

= iSTORMY =

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Interoperable, modular and Smart hybrid energy STORage systeM for stationarY applications

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Deliverable Report

D4.2 – Report on power system level simulation models and standard EMS



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Publishable summary

The iSTORMY project aims to develop an interoperable and modular Hybrid Energy Storage System (HESS) by demonstrating various Use cases (UCs) and seamlessly interfacing the grid to provide multiple services. The aim of this deliverable is to describe the power system-level simulation model and the most relevant results obtained from the configuration and verification of the developed standard Energy Management System (EMS) in WP4. The aim has been to fine-tune the control parameters for the specific requirements of each UC, and to identify and improve the control functions that were not behaving as initially expected.

First, in the framework of T4.1.2, the simulation models of the power converters and the battery modules have been upgraded with the information coming from WP2 and 3. In addition, a simplified power system model has been implemented based on the real equipment located at the EDF concept grid where the final iSTORMY solution will be tested.

These medium-fidelity simulation models have been then used to systematically evaluate the performance of the EMS for a wide variety of control parameters. The results have also made it possible to identify control functions not behaving as expected when designing the EMS. Hence, these errors have been fixed and new control functions have been implemented to improve the behaviour of the proposed EMS.

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Project partners:

#	Partner short name	Partner Full Name
1	VUB	VRIJE UNIVERSITEIT BRUSSEL
2	PWD	POWERDALE
3	CEG	CEGASA ENERGIA S.L.U.
4	CEA	COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES
5	MGEP	MONDRAGON GOI ESKOLA POLITEKNIKOA JOSE MARIA ARIZMENDIARRIETA S COOP
6	ZIG	ZIGOR RESEARCH & DEVELOPMENT AIE
7	EDF	ELECTRICITE DE FRANCE
8	TNO	NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO
9	PT	PRODRIVE TECHNOLOGIES BV
10	GW	GREENWAY INFRASTRUCTURE SRO
11	AIT	AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH
12	UNR	UNIRESEARCH BV



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