

Green Power Purchasing By State Governments



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➤ *State Governments Buying Green Power*

- New Jersey 12% - 54,900 MWh
- Maryland 6% - 48,000 MWh
- Pennsylvania 5% - 100,000 MWh
- Tennessee - 720 MWh

Plans

- New York 10% by 2005, 20% by 2010
- Illinois 5% by 2010, 15% by 2020

➤ *Some Cities and Towns Buying Green Power*

- Chicago, IL 10%
- Los Angeles, CA 14%
- Madison, WI 25%
- Radnor Township, PA 62%
- Santa Monica, CA 100%
- Croton-on-Hudson, NY 25%
- Salt Lake City, UT; Oakland, CA; Seattle, WA

➤ *Some Other Major Buyers of Green Power*

- Toyota
- Johnson & Johnson
- Lockheed Martin
- Kinko's
- Lowe's
- Staples
- Durst Organization
- The World Bank
- National Geographic Society
- Federal Agencies: EPA, DOE, USDA, DOL, DOT, DOI, Army, Air Force
- Colleges & universities – U Penn, Carnegie Melon, U of Wisconsin, Catholic Univ., U Buffalo, Penn State, etc.

➤ *Why States Buy Green Power*

- Environmental Leadership
- Economic Development – supporting growth of an in-state business
- Reduce GHG and other emissions
- Decrease reliance on fossil fuels and foreign energy sources
- Consistency with other RE policies
- Good PR

➤ *States with Renewable Portfolio Standards*

- Arizona
- California
- Connecticut
- Iowa
- Maine
- Massachusetts
- Minnesota
- Nevada
- New Jersey
- New Mexico
- Pennsylvania
- Texas
- Wisconsin

➤ *States Typically Choose A Blend of Clean Sources*

Premium per kWh

➤ Solar	29¢ (sunny climate)
➤ Solar	64¢ (cloudy climate)
➤ Biomass	4.5 to 8¢
➤ Wind	1.8 to 3¢
➤ Landfill gas	.7 to 3¢
➤ Municipal solid waste	.5 to 1.5¢
➤ Hydro	.2 to .5¢

Estimates vary based on region

➤ *Issues in Buying Green Power*

- Which energy sources should qualify
- In-state vs. out-of-state sources
- Covering the cost
- Contract length

➤ *Issues in Buying Green Power II*
Which energy sources should qualify

- Only the “cleanest” – solar and wind
- All but the “least clean” – large hydro and municipal solid waste
- Non-renewable but still sources w/ environmental benefits (Pennsylvania approach)
- Support only newly built generation

➤ *Issues in Buying Green Power III*
In-state vs. Out-of-state sources

- Supporting local environment & local economy versus getting a better price
- Interstate Commerce prohibitions
- On-grid RE vs. RECs

➤ *Issues in Buying Green Power IV* *Covering the Cost*

- Each agency pays the premium
- Central general services agency buys RECs
- Use savings from energy efficiency
- Use savings from bulk purchase
- Use proceeds from System Benefit Charge
- Lower the cost by increasing the proportion of cheaper green sources or include old sources (e.g. hydro)

➤ *Issues in Buying Green Power V* *Contract length*

- Suppliers prefer longer contracts
 - Will offer lower price for longer term
- Governments prefer ramping up period
- Combination of long- and short-term contracts may be best after the initial 1-2 year test period

➤ *New Jersey*

Green Power Purchase

12% - 54,900 MWh

- 11 MW of wind purchased produced by mid-Atlantic wind farms
- 21-month contract
- July 2003
- Aggregation of New Jersey state agencies
- Largest percentage among all states

➤ *New Jersey II*

Clean Energy Program

- \$37 million in grants and rebates for renewable energy generation over the past two years
- Initiative of the NJ Board of Public Utilities
- Provides education, information and financial incentives for renewable energy systems and energy efficiency measures

➤ *New Jersey III*

Clean Energy Program

Projects represent ~50 MWs of clean power generation which will prevent the emission of:

- 140,000 tons of CO₂
- 700 tons of NO_x
- 560 tons of SO₂
- 56 lbs. of mercury

➤ *New Jersey IV*

Renewable Energy Task Force Recommendation - Increase RPS

- Double to 4% (Class 1) and 2.5% (Class 2) by 2008
- 20% by 2020

➤ *New York*

Executive Order 111

- State agencies to purchase 10% by 2005, 20% by 2010
- Implement energy efficient practices
- Follow "green building" standards during new construction or substantial renovation

The order applies to state buildings and quasi-independent organizations

➤ *New York II*

2003 State of the State Address

- At least 25% of the electricity purchased in the state to be generated from renewable resources by 2013 (presently, 17% renewables)
- Goal: New York to be a leader in generating green power

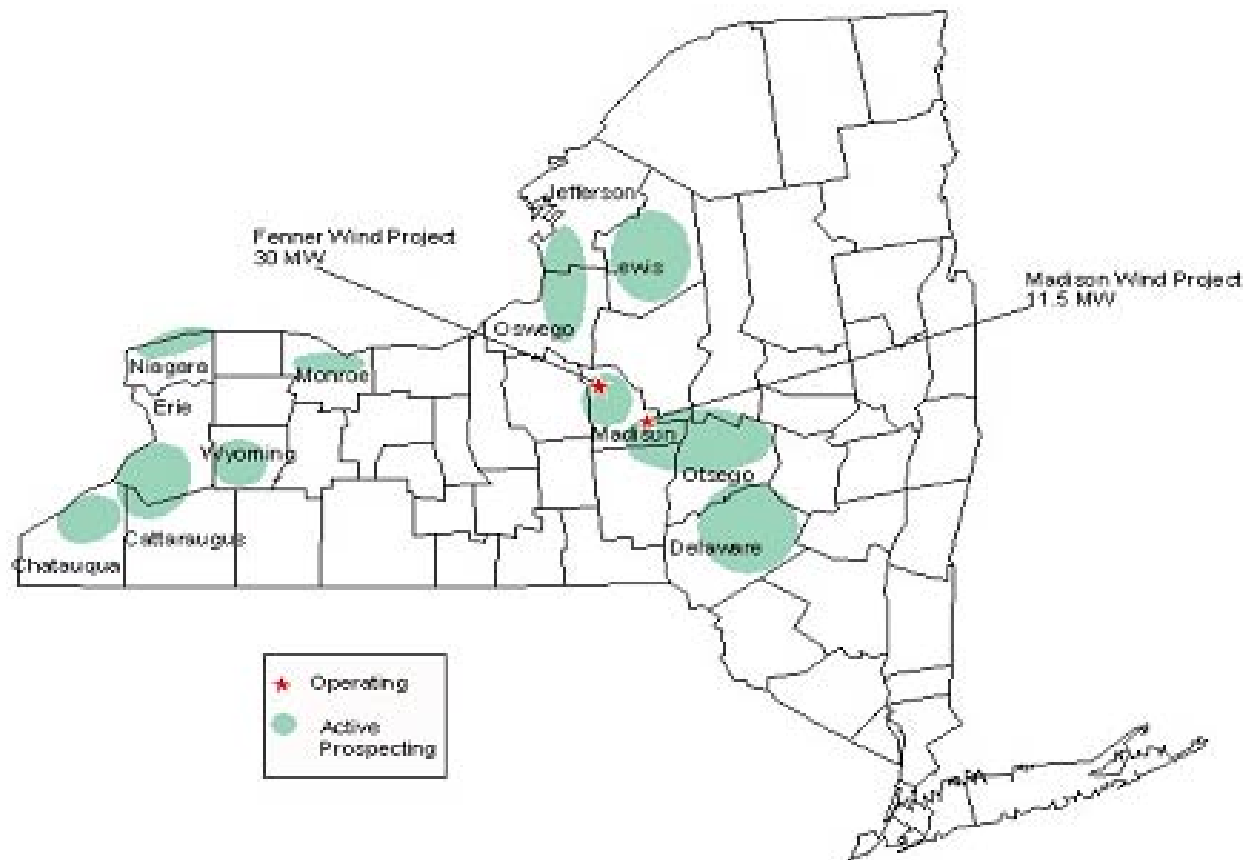
➤ *New York III*

Green Marketing Support Programs

- Part of New York Energy \$martSM Program
- \$16 million paid to help companies develop or refine green power marketing programs
- Companies paid on performance
- Paid through System Benefit Charges

➤ *Current (48 MW) & Near Term (317 MW) NYS Wind Projects*

NYSERDA-Sponsored Wind Development



➤ *Maryland*

Green power procurement

6% - 48,000 MWh

- 50% landfill gas, 50% MSW
- No hydro allowed
- Large wind purchase may be added soon

➤ *Maryland II*

Cost

- \$2 million per year
- 15% green premium embedded in tariff
- All agencies pay the premium, no increased budget allocation
- Timed with competitive electricity procurement – so net effect is positive

➤ *Pennsylvania*

Green power procurement

5% - 100,000 MWh

- 77% old run of river hydro
- 20% wind
- 2% landfill methane
- less than 1% solar
- Prohibition on municipal solid waste

➤ *Pennsylvania II*

Next procurement - open to unconventional sources

- Waste coal
- Methane from agriculture
- Methane from coal mines

➤ *Pennsylvania III*

Cost

- 0.386 cents/kWh premium
- Current 6 month contract - \$72,000
- Projected to 1 year - \$144,000
- Previous 2 year contract - just under \$200,000
- Green power not incorporated in tariff, but bought in the form of certificates from suppliers.

➤ *Resources*

Maryland Energy Administration

- <http://www.energy.state.md.us/programs/renewable/index.html>

New Jersey Clean Energy Program

- <http://www.njcleanenergy.com/>

New York State Energy Research & Development Authority

- <http://www.nyserda.org/>

Pennsylvania State Energy Office

- <http://www.dep.state.pa.us/dep/deputate/pollprev/SEP/default.htm>

➤ *Resources II*

NASEO Energy Production Committee

- <http://www.naseo.org/committees/energyproduction/wind.htm>

Pew Center on Global Climate Change

- <http://www.pewclimate.org/>

U.S. Department of Energy, Office of Energy Efficiency & Renewable Energy, Wind & Hydropower Technology

- <http://www.eere.energy.gov/windandhydro/>

U.S. Environmental Protection Agency, Green Power Partnership

- <http://epa.gov/greenpower/>



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