



July 8, 2008

State Energy Planning Board  
NYSERDA  
17 Columbia Circle  
Albany, NY 12203-6399

Dear Mr. DeCotis:

The Solar Alliance, a coalition of thirty of the world's leading manufacturers, developers and financiers of solar energy dedicated to the establishment of vibrant state-based markets for solar photovoltaics (PV), strongly supports the Paterson Administration's commitment to reviving New York State's dormant long-range planning capability. The fact that energy planning is the subject of the Governor's first substantive executive order is a testament to the importance the Administration places on energy matters, and its predominant influence on the health and vitality of New York State's economy and environment.

New York has suffered from the lack of an effective, long-term framework for the evaluation, coordination and implementation of state energy policy in the post-restructured electric and natural gas market environment. Essential resource commitments are now made -- or as is often the case, not made -- through a patchwork of processes at the local, state, regional and federal levels by a variety of actors including public utilities, private developers, grid operators, retail suppliers and others. The ability to consider and positively direct the interaction of these disparate and fragmented decision making processes in a more comprehensive and coordinated fashion has largely been lost. Moreover, the broader societal goals of economic growth, resource diversity and stewardship, and environmental justice are incompletely valued by the market and it is the role of state energy policy to assure that these goals are adequately addressed and realized.

With these general comments as backdrop, the Solar Alliance offers the following specific recommendations on the "Draft Scope of 2009 New York State Energy Plan" ("Scoping Paper") issued by the New York State Energy Planning Board on May 30, 2008. These comments are intended to provide greater specificity to the planned analyses and issue papers related to the role of photovoltaics in meeting New York State's future energy requirements.

**1. The State Energy Plan Should Model the Expected Costs and Benefits of a 2000 MW Solar Deployment through the Next Decade.**

Executive Order No. 2 calls for the State Energy Planning Board to conduct several interrelated assessments including but not limited to analysis of current and projected demand, the ability to meet demand with existing resources (and the attendant impacts on price and emissions), and the potential contribution of clean energy alternatives in meeting the state's energy supply requirements.

With respect to renewable energy technologies, and more particularly photovoltaics, the New York State Energy Research and Development Authorities' 2003 assessment of the technical and economic potential is a good starting point for the requisite analysis. However, the economics and scale of deployment of PV have changed dramatically in the intervening five-plus years since this analysis was conducted, and thus should be updated consistent with best available information on PV industry trends.

Additionally, the Solar Alliance would suggest that the Energy Planning Board model a specific PV deployment ramp of 2000MW through the 10 year planning horizon. This figure approximates 5% of anticipated peak load or 1.5% of total sales by the terminal date and has been embraced by the solar industry as a reasonable and achievable target for New York State.<sup>1</sup> A specific analysis of the impact of this ambitious yet manifestly supportable deployment goal would offer more tangible and actionable insights into the potential role of PV in stabilizing electricity prices relative to a supply portfolio more dependent upon volatile and uncertain primary fossil fuel prices, reduction in statewide emissions of criteria pollutants and GHGs, grid support and a host of secondary benefits (described in the following section). Moreover, such an analysis would give form and substance to the Renewable Energy Task Force's recommendation that New York State consider additional policies and programs that, building on the 100MW RPS commitment through 2011, can accelerate the drive to grid parity.

## **2. The Evaluation of PV Should Quantify, and to the Extent Practicable, Monetize the Multiple Value Streams Generated by this Resource.**

It is critically important that an analysis of PV relative to other supply alternatives capture the multiple benefits PV offers to the system owner, the host utility and other ratepayers, and to society at large. These benefits are admittedly diffuse, often site-specific and difficult to quantify (or monetize), and have consequently been ignored in public policy or resource allocation decisions. This systemic bias can lead to under-utilization of PV from levels that would be economically and environmentally justified. New York has always been recognized for its leadership in energy analysis and market evaluation, and it should continue to push the envelope through the instant State Energy Plan.

As an example, a recent analysis conducted by SUNY Professor Richard Perez and independent consultant Thomas Hoff quantifies the capacity and energy benefits of PV in today's more dynamic wholesale markets for electricity. (See Attachment I) The Perez/Hoff analysis recognizes the strong (indeed, unique) coincidence between PV availability and system peaks. The study concludes that "because of the strong coincidence that exists between peak demand and solar resource availability both downstate and upstate, the generation energy and capacity value of PV alone amount to 75% [of the utilities' retail price]". However, for non-net metered PV system owners, this value is not captured, and more germane to the current discussion, is not adequately considered by utilities or regulators in evaluating resource alternatives.

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<sup>1</sup> Solar Initiative of New York, New York's Solar Roadmap (May 2007)

The Perez/Hoff study provides a methodological basis for assessing energy and capacity value of PV. The State Energy Planning Board should strive to develop and incorporate appropriate means of assessing other PV value streams, including but not limited to:

- T&D capacity deferral value
- Loss savings
- Environmental compliance value
- Fuel price hedge protection
- Long-term, system-wide rate protection
- Environmental health benefits
- Business development opportunities (job and business creation)
- Use of in-state resource and reduction of state imports
- Power grid security enhancement
- Disaster recovery

Among these additional PV values, the Solar Alliance believes it is especially imperative that the State Energy Planning Board more systematically consider PV from the standpoint of its ability to act as a hedge against future fuel price increases. With the recent run-up in primary fuel prices - and indications that these high prices will not abate given burgeoning global demand, dwindling available supply and expected carbon constraints - it is becoming self-evident that continued reliance on fossil-fired generation for virtually all new capacity to meet New York State's projected load growth and plant replacement is a myopic and economically harmful strategy. The State Energy Plan provides an ideal vehicle to consider the trade-off between a large-scale, fixed cost capital investment in renewable resources versus a predominantly fossil-based portfolio that may require a lesser up-front capital investment but is subject to greater uncertainty as to long-term running costs. Although the precise magnitude of future increases in primary fuels is subject to great speculation, it is possible to assign probabilities to specific outcomes in order to assess the exposure inherent in the state's resource mix. Through these means, policy makers will have a better fix on the "insurance" value of long-lived, stable-priced renewable resources such as solar and wind and can better gauge whether it is worth making a more significant commitment to this resource development strategy.<sup>2</sup>

### **3. The Energy Plan Should Offer a Plan for "Optioning" Renewable Resources for Rapid Deployment.**

One of the inherent advantages of PV is the short development lead-time relative to large-scale centralized generation. PV systems can be designed, engineered and constructed in as little as six months to a year, compared to multi-year (and for nuclear, decade-long) lead-time for conventional power plants. Distributed PV is also immune from the vagaries and uncertainties of siting and permitting in the "post-Article X" era.

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<sup>2</sup> New York's commitment to large-scale hydropower is a prime example of the hedge value of renewable resources. While the initial investment in the Niagara Project was considered massive by contemporary standards, New Yorkers continue today to be the beneficiaries of these New Deal projects which remain our least expensive source of power supply. The Solar Alliance submits that a comparable investment in the state's solar resource will similarly redound to the benefit of present and future ratepayers.

Rapid deployment capability can be important as New York confronts many “known unknowns” that are largely out of its control. Examples of this include: whether the Indian Point Energy Center will receive renewal of its operating license; the likelihood and form of federal climate legislation; a rebound in the national economy and growth in demand; and the impact of price and availability of primary fuels on the viability of aging and inefficient legacy power plants. Of course, there are “unknown unknowns” as well which may necessitate more urgent deployment of resources to preserve reliability on a short-term basis.

Despite the rapid deployment potential of PV, there remain critical barriers that could unnecessarily delay or impede the installation of additional PV capacity. These include local code issues such as inconsistencies among the many home rule permitting jurisdictions; and redundant and unnecessary code requirements. Interconnection, particularly within the networked Manhattan distribution system, is at a minimum a highly uncertain process and at worst could constrain deployment in this significant load pocket. Informational barriers exist as well, such as the suitability and practicability of state, county and local government owned or operated properties (e.g., landfills, parks, parking areas) to serve as potential “shovel ready” host sites for large-scale ground mounted installations.

The Solar Alliance recommends that the State Energy Plan examine the potential for “optioning” distributed renewable resources; that is, the feasibility and desirability of taking preliminary cost-effective steps that would further compress the deployment cycle for large-scale PV to meet a variety of exigencies.

Studies completed in the region show that solar deployment at large scale is not only feasible, but also can be completed at lower cost than the construction of traditional central station plants. Such solar deployment can be completed at numerous locations around the State, thus spreading the economic development and job creation benefits of local construction and maintenance. By creating a program that ramps up over the next few years, this distributed and short lead-time technology can be exploited to maximize benefits to New York ratepayers. As solar costs come down and traditional plant construction costs and fuel prices continue to escalate, the ramp rate of the solar construction program can be accelerated.

#### **4. The Energy Plan Should Set Specific Actions, Criteria Against Which to Evaluate Agency Decisions, and Benchmarks for Progress,**

The 2009 State Energy Plan should strive to correct a tendency of past state energy plans to simply catalogue past or ongoing state initiatives, and instead focus on developing strategic objectives, actions and metrics for progress. Although the state energy plan does not have the force of law, it should provide sufficient guidance and direction to policy makers such that all decisions and actions can be evaluated for consistency with overarching state energy goals. We believe the Governor’s Renewable Energy Task Force Report can serve as a model in this regard. That work product is viewed more as a “process” than a static document, with the broad recommendations translated into specific actions and timeframes.

Respectfully submitted,



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On Behalf of The Solar Alliance

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Enclosure