

BIG energy seminar series

Addressing global energy challenges in scale and complexity.



Small-scale vs large-scale storage systems for variable RES: Optimal investment and operation strategies

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Date: Monday, December 10th at 11:00am

Location: [SEEC, C120](#)

Abstract:

Energy storage systems has gained increased attention the last years due to the rapid development of wind and solar PV in power systems, combined with the tremendous cost reductions that is taken place within the battery industry. Although batteries show many promising uses in power grids, other storage systems like pumped hydro and hydrogen, as well as other flexible resources will be necessary to balance net load variations over longer time scales. In this presentation, I will address the question of when and where to use different storage solutions to facilitate large-scale wind and PV penetration in the energy system, based on findings from recent and ongoing research at NTNU through Nordic projects, EU-projects and current collaboration with MIT. I will put emphasis on explaining the methodologies and assumptions behind the studies, as well as highlighting the key results, possible implications of the work and possible directions for further research.

Bio:

Magnus Korpås is a full professor within electric power systems at the Norwegian University of Science and Technology (NTNU), where he leads the research group on Electricity Markets and Energy System Planning. He received the Ph.D. degree in 2004, on the topic of optimal use of energy storage for distributed wind energy in the power market. He is former Research Director of the Energy Systems Department at SINTEF Energy Research. He is main supervisor of 9 PhD students and participates in several large energy research projects and national and European level, and he is currently a visiting researcher at MIT.

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