

Transmission in the West

Rich Halvey
Western Governors Association

Transmission is an Obstacle

- ▶ The biggest obstacle to installing large amounts of new renewable energy generation is building new transmission lines.
- ▶ The best renewable energy resources in the West are not near existing transmission lines built to carry electricity from fossil fuel burning power plants.
- ▶ Western Governors and the Department of Energy began the Western Renewable Energy Zones project in May of 2008 to help overcome the transmission obstacle

Changing the Paradigm

- ▶ Comprehensive regional plan?
- ▶ Large, contiguous areas of renewable projects in strategic locations?
- ▶ High capacity, long distance lines?
- ▶ Transmission ahead of the facility?

The Viability of Renewables

- ▶ Renewable energy will only expand as fast as entrepreneurs see a future where renewables are viable or required
- ▶ Something external to demand has to spur major expansion of renewable energy
 - Greenhouse gas emissions reduction requirements
 - Renewable Portfolio Standards
 - Price signals

Four Questions

- ▶ What is the incentive to consider long distance transmission of renewables?
 - ▶ How can we maintain the reliability of the grid if we add large amounts of variable renewables?
 - ▶ What is the best cost-allocation system for new transmission?
 - ▶ Given the facility of the current paradigm, where is the incentive to undertake substantial grid expansion?
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Issues

- ▶ NIMBYs and BANANAs
- ▶ State PUCs and Land Use Agencies
 - Multiple jurisdictions mean exponentially increased headaches
- ▶ Cost Allocation
 - Who should pay for new lines?
- ▶ Right Sizing
 - ▶ Size the line appropriate to long term demand to start
- ▶ Federal Preemption
 - In which situations?

Issues

▶ Federal Permits

- Some governors are under the impression that transmission on federal lands should be the option of last resort
- Efficient processing in less time
- If requirements add time, they have to add value

▶ Wildlife

- If we can't build large renewable resource facilities, then we will build small facilities and achieve a fraction of the MW potential, or natural gas near load centers

Issues

- ▶ Competition between states and protectionism
 - When does cheaper trump local?
- ▶ Winners and losers
 - If you designate development zones and corridors, potential developers outside those zones will respond

Rich Halvey
Energy Program Director
Western Governors' Association

www.westgov.org

rhalvey@westgov.org