



2018-IPR-C-000-010568

Storage integration in the distribution system

Position for:

Trainee

As the science and knowledge service of the Commission, the mission of Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle.

The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: <http://www.jrc.ec.europa.eu>

Short description of activity:

Unit C.3 "Energy Systems, Distribution and Markets" aims at serving EC policy DGs in assessing the options to build more resilient, secure and fair power system and markets. The Unit does so by analysing real power systems challenges across several Member States (Baltic States, Greece, Cyprus, ...) from a variety of perspectives (RES integration, Generation Adequacy, Load Flow, provision of ancillary services etc.) by relying on the best available software and tools (commercial or internally developed) to provide the specific analysis.

The activity foreseen for this trainee, under the help and supervision of the Traineeship adviser, will be directed towards the modelling of distributed storage system integration into the distribution grid. A set of models of European distribution grids have been already built within the Unit which will be tailored from the Trainee to model more realistic areas of interest. Storage is bound to become one of the main technologies shaping the future smart grid, so assessing how it will impact the power grid and also the operation of the distribution grids with local congestion management markets is of utmost importance. To this aim a good knowledge of the electricity market will be needed.

For this internship, Unit C.3 aims at combining desktop work, focused on grid and market modelling, with the facilities of the Smart Grids Laboratories (mainly storage systems) for validating current models of storage systems.

	<p>The trainee will collaborate to:</p> <ul style="list-style-type: none"> • Set up a distribution grid, with a storage model focusing firstly on the Italian market. Other European markets may be considered in a second stage of the traineeship (depending on time) • Run the required simulations • Contribute to test, in team with the Unit's researchers, the various developed models and validate them. <p><u>Qualifications:</u></p> <p><u>Essential:</u></p> <ul style="list-style-type: none"> • University degree in power engineering, energy engineering or similar, and/or MSc in a field relevant to the topic of the call (in case the Master is not yet awarded, the subject of the Master thesis must be directly related to the purpose of the training) • Programming skills (e.g MATLAB, Python or equivalent) • Good oral and written knowledge of English (level B2). <p><u>Advantage</u></p> <ul style="list-style-type: none"> • Familiarity with power market modelling. • Proven basic knowledge of power system economics (teaching modules, seminars etc.) • Proven basic knowledge of battery storage systems (teaching modules, seminars etc.) • Basic experience in laboratory work <p><u>For general eligibility requirements, please read the rules governing the traineeship scheme of the JRC:</u></p> <p>https://ec.europa.eu/jrc/en/working-with-us/jobs/temporary-positions/jrc-trainees</p>
Unit / Directorate	<p>Directorate C: Energy, transport and climate. Unit for Energy security, distribution and markets.</p> <p>Further information: https://ec.europa.eu/jrc/en/research-topic/energy-system-and-security-supply</p>
Indicative duration	5 months

JRC Site	Ispra
Country	Italy
<u>JRC contact details</u>	For any technical problems with your application, please contact: HR-AMC8-RECRUITMENT-TOOLS-SUPPORT@ec.europa.eu