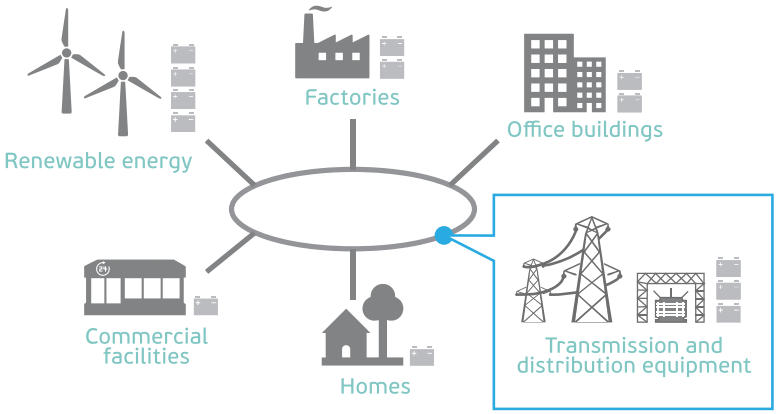
R&D
NESTER

NETWORK PLANNING INTEGRATING DISPERSED ENERGY RESOURCES

The challenge: the new energy paradigm towards a decarbonized system has result on increasing levels of renewables in energy networks. Energy storage is seen as a valuable support for network operators to keep the energy infrastructure secure, reliable and flexible allowing the energy market to work without restrictions.

HOW WE ADDRESS THE CHALLENGE OF PLANNING ENERGY STORAGE

R&D Nester developed a new multi-attribute methodology for network planning integrating new flexible resources, such as energy storage. Through the collection of time-series from demand and supply, network models and the definition of several scenarios for the system evolution, we are able to analyse the system's flexibility. Afterwards, based on the flexibility assessment results, an especially designed algorithm is employed to search for the solution the best combines the site and size (power & energy) of the storage solution, taking into consideration technical and economic aspects of the problem (multi-objective). It also allows the comparison of the traditional network reinforcements against energy storage solutions, providing close support to the decision making process. This tool was successfully applied to a large scale transmission network of an European TSO.



Relevant Publications
- "Planning Energy Storage in Transmission Networks", IEEE IGESC 2014, USA
- "Siting and Sizing Dispersed Energy Storage in Power Transmission Networks", IEEE IGESC 2015, USA

Contact us
Phone_ 351 210 001 300
E-mail_info@rdnester.com
Webpage_www.rdnester.com
Adress_Rua Cidade de Goa, 4B
2685-038 Sacavém - Portugal
Follow us on

R&D
NESTER
CREATING A SMART ENERGY FUTURE