

HUDSON VALLEY CLEAN ENERGY

RENEWABLE ENERGY SYSTEMS

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COMMENTS
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15 October 2007

Jaclyn A. Brillling, Secretary
Rudy Stegemoeller, Administrative Law Judge
Eleanor Stein, Administrative Law Judge
New York State Department of Public Service
Three Empire State Plaza
Albany, NY 12223-1350

COMMENTS ON CASE 07-M-0548
Energy Efficiency Portfolio Standard – Fast Track Programs

Dear Secretary Brillling, Judge Stegemoeller, and Judge Stein,

My company, Hudson Valley Clean Energy, Inc., sells, designs and installs renewable energy systems. Our offering includes photovoltaic systems, solar thermal systems, geothermal heating and cooling systems, and home energy efficiency and performance consulting services. I started the company in 2002, and today we employ 23 people and are based in Rhinebeck, New York.

The September 13 Ruling in the EPS Case requested parties to “identify those existing programs susceptible to immediate, additional investment to realize efficiency gains and garner public attention for efficiency programs in 2008.” Photovoltaic, Solar Domestic Hot Water, and Ground Sourced Heat Pump systems are three existing and proven technologies capable of fast track implementation and acceleration.

1. Photovoltaic (PV or Solar Electric) Systems

The installation of PV Systems is currently funded and supported by NYSERDA under their PON-716¹. Solar electric systems deliver energy efficiency by reducing or even eliminating external electricity supply to a site during daylight and peak load hours, thus directly

¹ NYSERDA market and funding data in this section is from Solar Energy – Transforming the NYS Power Market, NYSERDA, August 2007

reducing daytime and peak load on the grid, dramatically reducing transmission and distribution losses, and permanently replacing fossil fuels used in central generation.

(a) whether, and to what extent, such program is presently oversubscribed;

The number of PV systems funded by NYSERDA has grown 52% annually from 2003 to 2007. The program has been highly successful and NYSERDA estimates funding of their PV program will be exhausted in the first half of 2008.

(b) demonstrated effectiveness of such program;

The NYSERDA PV program focuses on building sustainable businesses to distribute, supply, service, and install PV systems and components, and contains strong checks and balances to ensure NYSERDA-funded projects are high quality, work properly, and meet program goals. Furthermore, the NYSERDA program includes workforce training, national certification and accreditation for installers, and market outreach activities. As of August 24, 2007, NYSERDA had 110 active and qualified installers in the program, operating throughout the state. As of today's date, 5.6 Mw (DC) of PV systems have been installed or in process of being installed under the program². This installed base will generate approximately 5.6 Gwh of electricity annually³ with zero fuel cost and zero emissions far into the future.

(c) incremental benefits expected from such program if funding levels were increased in the near term;

NYSERDA's program has been highly successful, but the funding level is dwarfed relative to similar programs in California and New Jersey. In 2006, NYSERDA and LIPA PV funding totaled \$11 M, compared to \$176 M in California and \$76 M in New Jersey. As a result, only 2.7 Mw of PV was installed in New York, compared to 70.6 Mw in California and 17.9 Mw in New Jersey.

NYSERDA has created a competent PV installer base and industry infrastructure that is ready now to grow rapidly. Funding at the New Jersey level for 2008 and 2009 could result in an additional 40 Mw of PV installed in New York over the next two years. This would generate 40 Gwh of electricity annually, most of it during peak load afternoon periods.

(d) cost of putting such program on fast track;

NYSERDA estimates that new funding of \$17M is needed in 2008 and \$26M in 2009 to keep PV system installation growing at its current pace. Funding at the New Jersey level would cost approximately \$76 M annually. NYERDA estimates that funding at a level of about \$107 M annually would drive accelerated PV deployment of 100 Mw per year, or about the level of California in 2007.

² NYSERDA's website, www.powernaturally.org, PV Incentive Program Data

³ Hudson Valley Clean Energy, Inc. estimate based on 150 systems installed in the Hudson Valley

(e) sources of funds that can be accessed on a fast track basis, including accelerated use of uncommitted SBC funds, and methods of cost recovery;

An increase in SBC or customer sited tier RPS funds could be used to support fast track deployment of additional PV. Further, New Jersey is demonstrating the use of SRECs or Solar Renewable Energy Credits as a novel way to support customer investment in PV, and this is another possibility.

(f) administrative barriers, if any, to prompt expansion of such program, including process steps that would be necessary to secure and establish funding.

In addition to funding limitations, New York's restrictive and outdated net metering regulations limit investment in and hinder growth of the PV market. For example, net metering of PV systems is limited to small residential systems under 10 kw in size. The result is that commercial deployment of PV in New York is a fraction of that in other states such as California, New Jersey, and Connecticut. Another hindrance is the limitation on net metered PV installations in each utility's territory. This limitation sharply curtailed the PV market in Central Hudson's territory in summer 2007 (reference PSC Case 07-E-0437). It is within the PSC's authority to increase these limits and thus provide clear signals to the PV industry that the market will remain open and attractive for years to come.

2. Solar Domestic Hot Water (SDHW)

Solar domestic hot water systems are a proven technology, widely available from many manufacturers, but unfortunately still very rarely deployed in New York State. Properly designed and installed, they can generate 60 – 75% of the annual domestic hot water for a residence. SDHW systems are offered by some plumbers and most renewable energy system contractors throughout the state. National training and certification of SDHW contractors is now available through NABCEP, which NYSERDA supports.

I am not aware of any existing program to promote the installation of SDHW, except for state and federal tax credits. New York State and the SDHW industry could greatly benefit from a NYSERDA program to organize, incentivize and publicize a surge to install SDHW systems in the New York. The program could be modeled after their PV program and implemented quickly in 2008, and would help increase the awareness and acceleration of SDHW system deployment. Alternatively, utility issued rebates, similar to those for ground sourced heat pump conversions, could be utilized.

3. Ground Sourced Heat Pumps (GSHP)

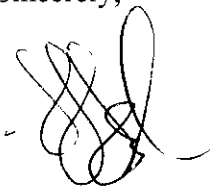
Ground sourced heat pump systems are one way to utilize renewable geothermal energy. They are a proven and established technology, widely available from many manufacturers,

but unfortunately still very rarely deployed in New York State. Properly designed and installed, GSHP systems can reduce the utility purchased energy required to heat a home or building by 75% compared to even the most efficient oil or gas combustion unit, by extracting the majority of the heat from the earth. They also have the added benefit of being reversible and therefore being capable of summer cooling and hot water heating. GSHP systems are offered by many HVAC contractors throughout the state. National training and certification of GSHP contractors is available through the International Ground Sourced Heat Pump Association (IGSHPA).

The main barriers to more deployment of GSHP systems are customer awareness and the upfront cost of drilling wells and installing ground loops for the systems. Even including the well and loop costs, the simple payback of a GSHP system is typically around 5 – 7 years, due to the dramatic reduction in utility purchased energy that results. Electric utilities have programs to offer small incentives for homeowners to convert from oil or gas heating to GSHP. For example, Central Hudson offers a rebate of \$1,000. Unfortunately, this incentive is small compared to the upfront cost of the wells and ground loops, which is around \$10,000 for a typical residential retrofit.

The deployment of GSHP systems could be accelerated quickly by an increase in the utility rebate for conversion from oil or gas heat to GSHP. This could perhaps be funded from the SBC, or customer sited tier RPS since it is a form of renewable energy. This program could be implemented quickly in 2008 to help achieve EPS goals.

Sincerely,

A handwritten signature in black ink, appearing to read 'Jeff Irish', with a stylized flourish at the end.

Jeff Irish, PE
President
Hudson Valley Clean Energy, Inc.