Xcel Energy – A Case Study
Northern States Power-Minnesota
Northern States Power-Wisconsin
Public Service Company of Colorado
Southwestern Public Service Company

- No. 1 utility wind provider
- Top-ten utility for solar capacity
- Leader in emission reductions
- Nationally recognized in energy efficiency
- Member of the Dow Jones Sustainability Index
Xcel Energy currently manages the output of 6.6 GW of wind resources on our electric systems.
## Forecast Value Relative to Market Participation

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**MARKETS**

- **NSP**
- **SPS**
- **PSCo**

**Balancing Authority**

- MISO
- SPP
- PSCo

**Market**

- Co-Optimized Energy and AS
- Co-Optimized Energy and AS
- Bilateral

**Forecast Granularity**

- Windfarm
- Windfarm
- Portfolio

**Forecast Value Proposition**

- Optimization of DA Bid
- Optimization of DA Bid
- System Dispatch Efficiency

**Balancing Authority**
WIND INTEGRATION COST (NSP)

Installed Capacity: 1260MW
Wind Forecast Error: 15.7%
Installed Capacity: 1857MW
Wind Forecast Error: 9.1%