

Presentation to Committee on Regional Electric Power Cooperation

San Diego, California

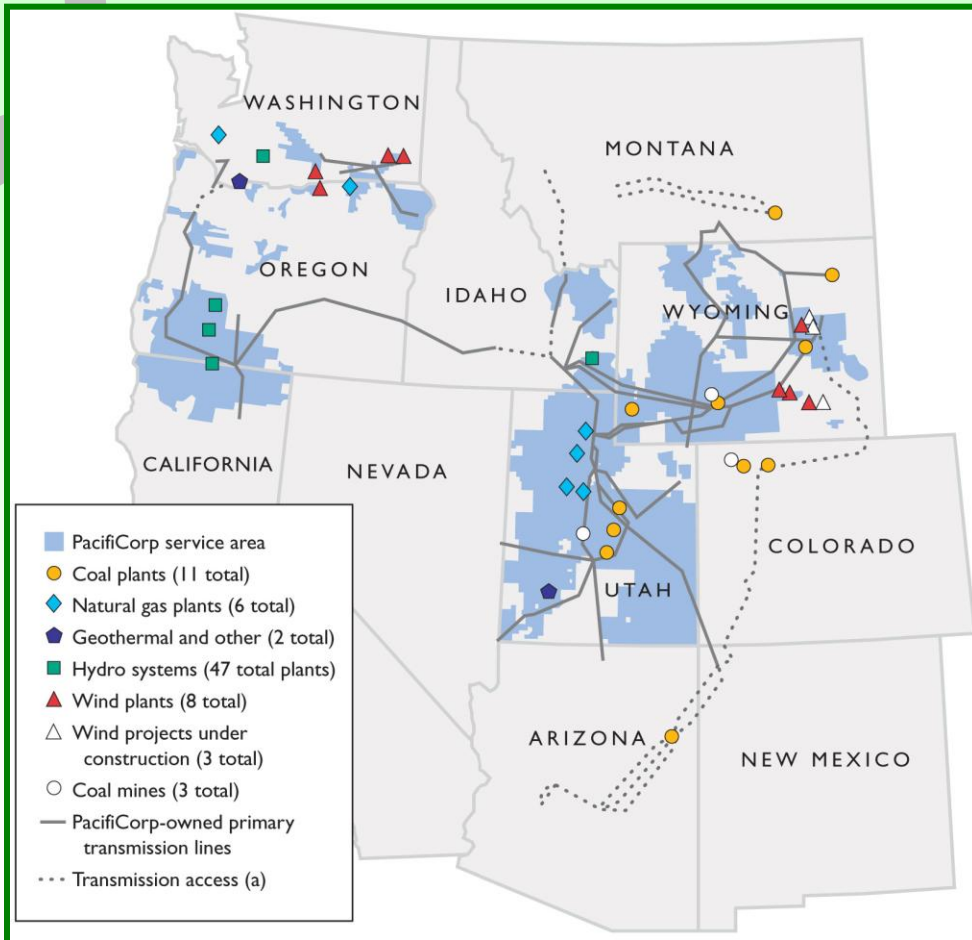
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Stefan Bird

Senior Vice President

PacifiCorp Energy Commercial and Trading

PacifiCorp Service Area and Resource Mix



LOAD AND RESOURCES (owned or contracted, approximate)

9,500 MW peak retail load

1,400 MW wind (includes 400 MW in construction)

2,100 MW hydro

2,200 MW natural gas resources

700 MW Class 1 DSM & curtailment rights

6,200 MW baseload thermal

+ firm purchased power contracts

16,000 miles transmission (owned)

+ extensive wheeling rights

+ reserve sharing

Integrating Intermittent Renewables

Today's Challenges and Solutions

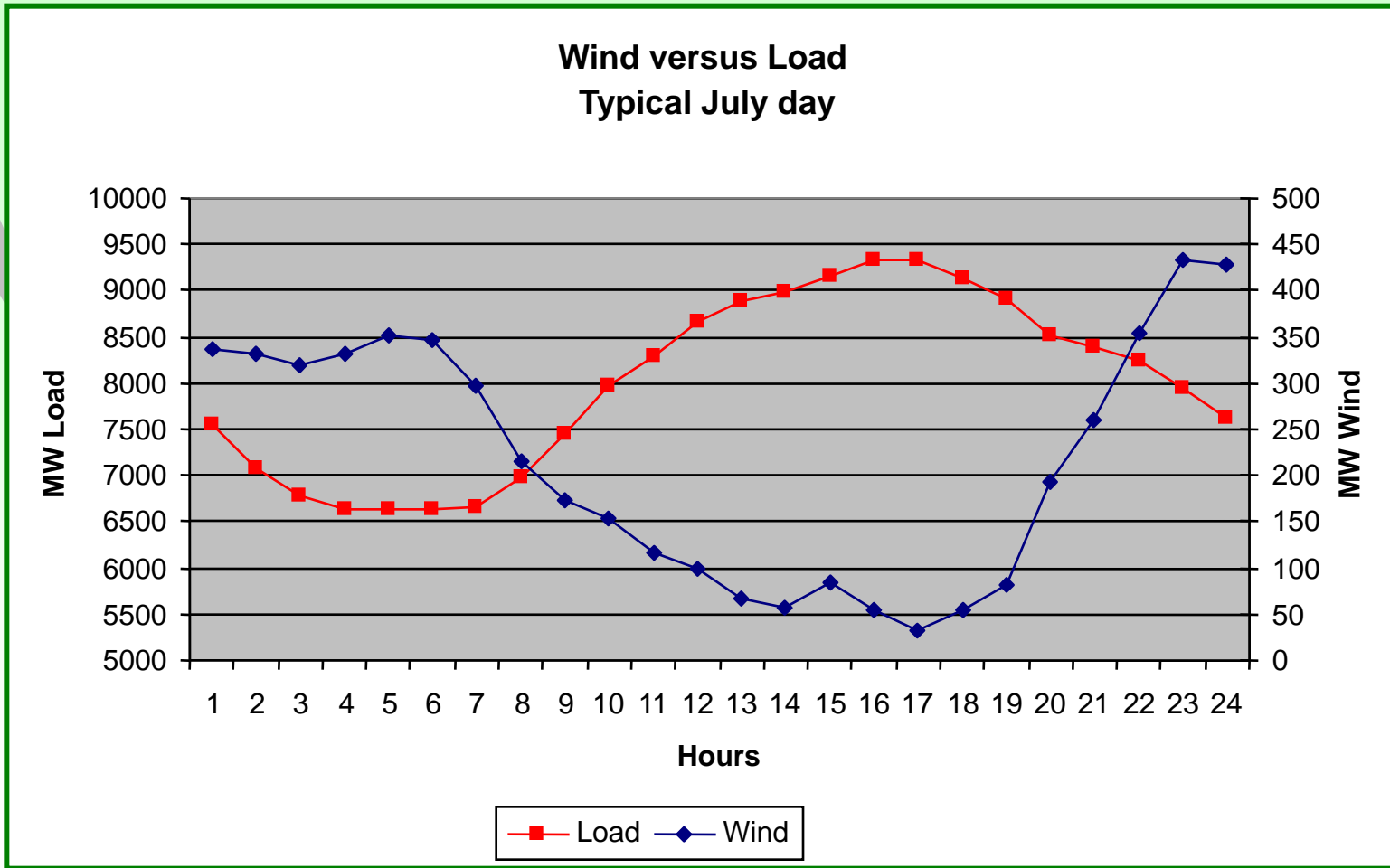
Today's Challenges

- Compliance, Reliability, Economics

Today's Solutions

- Improve wind forecast accuracy using persistence
- Flexible resources, transmission, unit commitment and market depth
- Communications with distributed wind operation centers with ability to feather wind generation

Wind Ramp vs. Load Ramp



Integrating Intermittent Renewables

Future Challenges and Solutions

Future Challenges

- Compliance, Reliability, Economics
- Expiring legacy hydro contracts and legacy flexible transmission contracts = less flexibility
- Increasing state RPS requirements = more wind resources coming
- Potential new CO2 legislation = a lot more wind resources coming

Future Solutions

- Improve analytical tools (wind ramp forecasting, IRP flexible requirements)
- Real-time market improvements (intra-hour scheduling, dynamic scheduling, ACE Diversity Interchange)
- Incremental flexible resources
- Incremental transmission