EERA European Energy Research Alliance
Energy Storage

DIPARTIMENTO DI INGEGNERIA INDUSTRIALE

RSE Ricerca Sistema Energetico

Free Webinar

New flexibility resources:

the role of hybrid pumped hydropower

Friday 14th May 2021 10:00-12:15

The exploitation of an increasing share of electricity from renewable sources is leading to the exit from the market of fossil-fueled thermoelectric plants, starting from the oldest ones. Furthermore, due to the fluctuations introduced into the grid by Non-Programmable Renewable Energy Sources, the grid operator requires even more flexible balancing resources, which only some kinds of conventional plants are able to provide.
In this context, the Pumped Hydropower and other storage technologies such as batteries and flywheels could provide valuable resources. In this seminar different flavors of the matter are portrayed with reference to some recent results of the Italian Public Energy System Research and other international experiences (UniPD - DII, RSE and UPM).
A hybrid pumped hydropower dynamic model with batteries, flywheel and refined controllers to supply flexibility services will be presented. The effectiveness of different configurations, from the pumped system alone to the integrated system, is evaluated, also in terms of wear and aging (loss of useful life), for the case study of the potential Seawater Pumped hydro in Foxi Murdegu (Sardinia-Italy).
To make this type of innovative storage systems economically feasible and viable, new rules are needed in the frame of the ancillary services market: the current evolution in Italy will be illustrated with reference to the ongoing pilot projects.

The webinar is open to the whole community. Take the opportunity to register for free now.
Our total capacity for participants is limited to the webinar platform.

Agenda - Friday 14th May 2021

Time	Topic	
10:00	Opening and introduction - goals	Giovanna Cavazzini (UniPD) Julio Alterach (RSE)
10:10	Toward renewable energy integration into the power system: the Italian research initiatives	Chiara Gandolfi (RSE)
10:25	New rules for assets and novel regulation services to increase the Italian power system flexibility	Silvia Canevese (RSE)
10:45	The role of energy storage in the frequency control of power systems	Juan-Ignacio Perez-Diaz (UPM)
11:05	Challenges for pumped hydropower plants in the future grid scenario	Giovanna Cavazzini (UniPD)
11:25	Case study: pumped hybrid energy storage system for the provision of frequency control	Stefano Casarin (UniPD)
11:45	Q&A	Julio Alterach (RSE)
12:15	**End of the meeting**	

Please do not hesitate to contact us, if you have further questions. We look forward to meeting you online (giovanna.cavazzini@unipd.it, Julio.alterach@rse-web.it).