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July 11, 2007

RE: Case 07-M-054 Proceeding on Motion of the Commission Regarding an Energy Efficiency Portfolio Standard

Sterling Planet Response to PSC Staff Questions

Sterling Planet is pleased to submit comments on PSC staff questions issued on June 13, 2007. We believe that this case can drive significant energy conservation in New York State while building a voluntary market for White Tags™ or energy efficiency certificates. Sterling Planet is willing to work with Staff more extensively in developing a comprehensive energy efficiency portfolio standard that fits in and is consistent with a competitive marketplace.

1. *What approaches hold the greatest potential to contribute to New York achieving the overall target of 15% electricity consumption reduction by 2015?*

Based on our experience in and success of the renewable energy certification market, Sterling Planet strongly advocates the consideration of a market-based approach to meeting a portion of the "15 x 15" target. A number of market-based instruments have been introduced to achieve energy policy goals. The most common are tradable permits and certificates introduced to promote market-driven penetration of renewable energy sources (renewable energy certificates), to attain carbon or other pollutant emission reductions, and, more recently, to foster energy efficiency improvements (White Tags™ or energy savings certificates).

The key elements of a successful program are the creation of market demand through a reduction goal, a tradable attribute with transparent ownership, and an institutional infrastructure and processes to support it.

The program must require real, measurable, and verifiable reductions. A flexible approach for calculating energy savings should be allowed, but include a certification component to ensure credibility and accountability.

Are there any energy consuming sectors and markets that are currently underserved by the existing available portfolio of energy efficiency programs and services in New York State?

More and more private sector companies are making public commitments to reduce their carbon footprint and virtually all intend to meet those targets at least in part with energy efficiency. There are many opportunities to save energy and money – and improve operations – in industrial facilities. Energy efficiency upgrades can reduce energy by an estimated 30%. Improvements to facility steam systems can save 20% on energy bills. New technologies for motor systems can reduce energy by as much as 18%. Similar savings are available for improvements of both compressed air and process heating systems.

Energy is often the highest cost of doing business in New York State. Private industry should have the opportunity to apply their capital dollars to achieve the least cost method to reduce their emissions and transfer ownership of those energy efficiency certificates created if they choose. Sterling Planet believes that if the conservation project is supported with rate payer funds that it is perfectly reasonable for the fund to claim some ownership.



However, Sterling Planet believes that 100% of credits that are generated by independently funded projects should be allocated to the customer or their agent. We see no logical reason for a fund or the utility to have any claim on these credits. Allowing a customer to obtain all the credits that are funded separately from a public benefit fund encourages more energy conservation and does so without the utilization of rate payer assistance.

3. What are the most appropriate methods and processes for establishing program specific goals and for measuring progress towards long term goals (including program monitoring, measurement, and evaluation)?

The Center for Resource Solutions has identified features as fundamental to the use of White Tags™ as a program tool:

- The rules and procedures must be transparent
- Programs must allow for broad participation and support environmental justice
- Programs must be designed not to miss opportunities (e.g., energy-efficient new construction), undermine special needs (e.g., avoid investment in low-income households) or make it difficult to justify longer payment investments (e.g., whole house retrofits)
- Build in independent verification of energy savings

5. What other national, state, and municipal government and private initiatives would help New York meet the objectives of the EPS Proceeding? In what ways can we leverage the impact of these initiatives to help us meet the objectives of the EPS Proceeding? How should the impact of these initiatives be counted and measured?

New South Wales instituted the first energy efficiency certificate program in 2003, followed by Italy, Great Britain and France. EPS-like energy savings programs are currently in operation in eight states in the US: California, Colorado, Connecticut, Hawaii, Nevada, Pennsylvania, Texas, and Vermont. Beginning January 2007, Connecticut utilities must meet 1% of its electricity supply through energy efficiency and combined heat and power. This requirement increases by 1% annually, to 4% by 2010. The percentages can be met by expanding existing utility programs or utilizing the state's market-trading system to purchase verified energy savings achieved by third parties.

The recently adopted EU Energy Efficiency Action Plan (EEAP) sets out a comprehensive package of measures that require member states to take a variety of actions and sets a goal of a 20 percent reduction in total primary energy supply by 2020. The measures include binding energy efficiency requirements for appliances, buildings, cars, and electricity generation; improving energy efficiency awareness; facilitating financing of energy efficiency projects; energy taxation; and setting up an information exchange mechanism on best practices. The EEAP seeks to transform the EU energy market into one where the most energy efficient buildings, appliances, processes, cars and energy systems prevail. The EU also plans, under EEAP, to promote energy efficiency in non-member states through agreements with trading partners and international organizations.

7. What role should building codes and appliance standards play in reaching New York's energy efficiency goals and should such standards vary by geographical area (i.e., metropolitan New York City versus upstate)?

The value of energy efficiency in properly implemented construction standards is universally recognized as the easiest and most cost-effective way to help consumers save energy and

money, make housing more affordable, and reduce air pollution. All of these benefits are difficult or impossible to capture if not taken into consideration at the time of construction.

The International Performance Measurement & Verification Protocol (IPMVP) principally addresses the measurement and verification of energy savings from energy conservation measures for existing buildings, but not the construction of a new building or complete renovation of an existing building. By taking a long run view, the greatest savings opportunity is available through better designed buildings that use less energy.

Sterling Planet believes that energy conservation measures designed and implemented in new construction and renovations should be recognized as well as retrofit measures. The Designed Building method for existing buildings is consistent with the LEED™ certification process promoted and supported by the U.S. Green Building Council (www.USGBC.org) as related to energy use.

Sterling Planet recommends that for a new building or gut rehab building to qualify for Energy Efficiency Credits, the building would need to be energy modeled using the methods outlined by ASHRAE 90.1 2004. Sterling Planet also believes that building should exhibit minimum energy performance by demonstrating at least a 20% or greater improvement in energy performance. Finally the building should be independently certified through a process such as LEED™.

The state should set appliance efficiency standards at levels that achieve the maximum improvement in energy efficiency that is technologically feasible and economically justified. Standards already in place for residential products at the federal level are expected to save consumers nearly \$93 billion, by 2020, and to save enough energy to operate all U.S. homes for approximately two years.

8. What role should outreach and education play in an enhanced energy efficiency effort and what changes in approach should be made in various demographic or market segments from the methods now being used?

The benefits of energy-efficient technology for society at large are well documented. But communicating benefits such as improved reliability, higher productivity, reduced utility expense, optimized operations, less pollution – all of which are competitive advantages in any marketplace – can be challenging. Any education and outreach effort must be centrally coordinated and consistent throughout all market segments and utility territories. Government-sponsored and promoted “energy efficiency challenges” (like those by the US EPA Green Power Partnership) can raise visibility and create a healthy competitive environment for the business and public sector. Winners of such challenges could be rewarded with renewable energy systems to build on existing and complementary statewide policies.

12. What role should a) distributed generation, b) demand response, and c) combined heat and power play in reaching New York’s energy efficiency goals?

In terms of projects and/or technology eligibility, three major issues emerge in the white certificates discussion:

- Should the scope of projects be limited (e.g. to certain technology or minimum project size) and/or subject to pre-approval;
- Should more projects be streamlined towards certain groups of consumers; and
- should certain activities receive additional credit, while others be restricted.

In theory the wider the scope in terms of types of projects/investment choices and the fewer limitations in terms of compliance routes, the more diverse marginal costs of compliance become and the greater the benefits of trading in terms of lowering the overall cost of compliance. Therefore many project types should be allowed for trading. This brings benefits that are sufficient to offset the associated administrative and institutional costs. Limiting the scope to certain technologies will increase the risk of price uncertainties and fluctuations.

Sterling Planet feels that all projects, no matter how big or small and regardless of net metering configurations, should be able to create eligible attributes in the 15 x 15 program. Allowing these technologies into the framework would create a real local market, and this would further incentivize and add to the economics of the development of new projects.

Within the proper framework, DG, DSM, and CHP projects can all play a role in meeting the EPS goals. These technologies are sufficiently reliable, predictable, and enforceable to be incorporated as a utility system resource. Let available capital, internal return on investment metrics, existing incentives, and other factors steer project investment. It is our experience that a predictable, robust White Tag™ market will drive down payback time for many such projects and meet the hurdle for implementation.

15. What role should key stakeholders play in an enhanced energy efficiency effort, and how should they coordinate their efforts? What factors should be taken into account in determining how the implementation of various program elements should be managed and monitored?

With the number, complexity and funding levels of the energy programs now underway in throughout the state (i.e., RPS, SBC funds, RGGI, EPS, NYPA and LIPA initiatives), New York must create an oversight entity to coordinate the efforts and maximize the return on investment of those public dollars and deliver the maximum benefits.

Policies and programs for energy efficiency and renewable energy have generally been pursued on separate tracks. While individual policies are worthwhile, greater synergies between efficiency and renewable energy could be realized if policy agendas were combined more effectively. Studies suggest that energy prices in a region with aggressive commitments to both efficiency and renewables are likely to see less volatility and lower average power prices since price spikes will be reduced.

Efficiency and renewables, because they have different load shape impacts based on time of day and season, can improve overall system operations. And efficiency and renewables also provide complementary economic development benefits by generating investment and employment in different sectors, which expands the total economic stimulus effect. Thus economic and workforce development stakeholders should be represented in any coordinated effort.

16. What role should the private sector (e.g., financing and educational institutions) play in program development and implementation? How should these efforts be coordinated with utility and government entities' programs? Are there additional incentives (or tax relief) that could be provided by Federal, State and Local governments which would enable greater penetration of energy efficiency initiatives?

As indicated in previous responses, Sterling Planet believes the private sector is a key stakeholder in an effective 15 x 15 goal. Private lenders, project developers and consultants, equipment manufacturers, etc. provide the necessary expertise to the

marketplace and help with education and outreach. The private sector will also serve as an aggregator of attributes created through the energy saving initiatives, reducing transaction costs and facilitating both the compliance and voluntary White Tag™ market.

17. *Should utilities (or other entities) receive incentives for implementing successful energy efficiency programs? If so, what is the appropriate level and form that these incentives should take and should such incentives be performance based?*

Any incentives accrued to utilities should be rewarded based on real, measurable, and verifiable energy savings. Multiplier benefits/credits for peak demand reduction or in transmission-constrained load pockets should be considered.

18. *What are the best methods for ensuring that low income customers have access to efficiency programs?*

Low-income families are particularly susceptible to high and fluctuating energy costs. Estimates indicate that while the average US household's energy costs are equal to 5% of household income, low-income households spend 16% of their household earnings. The immediate result is that less money is available for satisfying other basic needs. Also, the frequently poor quality of low cost housing creates an increased burden, since more energy is needed to keep residents healthy and comfortable. The PSC may want to consider a carve-out for low-income or other residential customers. For example, the UK program requires 50 percent of the energy savings to come from low-income households and Nevada requires each utility to obtain at least 50 percent of the energy efficiency savings from the residential sector.

23. *What are the best methods for ensuring transparent and technically sound methods for evaluation of program energy savings (gross and net), non-energy benefits (e.g., economic, environmental) and program performance and administration?*

Measurement and Verification of Energy Savings

Sterling Planet believes there are three basic methods for the certification, monitoring, and verification of projects that are the most advantageous for the creation of White Tags™. These methods are “prescriptive” and “modeled” for existing facilities and “building designed” for new facilities (this method is discussed in Question 7 above).

The Prescriptive and Modeled methods for existing buildings are consistent with the International Performance Measurement & Verification Protocol (IPMVP).¹ This protocol is supported and endorsed by every leading industry and standards organizations including ASHRAE, Association of Energy Engineers (AEE), Association of Energy Services Professionals (AESP), Building Owners and Managers Association (BOMA), National Association of Energy Service Companies (NAESCO), National Association of State Energy Officials Association (NASEO), National Realty Association, U.S. Department of Energy (DOE), and the U.S. Environmental Protection Agency (EPA).

IPMVP identifies four options for the Measurement & Verification (M&V) of energy savings:

- a. Partially Measured Retrofit Isolation

¹ As defined in “Concepts and Options for Determining Energy and Water Savings, Volume I” by the International Performance Measurement & Verification Protocol Committee (Revised March 2002, DOE/GO-102002-1554).

Partially Measured Retrofit Isolation utilizes engineering calculations incorporating short term or continuous post-retrofit (project) measurements and stipulations to determine the savings in energy use of the system(s) to which an energy conservation measure was applied. A typical application would be a lighting retrofit. For example, a LED light with the same illumination as a standard 100 W light consumes only 20 W. By stipulating that a retail facility maintains lighting for store hours plus 1 hour per day (5,000 hours per year), the annual energy savings from the replacement of one light is 0.4 MWhs creating 0.4 EEC's per year. Replacement equipment, such as the LED lighting will have a definitive lifetime.

Both Italy and France have adopted this methodology for the M&V of energy savings for the creation of EEC's in their mandated energy conservation programs. The primary benefits of the Prescriptive method are its simplicity and minimal cost for large-scale application. This is particularly important for small commercial and residential. However, this method is appropriate only in cases of direct replacement of equipment with more efficient technology and no changes in operations. This excludes the replacement of technology in energy conservation measures that are not identical in function and any recognition of operational changes. In fact, most commercial and light manufacturing facilities can achieve a reduction of 15 to 20% of their energy use through operational changes often achieved through improved utilization of building automation, energy management and control systems.

b. Retrofit Isolation

Retrofit Isolation utilizes engineering calculations incorporating only short term or continuous post-retrofit (project) measurements (not stipulations) to determine the savings in energy use of the system(s) to which an energy conservation measure was applied. A typical application would be the incorporation of controls to vary the load on a constant speed pump using a variable speed drive. Because the savings are a function of the operations, the actual energy use must be compared to a baseline usage to determine the energy savings. Retrofit Isolation requires full measurement of the impact of the energy conservation measure through isolation of the affected system(s) and sub-metering of the energy use. Most facilities, even large commercial and light manufacturing, do not have existing sub-meters to isolate energy use systems and provide full measurement. While savings created by most types of energy conservation measures can be determined by this method, the degree of difficulty and costs associated with M&V increases proportionally as metering complexity increases. Given the difficulty and costs, especially for a statewide program, Sterling Planet does not recommend this option.

c. Whole Facility and Calibrated Simulation

Whole Facility and Calibrated Simulation utilize facility models that use utility billing data from each meter and perform analyses to determine energy savings from a calculated baseline energy use and the actual energy use with adjustments. These adjustments include such independent parameters as weather, occupancy, and manufacturing unit counts. Modeling techniques range from regression analysis for Whole Facility methods to complex simulation for Calibrated Simulation. Examples of the former include a multitude of degree-day statistical models while an example of the former is DOE-2, which is considered the standard for the industry and the most accurate. DOE-2's accuracy has been verified numerous times by private firms using the model as well as highly qualified independent organizations such as Lawrence Berkeley National Laboratory. The model has proved to be more than 95% accurate on an annual basis in almost any type of building.

The primary benefits of the Modeled method are its wide-scale applicability to any energy conservation measure, recognition of savings from any changes in operations, relative simplicity and low cost for large-scale applications, such as a statewide program. The degree of simplicity and cost are a function of the facility model. While DOE-2 can be

relatively complex and costly in some cases, there are mathematical techniques employed for the modeling of facilities that can achieve levels of accuracy equal to or greater than DOE-2 without the need of costly on-site audits of buildings.

Tracking Systems

The PSC should look to the experience with REC reporting, tracking, and accounting systems to identify lessons that might be transferred to a market-based EPS.² These tracking systems are policy and technology neutral, establish property rights, and protect against double counting. If designed properly, they can also capture associated emission data from the project's power pool to assign specific environmental attributes (e.g., carbon avoidance). We believe it is entirely feasible for the same accounting system used to track RECs to be used for energy efficiency savings as well (as is the case in Connecticut).

Conclusion

Sterling Planet appreciates the opportunity to share our experience and comments to PSC staff. We hope that the potential for a market-based instrument merits serious consideration in the design of the 15 x 15 program.

Sincerely,

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Sterling Planet, Inc.

² ERCOT, NEPOOL-GIS, PJM-GATS, MRETS, and WREGIS systems