PV Supply and Demand: Striving Towards Global Balance

By Dan Martin, Executive Vice President, PV Group

The global photovoltaic solar landscape is comprised of many countries making significant contributions towards reducing the world's reliance on fossil fuels. Many of these countries are contributing to the supply side of PV power generation—manufacturing cells, modules, equipment and materials—and a few countries are making major contributions to the demand-side, deploying PV systems to generate clean, renewable energy in both on-grid and off-grid applications. Effective public policy must address both supply and demand to ensure a healthy, prosperous industry.

In addition to tackling supply side issues involving equipment, materials and feedstock, the PV Group has also addressed the demand side with several recent public policy efforts in China, India, Taiwan, and the U.S. to expand the market for solar power.

China

In May 2009, the SEMI PV Group released the white paper, "**China's Solar Future**," a preliminary report containing specific recommendations for a China photovoltaic (PV) policy roadmap. As the world's fastest growing developing country, China faces a rapidly increasing demand for energy, and the country is building a massive PV industry representing all facets of the supply chain, from polysilicon feedstock, ingots and wafers to cells and modules. Virtually all of this PV production has been exported. The report recommends an accelerated adoption of PV generated electric power in China to reach global average level of PV power generation by 2014.

The report contains a number of policy recommendations, including:

Establishing clear targets for PV installation. Adjust current national targets and achieve global average level by year 2014, including adjustment of the 2010 target from 300MW to 745MW and the 2020 target from 1.8GW to 28GW

Enacting clear and easy-to-administer PV incentive policies that are suitable for China's unique situations, using both market and legal mechanisms to encourage private investment in PV

While maintaining current rural electrification effort, priority should be given to grid-connected large scale power plant and building integrated systems

Immediately implementing government direct investment subsidy model at central and local levels, and effectively implement feed-in tariff programs stipulated in the Renewable Energy Law

In addition to the economic and social benefits of increasing solar power demand, the white paper points out that China's lack of PV demand also threatens government solar incentives in other countries. Policy makers in Europe, US and elsewhere may view China as the primary beneficiary of domestic economic policies that encourage PV demand, while China itself is not contributing to global fossil fuel reduction.

India

In April, the PV Group Advisory Committee in India announced an outline and vision for the Indian solar market, including growth opportunities, potential socio-economic development benefits, the current market situation, and India's public policy needs. The white paper, entitled "**The Solar PV Landscape in India – An Industry Perspective**," suggests that India can play a leading role in the global photovoltaic and solar industry. The paper was developed by the India PV Advisory Committee, represented by industry leaders from all sectors of the solar PV supply chain. The report was released by Mr. K. Subramanya, CEO, Tata BP Solar at a special briefing for the media, and includes strong demands for policies to increase solar deployment in the country.
Key recommendations and call-for-action include:

Evolve a common government-industry vision to make India a world leader in PV

Develop financing infrastructure and models that will motivate large-scale PV adoption and investments

Prioritize grid-connected PV generation on a large scale

Taiwan

Under the direction and guidance of the Taiwan PV Advisory Committee, the SEMI PV Group urged the swift passage of the Renewable Energy Act to accelerate the adoption of solar power in Taiwan. The plan is designed to increase demand for solar power, boost research and development, and support the development of the island's green energy industries. In meetings widely covered by the Taiwan press, the PV Advisory Committee met with several legislators and government officials to advance the PV policy agenda. The Taiwan PV Advisory Committee members include the CEOs of Motech, E-Ton, AUO, Chi-mei, Nexpower, and Neo Solar Power, among others.
In addition to supporting the Taiwan supply chain, the PV Group also advocated stronger policies to encourage demand. "Ninety percent of Taiwan's solar energy products are sold to overseas customers. There is no way to enjoy the benefits of renewable energy domestically. The government might consider presenting an industry outlook that actually benefits Taiwan, going from green energy production to becoming a role model for other nations," said Liang Rung-chang, chairman of DelSolar." Yao Dang-liang, chairman of Sino-American Silicon Products, called for the government to start with education; for example, installing 3,000-5,000 watt generators in elementary and middle schools to enable the next generation to live a more sustainable life by using cleaner energy and recognize how important it is for the entire population. Liu Chao-shiuan, president of the Executive Yuan, responded by saying the government will continue to work hard in the areas of strengthening manufacturing capability and increasing domestic demand: "It is our wish that Taiwan not only be a manufacturing hub, but also an optimal green energy environment."

United States

In the United States, SEMI and the PV Group actively worked to include several innovation-oriented elements of the American Recovery and Reinvestment Act (H.R. 1). The

stimulus package includes significant funding increases for key science agencies, including the National Science Foundation, the National Institute for Standards and Technology (NIST) and the Department of Energy. The bill also emphasizes alternative energy with numerous provisions and new spending intended to increase government use of alternative energies, spur development of the domestic market and create “green” jobs. These provisions include the creation of a new manufacturing tax credit, a temporary loan guarantee program, a new DOE program that will provide grants as an alterative to the investment tax credit, and increased federal procurement. **SEMI PV Group is currently working closely with Congress on the upcoming energy bill**.

Regional Representation, Global Coverage

Each of these initiatives has been developed and executed under the direction of regional PV Group Advisory Committees comprised of leaders in the industry from cell and module manufacturers, equipment and materials suppliers, academia and policy experts, as well as others. In response to member needs and under the direction of these Advisory Committees around the world, the PV Group will continue to advocate, collaborate and facilitate solutions to both demand and supply side issues in the global solar marketplace.

For more information about any of the white papers, go to:
http://www.pvgroup.org/AboutPVGroup/index.htm