

StoRES

Promotion of higher penetration of Distributed PV through storage for all

Issue No 1

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Dear Reader,

It is our pleasure to introduce you to StoRES - Promotion of higher penetration of Distributed PV through storage for all and to welcome you to this first project newsletter which will inform you about the progress of our project activities. StoRES is our new and ambitious Interreg MED modular project, and is being implemented by a consortium of 18 highly capable and well established organisations (both private and public) spanning across the Mediterranean region.

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

*Kind Regards,
The StoRES Consortium*

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 the PV penetration in the energy mix of islands and rural areas in the MED by integrating PV and ESS under an optimal market policy by removing the constraints of grid reliability and RES intermittency. The 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.

StoRES focuses on 7 EU countries, Cyprus, France, Greece, Italy, Portugal, Slovenia, Spain.



StoRES started on 1st November 2016 and will be completed by the end of April of 2019.

Project Scope and Objectives

The objective is to **boost PV self-consumption** in the MED through an optimal residential storage solution. The approach is to **test coupled solutions** for the consumer in different pilot sites taking into account local parameters for optimization and using efficiency measures. StoRES is expected to change the current situation concerning grid reliability with **higher RES deployment** in islands/rural areas giving a **cost-effective option** to the public on more affordable and sustainable energy supply. Public authorities will be mobilized leading to their engagement in **sustainable energy strategy implementation** in their jurisdictions with a truly long-term vision in mind. The MED, as the natural place for PV and where grid parity is a reality, has the opportunity to pioneer in testing such technologies in real time with authorities ready to contribute. This endeavor will increase the socio-economic competitiveness of the regions involved; most importantly, it will have a wider impact as **new knowledge for optimum PV-ESS interoperability** will be transferred to a broader geographical context, where grid parity has not been reached yet.

Two important complementary objectives of the project:

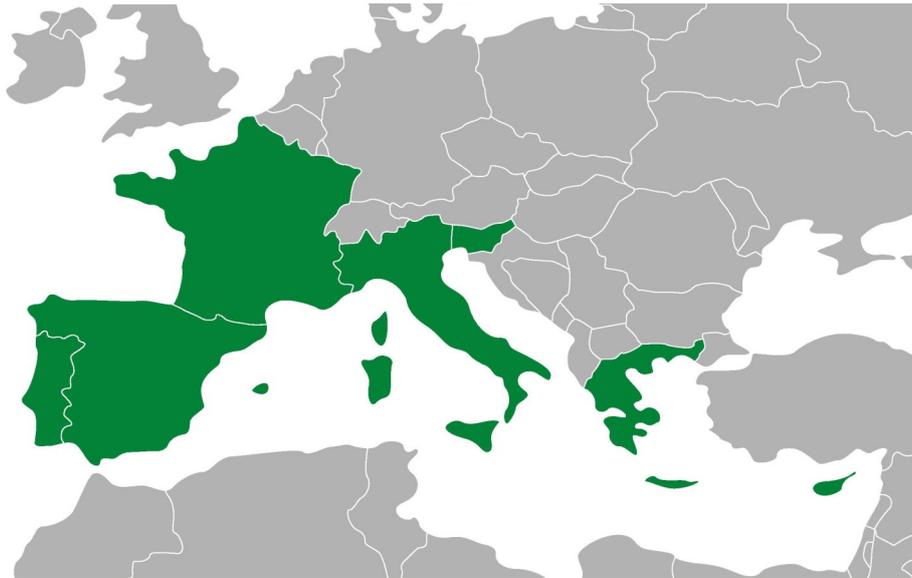
- Evaluate the optimal size of storage system behind the meter that will maximise the economic benefit of the prosumer by capitalising on dynamic time of use tariff.
- Evaluate the optimal size of the socialised storage that will complement the storage behind the meter and offer the local distribution capabilities for 100 % energy generation through local RES penetration by preserving the specified quality of supply (voltage profile, harmonics, thermal loading of equipment etc).

Key Deliverables expected by the StoRES project include:

1. Identification of the technical and policy barriers regarding grid integration of ESS.
2. Development and validation of an improved self-consumption policy through the utilization of distributed RES in combination with ESS.
3. Pilot demonstration of integrated PV and ES systems into the energy mix of rural areas and islands.
4. Development of an online tool for optimized sizing of hybrid PV and storage systems.



Boosting PV self-consumption in the MED through an optimal storage solution



Countries Participating in StoRES

Over the Project's first 8 months, significant progress has been observed:

- **Benchmarking study** on the situation on RES, policies, barriers relating to ESS implementation was prepared including:
 - ⇒ State of Art analysis of EU good practice examples and insights from participating project countries
 - ⇒ Brief summary of the situation in each country
 - ⇒ Overview of national and EU PV and ESS legislation
 - ⇒ Summary of promotional policies in each country
 - ⇒ Synopsis of the main legal and financial barriers
 - ⇒ Proposals for possible technical solutions
 - ⇒ Electricity tariffs insights
- **Universal technical solution** was designed in collaboration with local DSOs, taking into consideration all of the special technical requirements of each region.
- Pilots are being set up for domestic ESS **in the 5 regions** being studied, covering thus, all particularities (geographical, cultural) of the MED basin.
- The tender preparation relating to the **purchase of equipment** for the implementation of the technical solution was completed.

Progress so far

During the first part of the project, a lot of effort has been placed on studying the existing situation of RES policies and barriers relating to ESS implementation. In particular, the benchmarking study is the cornerstone for the design of the technical solution, the online tool and the Cost-Benefit analysis (CBA) and will serve as input to the subsequent work.



Promotion of higher penetration of Distributed PV

Communication activities and Events

Kick-Off Meeting

The Kick-off meeting of the project was successfully held in December 2016, in Limassol, Cyprus. It was the first opportunity after the preparation of the project application for all the partners to meet in person and to acquaint themselves in detail with all the project tasks and the timelines. At the meeting the partners agreed on a common work plan and methodology in order to achieve the project objectives, whereas each Work Package and Activity leader presented the foreseen activities.



GreenCAP Meeting

The GreenCAP (The renewable Energies community co-founded by the Interreg Med Programme) kick off meeting took place in Torino, Italy during March 2017. The transnational challenge of the project is the cohesion and blending of the results arising from modular projects by creating a common network among all the established partnership resulting in a community in which activities and results will be shared. The StoRES project was represented by the Research Centre for Sustainable Energy (FOSS) of the University of Cyprus and the Sardegna Region (Associated Partner).



Project Meeting in Thessaloniki

The 2nd transnational project meeting took place in Thessaloniki in May 2017. The project partners presented the ongoing activities in their regions and most importantly the foreseen tasks in relation to pilot set-up and data collection.



We are MED event

The StoRES project was represented at the community building event "We are MED" which took place on the 17th May in Alicante. The objective of the event was to create a work dynamic between all thematic communities and find a common work methodology that will enhance the capitalization process of the upcoming May 2018 mid-term transnational event. Event participants presented and shared their plans and ideas by pointing out potential problems, solutions and good practices. For more information please visit: <https://interreg-med.eu/news-events/events/we-are-med/>



Flyer & Banner

The StoRES flyer and banner were designed and prepared by UCY. The flyers will be distributed at events and among relevant stakeholders.

Project Website

Everything you need to know about StoRES can be found on our webpage <https://stores.interreg-med.eu/>. Make sure that you receive our Newsletter, so that you are kept informed regularly about the ongoing progress and results of the project.

Social Networking

Stay informed on the StoRES Project progress and news via its [Twitter](#) and [Facebook](#) accounts.

StoRES Consortium



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.

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POWER SYSTEMS LABORATORY
ARISTOTLE UNIVERSITY OF
THESSALONIKI

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.

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AREAL – Regional Energy and Environment Agency of Algarve

AREAL is a non-profit private Association which has as Associates some of the most important Algarve public and private organizations. AREAL's main goal is to collaborate in the definition and implementation of Regional Energy Politics as a way to contribute for the Algarve Sustainable Development. In this framework AREAL in contribution with the local partners and open to international cooperation, will look for a More Efficient Use of Energy aiming to improve the actual usage of Algarve great potential of renewable Energy Sources as well. AREAL will also benefit from the project by internalizing and disseminate the knowledge that will be acquired from the cooperation of the partners in the project.

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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".

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OBČINA
SLOVENSKA BISTRICA



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.

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Regional Energy and Environment Agency in Rhône-Alpes

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.

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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.

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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 power 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".

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Αρχή Ηλεκτρισμού Κύπρου
Electricity Authority of Cyprus

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.

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