

Before the SENATE SPECIAL SESSION COMMITTEE ON ENERGY POLICIES

November 14, 2007

Good morning. I want to begin by thanking the committee for giving the solar industry this opportunity to address you today. My name is Susan LeGros and I am the Executive Director of the Mid-Atlantic Solar Energy Industries Association. With me today is Ron Celentano, MSEIA's Vice President for Pennsylvania who is also the Principal of Celentano Energy Services and has served as Administrator of the Sustainable Development Fund (SDF) Solar PV Grant Program, which provided grants for small solar PV systems installed in Southeastern Pennsylvania, mostly within PECO Energy's service territory. MSEIA represents solar businesses in New Jersey, Pennsylvania and Delaware, as the local chapter of the national Solar Energy Industries Association. SEIA has nearly 500 members, including solar equipment manufacturers, installation companies, financing companies, and electric utilities.

MSEIA also is affiliated with the Solar Alliance, a national advocacy group comprised of the largest manufacturers and integrators in the solar PV industry worldwide, including Sharp Solar, SolarWorld, SunPower Corporation, Schott Solar, Energy Innovation, Sun Edison, Evergreen Solar, BP Solar, Kyocera Solar, Sanyo Solar and Conergy Group.

Our message to you today is that this special session of the Legislature has a historic opportunity to set Pennsylvania on a course to develop solar energy. If you take that step, you will achieve important long term benefits and savings for the Commonwealth.

In recent years, the worldwide solar PV market has grown about 45% and the United States market about 20%. The greatest growth has been in areas where governments have fostered the programs by providing financial incentives to either customers or utilities. By providing twenty year contracts to purchase the electricity and incentives, Germany last year alone built over 750 MW of solar PV, almost equal to Pennsylvania's entire 15 year solar requirement of 860 MW. A German government study completed in 2005 estimated that 157,000 jobs had been created in renewable energy industries in Germany as a result of the incentives that have been introduced for solar and other

renewables. The number of jobs has increased significantly since then, and German companies like Conergy are now expanding into new markets, like Pennsylvania. Japan's experience was similar, and it now has a subsidy-free market for residential solar PV systems, with approximately 60,000 new installations per year. Japan started its program in 1994 with rebates for 50% of system costs and phased out the rebate in 2005. The key success factors in these examples, and in any successful market development program, are the following:

- First, incentives are set at a level that will allow consumers to earn a reasonable return on their investment in a solar energy system.
- Second, value of the incentive is from the outset recommended to be decreased over time, and phased out over a period of approximately 8-10 years. This provides a reasonable investment horizon for the solar industry to recoup investment in product development and market channel development, while weaning the market from subsidies over time.
- Third, the budget for incentives must be large enough to support the near-term installation of at least several MW of solar per year at the outset, increasing over time as the market channels develop. Furthermore, the long term budget must be certain enough to reinforce confidence in the market – year-to-year budget swings and delays will greatly diminish the level of private investment in developing the market.

From our experience with the SDF Solar PV Grant Program in Pennsylvania, we know that if there are no rebates, few systems get installed; if there are even modest rebates, the number of installations increases.

The benefits of solar energy are well known. They include:

1. Jobs

There are more jobs created from solar per megawatt than any other form of energy generation. Jobs from solar tend to be high paid and local –they are not easily exported out of the country. It is the one form of renewable energy that has a direct job benefit for all sixty-seven counties in Pennsylvania.

2. Environment

Solar is the cleanest form of energy generation with no air, water, or noise pollution, no solid waste byproduct, and no radiation. Solar PV generates the highest amount of energy when clean energy is needed most – on hot summer days when electric demand is at its highest. Another environmental advantage of solar is that it relies on the existing distribution and transmission lines so no new power lines have to be constructed.

3. Reliability & Security

“Behind the meter” distributive generation like solar can be used for special needs applications when the grid goes down and during power outages. Redundant solar back-up for key communications functions is critical for first responders, hospitals, schools, and others who need to have power during outages.

With these benefits, solar should be a “no-brainer” and Pennsylvania has taken important initial steps toward building a solar capability to take advantage of them. The Alternative Energy Portfolio Standard legislation (Act 213) along with recent amendments in Act 35 have set an ambitious but realistic goal of 860 Megawatts(MW) by 2021.

Currently, solar photovoltaic systems are paid for through a combination of equity from the system owner, federal tax credits, electric cost savings through net metering, and the sale of solar renewable energy credits (SRECs). These are crucial elements of a successful solar program, but Pennsylvania lacks the final critical piece: Pennsylvania must address how to pay for the solar systems that will enable it to achieve its solar goals. The two remaining critical drivers are rebates and long term contracts.

Rebates

Solar PV and solar thermal systems are not inexpensive and a system owner needs some certainty that it will see the benefit of the investment. At the same time all indications are that there is a large pent-up demand for residential, commercial, schools, public buildings and just about every

possible use for solar PV and solar thermal installations. Some purchasers are motivated by the environmental benefits, others by a hedge against rising utility costs but no matter the motivation, solar installers' and integrators' phones are ringing off the hook with interested buyers. All but the most well to do and committed buyers, however, find that the up-front cost is difficult to finance and it could take up to nine years or more before they recover the costs. An upfront rebate to defray part of the cost is often sufficient to drive the decision to go solar. Rebates are particularly important to residential customers, because they cannot benefit from the economies of scale or the unlimited 30% federal investment tax credit that applies to larger commercial projects.

We appreciate and support the Governor's proposed dedicated funding of \$200M for solar. While dollars for manufacturing and for training solar installers is very important, we would prefer that the larger percent of this fund be dedicated for rebates, which creates a basis for customers to access solar and a market which solar businesses will want to enter. Even modest rebates for solar projects in the early years of the program will ensure the solar AEPS requirement is met for those years and build momentum for the following years.

To accomplish this, incentives for solar projects should be earmarked and should not compete with incentives for energy efficiency or other alternative energy technologies, as proposed in SB1. Having dedicated funding for solar projects aligns with the separate Solar Share requirement in the AEPS legislation. A separately funded solar rebate program would provide certainty to solar businesses considering expanding or opening in Pennsylvania that there is a dedicated funding stream prepared to invest in solar systems.

Long Term Contracts

The success of a wide scale solar program depends in large part on whether the financial markets perceive that there is stable and continuing demand for SRECS generated by these projects. The key question for the markets is whether the demand for the SRECs from a project will continue long enough that investors can recoup their investment. Pennsylvania will need to take a significant step if it wants to build a successful solar program: it must enable long term contracts of at least 15

years to provide financiers with the confidence to invest in solar and its commodity product, solar renewable energy credits.

Although SB1134 addresses a competitive procurement process that may reflect a mix of long term, short term and spot market prices, it is referring to contracts for electric energy sales. It is important to realize that the needed long term contracts that we are referring to are for sales of SRECs and not for the electricity generated by the solar PV system. In most all cases, the value of the generated electricity will be recovered by the solar system owner through net metering billing.

Long term contracts of 15 years for selling the SRECs provide assurances to the financial community that an investment in solar is sound and stable. Long term contracts are particularly important in marketing large projects, involving power purchase agreements (PPAs) with large non-residential customers. In these arrangements, a solar integrator or developer owns the solar PV system and all its revenue streams, including tax benefits, net metering benefits and revenue from SREC sales. In turn, the facility owner allows the solar installation on its facility - no cost to them – and locks into a low, fixed long term electric rate compared to the expected soaring price of conventional electricity over the next 20 years. But the solar integrator must have some assurance that the market for the SRECs generated by this arrangement will last for more than 2 or 3 years.

MSEIA strongly supports establishment of programs designed to stimulate Pennsylvania's solar market by funding rebates and manufacturing incentives and furthering long term contracts.

When you support a healthy solar program, you are supporting good paying jobs in a rapidly developing energy sector, safeguarding our energy security and reliability, mitigating the impacts of global warming and improving our air quality, creating a much-needed hedge against long term energy costs, diversifying our resource mix, and helping to create a stable energy economy. It is difficult to conceive of a better investment of the Commonwealth's resources.

Thank you again for the opportunity to speak with you today.