WIND POWER EDUCATION PROJECT
A collaborative of
Pace Law School Energy Project
Citizens Campaign for the Environment
New York Public Interest Research Group

Choosing Energy Wisely

The Demand for electricity in New York State is increasing by about 1.2% every year.[1] *In addition to expanding conservation and efficiency efforts to control demand, New York will likely need new energy sources. The technologies chosen to supply New York's energy needs will affect our environment, public health and economy. What are the Public Health & Environmental Impacts of Energy Sources? Fossil and nuclear fuels are finite resources with harmful side effects, which is why New York is transitioning towards more clean and green energy sources. New York now requires 24% of the energy sold in the state to come from clean, renewable technologies by 2013, with a policy known as the Renewable Portfolio Standard (RPS).*[2]

- Fossil fuel-burning power plants are the largest industrial air polluters in New York, hurting New York's environment, public health and economic security. Power plants' particulate matter- or soot- causes over 1,200 premature deaths and 2,500 heart attacks every year in New York State alone.[3]
- Mercury pollution, largely from power plants, has caused the Department of Health to warn women and children against eating most fish in the Adirondacks and Catskills and everyone against eating certain fish in 87 specific bodies of water across the state.[4] Furthermore, a U.S. Fish and Wildlife Service study found that about 20% of the loons caught in the Adirondacks had mercury levels high enough to endanger breeding success.[5]
- Global warming is expected to cause about a 40% decrease in the state's agricultural yield; a 3-ft rise in the sea level along the coast of Long Island, New York City and the Hudson River up to Albany;[6] and other serious impacts this century. Power plants are the largest single source of global warming pollution (i.e. greenhouse gasses).
- Acid rain, caused mostly by power plant pollution, has damaged the Adirondacks and Catskills, the most ecologically sensitive regions in the nation. Twenty-five percent of Adirondack lakes surveyed are now too acidic to support any fish.[7] Progress has been made to reduce power plant pollution, and certain fuels are cleaner than others, but burning fossil fuels will continue to worsen these problems.

Nuclear Power Reactors: Pollute less than fossil fuels in terms of air emissions; however they routinely release some radiation as a part of *normal* operation.[8] In addition, nuclear reactors generate highly radioactive and therefore dangerous spent-fuel as waste, which must be safely stored for tens of thousands of years.[9] Yet, the nation has not developed an adequate method for

[1] New York Independent System Operator Reliability Needs Assessment, see: http://www.nysio.com/public/webdocs/newsroom/press_releases/2005f/rna_final12212005.pdf
[2] New York State Public Service Commission, http://www.dps.state.ny.us/03e0188.htm#about
[3] Conrad G. Schneider, Dirty Air, Dirty Power: Mortality and Health Damage Due to Air Pollution from Power Plants. June 2004
[4] New York State Department of Health, 2005-2006 Health Advisories Chemicals in Sportfish and Game
[5] Gaynup, Sharon, "Loons Sound Alarm on Mercury Contamination." National Geographic, March 16, 2003
[6] U.S. Environmental Protection Agency, Climate Change and New York, September 1997.
[7] Baker, J.P.; J. Van Sickle, C.J. Gagen, D.R. DeWalle, W.E. Sharpe, R.F. Carline, B.P. Baldigo, P.S. Murdoch, D.W. Bath, W.A. Kretser, H.A. Simonin, and P.J. Wigington, 1996, Episodic acidification of small streams in the Northeastern United States: Effects on Fish Populations. Ecological Applications 6(2): 422-437
[8] U.S. Nuclear Regulatory Commission, Title 10, Code of Federal Regulations, part 20.1301
[9] Ibid.

long-term waste storage.[10] The safety of communities surrounding nuclear reactors has been a grave concern for residents and officials.[11]

Hydropwer: A renewable resource, but the size and the type of project determine its impact on the environment. Large projects that divert waters or significantly alter water flow adversely change ecosystems. The bulk of New York's existing hydropower comes from Niagara Falls and the St. Lawrence. The state Renewable Energy Portfolio Standard (RPS) allows small-scale hydro because it produces power while allowing for fish migration and river flow.

Biofuels: Include many technologies, which have various impacts. For instance, burning solid waste- incineration- releases hazardous pollutants that cause cancer, birth defects, poor air quality and global warming, and often burns recyclable materials. This is what constitutes most of New York's existing biofuels. Other technologies that breakdown organic "fuel" sources, such as agricultural waste, often have fewer negative effects.

Wind: Creates electricity without any harmful emissions. The amount of electricity generated by a 1MW wind turbine would require burning over 1,000 tons of coal or 4,000 barrels of oil.[12] In fact, wind is ranked as one of the least greenhouse gas producing commercial scale methods of generating electricity, including the operation, materials fabrication and project construction.[13]

Common concerns about wind farms include their impact on the view-shed and wildlife populations. Time and experience has revealed new information and improved technology to avoid or mitigate these concerns. Pre and Post-Construction monitoring ensure that turbines are not built in migratory paths or sensitive areas.

Cost of Energy Sources

In 2006, New Yorkers experienced price spikes on top of already high prices due to volatile foreign and domestic markets, limited supplies, rising demand and other factors.[14] Adding wind power to the source of energy in New York should help stabilize the cost of electricity, because it is independent of volatile fuels markets.

According to the Rocky Mountain Institute, wind power is now cost-competitive with fossil fuels. New York's RPS, which will largely be met with wind, is projected to impact consumers by either saving money or adding at most 25 cents per month to utility bills.[15] Many sources of energy generation receive government subsidies; however the scales are decidedly tipped towards fossil fuels and nuclear reactors. In fact, between 1948 and 1998, the nuclear energy industry received over $73 billion federal spending for research and development, or 56% of the total R&D expenditures.[16] Furthermore, additional costs associated with power plant pollution's impacts and nuclear reactor's liability and security preparations and not included in the price New Yorkers pay for electricity.

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[10] Ibid.
[11] Municipalities that passed resolutions to close Indian Point; http://riverkeeper.org/campaign.php/indian_point/we_are_doing/26
[12] American Wind Energy Association, "Facts and Stats," http://www.ifnotwind.org/research/research -facts-and-stats.shtml
[13] Joseph V. Spadaro, Lucille Langlois and Bruce Hamilton, Greenhouse Gas Emissions of Electricity Generation Chains: Assessing the Difference. International Atomic Energy Association, 2000
[14] Stein, Mark A., "Sales are up, and so are energy prices," New York Times, June 3, 2006.
[15] State of New York Public Service Commission. CASE 03-E-0188- Proceedings on Motion of the Commission Regarding a Retail Renewable Energy Portfolio Standard- p.9. September 24, 2004
http://www3.dps.state.ny.us/pscweb/WebFileRoom.nsf/Web/85D8CCC6A42DB86F85256F1900533518/$File/301.03e0188.pdf
[16] Data from Energy Efficiency: Budget, Oil Conservation, and Electricity Conservation Issues, CRS Issue Brief for Congress, Fred Sissine, Order Code 1B10020, Updated September 22, 2004.