

# The Role of Nuclear Energy in a Low Carbon Future



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# Nuclear Moratorium History

- Part of 1994 Prairie Island waste storage legislation – not sought by enviros
- Legislation created renewable energy mandates on NSP that jumpstarted the wind industry here and nationally
- Since then cask storage added at Monticello, expanded at PI, with no assurance that waste will ever be moved



# Nuclear Waste Storage

- Before Yucca Mountain, sites in Northern Minnesota studied for storage
- Yucca now on hold; Plan B seems to be indefinite on-site storage at 110 plants
- Even with Yucca, waste already accumulated would more than fill repository
- New nuclear plants would start with no plan for storage



# Waste Reprocessing

- Technology captures plutonium from spent reactor fuel for use in new fuel rods
- Only reduces highly radioactive waste by 1-3% of total volume; balance must be treated as high level waste
- Reprocessing would add huge costs to already expensive technology
- Not a nuclear waste solution



# Economics of Nuclear Power

- New nuclear projected 10-17cents/KwH; capital costs in the several billions of \$'s
- Compare to new wind @ 5-8 cents or efficiency at less the 2 cents/KwH
- Wall Street will balk without massive federal subsidies, including extension of accident insurance (Price-Anderson)



# State Energy Policy

- 2007 Next Generation Energy Act and 25X25 Renewable Energy Standard
- Green jobs and local investment
- Apparent lack of utility interest
- Nuclear power debates at legislature and regulatory agencies are costly distractions from established policy path
- “Situational socialists”



# Nuclear Power and Global Warming

- Emissions growing while scientists call for 80% reduction by mid-century
- New nuclear will take 10-15 years to license and build, best case
- To be meaningful, nucs would need to meet new demand and displace coal
- Not enough time or money to achieve these goals

