

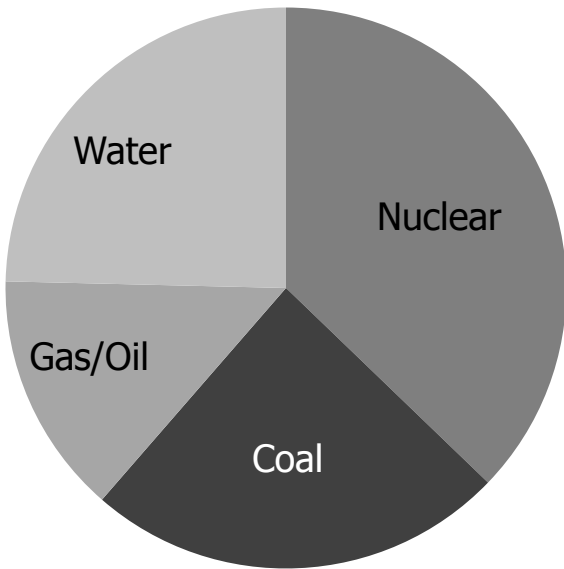
# Presentation to the Stakeholder Advisory Committee

Paul Murphy, President and CEO  
March 2, 2011

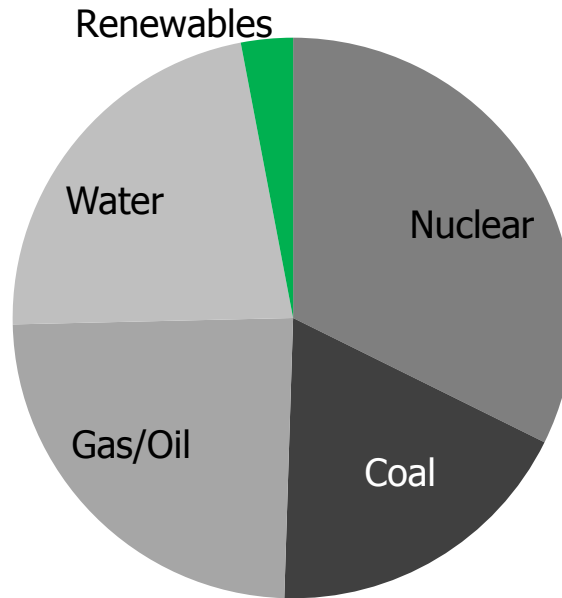


# Renewables Growing Fast

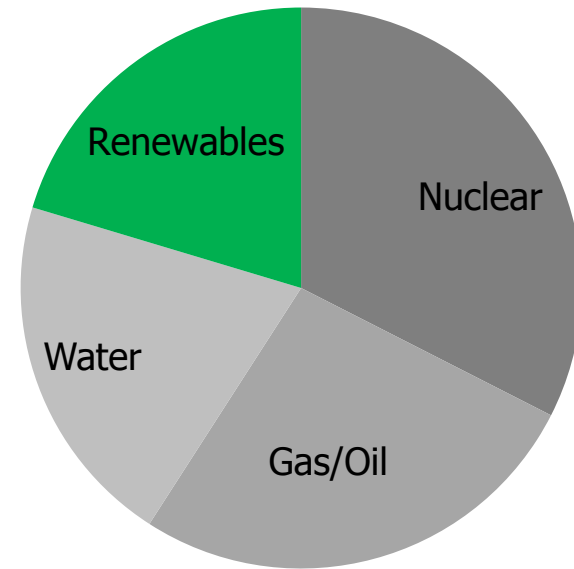
**2004**



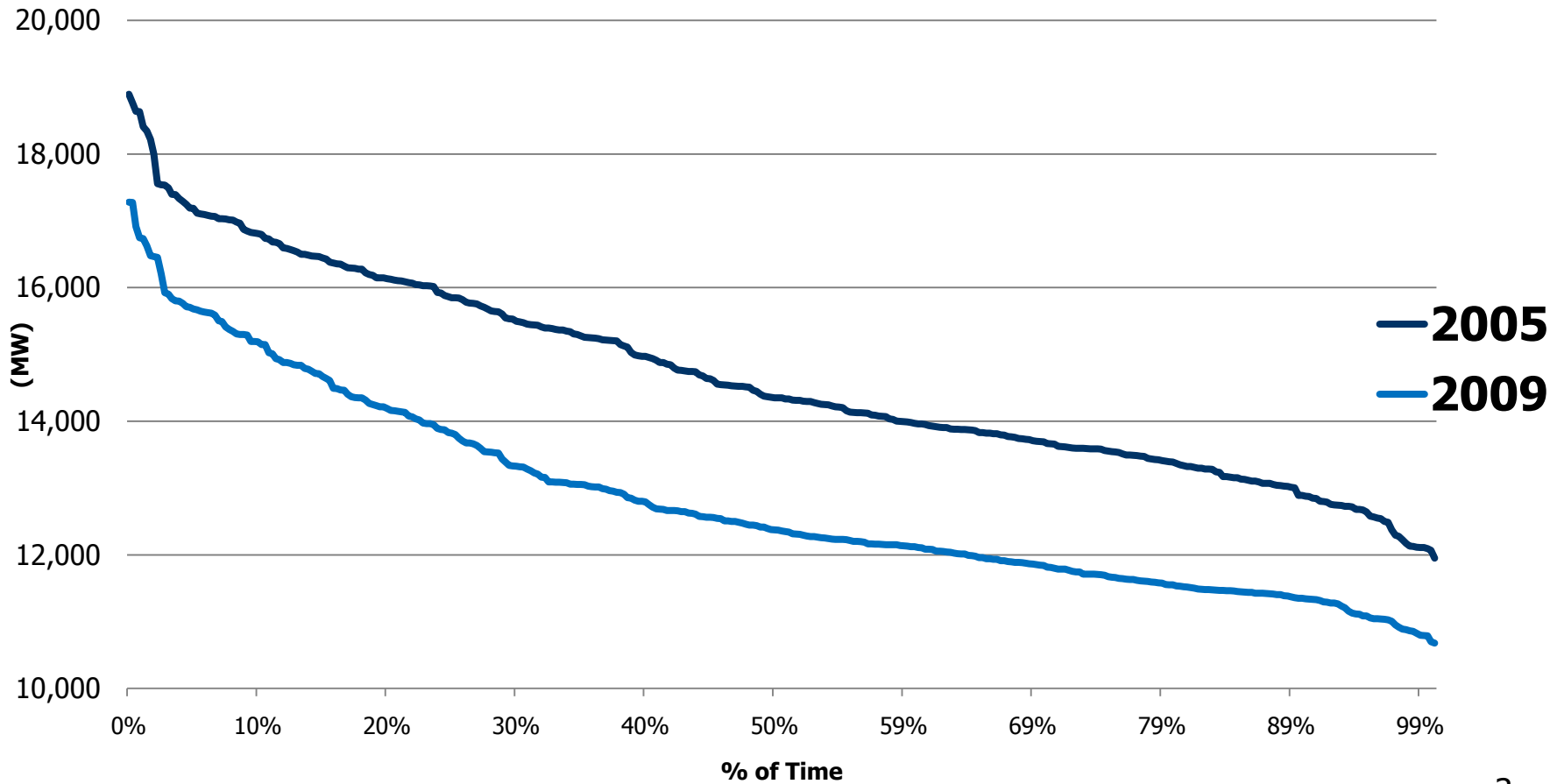
**2009**



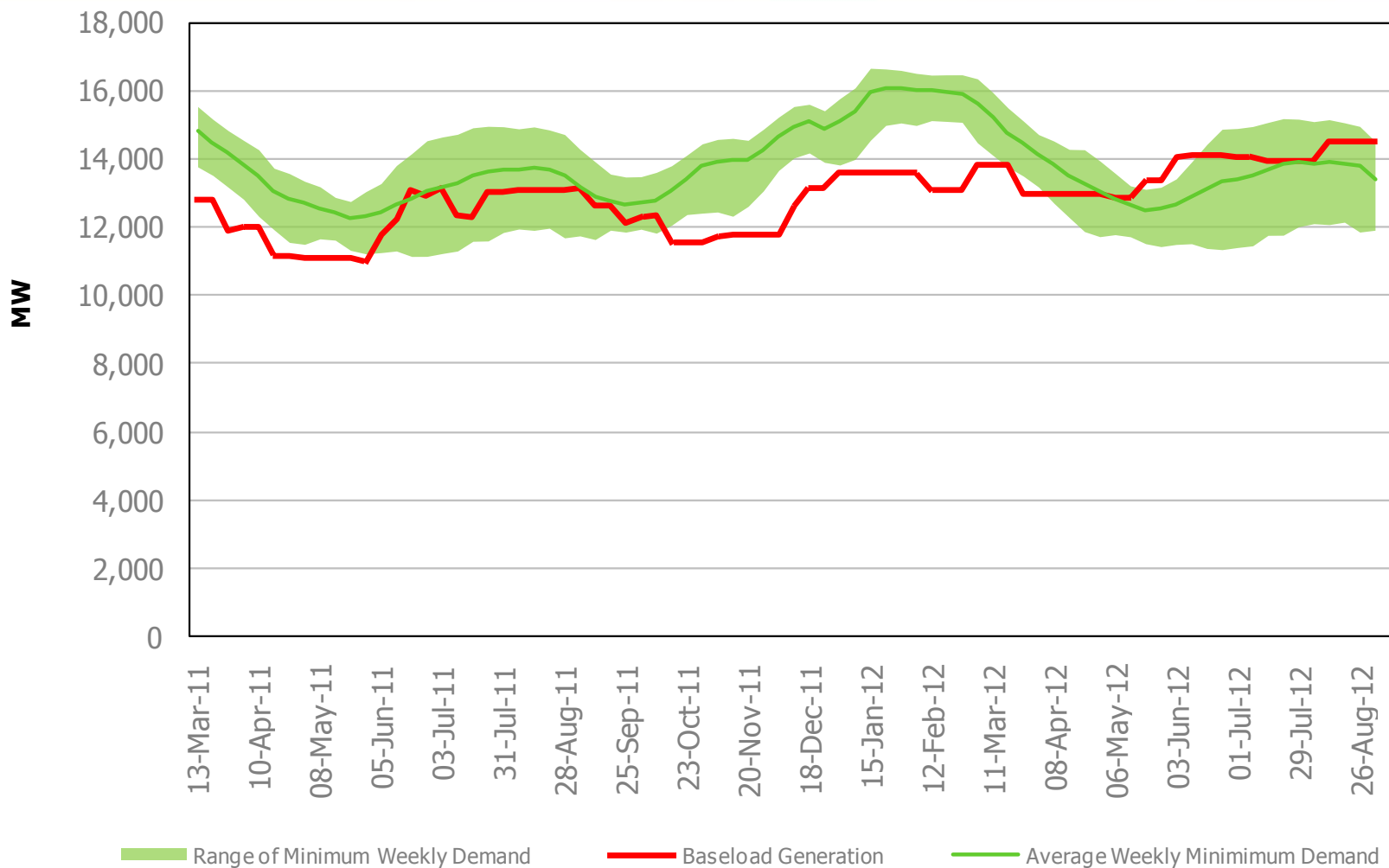
**2014**



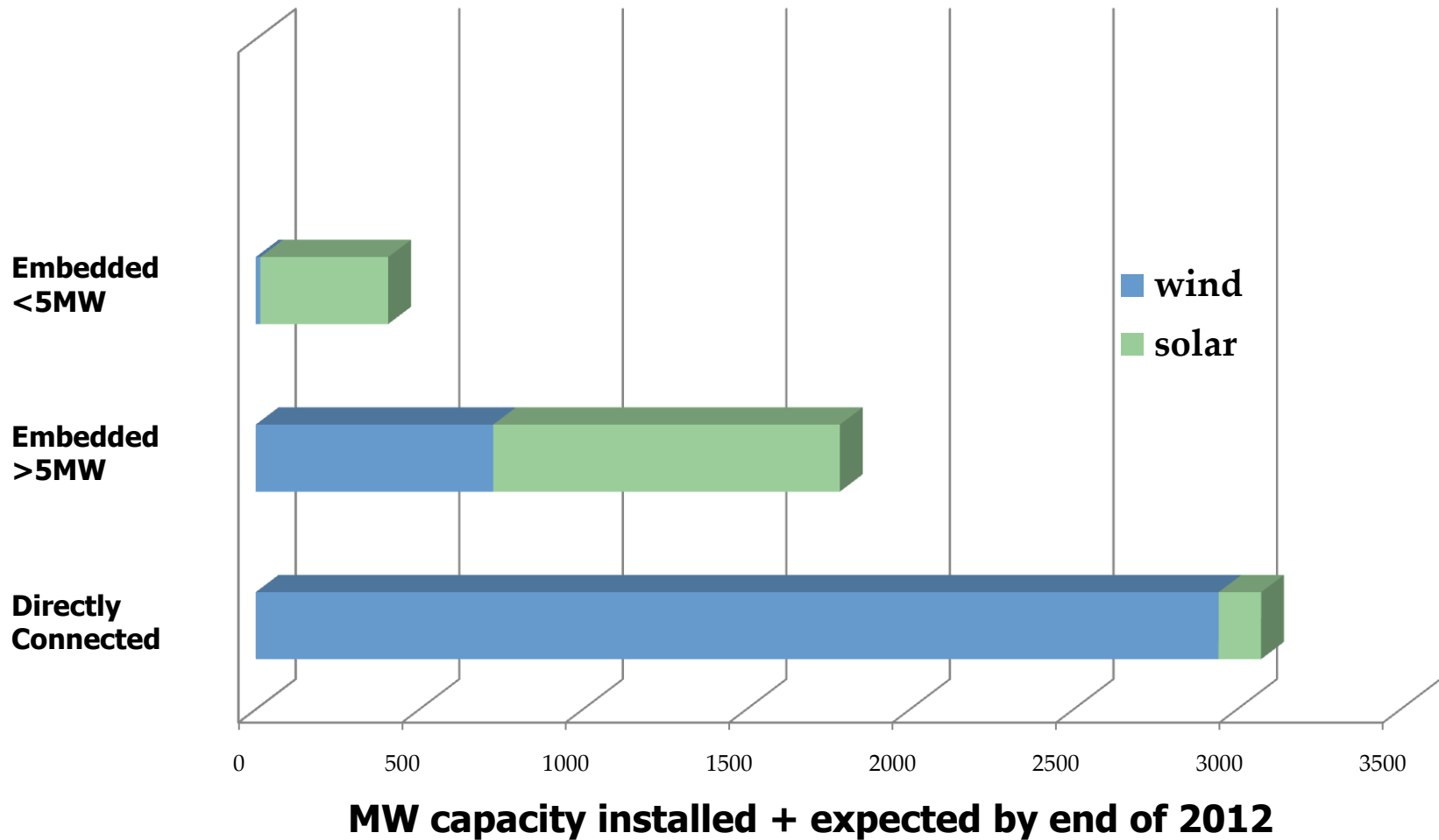
## Daily Minimum Load Duration Curves



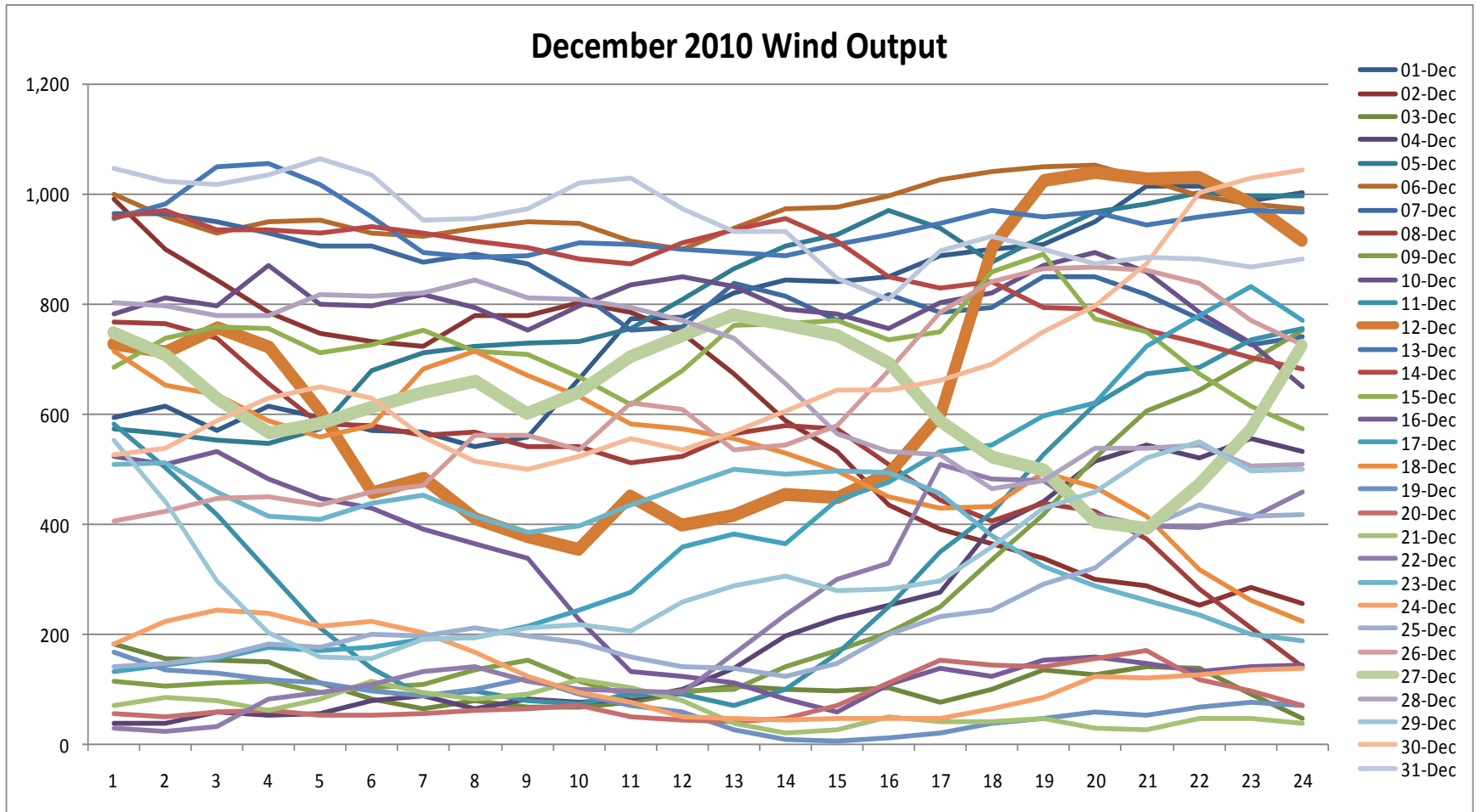
# Surplus Baseload Generation

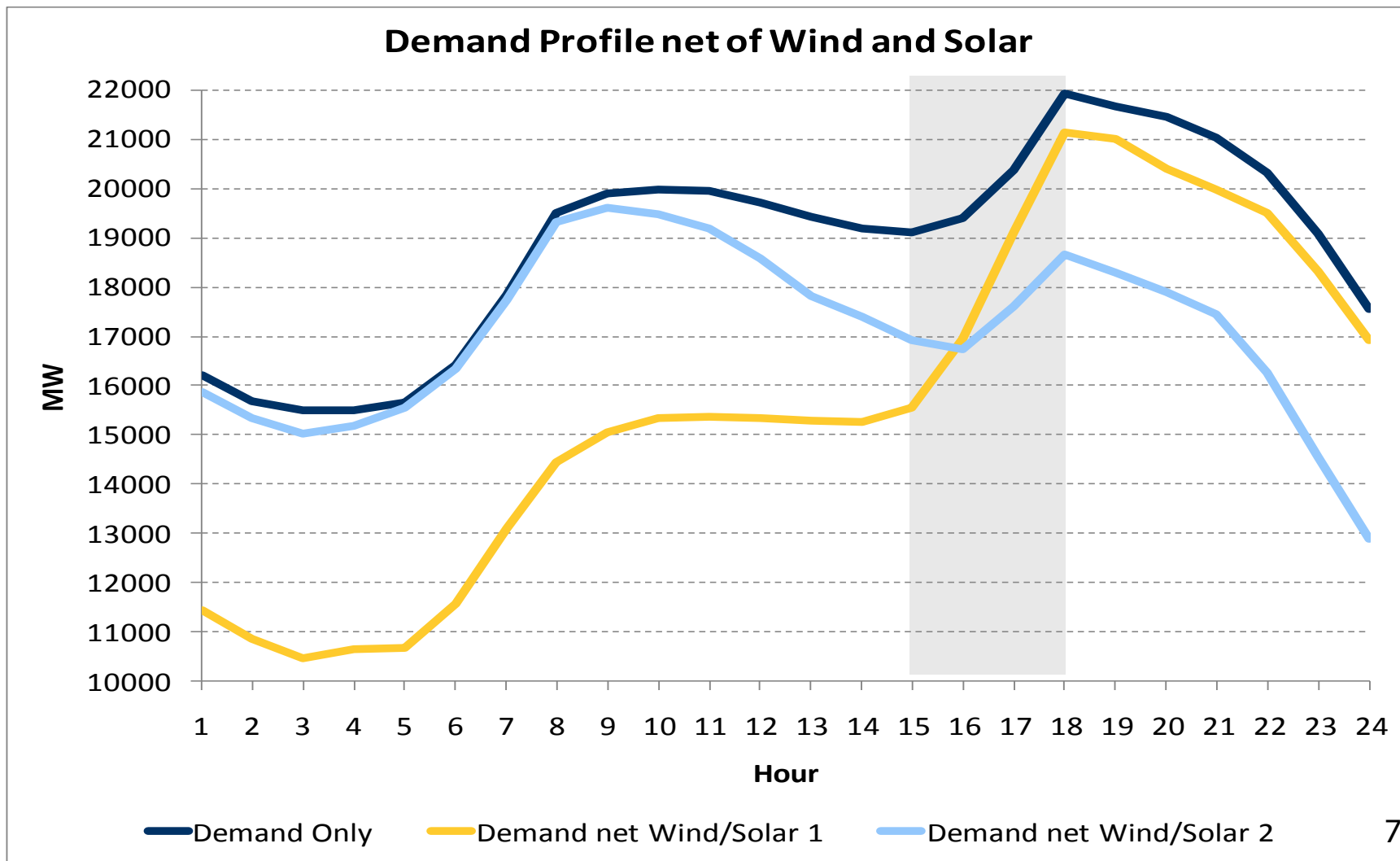


# Renewables in the Short-Term



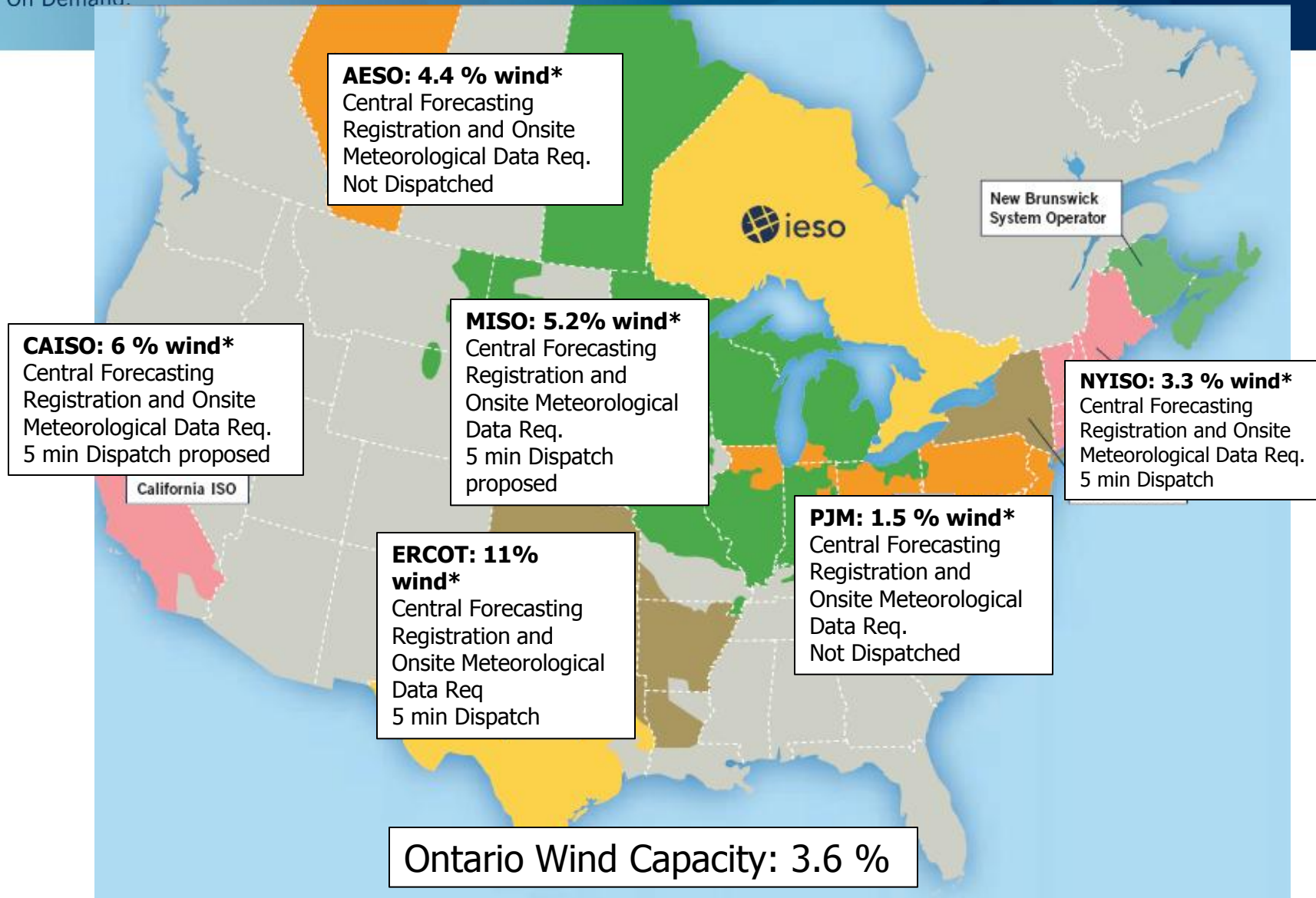
# Wind Variability: A System Operator's Perspective







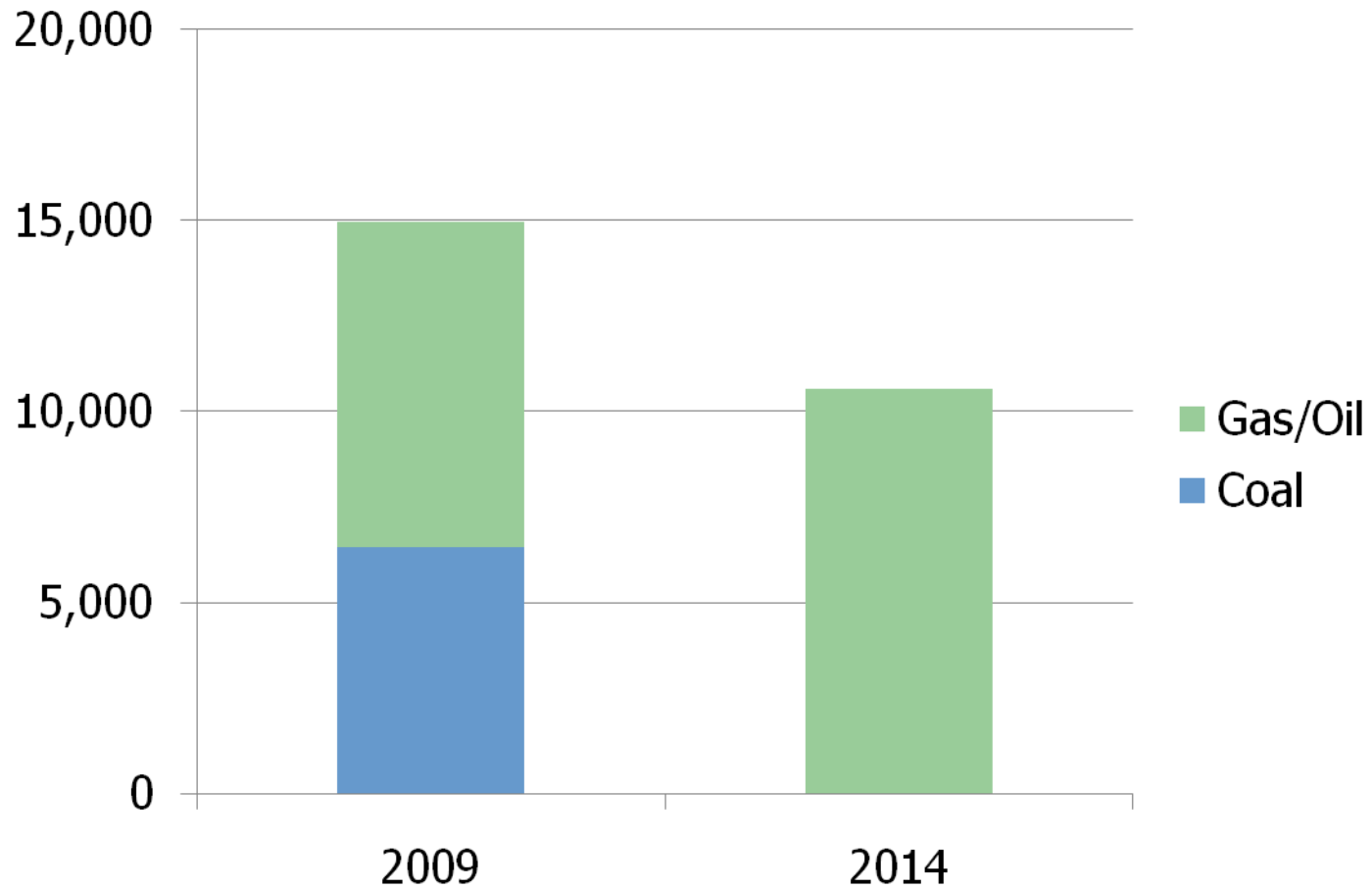
# A Continental View



\* Figures approx.



# Dispatchable Fossil Declining



## Forecasting

Ability to predict output from variable resources is essential for maintaining system reliability and market efficiency

## Visibility

New processes such as direct telemetry and reporting are needed to ensure visibility of large-scale embedded wind and solar generators

## Dispatch

Integration of renewables into the economic dispatch is required to resolve issues like surplus baseload generation

- 
- **Consultation shaping principles**
  - **Renewables coming quickly**
  - **Need to act now**