

July 25, 2008

Jeanne Fox, President  
New Jersey Board of Public Utilities  
Two Gateway Center  
Newark, NJ 07102

Re: Draft EMP Comments

Dear Ms. Fox:

After thorough review of the draft Energy Master Plan (EMP) and being involved in various public and stakeholder meetings, the New Jersey Sierra Club believes that the proposed plan lacks a bold vision for the future energy needs of New Jersey. This plan is seriously out of date, failing to take into account recent technological advances and broad public support for reining in global warming while dealing with the high cost of energy.

The draft EMP underestimates the availability of alternative energy technologies and depends too heavily on fossil fuels and nuclear power. The projections for the amount of energy used is overestimated, promoting more baseline generation from old, dirty power sources. In addition, we believe that the cost of renewable energy is overestimated, while the cost of fossil fuels and nuclear power is underestimated. These projections fail to take into account current conditions and trends, giving an unrealistic picture of comparative costs for various energy sources over the next decade.

New Jersey historically has been a leader on the environment and energy issues, but with the current draft EMP and the lack of action from the administration on implementing the Global Warming Response Act, we are falling further and further behind other states, which have set much more ambitious targets for clean energy. New Jersey's RPS of 20% by 2020 should be a floor, not a ceiling. We should be trying to go well beyond that. More importantly, we should be adopting 40% by 2025 as our next RPS.

### Renewable Energy

The current goal of 1,000 megawatts (MW) of offshore wind is woefully inadequate. There are five companies competing for New Jersey's offshore pilot project with a combined yield for all proposals of 1,750 MW. Given the technological advances in wind and existing public support, we can easily generate 3,500 MW of offshore wind within the horizon of this plan. Onshore wind, including microwind projects, also has the potential to generate up to 1,000 MW. Due to the rising price of natural gas in particular, offshore wind with efficiency of scale is becoming at least competitive, if not clearly cheaper, than even natural gas.

Given the efficiency of scale and declining price of solar, we believe the plan overestimates the cost of solar by at least 20%. The cost of photovoltaics has been dropping steadily, while fossil fuel prices has been rising, making solar increasingly competitive. The EMP underestimates solar capacity for photovoltaics alone by at least half, while solar generating stations that use steam to convert into electricity have even more potential. New Jersey has miles of warehouse roofs, sound barriers, and parking decks where solar arrays could be placed, constituting a major untapped potential for this energy source. Our neighborhoods could also be turned into solar farms by placing solar arrays on

roofs as we redevelop in urban areas and fix homes – this would not only generate electricity, but would also be a source of income for urban residents of modest means.

The state already has a pilot project for wave power, but this energy source is not even counted in the EMP. Wave generation can also be tied to offshore wind sites, maximizing the output of each installation. Wave generation could realistically provide up to 1,000 MW within the horizon of this plan.

The plan also does not address the potential use of existing dams, many of them state-owned, that could be retrofitted for low impact hydro, as well as places like Great Falls or Little Falls on the Passaic were at one time used and could be used again to generate electricity. Monksville Dam currently has a 1 MW hydro turbine that is sitting unused, and Dundee Dam has 14 MW of existing turbines sitting unused. While there are potentially thousands of MWs available, the state has not done an assessment of the different facilities that could be used. In addition, we could be installing microhydro projects in places from sewer plants to dams on lakes, all of which would add to the state's total generation capacity.

Again not included in the EMP is methane collection, not only from sewer plants, but also from landfills as the city of Los Angeles does. LA runs a 640 MW power plant off their landfill gasses alone. Landfills could become future energy plants, with methane-powered generation combined with solar arrays or wind turbines.

With the cost of fossil fuels rising and the cost of renewables falling, as well as the ongoing development of new technologies, the potential for renewable energy is much greater than what is included in the draft EMP. By having a broad array of renewable sources, renewable energies will be able to handle baseline electric load, not just peak, by building redundancy into the system and having energy storage capacity. Using renewable energy also decentralizes our power grid and our energy mix, which helps guard against blackouts, and reduces peak energy demand, which is the most expensive energy.

### Energy Efficiency

The EMP dramatically underestimates the energy savings available from efficiency. With the potentials of smart grids and smart metering, we can encourage not only energy savings, but the ability to move energy around to meet demand. By burying new power lines and installing better insulation on existing lines, we would be able to save a tremendous amount of electricity for use. The development of energy storage systems and battery systems will also greatly enhance energy efficiency.

Numerous other measures are available to increase energy efficiency, including:

- green building standards that require not only 30% more efficiency than currently, but becoming carbon neutral by 2030
- more ambitious plans to retrofit at least a half a million existing homes
- strong appliance efficiency standards
- encouraging the use of more electric heating and appliances
- installation of LED lighting and compact fluorescents
- preheating water with solar or geothermal and expanded use of heat pumps
- use of recycled materials and recycling more of our waste stream since New Jersey is now among the lowest in the nation for recycling rates

## Fossil Fuels, Nuclear Power, and Other Dirty Power Sources

We are concerned that the draft EMP is still promoting the outdated technology of nuclear power. The cost of nuclear makes it the most expensive way to boil water in the world, and there are serious environmental concerns as well. We have seen the cost estimates on nuclear plants rise from \$5.5 billion to \$8.5 billion, and we're now looking at \$12 billion estimates for a 1,200 MW power plant. The amount of money necessary to maintain and operate these plants once they are built is also tremendous when compared with other sources. There remains no real solution for dealing with the radioactive waste generated by nuclear power, creating major environmental and public safety concerns. On top of all these problems, it takes 10 to 15 years to build a nuclear power plant, putting any yield outside the horizon of this EMP.

We also believe that the nation's oldest and most problematic nuclear plant, Oyster Creek, should be closed. This power could easily be generated instead through wind and other renewables as described above.

We are vigorously opposed to the idea of using coal for cogeneration and the concept of "clean coal," since this is an oxymoron and does not exist. We object to spending taxpayer money on carbon sequestration, which will work only in Fairy Land – if we pump carbon dioxide into the groundwater in South Jersey, we'll only create seltzer in the Pinelands. In addition, strip mining and destruction of mountaintops and rainforests to get the coal adds to our global warming problem.

The draft EMP also promotes waste-to-energy systems, which are nothing more than glorified incinerators. Incineration puts more toxins into our atmosphere and communities, including dioxin and PCBs. While using farm and wood waste to generate ethanol might make some sense, incineration does not.

We believe that existing coal plants in New Jersey need to be converted to natural gas, a much cleaner form of power that not only lowers mercury and NOx and SOx emissions, but also emits only half the greenhouse gasses as coal. This is a critical component if we are to meet our targets under the Global Warming Response Act.

## Power Importation and Exportation

We are deeply troubled by the shipment out of state of electricity from New Jersey, especially the proposal by PSE&G to ship power from its Ridgefield Generation Station to New York City. This power would then be replaced by building new power lines from Pennsylvania, which would bring dirty coal power. The EMP needs to address the shipment of power out of state and the importation and development of power lines that will bring dirtier power into New Jersey, undermining the Global Warming Response Act and creating more mercury pollution as well.

## Cogen

The Sierra Club would like to see the plan encourage more cogeneration, especially where communities or hospitals are already replacing their heating systems. A 2-cycle power plant can be brought in as part of the heating system, and this can also be tied to wind or solar. A successful example of this is Wayne, NJ, which built a new heating plant for its municipal complex that has 2-

cycle electric power generation, as well as renewable energies tied to it. We should also be using waste heat and gasses from existing industrial facilities to generate electricity.

### Funding

There will be costs involved in converting our electrical generating capacity from fossil fuels to renewables and efficiency, and there need to be ways to insure that in the short term, consumers do not get hit with sticker shock. Though every indication is that the current system is going to become increasingly more expensive because of deregulation and the rising cost of fossil fuels, meaning that the cost of fossil fuels versus renewable will equalize at some point in the future, many forms of renewable energy are currently more expensive.

One way we propose to help pay for the conversion is by using the funds that are set aside every month in utility bills for stranded assets. These funds currently go to pay off construction costs from existing nuclear power plants and other costs that the large utilities dumped onto the consumer when EDECA was passed. Given the record profits of New Jersey's utilities, these costs should be paid by the shareholders, not by the rate base. Making utilities pay their own debts would free up at least \$5 billion for renewable energy and energy efficiency.

Another way to fund these programs is to change the rules and laws to allow co-ops to be formed by citizens, municipalities, and non-profits not just for the generation of solar energy, but all forms of renewable energy. This would allow people to buy shares and invest in renewable energy generation, bringing down prices as neighborhoods and communities make the move to solar, wind, wave, hydro, or another renewable source.

We also need to allow for decoupling, which would mean a small increase in rates by putting the cost of energy efficiency programs onto the rate base to encourage more energy efficiency and lead to decrease in rates in the future. We need to be careful how we do this because as energy consumption drops, utilities should not be allowed raise the rates on those people who are being efficient; instead, through net metering, they should raise the rates on people who are not conserving energy by taking advantage of energy efficiency programs.

### Transportation

The draft EMP lacks any plan for transportation – a hole large enough to drive a train through. Transportation is one of the largest users of energy in the state, but there is nothing in this plan about promoting low carbon fuels, reductions of EMTs, using electric cars, electrification of our rail system, plug-in hybrids, mass transit, development of trip reduction programs, or bikeway and pedestrian areas. New Jersey cannot wait to implement these measures – we need them now if we are to reduce greenhouse gas emissions and relieve the burden of high gas prices.

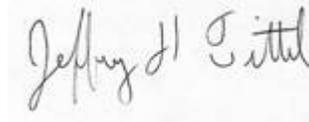
### Natural Gas

Also missing from the draft plan is an assessment of how much natural gas New Jersey needs and how best to bring it into the state. Do we do it through more pipelines, which create more destruction? Is there a way of bringing in LNG from offshore since onshore facilities are not safe? This is a big question that has not been answered, and since the Sierra Club believes natural gas is an important gap fuel to replace coal and oil until we have more renewable energy capacity, this omission is glaring.

The EMP is the first major test of the Corzine Administration's commitment to global warming. We have called the plan the E-M-P-T-Y. This is the time to put meaningful content into the plan so it will be full of real solutions for New Jersey's energy future.

The Sierra Club looks forward to continuing to work with the BPU to ensure that New Jersey has the strong Energy Master Plan that we need in order to meet our global warming targets and promote a clean energy economy. If you would like to discuss these comments further, please call me at (609) 558-9100.

Sincerely,

A handwritten signature in black ink that reads "Jeff Tittel". The signature is written in a cursive style and is positioned above the printed name and title.

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