Development of Renewable Energy in Texas
Texas Renewable Energy Program

- Comprehensive retail competition legislation enacted in 1999
- Fixed goal for renewable energy
  - 2000 MW of new renewables by 2009
- Market-based mechanism to support efficient deployment
  - Trading of renewable energy credits
- Definition of qualifying resources
  - Solar, wind, hydro, geothermal, wave, tidal, biomass, landfill gas
Renewable Energy Credits

Generation

Earn RECs for Production

Power and RECs

Purchase Price of Power and RECs

REP

Retailer

Required to Retire RECs

End User
Transmission Policies

- Regional postage-stamp rate
  - Distance not a factor in rate
  - Multiple utilities do not charge multiple rates
- Standard interconnection agreement
- Transmission upgrades rolled into regional rates
- Neutral planning organization
Results through 2004

- 1190 Mw of new capacity
  - Wind 1140
  - Landfill gas 30
  - Hydro 10

- 3.6 million Mwh of electric energy generated in 2004

- RECs retired in 2004:
  - 2.7 million for compliance
  - 420,000 voluntary (e.g., renewable energy sales)
Residential Customer Impact

- REC prices about $15 (REC=Mwh)
- Mandatory REC ratio of about 1.1 RECs per 100 Mwh of consumption
- Annual cost of renewable mandate is minimal
- Cost drivers are level of mandate, cost of resource, and transmission needs
Consequences of REC Approach

- Competitive producers decide what and where to build
- Projects typically have been located where resource has an advantage
- Producers have emphasized large wind projects and landfill gas—low cost in Texas
- Insufficient incentive for high-cost technologies, such as solar
- RECs support competitive offers of renewable energy products
Consequences of Transmission Policy

- Easy to interconnect new generation
- Distance not a factor in competitiveness of generators
- Projects typically located where resource has an advantage
- Over-building of wind generation in favorable areas led to congestion
- Assuring delivery from wind generation will require significant transmission investment
Issues with Current Program

- Significant development of wind in remote areas of West Texas
  - Congestion on transmission system
  - New transmission under construction
  - Stalemate on whether wind or transmission makes commitment for next level of development
Current Legislative Proposals

- Increase renewable energy goal
  - 5,000 MW in 2015
  - 10,000 MW in 2015
- 500 MW set-aside
  - Non-wind renewable resources
  - Distributed renewable resources
- Enhance assurance of cost-recovery for transmission
- Create renewable generation zones
For More Information

- PUC
  - Statute—PURPA 2003 §39.904
    - www.puc.state.tx.us/rules/statutes/index.cfm
  - Regulations—Subst. Rule 25.173
    - www.puc.state.tx.us/rules/index.cfm

- REC administrator--ERCOT
  - www.texasrenewables.com