



Distributed Battery Energy Storage Systems and Transmission Planning

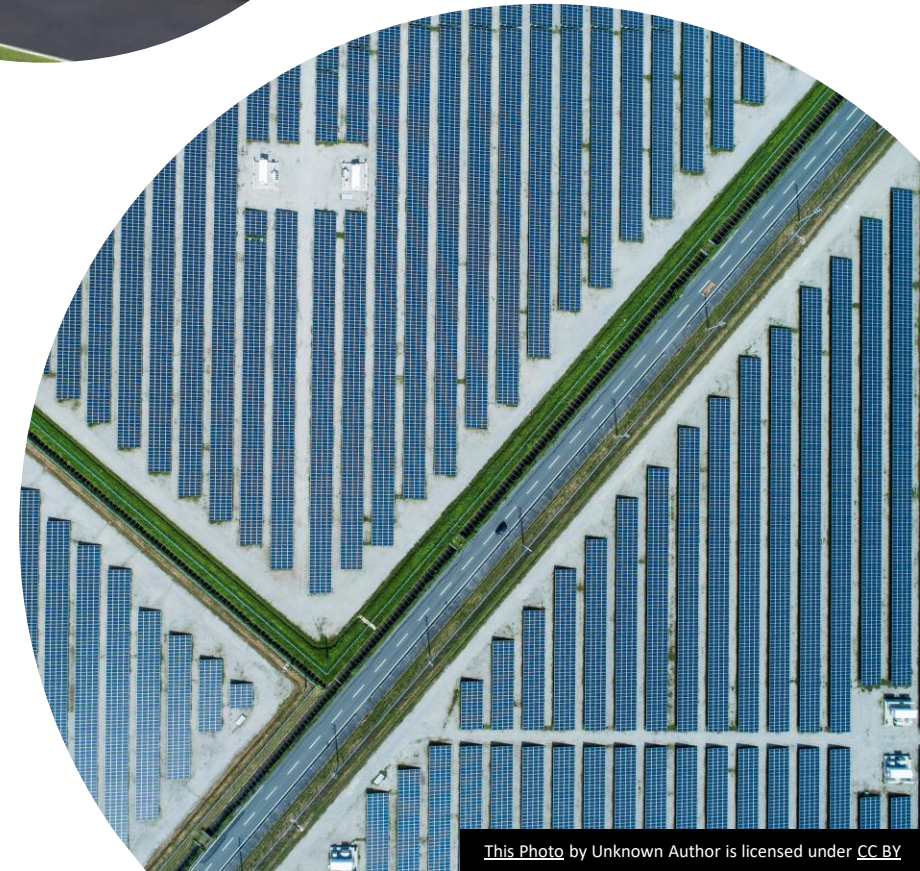
Transmission planning studies should incorporate distributed BESS

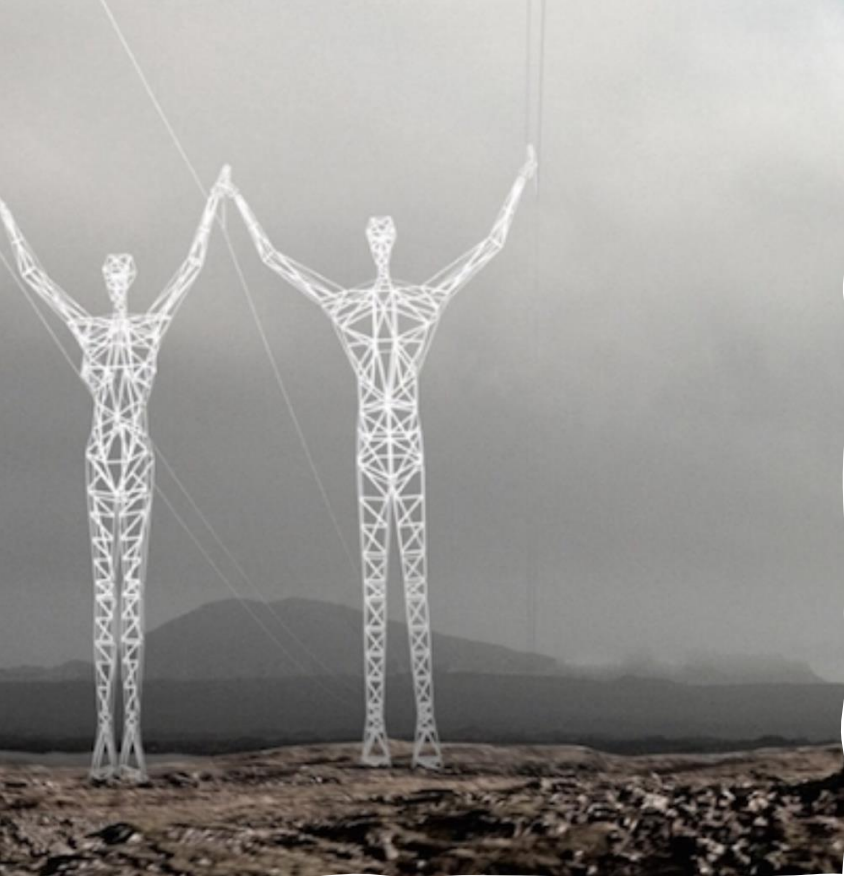
- Exponential growth in distributed energy resources* (DER) deployment is impacting transmission system operations
- The large number of DERs can have impacts on the transmission system as well as on power systems of neighboring electric distribution companies (“EDC”)
- This means that transmission planners need better visibility into the distribution system
- Lack of visibility leaves transmission planners blind to challenges imposed on transmission system stability and blind to benefits DERs, especially battery energy storage systems (BESS), can provide to the system

*DERs encompasses battery energy storage, solar PV, electric vehicles, energy efficiency and demand response

Potential Benefits of BESS to Transmission System

- Deployment of BESS on the distribution system can deliver substantial benefits to the transmission system by:
 - Lowering transmission network expansion costs by reducing net load on the transmission system when discharging at regional system peak
 - Avoiding curtailment of offshore wind, utility scale solar and backing down nuclear during minimum load periods by discharging to introduce additional load to the system
 - Avoiding curtailment and spillage of renewable energy by charging during periods of high renewable energy generation





Recommendations for CETWG Consideration

- Ensure distributed BESS deployment forecasts and operational data is included in future transmission planning studies
- Support development of tools for ISO-NE and Transmission Owners (“TO”) to accurately forecast distributed BESS
- Encourage better data collection of DER/BESS resources to account for in the transmission planning process
- Encourage formal collaboration, communication and data sharing between ISO-NE and EDCs/TOs
- For CETWG process, include “BESS/DER impacts on the transmission system” as a future agenda topic

A conceptual design of a high-voltage power line tower in the shape of a giraffe, standing in a field. The tower is made of a lattice of metal beams. In the background, there are other standard power line towers and a clear blue sky.

Thank you

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