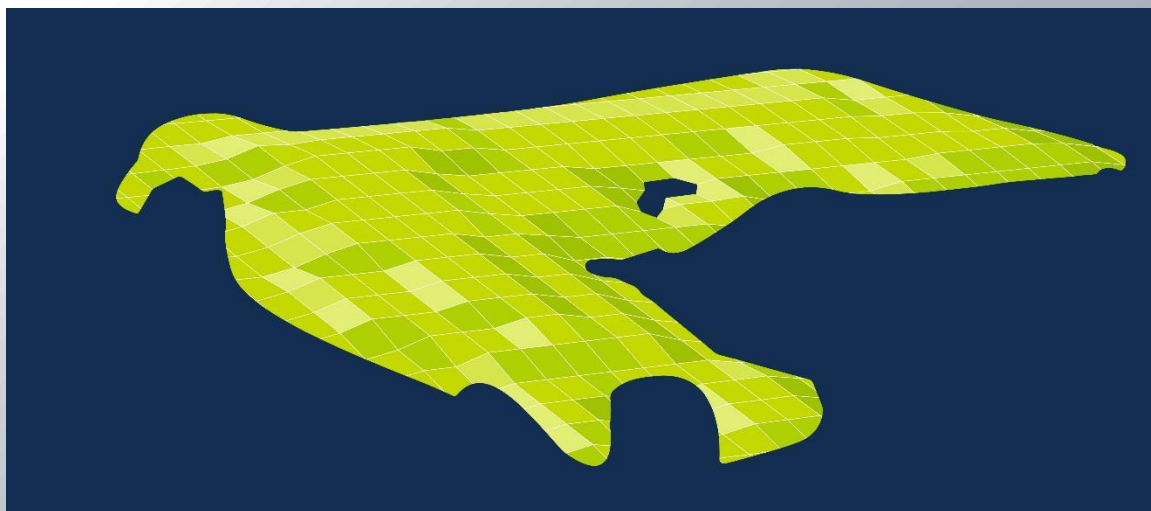




NETfficient
Storage for Life

swerea | **IVF**

NETfficient



Project funded by the European Union's Horizon 2020 research and innovation programme under the Grant Agreement n°646463

26/11/2015



Today's energy problem:

- Renewable energies are extensively available, but neither easy to predict nor to store.
- Question: *"How can we provide clean, renewable energy available today for tomorrow's energy demand?"*



NETfficient's solution:

- Local, decentralized energy storages and a smart grid solution are needed.
- **NETfficient** will develop and demonstrate innovative local energy storage technologies and information and communication tools to exploit the synergies between energy storage, the smart grid and the citizens.
- **NETfficient's** solution will be implemented in 5 use cases in a real environment: **Borkum island's** electric grid in the North Sea, Germany.



Key Facts

- **NETfficient** means improving the energy and economic efficiency for today's smart communities through integrated multi storage technologies
- Project duration: 01/01/2015 – 31/12/2018;
- **NETfficient** has received funding from the *European Union's Horizon 2020 research and innovation programme* under grant agreement No 646463.





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Partners



NETfficient's consortium:

13 partners from 7 European countries bring in their expertise in the domains of energy storage, management and distribution to achieve the project's ambitious objectives.



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Approach - the 5 use cases -



- **Peak Shaving:**
Balancing out peaks of the energy demand and availability of renewable energy.



- **Homes:**
Fully equipped with energy generation units, smart meters and energy storages.



- **Buildings:**
Solar energy generation on building's rooftops, energy provisioning by locally stored renewable energy.



- **Public Lighting:**
The energy supplied by the sun during the day will be used for lighting during the night.



- **Regulation (Heating/Cooling) of Aquarium Water:**
Solar energy generation maintain the temperature of the aquarium as desired using thermal energy storage..

Objectives

Being a lighthouse project, **NETfficient** will enable the exploitation of existing renewable energies on Borkum island by developing the missing link for mass uptake of storage and energy management technologies. **NETfficient** will:

- Bring existing technical storage solutions to market maturity by investigating and apply them in a multitude of use cases in low and medium voltage scenarios.
 - Empower citizens and businesses to become active prosumers.
 - Involve all stakeholder groups in the energy value chain, from policy makers, municipalities to the citizens.
 - Support Borkum island to reach its goal of a self-sufficient energy supply before 2020.
 - Make proposals in the social and economic areas to regulators in order to facilitate the transition to renewable energies, overcoming the reliance on fossil energy, reducing CO₂ emissions and bringing forward the energy transition in Europe and worldwide.
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Benefits & impacts

- **NETfficient** will develop storage technologies and an energy management system for renewable energies and make them available to Borkum island's businesses, houses and citizens, all year round, without constraints in operations
- **NETfficient** will demonstrate how local renewable energy generation and energy storage ensures a supply independence and CO₂ emission reduction in remote areas
- The implemented smart energy management systems by **NETfficient** will reduce operational costs, increase energy efficiency and lower environmental impact
- As a pioneer for an island's smart electric grid, **NETfficient** will contribute to the energy transition and serve as a best practice example for further adopters of the developed technologies.

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Thank you.



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