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# California and the Western Grid: Transmission Challenges

IEEE PES

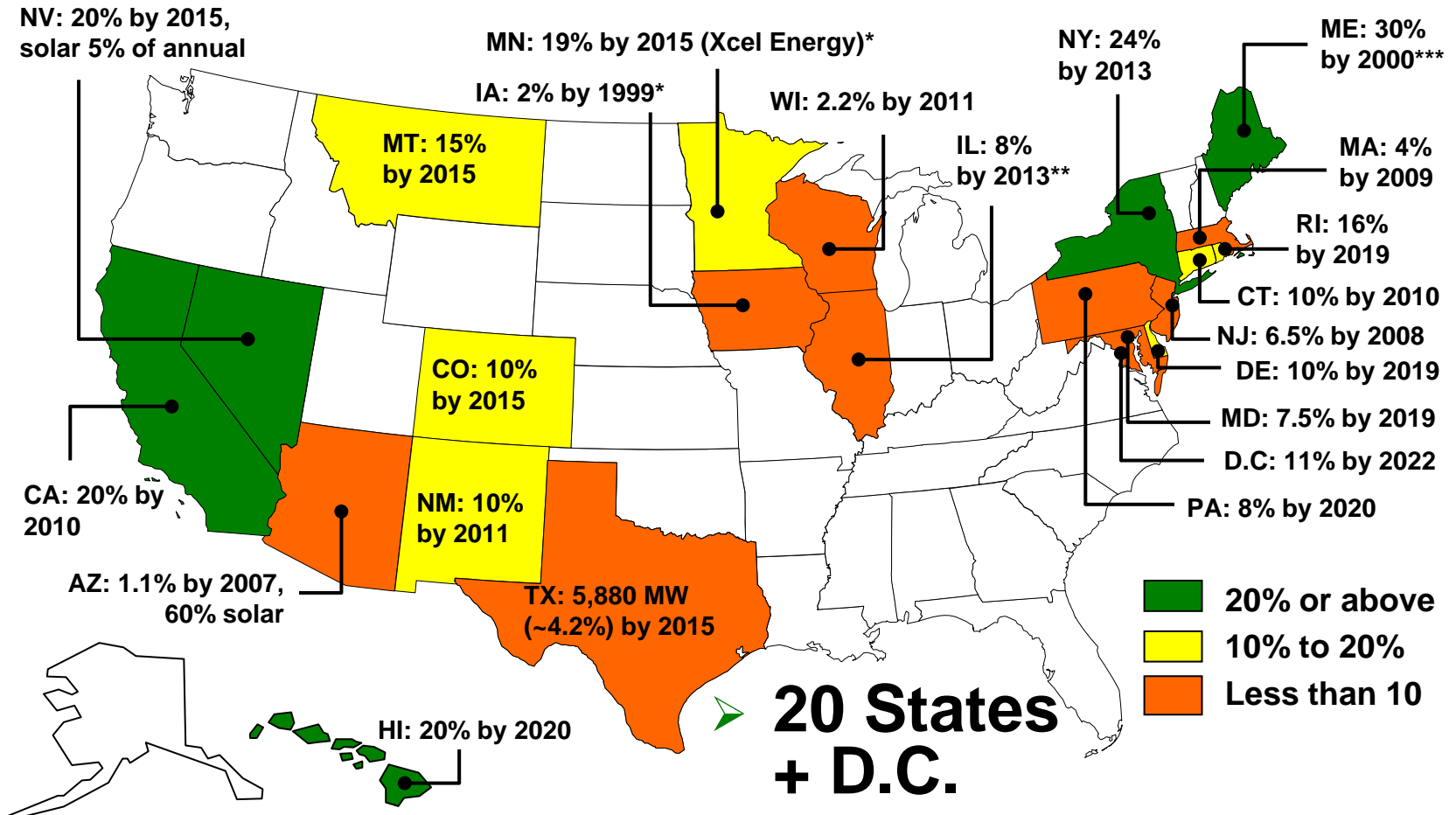
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# California's RPS Standard is Ambitious

- High target
  - Legislation: 20% of load must be provided by renewables by 2017 (PUC Code 399.11).
- Accelerated pace
  - State policy: Energy Action Plan (CEC/CPUC) has accelerated the target date to 2010.
- Annual incremental target in addition to the long term target.
- Existing large hydro not eligible.
- Neighboring States have similar targets – competition for resources?

# How the States Compare



- \*MN has a requirement for one utility, Xcel Energy, and a 10% by 2015 renewable energy goal for all other utilities. In addition to its requirement, IA has a 1,000 MW (~10%) by 2010 goal.
- \*\*IL has a Renewable energy goal, with no specific enforcement measures.
- \*\*\*ME allows existing hydro, which currently makes up ~50% of procured energy for existing utilities.

# Challenges in Planning Transmission

- Developing transmission projects in anticipation of renewables development.
- Uncertainty in locations and timing of renewable resources development lead to uncertainty in where transmission projects should be developed.
- Long term transmission rights could lead to delivery of more renewable energy.
- Maximizing the amount renewable resources with the most efficient transmission upgrades.
- Ensuring fuel diversity
- Anticipating and integrating new technologies in transmission

# **State Actions to Help with Transmission**

- California Public Utilities Code 399.25 provides rate recovery assurances for transmission (interconnection) costs not recoverable under FERC accepted rates.
- CPUC is implementing the code, and expediting transmission siting processes.
- State agencies are developing an integrated planning process with the CAISO.
- Other States are considering similar steps to ensure support for necessary transmission investments

# Actions required by utilities

- Proactive approach
  - Coordinating transmission expansion plan with RPS plan.
  - Proposing system upgrades to support generation development in renewable-rich resource areas.
    - Example: Proposed Midway - Gregg line would allow PG&E to deliver up to 1,100 MW of renewable energy to Northern California load centers.
- Collaborative study groups for resource rich areas, for example: Tehachapi wind resource area
  - Up to 4500 MW in Southern California.
  - Collaborative study group agrees on transmission plan for the first 3,000 MW.
  - SCE applied for a transmission siting permit (CPCN) for the first 700 MW.

# **Transmission is a factor in meeting the RPS goals, as well as growth needs in CA and the West**

- Utilities may have sufficient signed contracts by deadlines but those projects but can all projects be on-line by 2010? Issues:
  - Lead times for the development and construction of renewable generation
  - Lead times for associated transmission siting
  - Generation project permitting
  - Generation project viability and performance
- PG&E has proposed that flexibility with compliance rules is the appropriate solution.
- Strong and proactive collaboration among utilities, developers and regulators will be required for all of us to achieve our goals.