13th Meeting of the European National Energy Storage Associations

EASE, Brussels, Belgium, 18 September 2019

EASE
European Association for Storage of Energy

European National Energy Storage Associations

Photo: Alqueva Dam

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NATIONAL CLIMATE AND ENERGY PLAN

The PNEC - National Climate and Energy Plan, based on a decarbonization strategy, reflects a paradigm shift in the production, transmission, storage and end-use of energy, implying additional research, innovation and competitiveness efforts.

In the Research, Innovation and Competitiveness dimension, the PNEC will address the topics of prioritization of funding and procedural simplification, a framework for incentives for research and innovation projects. professional qualification, specialization of teaching and research structures, entrepreneurship in the area of low-carbon economics, costs, dissemination, monitoring and integration of information on research and innovation in the area of energy and climate.

NATIONAL CLIMATE AND ENERGY PLAN

Taking into account the objectives and targets set for the remaining dimensions of the PNEC, the promotion of national R&D I programs is recommended, which in a first approach should include at least the following themes:

Smart energy management systems and new infrastructures, aiming at the adequacy of the transmission and distribution networks of energy to scenarios of very high penetration of renewable energies in the energy mix, through the integration of smart grid management systems and storage systems dedicated, in networks and at points of production / consumption, towards a new paradigm of energy production that tends to be decentralized and intermittent, but still aiming at the adequacy of the transmission and distribution grid of energy to scenarios of very high penetration of renewable energies in the energy mix, through the integration of smart grid management systems and dedicated storage systems, in grids and at points of production / consumption, towards a new paradigm of energy production that tends to be decentralized and intermittent, but still dispatchable.

NATIONAL CLIMATE AND ENERGY PLAN

Energy storage, aiming at the adaptation of the national energy system to scenarios of very high penetration of renewable and intermittent energies in the energy mix, through the integration of centralized or decentralized storage systems, in front of the meter or behind the meter -meter), in view of the flexibility and security of the energy system;

In the case of electricity, storage is seen as a tool for the flexibility and stability of the national electricity system, and there are no rules for the establishment of strategic security reserves.

By 2030, an increase in storage capacity is expected, mainly based on reversible hydropower with pumping; at an advanced stage of the decade, in an initial contribution of battery and hydrogen technology, namely through fuel cells and power-to-gas.

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NATIONAL CLIMATE AND ENERGY PLAN

Low Carbon Technologies

Energy Efficiency

Hydrogen as an energy vector

SELF CONSUMPTION

On 25 July 2019, the Council of Ministers generally approved the decree-law aimed at promoting self-consumption of renewable energy, consecrating, in harmony with European policies, collective self-consumption, renewable energy communities and respective rights and duties and conditions of access to the activity.

With the approval of the new-decree-law, the Government intends to reverse this process, facilitating **the investment in generation installations for small groups of consumers.**

The approved decree-law intends also to **increase the energy production** from renewable energies and **to reduce the country energy dependence**..

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FLOATING PHOTOVOLTAIC SOLAR PLANTS

Converting solar energy into electricity through photovoltaic technology is an increasingly cheaper and more efficient process. Portugal has one of the highest solar resource levels in European countries, but using it presupposes occupying very significant geographical areas.

Using the reservoir for hydroelectric uses is an opportunity: it avoids the occupation of other areas on land, useful for other activities, such as agriculture or sheep farming, and it can take advantage of the connection to the already installed electricity grid that the hydroelectric plants do not use.

Recognizing this context and this opportunity, in 2017 EDP inaugurated a floating photovoltaic solar plant on the Rabagão river reservoir in Montalegre, and presented in 2019 the project for a new Floating Photovoltaic plant in Alqueva, which is currently in its licensing phase.

FLOATING SOLAR PANELS AT ALTO RABAGÃO

In an unprecedented partnership, EDP Produção joined EDP Renewables and EDP Comercial in the development of an innovative project: the first floating photovoltaic park, whose pilot project is installed in the dam of the River Rabagão.

Characteristics of the installation:

840 solar panels

Estimated annual generation: 300 MWh

Investment: 450 thousand euros

https://youtu.be/bFevGbcHq8M

FLOATING SOLAR PANELS AT ALQUEVA

This floating photovoltaic power station will also test two new possibilities: connect lithium-ion batteries to the solar panels to store energy and be used at times when there is no solar production and optimize the system, taking advantage of pumping.

A second test is the concept of floating solar hybridization with pumped water to have solar production capacity to feed pumping.

The project therefore calls for the first Living Lab of integrated renewable energy and storage solutions to respond to the energy market of the future. One market that, per the 2050 Carbon Neutrality Roadmap - the Portuguese commitment to the Paris Agreement goals, is that 80% of the electricity consumed will be from renewable sources by 2030.

Characteristics of the installation:

11.000 solar panels
Installed capacity: 4 MW
Estimated annual generation: 6.000 MWh
Investment: 3.5 million euros until 2020

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CONFERENCES & FAIRS

Energy Storage Europe 2019, Düsseldorf, Germany, 12-14 March

Electrical Energy Storage Europe, Munich, Germany
15-17 May 2019

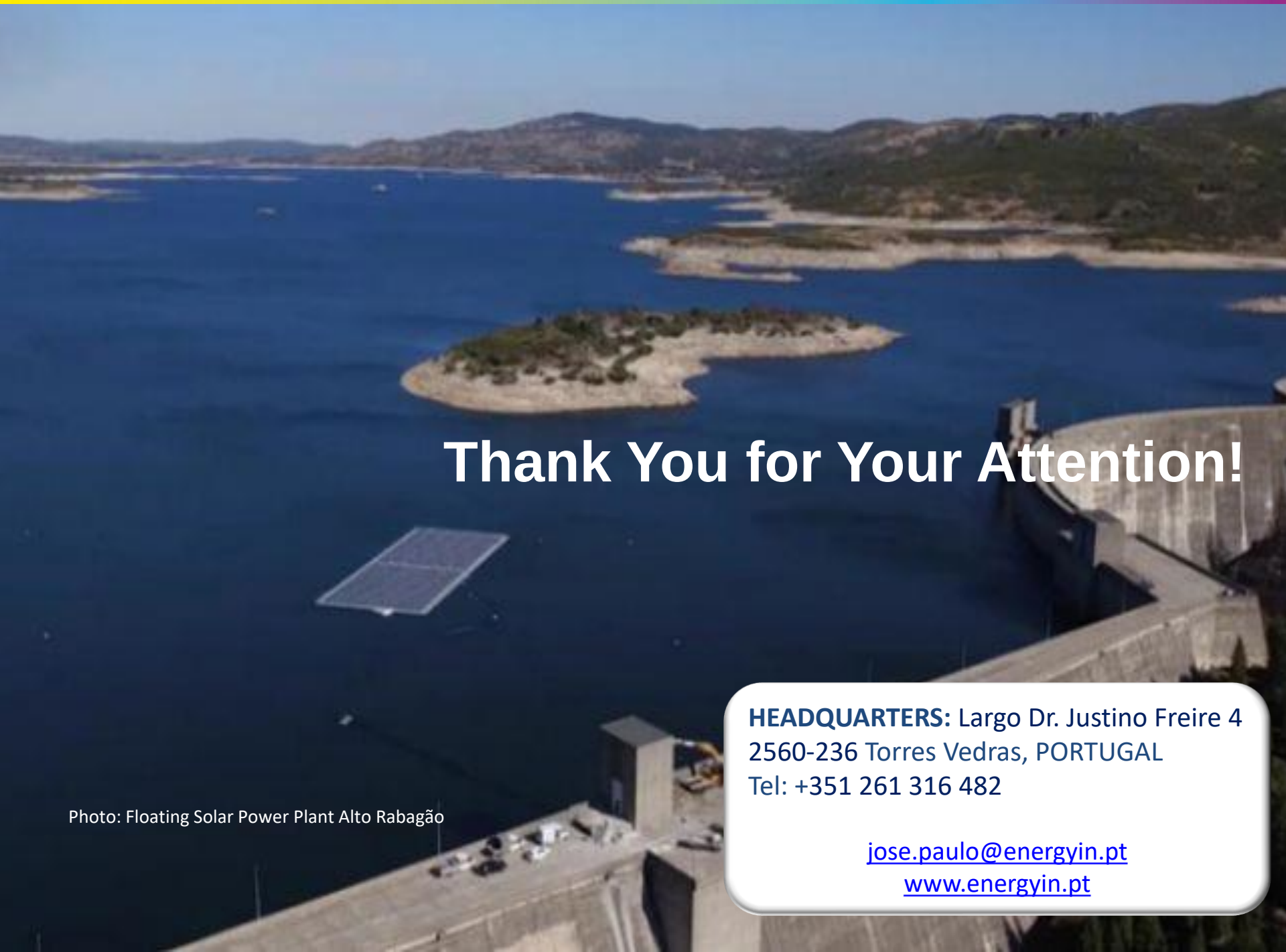
CONFERENCES & FAIRS

XX Symposium Portuguese-German of Energy, Lisbon, Portugal, 2nd July 2019
Energy Efficiency inc. Energy Storage, in Commerce and Services

AHK
Deutsch-Portugiesische
Industrie- und Handelskammer
Câmara de Comércio e Indústria
Luso-Alemã

12th Energy Storage World Forum, Rome, Italy, 15-17 October 2019

Energy Storage World Forum



Thank You for Your Attention!

Photo: Floating Solar Power Plant Alto Rabagão

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