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Mr. Chairman, Members of the Committee, it's an honor and a pleasure for me to appear before you today to discuss the value of training programs for the installation and maintenance of photovoltaic systems.

The timing is right for our country to invest in renewable energy technologies and develop a workforce that will meet the demands of the ever-growing solar energy industry. We are witnessing a renaissance in thinking about the way we generate and use energy in America and solar power is a key component of this new mindset. In fact, there is a real grassroots effort to increase the use of "green" energy technology and its time for a national policy to keep this momentum. Moreover, our country has the educational infrastructure at the post-secondary level to respond to the challenges of creating a skilled workforce in photovoltaic (PV) installation. What we need is a comprehensive national plan for training that will help spur further development and interest in solar energy.

At the forefront of training a workforce to meet the needs of this emerging industry are community colleges. While most four-year institutions gain notoriety for research and development, it's community colleges that are, and will continue to be,

responsive to national, state and local initiatives that drive the development of training programs. With the right resources, I've witnessed first-hand the ability of community colleges to quickly take action and develop credit and non-credit courses, certificate programs, and new associate's degrees that act as a catalyst for economic growth by providing skilled workforces. For example, Hudson Valley Community College is a comprehensive institution that serves the greater Capital Region of upstate New York. With more than 70 degree and certificate programs and more than 12,000 students, Hudson Valley Community College has positioned itself as a true partner with businesses and government agencies in the region and across the state. The college has received national and international recognition for its world-class technologies programs, and its photovoltaic training program is no exception.

At the forefront of the college's success with solar energy training, are the partnerships forged with government agencies such as the New York State Research and Development Authority (NYSERDA), which offers numerous grant opportunities in renewable energy technology training. In fact, NYSERDA's funding program for the development of photovoltaic installers was the catalyst and mechanism that allowed Hudson Valley Community College to invest in PV training. By reaching out to local PV Companies, Hudson Valley Community College was able to tap into experts in the field who are Certified PV installers as recognized by the North American Board of Certified Energy Practitioners (NABCEP). With their help, as well as assistance from NYSERDA, Hudson Valley Community College was able to create, in a rather short period of time, a nationally recognized facility to train PV installers (see exhibits 1-3). The college developed credited PV courses to augment its Electrical Construction and Maintenance

Associate's Degree program, as well as a State University of New York (SUNY) approved Photovoltaic Installers Certificate Program. In addition, through the college's Workforce Development Institute, numerous non-credit PV installer training programs have been developed and are offered on an on-going basis.

Demand for Solar Energy Training

This collaborative effort between government, education and business has generated significant interest and demand throughout New York State and the entire northeast. The perfect analogy to this venture: "build it and they will come" could not be anymore true. The college was cautious in its approach to the number of skilled PV workers it planned on training, not yet understanding the market demands. Today, it's safe to say that the college underestimated the public interest and PV company needs as the solar industry has witnessed exponential growth in the number of installations of the past few years. For example, in 2003, NYSERDA received 80 applications for funding assistance of solar installations. By 2006 that number grew to 286 applications, and 2007 is on pace to well exceed 400 applications (source: NYSERDA). Other agencies such as Long Island Power Authority observed similar growth. Ever since Hudson Valley Community College began to showcase its photovoltaic program and corresponding facilities, interest has grown at the same rate. I receive inquiries from individuals seeking to obtain photovoltaic skills via e-mail and phone on a regular basis. During the past year, five (5) companies from throughout the region have inquired about the availability of PV students for employment. One local certified photovoltaic installation company started its business in 2004 and had $80,000 in sales. In 2005 the company increased its sales revenue to $300,000 and by the end of 2006 it reached $1.2 million. This same company

has a sales revenue projection for 2007 that will exceed $2.4 million. Another PV company stated that they need to hire three (3) installers for every $1 million increase in PV sales procured. Hudson Valley Community College is witnessing this growth first hand and is positioning itself to meet the increase demand for installers.

Students Finding Jobs in the Solar Industry

As I stated earlier, Hudson Valley Community College was originally unsure of the potential growth of the photovoltaic industry and decided to move cautiously towards training a workforce that exceeded demand. Our strategy was to supplement an already popular and successful Electrical Construction and Maintenance associate's degree program by introducing photovoltaic courses as an additional load to students' schedules. The college limited the number of students who could enter the "PV Program" to eight to 12 students a year. The college just completed its second year of training. Of the eighteen (18) students who completed the PV program four (4) chose to immediately enter the PV field while the others sought employment with the myriad opportunities in the electrical industry that each student is afforded upon graduation, such as electricians, electronic technicians, electric line workers, electrical estimators, assistant project designers, etc. This spring, one particular PV company alone sought to hire four installers and two designers, but they inquired too late to capture a good portion of our electrical students who had the PV installation skills, as many already secured employment in other areas. The college is starting its PV Installers Certificate program this fall and is currently accepting applications of students for the one-year program. This certificate program, coupled with our Workforce Development Institute non-credit PV training programs, should help reduce the current shortage of trained PV installers.

Involvement of Local Business and the State of New York in Building Curriculum

The success of Hudson Valley Community College's PV training programs and the development of its photovoltaic laboratory wouldn't be possible without the funding initiatives and guidance provided by NYSERDA, as well as the expertise offered by local PV companies. Both were instrumental and paramount to the advancement of a first-class training program. In addition to the excellent laboratory facilities, which were funded through a NYSERDA grant, our partnership with a local PV company created the opportunity for students to work out in the field on actual residential installations thereby augmenting their training skills (see exhibits 4 &5). Such a relationship has helped ensure that our students enjoy high passage rates for the North American Board of Certified Energy Practitioners Photovoltaic Entry Level Certificate of Knowledge. Furthermore, Hudson Valley Community College is currently working with the Interstate Renewable Energy Council (IREC) as it positions itself to become a national accredited training institution as well as offering accredited training programs. The college expects to be accredited near the end of the year.

Yet it's the local and state partnerships that allowed Hudson Valley Community College to be responsive to the needs of the community. Through NYSERDA's networking Hudson Valley was able to forge a solid partnership with California-based SunPower Corporation. SunPower, seeking an East Coast presence for their growing business, donated equipment for the faculty and students of the College to utilize in exchange for SunPower's use of our photovoltaic laboratory at intermittent times throughout the year (see exhibits 6-8). This relationship gave our students greater exposure to more types of photovoltaic equipment and practices. SunPower has enjoyed

their relationship with the college and is currently seeking additional avenues of training with Hudson Valley. Moreover, other types of training associated with photovoltaic installations have emerged that is equally important to the success of solar technologies. Local building inspector training as well as augmented training on electrical codes will ensure quality installations. When New York State, educational institutions and businesses are all invested in developing beneficial training programs such as photovoltaic installation, then the link between job growth and economic development becomes transparent.

Photovoltaic training programs, much like other technology training programs are expensive by nature. Yet, if done right, the high academic quality of such programs becomes apparent and is usually successful in fulfilling its mission. Community colleges are the best fit to offer such training programs, but because of the shear nature of funding community colleges need financial assistance to develop first class training programs. Continued partnering with government agencies and businesses that have a vested interest in such programs could help build a national program that will facilitate the adoption of solar technology.

Exhibit #1

Exhibit #2

Exhibit #3

Exhibit #4

Exhibit #5

Exhibit #6

Exhibit #7

Exhibit #8