

STATEMENT OF  
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SUBMITTED TO THE  
**UNITED STATES SENATE COMMITTEE ON FINANCE**  
**SUBCOMMITTEE ON ENERGY, NATURAL RESOURCES, AND**  
**INFRASTRUCTURE**

HEARING ON  
**ALTERNATIVE ENERGY TAX INCENTIVES:**  
**THE EFFECT OF SHORT-TERM EXTENSIONS ON ALTERNATIVE TECHNOLOGY**  
**INVESTMENT, DOMESTIC MANUFACTURING, AND JOBS**

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The Solar Energy Industries Association (SEIA) is the national trade association for the U.S. solar energy industry. On behalf of our 1,100 member companies and the 100,000 American taxpayers employed by the solar industry, I appreciate having the opportunity to submit a written statement for the record on this hearing regarding the effect of short-term extensions of energy tax incentives on alternative technology investment, domestic manufacturing and jobs.

History has shown that well-crafted and efficient tax incentives can be powerful policy mechanisms to promote the nation's energy objectives and leverage private sector investment to promote the deployment and utilization of new energy resources. As with every other major U.S. energy resource, effective tax policy has helped yield significant economic and energy policy benefits in the solar industry. Accordingly, it is appropriate for the Senate Finance Committee to review existing energy tax incentives, and in particular focus on the impact short-term extensions of energy tax incentives have on a host of energy industries and technologies.

When evaluating the efficacy of specific energy tax incentives, there are several fundamental considerations for policymakers. For example, an incentive's rate of return for taxpayers and whether or not a tax preference is effective in meeting the nation's short, medium and long term energy policy objectives should be carefully considered by Congress. By any objective measure, in the case of the U.S. solar industry, tax policy has proven to be an efficient and cost-effective way of promoting an activity that is fully consistent with the nation's energy policy goals. Retention of stable, reliable tax policy that maintains tax incentives provided under current law and improves the liquidity and efficiency of existing incentives will allow the U.S. to reap the significant economic and energy security benefits associated with a vibrant U.S. solar industry.

It is important to note that in 18 days, the Section 1603 Treasury Program will expire. Tax equity is utilized to finance a broad array of energy projects, and the Section 1603 Treasury Program addresses an existing shortage of tax equity in the marketplace. There remains a need for this effective initiative. However, uncertainty regarding the program's future is having a detrimental impact in the marketplace and could negatively impact the financing of promising domestic energy projects. To remove this uncertainty, Congress should extend the 1603 Treasury Program.

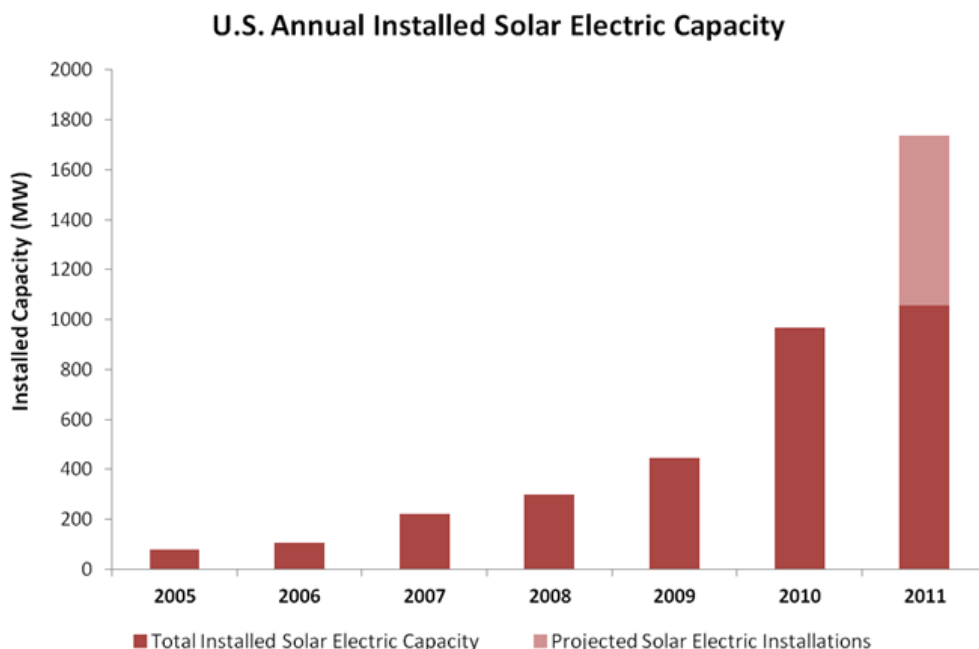
## **Background on Solar Tax Incentives**

The *Energy Policy Act of 2005* (P.L. 109-58) created tax incentives for solar energy – a new 30% investment tax credit (ITC) for commercial and residential solar energy systems that applied from January 1, 2006 through December 31, 2007. These credits were extended for one additional year in December 2006 by the *Tax Relief and Health Care Act of 2006* (P.L. 109-432). In 2007, global investment in clean energy topped \$100 billion, with solar energy as the leading clean energy technology for venture capital and private equity investment. The solar tax credits helped to create unprecedented growth in the U.S. solar industry from 2006-2007. The amount of solar electric capacity installed in 2007 was double that installed in 2006.

In response to the dramatic downturn in the economy in 2008, Congress enacted the *Emergency Economic Stabilization Act of 2008* (P.L. 110-343). Among other provisions, this legislation included an eight-year extension of the commercial and residential solar ITC, elimination of the monetary cap for residential solar electric installations, and permitted utilities and alternative minimum tax (AMT) filers to utilize the credits.

## Solar ITC a Resounding Policy Success

The market certainty provided by a multiple year extension of the residential and commercial solar ITC has helped the rate of solar power installations grow by 800% since the ITCs were implemented in 2006 - a compound annual growth rate of 74%. Cumulative solar capacity in the U.S. now exceeds 3,650 megawatts (MW), enough to power more than 730,000 homes. In Q3 2011, the U.S. installed an additional 449 MW, a 140% year-over-year increase from Q3 2010.



## Growing U.S. Solar Manufacturing Capacity

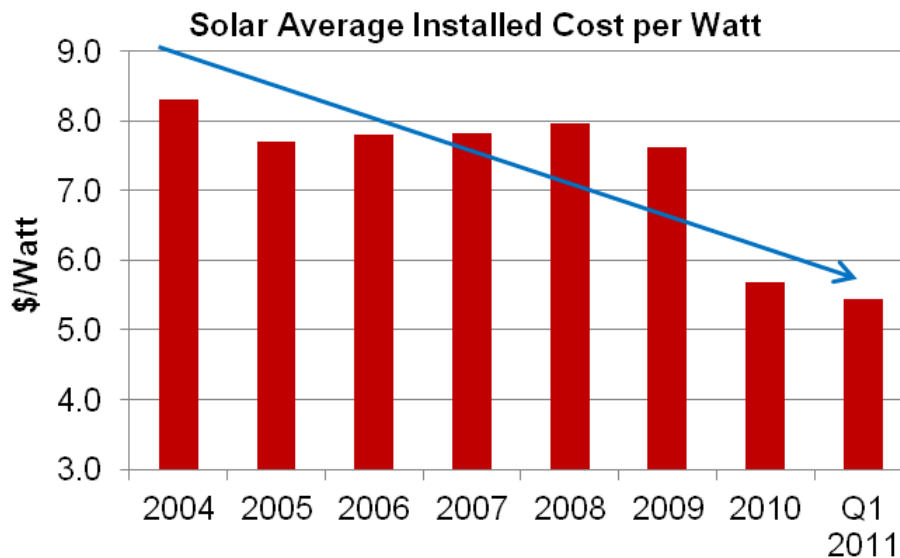
The sharp growth in project installations after passage of the ITC jump-started domestic U.S. solar manufacturing. Between enactment of the ITC through the end of 2010, U.S. solar manufacturing capacity quadrupled from 726 MW in 2007 to 2,887 MW.

Today, there are at least 51 domestic facilities in 21 states manufacturing the primary components of solar PV systems, including solar-grade polysilicon, wafers, cells, solar modules, and inverters. The U.S. was a \$2 billion net exporter of solar products in 2010.

## The Falling Cost of Solar for Consumers

Since the beginning of 2010, the price of solar panels has dropped by 40%, and costs continue to fall, making solar even more affordable for residential and business consumers. This is part of an ongoing trend that has shown consistent declines in solar pricing in the marketplace.

The existence of the ITC through 2016 provides market certainty for companies to develop long-term investments in manufacturing capacity that drives competition, technological innovation, and ultimately lowers costs for consumers.



Source: LBNL Tracking the Sun III; SEIA/GTM Research Solar Market

## An Engine for U.S. Job Creation

Due in large part to the availability of the multi-year ITC, the solar industry grew by 140% in the last year, making it one of the fastest growing industry sectors in the U.S. economy – in contrast to the 2.8% GDP growth of the U.S. economy overall in 2010.

Today, the solar industry employs more than 100,000 Americans, more than double the number from 2009. They work at more than 5,000 companies, the vast majority being small businesses, in all 50 states. Additional job growth is expected as the industry continues to grow in the future.

## Importance of Tax Equity Financing and Credit Liquidity

The 2008 economic crisis rendered solar and other renewable energy tax incentives of little immediate value. Prior to the financial crisis, many large-scale renewable energy projects relied

upon third-party tax equity investors to monetize the value of federal renewable energy incentives. The economic downturn drastically reduced the availability of tax equity, severely limiting the financing available for renewable energy projects.

Tax equity is the term used to describe the passive financing of an asset or project by large tax-paying entities that can utilize tax incentives to offset future tax liabilities. Tax equity investors in renewable energy projects receive a return on investment based not only on the income from the asset or project, but also on federal income tax incentives (through the utilization of tax credits). Renewable energy developers themselves typically do not have sufficient taxable income to benefit directly from these tax credits and must partner with tax equity investors in order to finance projects. For example, they participate in a partnership structure in which ownership of the project is transferred from the tax equity investor to the developer-owner once the tax benefits are realized. Leasing structures akin to those commonly found in many sectors of the economy are also utilized.



Sources: U.S. Department of The Treasury, US Partnership for Renewable Energy Finance, and Leading Tax Equity Market Participants

The pool of tax equity investors is typically limited to the largest and most sophisticated financial firms and utilities, and the 2008 economic crisis significantly reduced the market demand among these entities for tax equity. A report released by the Bipartisan Policy Center on March 22, 2011, noted that the number of tax equity investors in renewable energy projects declined from approximately 20 in 2007 to 13 in 2008 and only 11 in 2009. The associated decline in overall tax equity financing provided to renewable energy projects was equally dramatic, falling from \$6.1 billion in 2007 to \$3.4 billion in 2008 and \$1.2 billion in 2009.

### Section 1603 Treasury Program

In response to the dramatic decline in capital available for renewable energy projects, the *American Recovery and Reinvestment Act (ARRA)*(P.L. 111-5) included important modifications to the ITC and other renewable energy tax incentives to address the lack of available tax equity financing, including the Section 1603 Treasury Program. This program allows solar and other renewable energy developers to receive a direct federal grant in lieu of taking the ITC that they are otherwise entitled to receive. The goals of this modification were to simplify financing for renewable energy projects and to provide access to capital during a time when project developers' tax burdens were inadequate to capitalize on tax incentives and tax equity

financing was both scarce and expensive. The program has been very successful in achieving these goals.

It is important to note that the Section 1603 Treasury Program does not significantly increase the overall cost to the federal government of tax incentives for solar energy projects. Instead, the program primarily affects the timing of when ITCs for solar projects can be utilized.

### **Section 1603 Treasury Program has been a Proven Success**

Due in large part to the liquidity provided by this important incentive, the solar industry grew by 69% in the last year, making it one of the fastest growing industry sectors in the U.S. economy. The solar industry employs more than 100,000 American workers in all 50 states.

In its preliminary evaluation of the Section 1603 Treasury Program, conducted at the request of the House Ways and Means Committee, DOE's Lawrence Berkley National Laboratory, noted:

*[T]he Section 1603 program provides significant economic value to many renewable power projects, relative to the PTC or even ITC. Specifically, the grant program reduces the market's dependence on scarce and/or costly third-party tax equity, and also in many cases provides more direct or face value to renewable power projects than does the PTC. In addition, a number of indirect or ancillary benefits favor the grant from a renewable project developer's perspective, potentially helping to drive additional renewable capacity additions.*

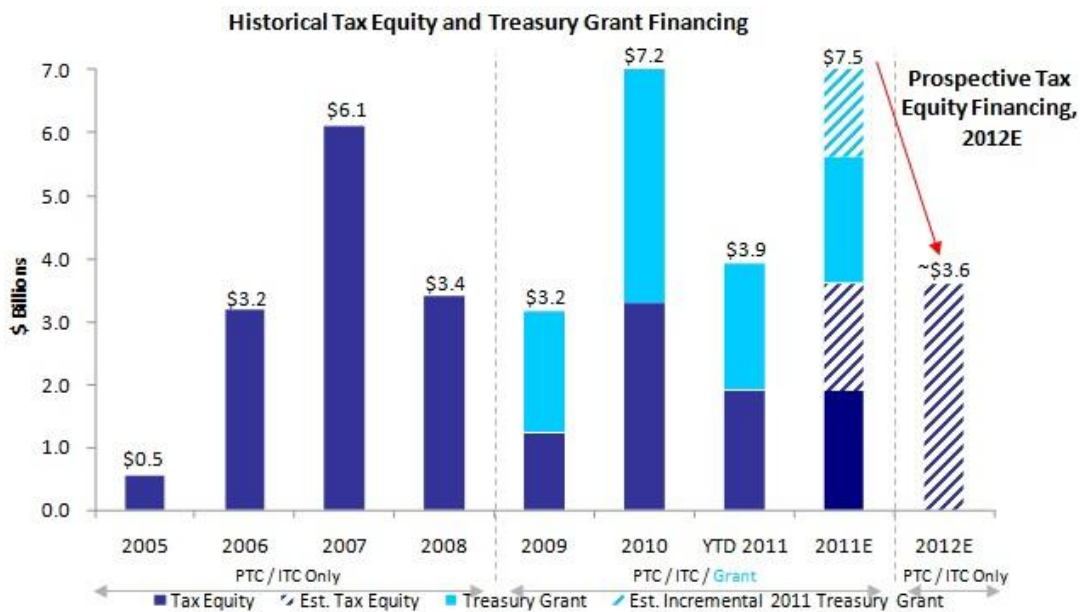
The 1603 Program revived the renewable energy industry in 2009 after the lack of tax equity financing in late 2008 brought many projects to a halt. As of November 2011, the program has awarded grants for more than 22,000 solar projects totaling \$1.5 billion and driving over \$3.5 billion in private sector investment in the solar industry across 47 states. Since enactment, the program has leveraged more than \$22.8 billion in private sector investment for a wide range of energy technologies in all 50 states.

### **Congress Should Extend the Section 1603 Program**

Tax equity financing has still not recovered to the levels available prior to the recession and the rates of return that are being demanded in today's marketplace by investors remain prohibitively high. In December 2010, tax equity investors in solar projects required returns from 9% to as high as 20% compared to pre-recession levels of 6% to the low teens.

Due to global economic conditions, a large gap persists between the total amount of financing renewable energy developers need to build a thriving U.S.-based clean-tech industry and what money is available. Expiration of the 1603 Treasury Program this year is projected to reduce the availability of financing from an estimated \$7.5 billion in 2011 to approximately \$3.6 billion in 2012 – a reduction of more than 50%. Therefore, to continue this successful, job-creating

program, SEIA encourages Congress to extend the 1603 Treasury Program and explore ways to improve the liquidity and efficiency of the solar ITC.



Sources: U.S. Department of The Treasury, US Partnership for Renewable Energy Finance, Leading Tax Equity Market Participants

## Global Competitiveness and the U.S. Solar Industry

The U.S. is a \$2 billion net exporter of products in the solar value chain, and has the potential to be the world leader in solar energy. But for this to occur, policymakers should support smart policy that supports the global competitiveness of the U.S. solar industry while allowing market forces and global trade to spur growth and innovation. For example, other significant global players in the solar industry, such as China, Germany and Malaysia employ a variety of initiatives including but not limited to federal and local tax abatements; low cost access to capital; and aggressive policies to attract foreign direct investment and promote growth and stability in their domestic solar industries.

It is in the nation’s best interests, from both an economic and energy policy perspective, to remain competitive in the global solar marketplace. This is particularly the case with domestic solar manufacturing. Section 48C of the Internal Revenue Code previously provided for a 30 percent ITC that could be claimed on the cost of re-equipping, expanding or building a factory to make clean energy products. The incentive could be claimed by a wide variety of renewable energy technologies. The Section 48C credit was capped at \$2.3 billion in 2010. While the incentive was in place, solar manufacturing facilities in 21 states received support to promote production activities across the broad spectrum of solar energy technology.

Expiration of the Section 48C manufacturing incentive at the end of 2010 removed a viable incentive to help U.S. solar manufacturers remain competitive in both the global and domestic marketplace. Moving forward, lawmakers should carefully consider the important role tax

policy can play to bolster the nation's solar energy industry in an increasingly competitive global marketplace.

## **Conclusion**

As the brief duration of federal solar tax incentives demonstrates, effective federal tax policy can yield significant energy and economic policy benefits. SEIA and the U.S. solar industry looks forward to working constructively with the Finance Committee to extend the 1603 Treasury Program and craft effective tax policy that is consistent with the nation's energy and economic policy objectives.