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October 15, 2009

SEP Comments
NYSERDA
17 Columbia Circle
Albany, NY 12203-6399

Re: State Energy Plan Comments

Dear Energy Planning Board Members:

Citizens' Environmental Coalition is a statewide coalition of grassroots groups and individuals working for a better environment for New York. CEC strongly supports a Sustainable Energy Plan which will maximize energy efficiency and clean renewables, especially solar PV, solar thermal, and tidal power. We describe what is needed to have a Sustainable Energy Plan below and those items that should not be in the plan because they are unsustainable. In addition, we recommend more ambitious goals and milestones, which are not currently in the Plan. For example state facilities have a long way to go to meet their energy efficiency and renewable requirements. We also need to target various sectors of our economy with detailed analyses to improve their energy efficiency. This work has been done for sewage treatment plants; it needs to be done for hospitals, for various industries, for supermarkets until every sector of our economy is operating more efficiently.

Sustainability

Given New York's commitment to 15% by 2015 energy efficiency and 30% by 2015 for the use of renewables, we were somewhat disappointed to not see an emphasis on Long Term Sustainability, that takes into account the 3 spheres of sustainability—environment, economy and society. A focus on sustainability would have organized the plan under a theme, enabling a more coherent and consistent analysis of various elements. Instead this Plan proposes a mix of solutions- sustainable and completely unsustainable, clean and dirty technology, those with major environmental impacts along side those with none or few impacts. A sensible approach might have been to rule out all unsustainable solutions or to carefully evaluate and present the issues surrounding unsustainable or "dirty technologies. Unfortunately, this Energy Plan presented selected facts and unequal analyses of some energy options, making the Plan inadequate for making future policy decisions.

Energy Efficiency is at the top of the Sustainability ladder, providing benefits in all 3 sustainability spheres. The more energy efficiency we implement the fewer power plants we need to build, the less pollution, the lower our energy costs, and the more jobs in installing

"Never doubt that a small group of thoughtful, committed citizens can change the world; indeed it is the only thing that ever has." – Margaret Mead

energy efficient improvements. On- site energy efficiency needs no transmission and there are no transmission losses. Renewables are also generally considered to be sustainable. However, the Plan fails to adequately distinguish between Clean and Dirty Renewables, Sustainable and Unsustainable renewables. These distinctions are critically important or the State will not be able to realize the significant benefits that sustainable systems provide. We will return to this later in our comments. However, in general, it is clear that investments in energy efficiency and renewables will have an important outcome--- there will be no need for new power plants through 2018, and perhaps well beyond that date. We are not clear if you have accounted for the impact of other national standards in estimating the impact of efficiency. For example, Appliance Standards by 2015 should reduce electric energy needs by 75000 MW nationally, equivalent to approximately 150 Coal fired plants of 500 MW, and saving consumers \$140 billion (in 1993 dollars). **ACEEE** An assessment of these standards impacts on NY's energy use would help clarify our energy needs in the future.

The state needs to focus significant efforts ensuring that energy efficiency is maximized in the state. And the state needs to support the expansion of the use of clean renewables to meet our energy needs. To accomplish the 45% by 2015 goals, the state must allocate and account for the resources it devotes to these two objectives in contrast to other energy proposals. We are very concerned that the state has not taken into account the impact any new power plants will have on the denominator. Increasing total electric energy production by building new power plants will make it much more difficult to meet the 45% by 2015 goals, but you have not analyzed this issue at all in the Plan. We know that new power plants will cost more for consumers and we know that new power plants are the most expensive option to meet our electric needs as well as contributing pollution and greenhouse gases. Therefore no new power plants should be built unless they are designed to replace ones that are retiring due to their age. And all of the state's currently limited resources should be dedicated to increased efficiency and clean renewables.

Unsustainable Energy Options should be Ruled Out

Nuclear Power is an example of an unsustainable energy option. The most severe outcomes from nuclear power result in irreversible radioactive contamination of natural resources and people and severe impacts on the environment and the public's health. New York is also the primary state in the US, which suffered from 2001 terrorist attacks on the World Trade Center. Such outcomes cannot be mitigated at all. Yet in NY all of the existing nuclear power plants are storing used fuel rods on site in pools, in casks or planning to build on-site storage. The potential for terrorist attacks is exacerbated by the Achilles heel of the industry – nuclear waste. More than half a century ago the federal government advanced nuclear energy with the naïve notion that finding a solution for nuclear waste would be technically very simple. The nuclear waste problem is one fatal flaw of the industry that has backed up radioactive material at nuclear plants and prevented the clean up of hundreds of radioactively contaminated sites. New York State is currently suing the federal government related to the cleanup of the West Valley nuclear site. The site could be called “New York's folly”, because NY believed the false promises made by the federal government when it agreed to support the venture into commercial nuclear reprocessing.

The West Valley tale should inform New York that the State could eventually be responsible for all the nuclear and radioactive material within the State. Despite promises made to private nuclear plant owners and to states and localities, the federal government has not cleaned up a host of radioactive sites it was responsible for—thus raising the specter that NY could be forced to pay the bill and deal with the environmental impacts. As a result NY should be assessing the nuclear industry surcharges and setting aside adequate funds to handle the proper cleanup of all nuclear waste in the state. In addition, NY should not be planning to create more nuclear waste by approving another nuclear power plant. This is not just unsustainable, but irresponsible and irrational.

Costs. The costs of nuclear power are extraordinary. In fact without interference in the supposedly “free market” by the government’s provision of substantial subsidies we would never see a nuclear power plant again. We submitted written comments earlier on this subject. Therefore it was a surprise to see the Plan state that building a new nuclear power plant would reduce wholesale prices. We have attempted to find the analysis that supports this conclusion in the Energy Plan, assessments and supporting documents and we cannot find it.

Below we have copied a selected section from the Energy Infrastructure Issue Brief August 2009. In this section 2.7.7 Modeling is referred to but we cannot figure out whose modeling. There are no footnotes in the section and national level analysis is mentioned, i.e., that 40,000 MW of new nuclear capacity would be economic. Since the issue of whether nuclear power can be economic is an important one, we think someone needs to document the analysis, and how it was done. If you are relying on a federal analysis that needs to be available.

2.7.7 Federal Carbon Policy

Modeling was also performed for this Plan to consider the effects on electricity costs and emission impacts from enactment of a national cap and trade program for carbon dioxide (CO₂) effective beginning in 2015. The analysis assumes that all CO₂ emissions from the electricity sector (nationwide) would be offset by the purchase of emission allowances valued at \$23 per ton in 2015, increasing to \$36 per ton by 2024. It was also assumed that expectations of future prices would begin to change behavior before the program is implemented. The analysis focuses on 2024, significantly beyond the 10-year planning period normally addressed in the State Energy Plan, because focus on 2018 would not provide sufficient time for the effects of a hypothetical policy implemented in 2015 to become substantially evident.

The modeling indicated that for the U.S. as a whole, CO₂ emissions would be reduced by 764 million tons, i.e., about 37 percent less for that year, in 2024 than would occur for that year without implementation of the federal policy. The Federal carbon policy modeled has the effect of approximately stabilizing U.S. CO₂ emissions at the 2009 level, equivalent to establishing a carbon cap at current levels of emissions. The analysis also found that with the Federal carbon policy the cumulative new coal capacity in 2024 would be 72 percent lower compared to a scenario without it. Cumulative new natural gas capacity, however, would likely be 14 percent higher than the amount without it. The modeling also suggested that about 40,000 MW of additional new nuclear capacity would be economic and would be built. Coal generation output would be reduced by 24 percent, while gas combined cycle and nuclear generation would be increased by 27 and 44 percent, respectively, compared to what would be expected to occur without the policy. The average U.S. wholesale price of electricity would be \$21.33 per MWh, or 31 percent higher, as a result of the carbon policy than it would be without the policy.

With respect to projected impacts on New York State alone, the modeling results indicate that a Federal policy would have substantially lower impacts on New York State than on other portions of the nation, especially if the goals of the ‘15 by 15’ program are fully achieved. The analysis projects that by 2024

Electricity Assessment: Modeling 2009

In this report despite the detailed analysis of other fuels, we have no analysis of costs and the impact on rates for adding another nuclear unit. As a result, we don't know how the Energy Plan can declare that a new nuclear plant will help keep electric rates down. Every detailed report we have seen reports on the extremely high costs of nuclear plants and the capital costs of those being built elsewhere are rising dramatically overbudget.

If the State has actually done the cost analysis we would appreciate being provided with the documentation. Given that NY State has the highest residential electric rates in the nation, it is imperative that the impact of a new nuclear plant be known.

In this section we are told that the analysis was not done.

11.5 Net Rate Impact of the Additional Nuclear Unit Scenario

The operating reserve requirements for the NYISO are based upon the value of the largest single contingency for the control area. Currently, the largest single contingency is 1,200 MW. Under this modeling scenario, a 1,600 MW nuclear plant was added at the Oswego site. Such an addition would increase the largest single contingency for the NYISO control area and increase the operating reserve requirements. A number of factors would need to be considered to determine what the new operating reserve requirement would be and to estimate the cost for acquiring them. Such analysis is beyond the scope of the IPM model and the analysis for this report.

The next three paragraphs come from the Nuclear Information and Resource Service. *Projected costs for new reactors are stratospheric. In early 2006, the Nuclear Energy Institute predicted costs for the first few new reactors would run \$2,000/kw, going down to \$1,500/kw over time. Instead, recent estimates include Turkey Point (Florida) at \$8,200/kw and Calvert Cliffs-3 (Maryland) and Bell Bend (Pennsylvania) at about \$9,000/kw, or \$13-15 billion. For example, see: <http://www.bellbend.com/faqs.htm>*

Cost overruns have been a constant with the nuclear industry. A 1986 Department of Energy study found the average cost overrun for the first 75 U.S. reactors was 207%. Reactors coming online after 1986 typically experienced even larger overruns. The only two reactors now under construction in the West-Areva reactors in Finland and France-are currently 75% and 20% over-budget, with years to go before construction completion.

Electricity from new reactors, as expected with such enormous costs, would make the 1980s concept of "rate shock" seem quaint. An August 2009 report from the California Energy Commission, for example, predicts kilowatt/hour costs for nuclear electricity as high as 27-34 cents/kwh-nearly a tripling from today's prevailing rate of less than 12 cents/kwh. This report is available at: <http://www.energy.ca.gov/2009publications/CEC-200-2009-017/CEC-200-2009-017-SD.PDF>

The final problem with investing in nuclear technology is that the state is choosing where to place severely constrained money and staff resources. Our position is that investing in nuclear technology utilizes resources that could be better spent on the most sustainable energy solutions,

ones that yield benefits that tend to multiply in the economy and socially. Choosing investments in nuclear is a choice that precludes obtaining benefits from these other sustainable solutions. Finally there is inadequate transmission capacity to handle a new nuclear plant at Nine Mile Point. We support the closing of the Indian Point Nuclear reactor.

Other Dirty Technologies

As the state implements policies in support of energy efficiency and renewables it is critically important that the state NOT provide support for dirty renewables or renewables that are unsustainable for environmental, social or economic reasons.

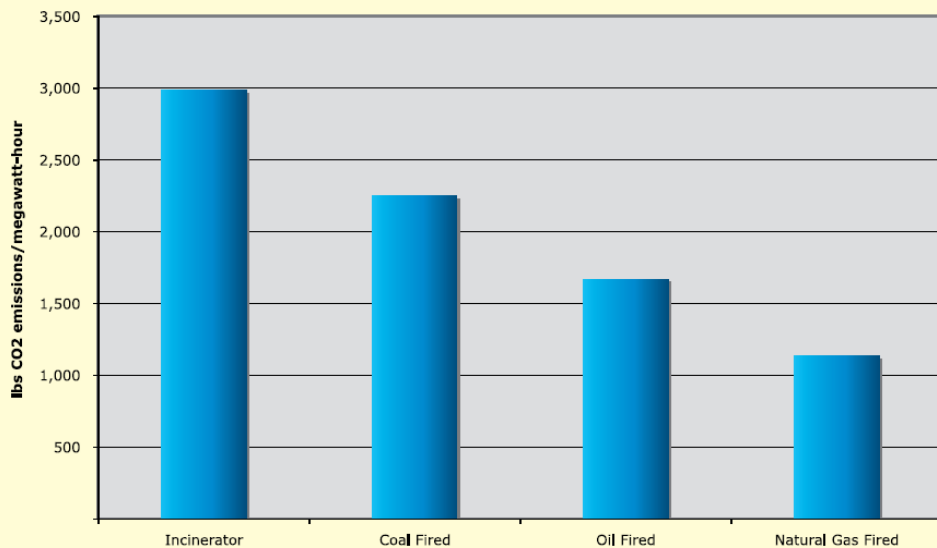
Waste to Energy Incineration. An important example of dirty technology is garbage or solid waste incineration. It is also referred to by its proponents as waste-to-energy combustion technology.

First, the reasons that waste- to- energy combustion is unsustainable:

- It is the most expensive solid waste management option available
- It destroys material resources
- It destroys energy (recycling saves more energy than incinerators produce by burning the same material)
- It produces pollution, principally air and incinerator ash, which impact public health
- It produces less energy in BTUs than any other fuel and more CO₂
- It creates few jobs

The graph below comes from the report, Stop Trashing the Climate, which can be accessed at www.stoptrashingthecclimate.org

Figure 4: Comparison of Total CO₂ Emissions Between Incinerators and Fossil-Fuel-Based Power Plants (lbs CO₂/megawatt-hour)



Source: Institute for Local Self-Reliance, June 2008. Based on data reported on the U.S. EPA Clean Energy web page, "How Does Electricity Affect the Environment," <http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html>, browsed March 13, 2008.

Stop Trashing The Climate

Second, the reasons that waste-to-energy combustion is not renewable:

- It is not truly renewable because it relies on continued wasting, when better options are available.
- Destroying resources cannot be defined as renewable.
- It uses fossil fuels to heat up and dry wet organic waste
- Organic waste is burned, instead of being returned to the soil where it provides nutrients, stores carbon and encourages plant growth. More rapid plant growth removes more CO₂.
- Renewable energy has been marketed and sold to the public as CLEAN energy and it is a serious mistake to include polluting technologies in this mix and lessen future public support for renewables.

Third, Waste-to-energy combustion competes with other better solid waste solutions:

- WTE cannot operate without combustibles and these materials can be recycled
- Organic waste can be composted aerobically or digested anaerobically preserving nutrient value and in the case of anaerobic digestion generating methane as a fuel. If paper is included as an organic material, fully 70% of the waste stream is compostable. Composting is a cheaper and more environmentally sound solution.
- WTE Cost to communities is much more— as much as \$152 per ton in the case of Washington County.

Stimulate Innovation in the Clean Energy Economy

This strategy concerns us a bit. In general the market will sift out good ideas and reject the bad ones. When the government has a public policy objective to achieve such as promoting energy efficiency or where market players are not interested in advancing the objective, it is appropriate for the government to provide the appropriate incentives, signals, subsidies, etc. However, there are a lot of half-baked unproven technologies that are promoted by sales representatives seeking government support. Such innovation can include “Lemons”, and it makes sense for the government to proceed with caution. Such is the case with new WTE technologies that the Energy Plan appears willing to entertain. This group of technologies includes gasification, pyrolysis and plasma arc, however sales people have been so creative in their hype recently that sometimes it is difficult to identify what technology is actually being proposed. The record of failure with these has been significant and the state should not entertain any of them until they have been proven commercially.

Waste contributes to Global warming. “According to the US EPA on a lifecycle basis, 46% of the national GHG inventory is related to the energy and fuel consumed in the production, use and management of the materials that become waste.” (Final Draft State Solid Waste Management Plan, p. 32.) For every bag of residential garbage put at the curb 72 bags of garbage were created by the production processes related to manufacturing and delivering products to the end use consumer. Estimates by the DEC of increasing NY’s recycling rate to 50% of the amount disposed today yields GHG emission reductions of 21.6 million MTCO₂E and an Energy Saving of 226 Trillion BTUs annually. (Ibid, P. 40 Table 4.2)

Zero Waste programs are sustainable and offer significant benefits for the public and government including reduced overall costs, reduced pollution and GHGs and more local jobs. Zero Waste programs include waste reduction or prevention, reuse, recycling, and composting. The State Energy Plan should support Zero Waste Goals and Programming for the State.

Biomass Burning is a very complex issue. In general when we talk about this we should only be talking about clean, natural organic material. However, there are issues regarding how the material was harvested for it to be renewable and sustainable. A major caution however is that clean wood waste has abundant markets at good prices. It is the contaminated wood that is difficult to get rid of and as a result contaminated or treated wood will find its way to wood combustion burners in the absence of stringent regulatory controls. The impacts on air quality and public health can be severe.

Landfill Gas- to- Energy should be encouraged over flaring by assisting to process applications etc. However, subsidies for these systems will only serve to encourage more mega-landfills. More landfilling should not be the outcome we seek to encourage, both because landfills generate so much methane with 23 times the global warming potential of CO₂ and also because the capture of landfill gas is so poor. Until landfills are finally closed with a permanent geomembrane, the gas largely escapes. This means that for most of a landfill’s life large amounts of methane are escaping to the atmosphere. Capture for active landfills can be as low as 25%. This has significant implications for any plans to reduce GHG emissions in the state.

Gas Drilling in the Marcellus Shale

As we have not worked extensively on this issue, we can only briefly comment that a technology that proposes to inject an assortment of toxic chemicals underground to recover natural gas is an unsustainable technology. It fails the test of being environmentally sound and poses the significant risk of irreparable harm to drinking water supplies. Recently in Pennsylvania after the deaths of over 100 species the PA DEP had to order a company to halt gas drilling. This is a sentinel event indicating severe ecosystem toxicity. The State needs to overcome a significant burden of proof to show that this new technology can be done safely before it can be considered as a way to diversify energy supplies and increase our independence.

We would appreciate a response to the question regarding whether there was a cost analysis of nuclear power completed for this Plan.

Thank you for your attention.

Sincerely,

A handwritten signature in black ink that reads "Barbara J. Warren". The signature is written in a cursive style with a large initial "B" and a long, sweeping underline.

Barbara J. Warren
Executive Director

