

# COPENHAGEN PROJECT SUGGESTS ENERGY STORAGE SCIENCE



Who commissioned Copenhagen's first urban energy storage system? ABB today announced the successful commissioning of Denmark's first urban energy storage system. The Lithion-ion based battery energy storage system (BESS) will be integrated with the local electricity grid in the new harbour district of Nordhavn, Copenhagen. The system has been commissioned for Radius, DONG Energy's electrical grid division.



Can energy storage units be installed in the Danish power system? Elsystemansvar A/S (subsidiary of Energinet) has asked Ea Energy Analyses to analyse the benefits and main drivers for the installation of storage units in the Danish power system. This will supplement the technology aspects in the recent Technology Catalogue on Energy Storage (DEA and Energinet, 2019).



Which storage demonstration projects have been carried out in Denmark? As reported in Table 1, two significant storage demonstration projects were carried out in Denmark in the past years. The batteries installed in Nordhavn (Copenhagen) were tested mainly for the provision of primary regulation (TSO service) and peak shaving (DSO service).



Is a storage facility a challenge in Denmark? In Denmark, a storage facility can by definition (Energinet, 2019): The participation of storage assets in different markets may be a challenge. These challenges might be just as much a consequence of regulatory design as technical limitations.



Could remote cooling rid Copenhagen's atmosphere of 80,000 tons of CO<sub>2</sub>? Since 2010, a growing part of major companies' cooling needs has been covered by remote cooling, where seawater is circulated around the companies. This could potentially rid the city's atmosphere of 80,000 tons of CO<sub>2</sub>. Imagine what the rest of Europe could achieve by implanting EnergyLab and Copenhagen's findings.

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Do battery energy storage systems provide primary control reserves in Germany? IEEE. Zeh, A., Muller, M., Naumann, M., & Hesse, H. (2016). Fundamentals of using battery energy storage systems to provide primary control reserves in Germany. Batteries. Table 9 carries the requirements and the remuneration for units participating in the Danish ancillary services markets.



The whitepaper finally gives proposals for a revised policy and regulatory framework, which can support energy storage in the energy system, as well as recommendations for actions to ???



Nielsen suggests using a benchmark of around 30 EUR/m<sup>3</sup> when calculating the cost of pit heat storage with a capacity of 100,000 m<sup>3</sup> or more. Seasonal heat storage is a very cost-effective way to make use of surplus ???



Green Hydrogen Hub Denmark is a pioneering project with an international perspective that can solve a significant part of our challenges by storing renewable energy." Gas Storage Denmark (GSD), which is part of ???



We are developing battery storage projects from greenfield to construction and into operations. Our portfolio consists of stand alone projects as well as batteries in connection to our wind and solar PV projects. We see a clear advantage in ???

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It also emphasizes the importance of developing energy storage systems and modernizing electric grids, which it called essential to the large-scale adoption of renewable ???



EnergyLab Nordhavn will be completed this year ??? the Danish smart energy lighthouse project that will integrate all relevant and available energy forms in the city. The project's activities are concentrated around ???



Much of the academic literature that investigates energy planning focuses on the development of plans but overlooks how they shape actors" situated sensemaking in the field. ???