

DOE/SNL Reliability Overview

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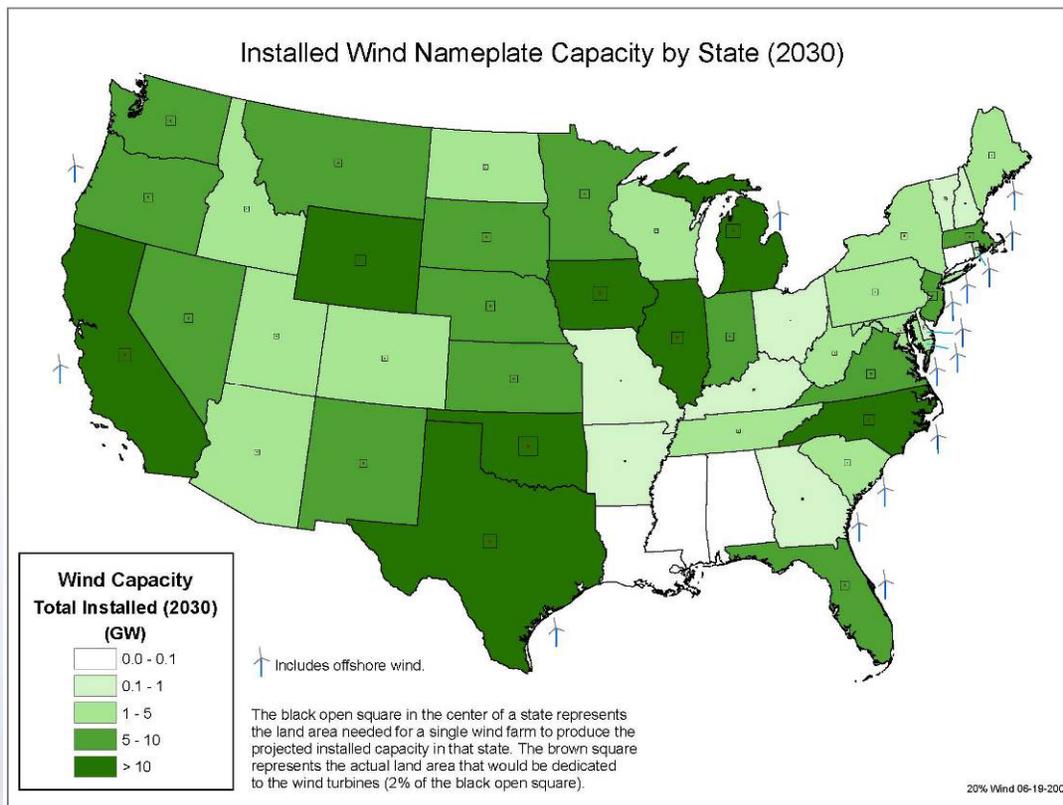


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Sandia National Laboratories

The 20% Report: Challenges for Technology



■ Massive growth in installations

- ~ 35 GW today
- over 300 GW in 2030

■ Performance of the technology is critical

- Capital cost: down 10%
- Capacity Factor: up 15%
- O&M cost: down by 35%



Public Opinion



Concrete
foundation



Is Reliability Important?

Anonymous industry quotes

“Our energy company has chosen NOT to go into the ownership of any more wind farms due to high failure rates of the equipment. We are faced with replacing gearboxes, blades, and generators several times throughout the life cycle of the turbine.”

“Blades are not a big problem, except for lightning and manufacturer defects”

“We have had to replace all of our blades within the first three years of operation due to manufacturing defects”

“It can take months to get a gearbox or a crane – and that’s months when the turbine is not producing”



Relationship of Reliability Efforts

