

Cost Effective Technological Developments for Accelerating Energy Transition

PROJECT DETAILS

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Website: <http://talentproject.eu/>

CORDIS link: <https://cordis.europa.eu/project/id/864459>

PROJECT DESCRIPTION

In recent years the global shift to a more sustainable energy system is becoming a reality. Nevertheless, now more than ever it is necessary to make our best efforts in making this transition as fast as possible, because otherwise the consequences could be dreadful for our climate conditions. This change necessarily comes through a full transformation of the energy sector, which must consider the energy in all its shapes.

Specifically, it is required the electric sector to be adapted to the foreseen penetration of renewable power generation by means of increasing the grid flexibility, guaranteeing its stability and supply security and making the energy affordable for all citizens. This transformation passes through taking advantage of the local renewable resources and turn the current power generation model into a more decentralized new one.

To meet this purpose, the integration of electric storage batteries along the different stage of the power supply chain is crucial. This element plays a key role when it comes to adjust the variability of the generation coming from renewable sources such as wind and solar energy and the end-users demand, which sometimes responds to some given needs and cannot be shifted along the day, and sometimes it can be adapted to the generation profile. In this context, besides the integration of the proper technology into the grids, it is utterly necessary its correct management and thus, the development of suitable tools to balance the different elements integrated in the grid.

TALENT aims a wide and cost-effective integration of batteries in the grid that will lead to an increase of the flexibility in the energy system and will be based on new technological developments in: i) scalable and modular power electronics topologies, ii) power electronics devices, iii) high-voltage batteries and iv) interoperable software as a service for energy resources management.

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