

TESTIMONY OF
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SOLAR ENERGY INDUSTRIES ASSOCIATION
BEFORE THE
**HOUSE ENERGY & COMMERCE COMMITTEE, SUBCOMMITTEE ON COMMERCE,
MANUFACTURING, AND TRADE**
**HEARING ON “MADE IN AMERICA: INNOVATIONS IN JOB CREATION AND
ECONOMIC GROWTH”**
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Madam Chair Bono Mack, Ranking Member Butterfield and Members of the Subcommittee, thank you for the opportunity to testify. I am Rhone Resch, the President and CEO of the Solar Energy Industries Association (SEIA). I am testifying on behalf of our 1,000 member companies and 100,000 American citizens employed by the solar industry. SEIA represents the entire solar industry, encompassing all major solar technologies (photovoltaics, concentrating solar power and solar water heating) and points in the value chain, – including financiers, project developers, component manufacturers and solar installers. Before getting into the substance of my testimony, let me thank Chair Bono Mack and Ranking Member Butterfield for their leadership and support of solar energy.

I. INTRODUCTION

At a time of high unemployment and difficult economic conditions, the solar industry has become the fastest growing energy sector and one of the fastest growing industries in any sector across the U.S. In 2010, the solar industry grew at a rate of 67 percent and now employs Americans in all 50 states. We are putting plumbers, electricians and carpenters that were let go by the housing market back to work. And we are providing opportunities for small businesses to sprout up and prosper all over the country. This phenomenal growth has occurred due to private investment, technological innovation, a maturing U.S. solar market, and smart federal policy. The federal government has received a strong return on its investment of public dollars, with benefits to our economy far exceeding costs.

The purpose of my testimony is to describe the tremendous progress the solar industry has made in just the last few years in creating jobs across the country and stimulating strong economic growth while generating clean, reliable, domestically-sourced energy. SEIA also has suggestions regarding steps Congress can take to continue the rapid growth of the solar markets and workforce.

II. THE STATE OF THE SOLAR INDUSTRY

Solar is booming worldwide, doubling in size in 2010 and is one of the largest global growth sectors. The U.S. is seen by many within the industry as becoming the largest solar market within two years.

In fact, the U.S. solar industry grew from \$3.6 billion in 2009 to \$6.0 billion in 2010, a growth rate of 67 percent. Photovoltaic's installations doubled in 2010 in the U.S., while construction began on several utility-scale, concentrating solar power plants that will be completed over the next several few years, employing thousands of Americans. Unlike any other energy resource, solar is abundant in every state in the union, and more people in more states are using solar energy every year. Over the past 30 years, over 2 million homes and businesses have installed solar energy systems.

Industry scale and innovation are driving down costs while smart federal and state policies accelerate this process. Nationally, the price of solar energy fell by 20% during 2010, making solar increasingly affordable for homeowners, businesses, and utility ratepayers.

But we can't afford to remain content with the status quo. China, Germany, Italy and Japan are investing heavily in solar. After decades of leadership in the 1970s and 1980s, the U.S. is now in fourth place and playing catch up, and competition is stiff. Today the U.S. is a net exporter of solar energy goods and services – a claim that is hard to make in most other industries today in these tough economic times – but it is hard to say how long that condition will last unless the right policies are adopted.

III. SOLAR INDUSTRY EMPLOYMENT

As solar deployment grows, so do the number of Americans employed by solar. Although the largest American companies, such as General Electric, Applied Materials, and Dow Chemical are actively engaged in the solar industry, the majority of solar jobs are found on Main Street.

In 2010, The Solar Foundation completed the first ever National Solar Jobs Census to quantify the current employment and projected growth of the United States solar industry. It found the U.S. solar industry employs nearly 100,000 Americans [defined as those workers who spend at least half of their time supporting solar-related activities].

These workers range from small-town installers and roofers, electricians, plumbers, construction workers, many of whom were laid off in the recent housing market collapse, to assembly line manufacturers, architects, and engineers.

Moreover, more than half of solar companies expect to add jobs during 2011, while only 2% expect to cut workers. According to the census, U.S. solar companies expect to add jobs at a rate of 26% in 2011, a pace of growth that is much faster than the general economy – which grew at 2.8% in 2010 (GDP).

Take for instance, Justin Cox, a technical support rep at Sungevity in California. Justin came back after serving in Iraq and now applies the leadership skills he gained in the Army to the solar industry. The U.S. solar market is welcoming back veterans like Justin with new job opportunities now.

Solar also employs 25,000 Americans in the manufacturing sector, and this number is expected to grow by a remarkable 36% between 2010 and 2011. Solar is helping to revive U.S. manufacturing with factories opening in every region of the country.

Today there are over 2,000 companies across America supplying products and services to the solar industry. PV manufacturing facilities across 17 states around the country are producing

the primary components of a solar PV system, including polysilicon wafers, cells, solar modules, cells, wafers, polysilicon and inverters. In addition, hundreds of companies all over the country supply the solar industry with components and services. Fifty-eight of these facilities received federal Manufacturing Incentive Tax Credits to build out their factories, boosting U.S. clean tech production and employing thousands of additional workers.

In addition to the existing facilities in traditional solar state leaders like California and Oregon, new solar manufacturing facilities opened in 2010 in Arizona, Georgia, and Colorado. And for the first time, a Chinese solar manufacturer, Suntech, opened an American manufacturing facility, because they recognized the value and potential of the expanding U.S. market. Further solar manufacturing expansion will continue in 2011, as major new facilities come online in Tennessee, Michigan, Indiana, Colorado, and Mississippi.

The scope and growth of the solar industry and solar jobs in the United States is apparent from the industry presence in Subcommittee Member's districts and states. In Subcommittee Chair Bono Mack's district in Southern California, there is a 21 MW solar photovoltaic project in operation near Blythe, California. This project is one of the largest photovoltaic projects operating in the U.S. today. The project developer and module supplier for the project is an American company, First Solar, which manufactures its innovative, low cost cells and modules in Ohio, employing over 1,000 American workers.

Also in Blythe, California, a 1,000 MW concentrating solar power plant is under development and recently received final approval to begin construction on federal land. When complete, the Solar Millennium's Blythe project will be the largest solar project in the world, and will produce enough clean energy to power 200,000 average American homes. Additionally, the construction of the first 500 MW project alone will create 1,000 direct construction jobs and about 100 permanent operations jobs in Chair Bono Mack's district. In December 2010, unemployment in Riverside County, where the project is located, stood at 14.2 percent. These projects will begin to add much needed jobs to this district. Unfortunately, as discussed further below, the Solar Millennium Blythe Project has been placed at risk by certain provisions of H.R. 1 which eliminate funding for the project's pending Department of Energy (DOE) loan guarantee application.

In Clarksville, Tennessee, located in Representative Blackburn's district, Hemlock Semiconductor is building a \$1.2 billion polysilicon manufacturing facility which will employ up to 1,500 workers during construction and 1,000 workers for permanent operations when completed later this year. Polysilicon is a key component of the majority of solar panels built today. Also in Tennessee, a Sharp Solar manufacturing facility is located just south of Representative Blackburn's district. Panels manufactured there were used to supply a 1 MW solar project in Jackson, TN, which is also located near Ms. Blackburn's district, providing a

significant local impact throughout the supply chain, from manufacturing to project completion and beyond.

In Chicago's West Pullman neighborhood, on the south side of town, Exelon owns and operates a 10 MW solar photovoltaic power generating facility, just north of Representative Kinzinger's district. This 10 MW project is the largest urban PV plant in the country today. Nearby, in Rockford, Illinois, a 62 MW PV farm is under development, and the modules will be supplied by a local Illinois manufacturer.

Adjacent to Representative Olson's district, MEMC operates a polysilicon manufacturing facility. The MEMC facility is one of three large U.S. polysilicon manufacturing facilities. Together, these three facilities produce approximately 40% of the global supply of polysilicon for the solar industry. The MEMC facility is located in an industrial area west of Houston, and is adjacent to Representative Olson's district.

IV. SUSTAINING THE GROWTH OF THE SOLAR INDUSTRY AND JOBS

A. Tax Policy

The cornerstone of federal policy in support of solar energy is the Investment Tax Credit (ITC) for residential and commercial projects, enacted as part of the Energy Policy Act of 2005 by a Republican Congress and Administration. The solar ITC is in place until the end of 2016 and has been a tremendous success, generating billions of dollars of investment in solar and helping to create good-paying, stable jobs nationwide. Prior to the recent financial crisis, many solar and other renewable energy projects relied on third party tax equity investors to monetize the value of the commercial tax credit. However, the economic downturn dramatically reduced the availability of tax equity, severely limiting the financing available for renewable energy projects. Congress acted to remedy this problem in 2009 with the enactment of the Section 1603 Treasury Program which allows the owners of commercial solar projects to receive a direct payment in lieu of the ITC. This program was extended in late 2010 for an additional year. Section 1603 has been an extraordinarily effective policy mechanism, supporting the deployment of over 1,500 solar projects in more than 40 states. Very few federal policies have had that type of return on investment. SEIA believes it should be extended for at least another year due to the still sluggish economy and continued shortfall of tax equity financing.

SEIA also believes that solar manufacturing incentives are needed to both preserve and grow solar manufacturing jobs in the United States. Currently, no solar manufacturing incentives are in place due to the failure to extend the Section 48C manufacturing tax credit, which expired at the end of 2010. By contrast, countries such as China provide extensive support to their renewable manufacturing industries, making it very difficult for American companies to compete. If the United States does not respond through tax incentives and other measures, it

will be very difficult, if not impossible, to keep solar manufacturing jobs in the U.S. We should be reclaiming our manufacturing lead on a technology that our country first invented.

B. Financing Mechanisms

SEIA members consistently say that the most serious challenge they face is the difficulty of obtaining project financing. SEIA urges Congress to consider a variety of financing mechanisms, including the Clean Energy Development Deployment Administration. SEIA also strongly supports additional funding as well as reforms to the DOE Loan Guarantee Program.

DOE's Loan Guarantee Program was initially created by the Energy Policy Act of 2005 in recognition of the great challenges that large-scale nuclear and renewable energy projects face obtaining affordable long-term financing in the commercial marketplace. Until the financial community witnesses the successful completion of several of these projects, it will continue to charge substantial premiums or not lend to such projects at all.

To date, DOE has committed over \$26 billion in loan guarantees for 23 clean energy projects with total project costs of over \$40 billion. Cumulatively, these projects will produce almost four gigawatts of clean energy capacity, deploy three new manufacturing facilities, and will create tens of thousands of jobs across 19 states.

SEIA strongly opposes the provisions in the House-passed continuing resolution, H.R. 1, which would eliminate funding for DOE loan guarantees for solar and other non-nuclear renewable energy projects. In its current form, H.R. 1 would likely kill over 30 clean energy projects that have applied for loan guarantees. Many of the companies with pending applications have collectively invested hundreds of millions in developing solar projects in reliance on the Loan Guarantee Program and will likely lose the entirety of their investment and may be bankrupted if this proposal becomes law. Among the projects placed at risk is the Blythe Solar Power Project discussed above, located in Chair Bono-Mack's Bono Mack's district.

Seven of these projects have received only conditional loan commitments. Since OMB will likely not consider loan guarantee funding to be obligated until the loans have closed, many of these projects would be killed by H.R. 1 even though the developers have committed millions of dollars in reliance on the U.S. government's promise of support.

There are also approximately 25 additional projects that have received term sheets as part of the agency's loan guarantee due diligence review process. These projects have been selected from hundreds of applications submitted to the DOE loan guarantee program to receive the balance of loan guarantee funding available under the Section 1705 program.

The DOE loan guarantee funds that would be eliminated by H.R. 1 are not simply excess appropriated dollars sitting in an agency's reserve account. Every dollar will be spent on clean energy projects that have been identified by DOE as viable and creditworthy and ones that will significantly contribute to our nation's energy needs. To cancel funding for the loan program at this point, just as these projects are about to be deployed and after companies have already paid DOE millions of dollars for application, consulting, and facility fees and invested hundreds of millions of dollars in engineering, preparation and development, would result in a colossal waste of private capital and erode domestic and international confidence in the U.S. energy markets. It is both unfair and short-sighted to change the rules this late in the game. Therefore, SEIA respectfully requests that the House reconsider its position regarding DOE loan guarantees in the context of negotiations with the Senate on the FY 2011 Continuing Resolution.

C. Trade Issues

Solar is helping to restore America's diminished manufacturing base. As I mentioned earlier in my testimony, last year new solar manufacturing facilities opened in Arizona, Georgia, and Colorado. Numerous others are on the drawing board.

A recent SEIA-GTM study found that in 2009, U.S. solar installations created a combined \$3.9 billion in direct value for our economy. Of this, 73%, nearly \$2.8 billion was sourced domestically. Furthermore, the domestic solar industry is a net exporter—bringing money into the American economy. In 2009, those exports totaled \$723 million. For the average PV system, 71% of the total system value was created domestically. The largest solar product export was polysilicon, the feedstock for crystalline silicon photovoltaics, of which the U.S. exported \$1.1 billion. Manufacturing incentives, the reduction of non-tariff trade barriers, and continued assurance of open marketplaces for American products are all key to ensuring this trend continues.

We are unique among industries in that a significant portion of the revenue generated by solar projects resides beyond the physical components. These include site preparation, installation, labor, permitting, financing, and other soft costs. Together these comprise over 50% of the total cost of installing a system. These are functions that can't be exported, and as the industry has grown, so has the number of electricians, plumbers, and roofers who have been put back to work.

D. FERC Transmission Policy

Electric transmission constraints are increasingly becoming a barrier to solar development. Particularly in the Southwest more transmission is needed to deliver utility scale solar power

generated in remote areas to electricity customers in urban areas. Regulatory responsibility for transmission is shared between the states and the federal government. One aspect of the issue that is the responsibility of the Federal Energy Regulatory Commission (FERC) is transmission planning and cost allocation for the interstate transmission system. In many cases, the most economic and environmentally sound renewable transmission solutions involve regional interstate lines. However, the difficulty of reaching agreement on how transmission costs should be allocated between states often slows, or even kills, necessary transmission.

SEIA applauds FERC for its proposed transmission rule that addresses cost allocation issues through a highly equitable “beneficiary pays” approach. SEIA also supports the Commission’s recently issued proposed rule to facilitate the integration of variable renewable resources into the electric system.

V. CONCLUSION

In conclusion, SEIA, our 1,000 member companies and our workforce of 100,000 strong and growing thinks that these policy recommendations combined with private investment and continued technological advances will keep the solar industry as one of the fastest growing economic sector in the country. These factors will help spur new American jobs across the supply chain, help revive our manufacturing base and expand the use of solar in our nation’s energy mix – a national objective that more than 90 percent of the American public supports.

Once again, SEIA deeply appreciates the opportunity to testify before the Subcommittee. I would be happy to answer any questions.