

**SEADRION**



**FOSTERING DIFFUSION OF  
HEATING & COOLING  
TECHNOLOGIES USING THE  
SEAWATER PUMP IN THE  
ADRIATIC-IONIAN REGION**

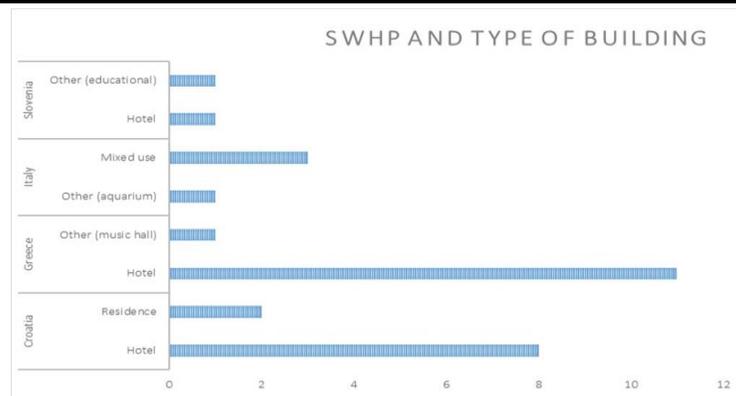
**NEWSLETTER n.1**

February 2019

# About SEADRION project

The main objective of the SEADRION is to identify the benefits and barriers associated with the use of seawater heat pumps. Seawater heat pumps are considered as an ideal approach to heat and cool buildings in coastal areas due to its attractive advantages of high efficiency, low carbon emission and use of renewable energy sources. The project aims to continue the action already carried out and supported by the MED Programme with the Enercoast project. Exploitation of the sea water as an alternative energy source represents a strategic potential for all Adriatic countries regardless of political boundaries in becoming more independent in terms of energy supply.

## Project deliverables – implemented and ongoing activities



### Report on heat pump installation and industry in Adriatic-Ionian region

To be able to analyse the potential of seawater heat pumps in the Adriatic-Ionian area, partners first searched for good practice examples of seawater heat pump installation and composed a deliverable “Report on heat pump installation”. In the report each partner has collected and analysed data and information about existing installations of seawater heat pumps in buildings from different sectors located in the Adriatic-Ionian area, starting from heating and cooling capacities, efficiencies but also the overall satisfaction with the seawater heat pump operation.

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Table 1: Share of energy from renewable sources (in % of gross final energy consumption)

|                 | 2004 | 2013 | 2014 | 2015 | 2016 | 2020 target |
|-----------------|------|------|------|------|------|-------------|
| <b>EU</b>       | 8.5  | 15.2 | 16.1 | 16.7 | 17.0 | 20          |
| <b>Greece*</b>  | 6.9  | 15.0 | 15.3 | 15.4 | 15.2 | 18          |
| <b>Croatia</b>  | 23.5 | 28.0 | 27.8 | 29.0 | 28.3 | 20          |
| <b>Italy</b>    | 6.3  | 16.7 | 17.1 | 17.5 | 17.4 | 17          |
| <b>Slovenia</b> | 16.1 | 22.4 | 21.5 | 21.9 | 21.3 | 25          |
| <b>Albania</b>  | 27.8 | 33.2 | 31.5 | 34.4 | 37.1 | 38          |

\* 2016 data for Greece estimated by Eurostat. Source: Eurostat "SHARES 2016 results"

### National legislation report

In the “National legislation report” the main study was focused on national perspectives and goals of the use of renewable technology, national subsidy schemes and programmes for supporting the use of renewable energy technologies, current status and future targets of renewable energy sources in final energy supply. A general analysis of the legal framework within the programme area was to define the administrative barriers and the policy strategies that could be implemented for sustainable exploitation of renewable energy sources in the Adriatic-Ionian area.

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### Energy analysis of facilities in the involved partners regions

The scope of the activity, a common methodology developed by Greek partner was used for detailed energy survey of the facilities where the sea water heat pump will be installed. On the basis of an energy analysis, the design and the power size of the pilot plant to be installed was identified, as well as potential energy and CO2 emission savings. Two countries, where the pilot plants will be installed, were involved within the activity: Croatia (UNIZAG and DURA) and Greece (CERTH). Partners collected and analysed data and information about the physical and environmental features of the selected buildings.



## Stakeholders database

When dealing with a certain technology, especially when trying to make a significant impact on the technology use it is important to investigate the opinions and experiences of everyone dealing with the technology. Because of that, partners identified most interested stakeholders in the seawater heat pump sector and on this basis, the stakeholder database was designed.

As a result of this activity, a list of potential entities and responsible persons was created for its use in surveys, interviews and participation in workshops. Identified stakeholder will be invited in a national stakeholder working group and at least 2 stakeholders meeting per country will be organised. Furthermore, online stakeholder platform will be soon created from collected data and it will be used for results dissemination and offering technologies and solutions and exchange of information between stakeholders from all regions.



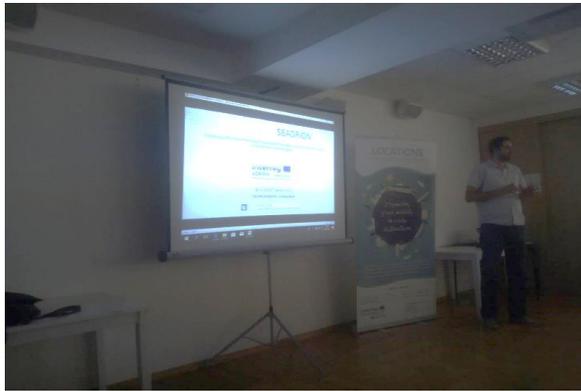
## Local capacity building seminars and networking

Project partners started communication with potential stakeholders. To this end, the 1st stakeholder meeting was organised by UNIZAG FSB (Faculty of Mechanical Engineering and Naval Architecture) on 31st of January 2019.

Other partners will organise stakeholder meetings in the following months. A potential topic of these meetings will be technology readiness and barriers for technology implementation.

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## Participation at workshops and conferences



In May 2018, UNIZAG FSB participated in the event “Energy days” organised by the City of Rijeka, Primorsko-goranska County and REA Kvarner. As part of the event, open days at Thalassotherapy Crikvenica, one of the pilot locations of the SEADRION project were organised. Thalassotherapy is a demonstrative building of different systems and as part of the open days, its solar cooling system was presented. Next to it, UNIZAG FSB held a presentation “Pilot project for the installation of the heat pump system in Thalassotherapy Crikvenica”.

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Croatian national workshop in the scope of SEADRION project „Using seawater to water heat pumps as heating and cooling systems“ was successfully organised by the University of Zagreb, Faculty of Mechanical Engineering and Naval Architecture in Zagreb, on 18th of December 2018. The workshop was supported by the Interreg Mediterranean project PELAGOS.

Seventy participants (70) joined the workshop from research institutions, private bodies, public authorities, small and medium enterprises and energy agencies. The goal of the workshop was to start the communication about seawater heat pumps, present the 3 seawater heat pump pilot plants that will be installed in the scope of the project, and to share the experience in the seawater heat pump sector.



In November 2018, UNIZAG FSB presented SEADRION project on 13th international Scientific and Technological Conference “Power and Process Plant” and 8th International Forum on Renewable Energy Sources in Rovinj (Croatia). Topics of the presentations were “Using seawater to water heat pumps as heating and cooling systems” and “Case study for using seawater-water heat pumps in an existing public building: SEADRION project”.

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In early November 2018, the first Regional Meeting of the Laboratory for Blue Energy (RBEL) was organised in Izola. The event was organised by the GOLEA agency within the frame of the Maestrale project (Interreg MED Programme). Within this frame the partnership, project objectives, work packages, stakeholders and the foreseen results of project SEADRION were presented to participants. In addition, pilot investments that will be realised through the project were presented. All interested stakeholders were invited to attend the event, notably representatives of coastal municipalities, companies dealing with marine energy technologies and ESCO companies, as well as representatives of education and decision-makers at a local and national level.

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## Participation at workshops and conferences

The project is now in the half of the implementation phase. Short term project activities are the following:

- **3 pilot plant installations**
- **organisation of stakeholder meetings and establishment of on-line stakeholder platform**
- **elaboration of prefeasibility studies** (6 feasibility studies for the design and implementation of innovative systems that use seawater heat pumps will be carried out within the buildings that will be selected by project partners. The selection of the buildings will be carried out on the basis of “Methodology for the selection of the most representative public/private buildings”.
- **communication and dissemination activities**

## Participation at workshops and conferences



**5th International Conference on Sustainable Development (ICSD)** will be held in Belgrade, Serbia on April 17-21, 2019.

The International Conference on Sustainable Development is the premier interdisciplinary forum for social scientists, life scientists, engineers, and practitioners to present their latest research results, ideas, developments, and applications in all areas of Sustainable Development on the areas of Environmental, Health, Energy, Economic, and Socio-Cultural Issues.

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University of Split (FESB) is organizing 4-day scientific/professional/industry conference that will take place in at Bol (Island of Brač) and Split in Croatia (from 18th to 21th of June 2019). The title of the event: **4th International conference on Smart and Sustainable technologies**

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**ICE 2019 - 9th International Conference of Ecosystems, JUNE 7-10, 2019, Tirana, Albania**

The aim of the conference is to encourage and facilitate interdisciplinary communication between scientists, engineers, economists and professionals working in ecological systems and sustainable development. Emphasis is given to those areas that will benefit from the application of scientific methods for sustainable development, including the conservation of natural systems around the world.

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Next **project meeting** is scheduled in Izola (Slovenia) in April 2019 where partners will discuss about future activities, related to installation of pilot plants, design of on-line stakeholder platform, pre-feasibility studies and dissemination of project results, etc.

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## *Our contact/additional information:*



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