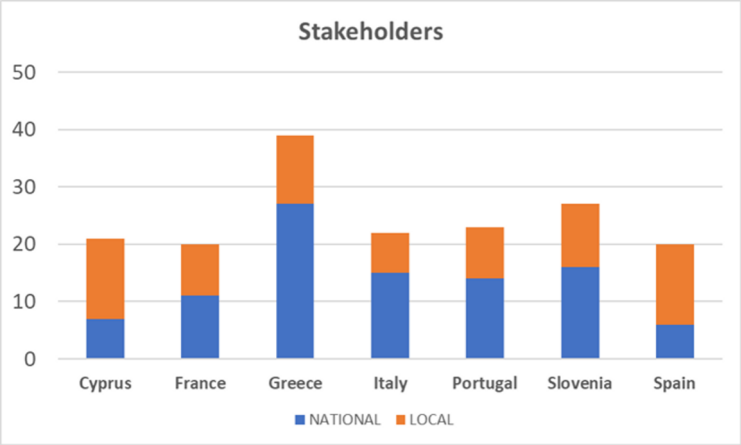


Figure 2: Graphic display of the average profiles of a pilot site.



Objectives:

- Reach the relevant stakeholders in each country, at least 20 stakeholders per country, especially authorities responsible for designing and implementing policies;
- Engage and convince the Stakeholders to adopt main guidelines and suggestions;
- Organisation of training courses in each participating country;
- Definition of contents, procedure of the trainings (common in all countries).



In total, **172 stakeholders** have been identified in all countries including **96 national** and **76 local.**

The training courses should be characterized by 2 milestones:

- **Transferring of necessary background** about the proposed solutions
- **Practical study cases:** description of the results from the pilot sites (supported by the StoRES Living Lab and StoRES Optimisation tool)

Contents of the trainings

- Description of the StoRES project (objectives, partners involved, background, …)
- Focus on the topics of main interest for the categories of the stakeholder involved (e.g., regulatory framework for authorities, cost/benefit analysis for customers, technical aspects for manufactures or research institutes, …)
- Pratical Study Cases / Optimisation tool/ Virtual lab
- Challenges faced and solutions adopted
- Open discussion of stakeholders about the lesson learn (new policies, impact on the network…)
- Final questionnaire
- Certificate of attendance

Template of the Certificate of Attendance

Interreg Mediterranean StoRES

Certificate of Attendance

This is to certify that

_____

has attended the 2-hour StoRES Training on Battery Energy Storage

City, Country
Day Month 2019

Organisation: StoRES Project Consortium

University of Cyprus · sarga · Auvergne Rhône-Alpes · AREAL

Co-organised with:
Logo and Name of co-organiser(s)

Project Coordinator
Prof. George E. Georghiou

1. Identification of responsible authorities
2. Summary of available schemes suitable for Energy Storage exploitation at the consumer-side
   - Net-Billing
   - Self-Consumption
   - Time-of-Use Tariffs
3. Best practises to promote ESS deployment, i.e. lift of regulatory barriers, tax reduction, simplification of procedures
4. Consideration of PV+Storage competitiveness in each country
5. Need for a regulatory framework for Energy Storage
6. *Know-how gained: Weaknesses & barriers*
   Recommendation how this technology can
   (a) easily be adapted in the energy mix and
   (b) go further in the future.
7. Need for trained/experienced installers/personnel
8. Need to alleviate any obstacles (schemes not suitable for Energy Storage exploitation)
9. Need for an open energy market

Final Project Meeting in Portugal

The final project meeting was successfully held in Algarve (Portugal) on the 25-26th September 2019. StoRES Project partners met for their last transnational meeting to wrap up the project.

During the first day of the final meeting, the partners presented and discussed the technical work in connection to data collection and analysis, simulations, cost-benefit analysis of battery energy storage systems, technical solution and transferring activities.

On the second day of the meeting, the partners wraped-up the project with presentations and discussions about the communication activities and the project capitalisation activities (i.e. Living Lab and Policy Recommendations). They also had the chance to visit a self-consumption photovoltaic plant with integration of an electric vehicle battery resuse system for energy storage in the facilities of Inframoura.

1st Regional Meeting on Energy Transition in Algarve, Portugal

This workshop was organized by StoRES partner AREAL on June 28, 2019 with the aim to prompt discussion around the challenges and opportunities that the energy transition will bring to the region of Algarve. The trends in the energy market were debated, focusing on energy efficiency, water efficiency and flexible solutions based on renewable energy that help support strategies for the decarbonization of the economy.The topics of the event were energy and water efficiency and flexible solutions for energy supply, focusing on renewable energy solutions.

SciSchops.eu visit at FOSS, University of Cyprus

At least 40 professionals from 18 different countries of Europe visited the PV Lab of the University of Cyprus on 3rd of July 2019. The StoRES project and the main results were presented and the visitors had the chance to experience a live demonstration of the portal for data collection, the StoRES Living Lab and StoRES Online Storage Optimization Tool. The audience included professionals, engineers and academics.

Cyprus Energy Agency at FOSS, University of Cyprus

On the 19th September 2019, the Cyprus Energy Agency and their partners had the opportunity to visit FOSS at University Of Cyprus, for a live demonstration of the portal for data collection, the StoRES Living Lab and StoRES Online Storage Optimization Tool.

University of Cyprus (UCY)

UCY, through its Research Centre for Sustainable Energy (FOSS), plays a key role in research and technological development activities in the field of sustainable energy within Cyprus and at international level with the aim of contributing to the achievement of the relevant energy and environment objectives set out by Europe. In particular, FOSS strives to become a centre of excellence in energy that will act as a structure where world-standard R&D work can be performed, in terms of measurable scientific production (including training) and/or technological innovation.

George E. Georghiou, geg@ucy.ac.cy

Aristotle University of Thessaloniki

The project will be executed by the Power Systems Laboratory (PSL) which is running since 1980 and has been involved in 140+ European, bi-lateral and national projects, related to research and development of power systems, renewable energy sources, electric power and consumption control, environmental impacts from power generation, applications of Information Technologies and energy efficiency (http://power.ee.auth.gr/). The PSL and the team members involved in this project have significant experience in all topics related to power systems analysis, operation and control, modelling, power line, communications, distributed generation and smart grids, power electronics, harmonics, power quality, electrical drive systems and renewable energy sources.

Grigoris Papagiannis, grigoris@eng.auth.gr
Giorgos Christoforidis, gchristo@teiwm.gr

AREAL – Regional Energy and Environment Agency of Algarve

AREAL is a non-profit private Association, whose main goal is to work for the implementation of Regional Energy Politics as a way to contribute for the Algarve Sustainable Development. With international cooperation, AREAL will look for a More Efficient Use of Energy aiming to improve the actual usage of Algarve great potential of renewable Energy Sources. AREAL will benefit from this project by internalizing and disseminate the knowledge that will be acquired from the cooperation between all the partners involved.

Cláudio Casimiro, ccasimiro@areal-energia.pt

SARGA – Government of Aragon

SARGA executes and provides assistance and advice to the Government in the passing of regulations and strategy definition. Through the Aragon Strategy for Climate Change and Clean Energies & Energy Plan for Aragon, it has developed & implemented an energy policy that aims to contribute to the maintenance of energy supply quality and the improvement of energy efficiency. This is in consonance with the priority 4C of Aragon ERDF Operational Plan: O.4.3.1 "Improvement of energy efficiency and emissions reduction in public buildings" & OE.4.3.2 "increase the use of renewable energies for the production of electricity and use of thermal solutions in public buildings and infrastructures, placing specific interest in micro-generation".

Javier Sancho, jsancho@sarga.es

Municipality of Slovenska Bistrica

The Municipality of Slovenska Bistrica is organized under the Local Self-Government Act (Official Gazette of RS, no. 94/07) and is the basic local self-governing community of settlements, which are associated with common needs and interests of their citizens. Municipality is managing 45 public buildings and want to (in the frame of energy management) implement some of the actions from the Local energy concept. For example: extended energetic examination of public buildings, case studies about possibilities for Hydro, Wind, Solar, biomass and Bio gas usage/exploitation, new PV installations on public buildings etc.

Tomaž Pristovnik, tomaz.pristovnik@ric-sb.si

Regional Energy and Environment Agency in RhôneAlpes

The Regional Energy and Environment Agency in Rhône-Alpes is in charge for the development of sustainable energy projects and programs both at regional, but also local levels. The objective of the Regional Energy and Environment Agency in Rhône-Alpes is to mobilize public authorities and other key stakeholders at regional and local levels in order to develop new policies and introduce new instruments having a significant impact on the development of sustainable energy projects within the region.

Noemie Poize, noemie.poize@auvergnerhonealpes-ee.fr

Ministry of Energy, Commerce, Industry and Tourism

The Energy Service has the overall responsibility of Energy in Cyprus, including the promotion and utilization of RES & the formation of the national energy policy for Cyprus. In this capacity the Energy Service is keenly interested in the further development of PV in Cyprus through the adoption of appropriate policy, market rules and supporting technologies. To this effect the proposed project StoRES is aligned with the objectives of the Energy Service and thus the Energy Service is interested to play an active role in completing the planned installations and identifying the benefits of using distributed storage facilities in support of PV sources of energy.

George Partasides, gpartasides@mcit.gov.cy

Municipality of Ussaramanna

The members of municipality of Ussaramanna can share important skills and experiences in European project design as well as in the Sustainable Energy field. They have in particular a good know-how in electrical engineering such as electrical power system, and good knowledge of electrical distribution networks and smart grids. In addition, administrators have several experience and skills in managing European projects. The Municipality of Ussaramanna is already signatory of the Covenant of Mayors and the relevant SEAP implementation is already started and in progress. This SEAP involves local integrating actions of 18 Municipalities, as well as global actions for the whole territory of the “Municipalities Union of Marmilla”.

Marco Sideri, sindaco@comune.ussaramanna.vs.it

Electricity Authority of Cyprus/Distribution System Operator

The DSO is the organisation responsible for the efficient, reliable and secure operation, maintenance & expansion of the electricity distribution system. The DSO is responsible for the integration of distributed RES in the distribution network of Cyprus. The technical staff have great experience regarding the integration of PVs into the energy mix, identifying possible problems and troubleshooting. Also, it has great experience in designing technical solutions for the integration of domestic PV systems to the electricity grid. The involvement of the DSO of Cyprus in this project is of vital importance.

Tasos Gregoriou, TGregori@eac.com.cy

Associated Partners

Mediterranean Technology Platform for Smart Grids
Venizelos Efthymiou, vefthymiou@hotmail.com

University of Cagliari
Susanna Mocci, susanna.mocci@diee.unica.it

Cyprus Energy Regulatory Authority
Andreas Poullikkas, andreas.poullikkas@cut.ac.cy

Autonomous Region of Sardinia – Regional Planning Centre
Massimo Carboni, mascarboni@regione.sardegna.it

Federacion Aragonesa De Municipios Comarcas Y Provincias
Romina Magni De Antonio, rmagni@famcp.org

Ministry of Environment and Energy/General Secretariat of Energy and Mineral Raw Materials/General Directorate of Energy/Directorate of Renewable Energy Sources and Electricity
Papadogianni Aikaterini, papadogiannia@prv.ypeka.gr

Municipality of Kozani
Despotidis Konstantinos, Programmatismos@kozanh.gr

HEDNO S.A. (Hellenic Electricity Distribution Network Operator S.A.)
Dimitrios K. Lianas, D.Lianas@deddie.gr
Dimitra Telaki, D.Telaki@deddie.gr

EDP Distribuicao Energia S.A.
Antonio Aires Messias, aires.messias@edp.pt

SODO electricity distribution system operator, d. o. o.
Matjaž Vodušek, matjaz.vodusek@sodo.si