



April 15, 2015

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Committee on Finance  
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Washington, DC 20510

The Honorable John Thune  
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The Honorable Dean Heller  
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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 1,000 member companies and the more than 174,000 American taxpayers employed by the solar industry, we appreciate the opportunity to submit comments to the Senate Finance Committee's Business, Individual, and Community Development & Infrastructure Working Groups and explain how the Solar Investment Tax Credit (Section 48 and 25D) and the treatment of solar property under the Modified Accelerated Cost Recovery System (MACRS) have helped drive down the cost of solar, increased solar capacity, employed tens of thousands of Americans, and resulted in tens of billions of dollars of investment in our country. These jobs and this significant investment of private capital should not be put at risk by tax policy disruptions or expiration dates.

As the brief duration of federal solar tax policy demonstrates, effective federal tax policy can yield significant energy and economic policy benefits. We welcome the long-term certainty that tax reform could provide for the solar industry. Nevertheless, eliminating the commercial or residential ITC or MACRS for solar property would significantly threaten the solar industry. Moreover, it would limit American consumers' choices to meet their energy needs. Any tax reform legislation proposal must preserve the commercial and residential ITCs as well as MACRS for solar property. SEIA and the U.S. solar industry look forward to working constructively with policymakers to craft effective tax reform policy that is consistent with the nation's energy and economic policy objectives.

## **INTRODUCTION**

First, SEIA wants to thank you and your staff for your work to reform the nation's tax code. As you know, federal tax policy has for decades provided a legislative and regulatory framework that has helped every major source of energy in the U.S. grow to maturity. History has shown that well-crafted and efficient federal tax policies can provide powerful mechanisms to promote the nation's energy objectives and leverage private sector investment for the deployment and utilization of new energy resources. Today, federal renewable energy policies are largely carried out through the tax code, and tax policies have played a vital role in developing new domestic energy resources to power America's long-term economic prosperity and growth. The solar industry provides a perfect example of the power of tax policy to help drive economic growth and energy innovation.

It is important to note that there are multiple forms of solar energy technologies, each with unique performance capabilities and benefits. Photovoltaic (PV) devices generate electricity directly from sunlight via an electronic process. PV devices can be used to power anything from small electronics to homes, communities, and large commercial businesses. PV technology can be applied in a number of different ways. The primary applications of PV solar are, utility PV, community PV, distributed PV and off-grid distributed PV. Concentrating Solar Power (CSP) uses mirrors to concentrate the sun's thermal energy to produce steam and drive a conventional steam turbine to produce electricity. Like utility PV, this solar generated electricity is then sold to wholesale utility buyers. CSP can be integrated with thermal energy storage, which allows energy to be stored for later use. In this way, CSP with thermal energy storage provides flexibility to grid operators, offering power that can be dispatched as needed, day or night. Solar Heating and Cooling (SHC) technologies collect thermal energy from the sun and use this heat to provide hot water, space heating and cooling and pool heating for residential, commercial and industrial applications.

All of these technologies have become market viable due to the Investment Tax Credits. However, while the current code can and should be improved, it is just as true that there are provisions that are doing just what Congress intended for them to do. In particular, IRC sections 25D, 48 and 168(e)(3)(B)(vi)(I) should not be allowed to expire or decline to 10% in the case of section 48. SEIA states this clearly because, unlike most sectors of the U.S. economy which faltered or failed during the great recession, these specific tax provisions led to the remarkable growth of the U.S. solar industry, twelve-fold increase in solar employment, and dramatic decreases in the cost of solar. These provisions have proven to be sound policy and that proof came in a period of extreme economic difficulty. Of all the provisions in the tax code that should be reformed, sections 25D and 48 and 168(e)(3)(B)(vi)(I) are not among them.

Specifically, the Solar Investment Tax Credit (ITC) has given the American people a great return on their investment. Since the introduction of the 30-percent commercial (Section 48) and residential (Section

25D) solar ITC in 2006, solar has become a more competitive energy resource as the average price for installed solar has dropped by 73%. The solar industry has added over 150,000 new jobs—a twelve-fold increase since the ITC was implemented in 2006—and now employs more Americans than the coal industry. The solar industry's supply chain has also grown to include 8,000 companies and over \$66 billion has been invested in the industry by the private sector. 19.5 gigawatts (GW) (14 GW of utility-scale and 5 GW of commercial and residential) of solar capacity (roughly equivalent to 6 coal power plants) have been installed and 570,000 American homes have gone solar, helping families manage their energy costs. By the end of 2015, SEIA expects 28 GW of solar capacity to have been installed on American soil—enough domestic energy to power over 5.5 million homes. Most importantly the tax policy certainty given to the industry with the eight-year extension of the ITC in 2008 has helped drive down consumer costs to the point where every tax dollar devoted to the ITC has received a higher return to the U.S. Treasury on its investment in terms of the number of watts of solar power deployed than the year before.

We appreciate your understanding that business certainty is essential for the growth of capital investment in new U.S. industries. We welcome the long-term certainty that tax reform could provide for the solar industry. Nevertheless, at this stage of the solar industry's development, eliminating the commercial or residential ITC or the treatment of solar property under MACRS immediately puts the continued growth of the solar industry and the jobs that industry represents in significant jeopardy. Any tax reform legislation or proposal should include the continuation of the Sections 48 and 25D Investment Tax Credit as well as MACRS treatment for solar property.

## **THE INVESTMENT TAX CREDIT**

### **History and Current Law**

The *Energy Policy Act of 2005* (P.L. 109-58) created a new 30 percent residential ITC (Section 25D) and increased the credit for commercial solar energy systems to 30% (section 48). That change applied from Jan. 1, 2006 through Dec. 31, 2007. These ITCs were extended for one additional year in December 2006 by the *Tax Relief and Health Care Act of 2006* (P.L. 109-432). In 2008, H.R. 550 was passed to provide for an eight-year extension of these solar ITCs. The bill was broadly bipartisan with 123 cosponsors, over 50 of whom were Republicans. The original Republican cosponsor was Congressman Dave Camp, the former Chairman of the House Ways and Means Committee.

### **The Commercial ITC (Section 48)**

Under existing law, the 30% Section 48 commercial ITC is scheduled to reduce to 10% for property placed in service after December 31, 2016. The commercial ITC is claimed by businesses and business owners that own and use in a trade or business this ITC-eligible solar property, including a number of solar technologies such as concentrating solar power, photovoltaic solar, and solar heating and cooling. Since 2010, the 30% commercial ITC has led to almost 7,000 megawatts (MW)<sup>1</sup> (5,565 MW of PV and 1,435 MW of CSP) of installed utility-scale solar and over 2,000 MW of installed commercial-scale solar. In addition, third-party lease developers, who install solar on homes and businesses, use the commercial ITC and have dominated the residential markets in many of the top solar states in recent years.<sup>2</sup> Third-

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<sup>1</sup> A megawatt is one million watts, and is the typical measurement used for the output of a power plant.

<sup>2</sup> In Q4 2014 in Arizona, California, Colorado, Massachusetts, New Jersey and New York, 60-90% of all residential installations were third-party owned. "Solar Market Insight Report: Year in Review," SEIA and GTM, at p. 10, available at <http://www.seia.org/research-resources/solar-market-insight-report-2014-q4>.

party financing mechanisms and the drop in prices has enabled 640,000 homes and businesses to go solar<sup>3</sup> and led to 97,000 installer jobs<sup>4</sup>. Should a tax reform package not include the 30% commercial ITC, utility-scale developers may be hit the hardest. SEIA predicts that if the commercial ITC is allowed to drop to 10%, only 1,000 MW of utility-scale PV solar will be installed in 2017—a sharp decline from the 7,000 MW of utility-scale PV solar expected to come online in 2016.<sup>5</sup>

### **The Residential ITC (Section 25D)**

Under current law, the Section 25D residential ITC expires entirely on January 1, 2017. The residential ITC is taken by homeowners that own the PV or solar heating and cooling systems installed on and in their homes. Eliminating the residential solar ITC would likely discourage homeowners from purchasing solar systems and would decimate the large portion of the solar industry that relies on homeowner purchases as its business model. These small businesses, which account for a very significant and growing portion of the job growth in the industry in recent years, fuel a nationwide supply chain here in the U.S., which manufactures the panels, inverters, racking, plumbing, and other hardware that comprise an installed residential PV or solar heating and cooling system, meaning the impact of eliminating this credit would be far-reaching and would hurt small businesses and jobs throughout the country.

Furthermore, less than half the states in the U.S. allow third-party solar power purchase agreements or leases based on electrical output, and many of these states only allow third-party PPAs in certain jurisdictions. Thus, in states or communities in which third-party PPAs are not allowed, and in the absence of the Section 25D ITC, homeowners interested in installing solar would have to buy a system outright without any federal incentives. While the cost of solar has decreased dramatically, it can still be cost prohibitive for many homeowners to purchase a solar system, especially without any federal incentives. Eliminating the Section 25D Residential ITC and preventing residential customers from using the ITC after 2016 will force many residential users to choose between either purchasing a system outright or forgoing installing solar altogether. It will also force many small installers and the companies that comprise their supply chains out of business.

### **The ITC has jumpstarted the solar industry**

Congress enacted an eight-year extension of the ITC in 2008 in recognition of the fact that, at that time, the solar industry was still very much in the developmental stage of its existence, and needed tax policy certainty to compete against more mature industries and to attract private sector capital investment for more widespread commercial deployment. By any objective measure—solar installations, solar industry jobs, private investment and ultimate price—the ITC has started to accomplish exactly what Congress intended. But the original goal is not yet achieved.

#### **1) Increased capacity**

The market certainty provided by a multiple-year extension of the residential and commercial solar ITC has indeed helped annual solar installations grow by a factor of 60 since the ITC was implemented in 2006. The U.S. now has over 20,000 MW of installed solar electric capacity, enough to power more than 4 million average American households. In 2014, a new solar project was installed in the U.S. every 2.5

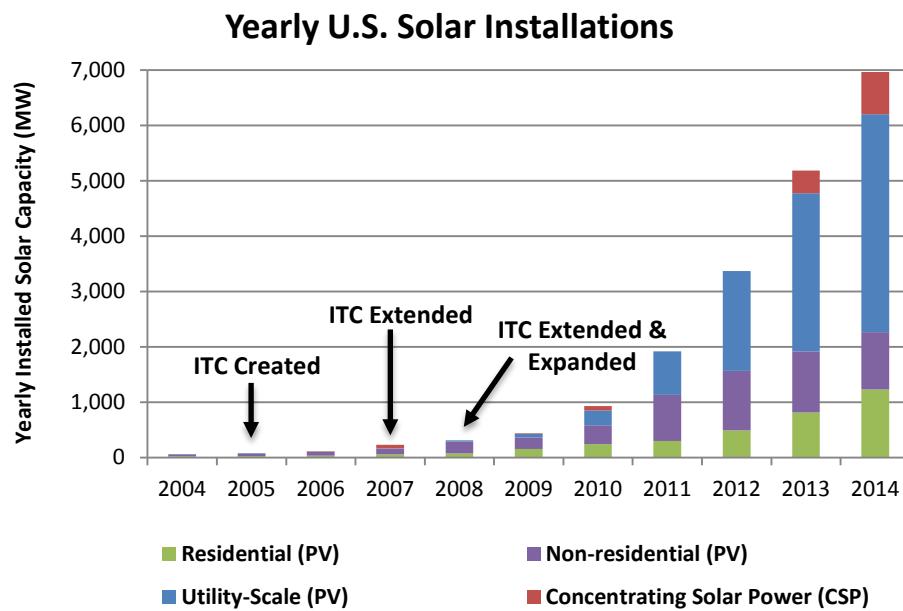
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<sup>3</sup> *Id.* at p. 5.

<sup>4</sup> “National Solar Jobs Census 2014,” The Solar Foundation, available at <http://www.thesolarfoundation.org/national-solar-jobs-census-2014/>.

<sup>5</sup> SMI YIR at p. 5.

minutes. The incredible growth in the residential and utility-scale sectors of the industry meant solar accounted for 32% of all new electric generation capacity installed in 2014. Yet despite the success of the solar ITC, solar still comprises less than 1% of all electric generating capacity in the U.S.<sup>6</sup> America's energy mix is still dominated by conventional power plants financed decades ago, and tax policy certainty is a critical element for utilities, developers and policymakers to plan for future energy investments. While America is off to a good start, given the magnitude of the electrical energy industry in the U.S., the solar industry reasonably and understandably needs more time to compete on a level playing field with other energy resources that also receive tax preferences. Solar is now in the race to compete because of the ITC, but the race is not over. Now is precisely the wrong time to repeal, reduce or restrain the ITC.



## 2) Created jobs

Despite the great recession, the solar industry has grown from 15,000 employees in 2005 to more than 174,000 today.<sup>7</sup> These solar employees work at more than 8,000 companies, the vast majority being small businesses, in all 50 states. 97,000 of those workers are employed by installers that serve their local community and help the local economy. Over 20% job growth is expected in 2015 as the solar industry continues to bring down costs and build and install solar systems.<sup>8</sup>

The ITC clearly has a positive ripple effect to reach beyond project development to enable growth and maturation of the broader solar supply chain – including manufacturers, software technology providers, glass, wire and inverter companies, “mom and pop” retail stores, plumbers, electricians, distributors and salesmen in small towns and large cities across the country. As U.S. manufacturers now compete with

<sup>6</sup> *Id.*

<sup>7</sup> “National Solar Jobs Census 2014,” The Solar Foundation, available at <http://www.thesolarfoundation.org/national-solar-jobs-census-2014/>.

<sup>8</sup> *Id.*

companies around the globe, the ITC is also a critical policy mechanism to ensure robust demand for solar energy components in the U.S. market.

**3) Leveraged private investment**

The existence of the ITC through 2016 is what provided market certainty for companies in 2008 enabling them to develop long-term investments in manufacturing capacity that continues to drive competition and technological innovation, which, in turn, lowers costs for consumers. In 2014 alone, almost \$18 billion was invested in the solar industry by the private sector as compared to just \$1 billion in 2006.<sup>9</sup> All told, the 30% ITC has helped to leverage over \$66 billion of private sector investment in the U.S. solar industry since 2006, a significant portion of which has been foreign direct investment—capital inflows that would not have come to the U.S. absent the ITC. Furthermore, as the cost of solar has decreased, the Treasury is getting a higher return on its investment due to the inherent structure of the ITC.

**4) Drove down costs**

Despite this tremendous success, the cost of solar remains slightly higher than other forms of electricity in most areas of the U.S. While the cost trajectory for solar is projected to continue to decline, it still may take several years before solar can compete head-to-head in most markets with natural gas generation and other forms of electricity. With solar, there is no fuel, and no fuel cost. Unlike thermoelectric power generators, solar PV uses no water to generate electricity. Therefore, the cost of building a solar PV facility, which typically has a 25-30 year actual life, in essence includes the cost of acquiring 100% of its fuel in advance. This is contrasted with a coal, natural gas or nuclear power plant, where the cost of fuel is not incurred 30 years in advance, but rather, as needed. For these and other practical reasons, should the 30% commercial and residential ITC expire at the end of 2016, industry experts predict the loss of tens of thousands of jobs, and a majority of existing small solar companies could go out of business. The ITC is therefore the best, most proven, most successful means of leveling the playing field in the electrical production industry, providing opportunity for the solar industry and other technologies.

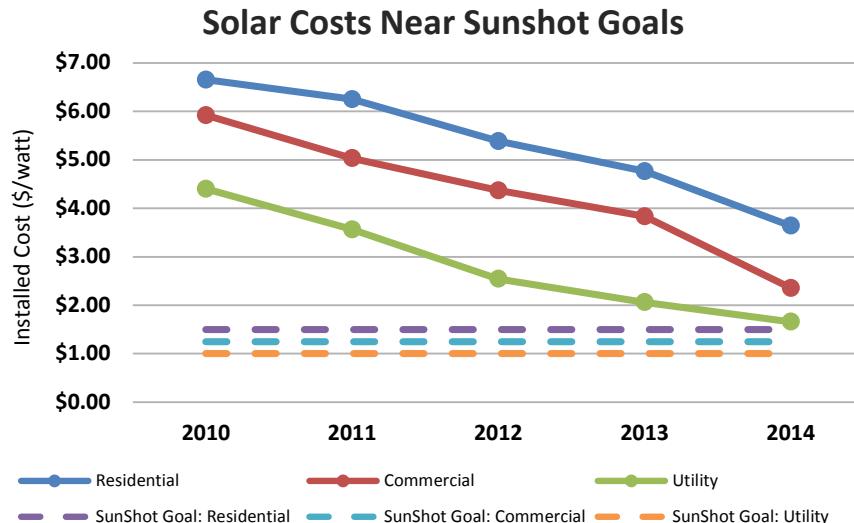
The above factors are why the ITC has also helped drive down the cost of solar. Utilities see the value in signing long-term power purchase agreements with solar developers, where the ITC has helped the price of utility-scale PV to become cost-competitive with other energy resources in certain states and thereby provide a hedge against other resources' fuel price volatility.<sup>10</sup> Since 2006, the average price for installed solar PV has dropped by 73%, from \$7.90/watt to \$2.17/watt, and is \$1.55/watt for the average utility-scale PV system. Once a product priced out of reach for middle and working class families, distributed PV solar is now available for low or no money down to qualifying homeowners, and more and more businesses are installing solar to lower their electricity bills precisely because the ITC levels the playing field and increases free market opportunity.<sup>11</sup> It is also important to note that as the cost of solar property decreases, the cost basis on which the ITC is claimed decreases, thus reducing the per-unit cost to the Federal Government over time.

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<sup>9</sup> *Supra* SEIA/GTM 2014 Year in Review Report.

<sup>10</sup> Austin Energy recently signed a PPA with Recurrent Energy for 150 MW project at under five cents/kwh.

<sup>11</sup> See "Solar Means Business 2014: Top U.S. Commercial Solar Users," Solar Energy Industries Association, available at <http://www.seia.org/research-resources/solar-means-business-2014-top-us-commercial-solar-users>.



#### 5) Leveled the playing field

The ITC also helps level the playing field in states where local laws have prevented a free and competitive electricity market by allowing homeowners and businesses to go solar even where third-party ownership and archaic interconnection policies have tried to prevent them from doing so. Individual taxpayers should have the freedom to choose where their electricity comes from, and how they can save money on their monthly electricity bills. Yet, by eliminating or reducing the ITC, the proposed legislation impedes consumers' ability to choose their electricity source and reduces competition amongst electricity providers and energy resources.

#### 6) Helped states achieve goals

The ITC also helps states accomplish their established targets for clean and diverse energy resources. Utilities have signed over 14 GW of utility-scale PV contracts for 2015 and 2016 to help states meet their renewable portfolio standards (RPS). Additionally, in the last year, 4 GW of utility-scale PV contracts have been signed outside of RPS requirements.<sup>12</sup>

#### 7) Helped the federal government manage energy costs

Besides the states, federal civilian and military facilities have begun to benefit from the ITC's impact on power affordability. With the ITC and long-term contracts, the military is able to manage its energy costs over a thirty-year period while increasing military base and homeland security. The ITC helps the military plan ahead and allocate its energy dollars—a significant portion of its budget—appropriately. The same is true on the civilian side.

Finally, because solar must compete with technologies that receive a variety of government tax benefits, eliminating or reducing the ITC while maintaining current benefit levels for other technologies would inequitably disadvantage solar. As long as tax preferences like intangible drilling costs and master limited partnerships that have enabled the oil and gas industry to flourish remain in effect, it is both necessary and appropriate to extend the commercial and residential solar credits to provide comparable

<sup>12</sup> Supra SEIA/GTM Q4 2014 Report at pp. 7-8.

policy treatment to an industry that continues to drive down costs, create jobs, further private investment, level the playing field, and diversify our nation’s energy choices.

## **COMMENCE CONSTRUCTION**

Under current law, solar projects must be placed in service (i.e., the facility must be complete and capable of generating power substantially equal to its nameplate capacity) before the statutory expiration of the ITC. Replacing the placed in service requirement with a commence construction standard will add greater policy certainty and enhance the effectiveness of the ITC by ensuring the continued flow of investment capital and job creation. Solar projects, like other power-generation projects, often require multi-year development timelines. This is especially true for utility-scale solar projects, which must navigate significant and time-consuming financing, siting and permitting issues and take three to five years to complete. Compared to a rigid placed-in-service date, a commence construction standard provides added certainty and flexibility that will allow more solar projects to move forward during the statutory duration of an existing clean energy tax policy. This furthers the underlying objective of the policies – the deployment of solar projects and the expanded use of renewable energy. Applying the commence construction standard to the ITC in a tax reform proposal would provide greater certainty to the industry and those who invest in solar energy.

## **MODIFIED ACCELERATED COST RECOVERY SYSTEM**

### **Current Law**

Like many other businesses across the nation’s economy, solar companies benefit from the Modified Accelerated Cost Recovery System (“MACRS”), which allows businesses to deduct the depreciable basis of solar energy property, essentially using the “200% declining balance” recovery method over five years.<sup>13</sup> This provides solar power projects the greatest depreciation in the first year, declining over time.

### **MACRS is an essential component to solar project financing**

MACRS substantially reduces the time period in which capital expenditures are recovered, which is especially important for solar projects where high capital costs are generally incurred upfront. Again, when solar must essentially cover the cost of its “fuel” 100% up front as compared to a thermoelectric plant, accelerated depreciation is nothing more than a proper means of leveling the playing field. Therefore, it is appropriate to apply a front-weighted depreciation treatment such as MACRS to solar property, which does not have a fuel component.

In addition, MACRS’ faster return of capital may not only lower the risk premium, thus making the solar investment more attractive to the capital markets, but with that fast return of capital comes the ability to recycle that capital into another project sooner, thus increasing the multiplier effect of the original investment and leading to even greater economic development and job growth.<sup>14</sup> In the solar industry, this faster return of capital has helped increase the levels of private investment in solar while lowering costs for consumers and stimulating the economy with real job growth.

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<sup>13</sup> I.R.C. § 168(e)(3)(B)(vi).

<sup>14</sup> “MACRS Depreciation and Renewable Energy Finance,” US PREF, November 2013, at p. 5, available at <http://uspref.org/images/docs/MACRSwhitepaper.pdf>.

Plus, in a concentrating solar power project, for example, over 90% of the cost basis of the project is currently eligible for 5-year MACRS. Thus, any cost recovery change would impact the vast majority of assets that comprise a solar power project. Without MACRS, it will take significantly longer for an investor to recover his investment in a project, which means the comparable risk-free rate for the investment will go up, necessitating an increase in the required yield for the project, making it harder to finance than other types of projects.

In addition, given the impact that eliminating MACRS would have on solar projects, the Solar ITC would actually need to be significantly increased to continue to attract private investors to provide the financing critical to most solar energy projects.

#### **Eliminating MACRS Would Increase Consumers' Electric Bills**

The solar industry has worked tirelessly to decrease its costs and make its products and electric/thermal output more affordable. As noted, the average price of a solar PV panel has declined by more than 74% since 2006, and significant cost reductions continue to occur on an annual basis. Eliminating MACRS would not only decrease the economic viability of a project, making it a riskier investment with higher financing costs, but it would also increase solar's cost to electric utility customers. SEIA's analysis found that a proposed utility-scale PV project's PPA price would have to rise over 20% to recover the loss of MACRS. The loss of MACRS would increase the cost of solar power installations, and any increase in cost, no matter how incremental, would hinder the growth of solar. This is especially true among working middle class Americans who are now seeing the economic benefits of solar on their monthly electric bills.

SEIA looks forward to working with you to ensure that any cost recovery method for solar assets provide the business certainty the industry needs while also encouraging private investment and ensuring consumers do not foot the bill.

#### **MASTER LIMITED PARTNERSHIPS**

Finally, any tax reform proposal that includes master limited partnerships (MLPs) should expand this tax structure to renewable energy projects, including distributed and utility-scale solar. While not a replacement for the ITC or MACRS, this expansion would help level the playing field between clean, renewable energy and the oil and gas industries that have benefited from MLPs for almost 30 years.

Combining MLP status with existing tax policies, like the ITC and MACRS will further accelerate solar growth. The MLP Parity Act, as currently drafted, could help raise additional capital from investors against operating projects, making approximately 40% of the \$400 billion MLP capital market available to renewable energy investors and developers.<sup>15</sup> Investors see renewable energy projects as stable, long-term cash generators as most utility-scale solar projects, for example, have secure power purchase agreements with credit-worthy counterparties, like utilities. As a result of the economic crisis, investment by financial institutions and other corporations in renewable energy projects is still significantly impacted. MLPs typically offer high returns to investors and easier access to equity. Expanding MLPs to renewables would attract much-needed, further private sector investment for solar projects and provide an alternative financing mechanism for the industry.

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<sup>15</sup> US PREF, "Renewable Energy MLP Considerations," May 2013

### **Conclusion**

As has been mentioned above, our solar companies compete with energy technologies that have enjoyed permanent benefits in the federal tax code for decades, and in some cases, for more than a century. While SEIA would welcome the long-term certainty that tax reform could provide for the solar industry, eliminating the commercial or residential ITC or MACRS for solar property would significantly threaten the solar industry. Moreover, it would limit American consumers' choices to meet their energy needs. Any comprehensive approach to reforming the federal tax code should closely examine all the various benefits energy technologies currently use, and the length of time they have enjoyed them, in order to ensure that new, innovative energy technologies like solar are not placed at a competitive disadvantage. In the end, Congress should find that any tax reform legislation proposal should preserve the commercial and residential ITCs as well as MACRS for solar property. However, in the transition to any comprehensive tax reform that Congress may enact, the continued growth of the American solar industry would greatly benefit from the near-term certainty provided by a multi-year extension of current solar ITCs.

SEIA and the U.S. solar industry look forward to working constructively with policymakers to craft effective tax reform policy that is consistent with the nation's energy and economic policy objectives.

Thank you for this opportunity to provide feedback to your Working Group.

Sincerely,



Rhone Resch  
President & CEO  
Solar Energy Industries Association