Cooperative Opportunity for Wind Development

State of Union speech

◆ “it’s possible we could generate up to 20 percent of our electricity needs through wind”

– President Bush, 2006
National Goal

- 25 by 25
  - 25% of our energy supply supplied by renewable sources by 2025

Commitment

“Electric cooperatives and public power districts encourage the responsible development of renewable generation that is reliable and cost-effective for all member owners. Renewable generation can benefit national security, rural communities and the environment.”

Glenn English, NRECA CEO
Size of Task

- Would require 350 GW of capacity
- Expected to reach 13 GW by end of 2006
- At this pace we would only get half way to that goal by 2020

Availability

- “A wind turbine is built every four hours, and to get to 20%, we need one every 15 minutes,”

  – Vic Abate, VP of Renewable Energy, General Electric
Worldwide competition

◆ U.S. is only 15 % of world market
◆ Hansen Transmissions currently invest $75 million/ gigawatt built.
  – Requires 250 people and 18,000 tons of steel and cast.
  – To Achieve 20% they would need to built 10 – 15 new large scale plants and utilize 800,000 tons of resources and have 30,000 employees with current technology.

Not Inexpensive!

◆ 2.5 MW generator
  ◆ $3. million plus

◆ COE has plateaued and now rising.
  – Cost & availability of material
  – Size factor
    ◆ Shipping
    ◆ Erection costs
    ◆ Maintenance costs
Financing

- John Deere Financial
- GE Capital
- Goldman Sachs

USDA REDLG Funds

- REDLG
  - Rural Economic Development Loan and Grant program
CREBS

- CREBs
  - Clean Renewable Energy Bonds
  - Available to entities which don’t have adequate passive income tax obligation to use traditional production tax credit.

Limitations to Development

- MISO interconnection to grid system
- Transmission availability
- Deliverability
- Cost of interconnection
  - Substation
  - Transmission line
Opportunity

- **Power Cooperative**
  - Member participation in clean, renewable energy policy and development
  - All requirements contracts

- **Other Cooperatives**
  - May provide opportunity to offset inflationary energy costs

Problems

- Does not increase power reliability
- Escalating cost of turbines
- Small scale projects have higher costs

- May be mitigated by:
  - Newer designs
  - Cooperative wind farms