CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF CRAIG CORNELIUS
PRESIDENT
NRG RENEWABLES LLC
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

1. Thank you for the opportunity to speak today. My name is Craig Cornelius, and I serve as the President of NRG Renewables.

2. NRG is one of the largest independent power producers in the United States and one of the largest owner-operators of renewable generation in the country. Through the billions of dollars we continuously invest in construction of new projects and operations of our fleet across 26 U.S. states, we directly employ 548 individuals and we support thousands of jobs throughout our supplier network.

3. It is an incontrovertible fact that any trade relief that increases the cost of modules or restricts available supply will lead to net job losses. The demand for new solar projects is highly elastic, and as a result, so is the demand for solar modules. And while I would gladly answer questions pertaining to these market dynamics and their relevance to the rational design of a remedy, I'd like to instead turn to the questions you posed about prospects for a global settlement and offer up a framework for one that I believe would be in the national interest and in the best interests of all key stakeholders.

4. The framework I'd propose for a global settlement has three components:

5. First, the Section 201 case should be resolved through use of an import license fee (ILF), which would impose a manageable cost impact on our industry and, through strategic use of the collected revenue, could catalyze investment in rational places in the domestic solar manufacturing supply chain.

   a. The import license minimum fee should be set at $0.02/W initially and decline each year. This is 2 times above the level that Commissioner Broadbent recommended, and a fee at this level would certainly be painful for the downstream industry to bear. But this may be a worthwhile investment for the industry, as part of a larger resolution of this case and to allow the domestic manufacturing industry to have the best chance possible at successfully ramping up and modernizing production.

   b. To ensure that it serves the purpose of providing meaningful support to the domestic industry and certainty to the market, these features of an ILF would be beneficial:

      i. It should differentiate between loose cells and cells assembled into modules or other products, in order to provide support for standalone module manufacturing as well as integrated cell and module manufacturing.

ii. Disbursements should be set at a specific dollar-per-watt level that declines every year, to ensure that the distribution is equitable and performance-based and help the industry gradually adjust to a future without subsidies.

iii. In order to provide assistance to the industry participants that were producing prior to this case as well as to new entrants, the distribution of funds in the first year only should provide some credit for production in 2016 and 2017.

iv. This resolution of the 201 case should by itself be sufficient to allow for the stabilization of the petitioners if they are operated successfully and should provide a foundation for new capacity in the domestic module supply chain.

6. Second, though not necessary for stabilization and adjustment of the domestic CSPV industry but in the service of broader national interests, the U.S. and China should consummate a comprehensive settlement of their ongoing solar trade disputes, with the following components of that settlement:

a. China would terminate the duties it imposed on U.S.-manufactured polysilicon in 2013.

b. The U.S. would terminate the existing AD/CVD orders imposed on cells and modules from China and Taiwan in 2012 and 2015.

c. In conjunction with that suspension, duties collected under the U.S. AD/CVD orders, which are estimated to be over $1.5 billion, should be distributed as follows:

i. Domestic CSPV manufacturers should receive the greater of $500 million or 1/3rd of the available funds, allocated in proportion to their share of CSPV production from 2013 through 2015. In return, they should vote as required to endorse the suspension of the U.S. AD/CVD orders.

ii. The second 1/3rd should be returned to the entities that originally paid the duties on entries, in proportion to their original payments, with the further condition that at least 50% of the funds received should be retained exclusively for reinvestment in solar business operations within the U.S.

iii. The last 1/3rd should be distributed to the U.S. polysilicon producers to support their stabilization and recovery from the trade disputes, also allocated in proportion to their share of U.S. production from 2013 through 2015, with a parallel requirement that at least 50% of the funds be retained for reinvestment in solar business operations within the U.S.

d. In connection with the settlement of these orders through bilateral agreement between the U.S. and China, all parties benefiting from this agreement should also enter into covenants that should restrict them from challenging any of the elements of this global settlement or the ILF and that should further restrict them from pursuing any further trade disputes related to solar products in either the U.S. or China, for the next 10 years.

e. An “orders for orders” settlement of this kind eluded the previous Administration, but this Administration has a real opportunity to succeed where others failed as a result of your commitment to a re-balancing of trade relations, the desirability and domestic economic significance of a growing U.S. marketplace for solar, and the changing landscape of the global polysilicon industry.

7. Third, the Administration should pursue legislation to amend the Buy American Act (BAA) to give the domestic CSPV industry a stable source of demand and complement other elements of the settlement framework. The amendment should stipulate that new solar systems built to sell to the U.S. government must be constructed using solar photovoltaic modules that are manufactured in the U.S. using CSPV cells that are also manufactured here, and that for these purposes the list of BAA compliant nations should be restricted to only the U.S.A. As this would require an act of Congress, it should proceed on its own timeline rather than being a precondition to the global settlement.

8. The ILF design for a remedy to the 201 Case and BAA legislation I’ve proposed would give the petitioners a substantial amount of direct support to give them the best possible chance of adjusting and achieving profitability. At the same time, the global settlement framework I’ve just outlined should be able to secure the approval of plaintiffs required for settlement of the U.S. AD/CVD cases, and also provides a path for stabilization of the U.S. polysilicon industry – which is worthy of support given its fundamental comparative advantage versus foreign competitors, which has historically provided durable manufacturing jobs, but which has also recently been challenged by being shut out of the Chinese market. And most importantly, from a net jobs perspective, it imposes a manageably low cost on the end user, meaning that construction and manufacturing jobs can continue to grow in the cost-sensitive markets that would otherwise disappear if the petitioners’ tariff requests were granted.

9. Thank you again for this opportunity to testify. I look forward to your questions.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF DAVID BYWATER
CHIEF EXECUTIVE OFFICER
VIVINT SOLAR, INC.
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

Good morning. My name is David Bywater, and I am the Chief Executive Officer of Vivint Solar, one of the largest residential solar companies in the United States with over 4,000 hard-working employees across 21 states.

I want to begin by reiterating some of the comments you heard about the changing economics of residential solar and how devastating restrictive tariffs would be. Despite petitioners' claims that grid parity doesn't matter, when we meet with homeowners at their kitchen tables, the first question they typically ask is: "How much can I save by going solar?" Vivint Solar customers expect to save approximately 20% on their utility bills and if we can't deliver those savings, they rarely sign up. In our extensive experience, demand is not inelastic; it is very elastic.

As a national installer, we closely track our costs, and modules make up a significant portion of a residential solar project's costs. Over the past 5 years, declining costs have expanded the number of states in which it is economically viable for homeowners to go solar. This has allowed us to expand our operations, creating new and well-paying jobs throughout the United States. The tariffs that the petitioners propose threaten to erase this progress by increasing costs and, in return, decimating both expected savings and overall demand.

The potential for harm is exacerbated by other changes that the residential solar industry currently faces. Many of the incentives and policies that jumpstarted residential solar markets are being phased out. These changes make solar adoption more sensitive to price increases in panels than ever before. Tariffs and quotas would further drive up the cost of our systems and, in doing so, negatively impact the demand for solar in every state across the country.

By reducing demand and eliminating jobs, the proposed tariffs would also undermine our ability to fund and bring important innovation that our current and future energy ecosystem desperately needs. Our customers rely upon us to design and deliver innovative solutions that extend far beyond the panels themselves. Vivint Solar is driving innovation behind the meter through distributed energy production, smart energy consumption, and the integration of local energy storage. Tariffs will hamper our ability to solve today's challenges in an attempt to revive domestic production of what's now a truly commodity good.

Without tariffs, employment will flourish and innovation towards tomorrow's challenges, like improved grid reliability and security, will continue.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF GEORGE HERSHMAN
PRESIDENT
SWINERTON RENEWABLE ENERGY
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

Good afternoon, my name is George Hershman, I am the President of Swinerton Renewable Energy, we are a Division of Swinerton Incorporated, a 130-year-old 100% employee-owned, American, general contracting firm with offices throughout the United States.

Our company specializes in Utility-Scale and Commercial solar installations. In 2016 alone, we installed over 1500MW of solar PV projects, more than 10% of all such projects installed across the US. These projects provide hundreds of good paying jobs in mostly rural communities. In the last two years, Swinerton Renewable Energy has employed over 8,200 people in 11 states.

To highlight the scale of some of these projects, this year, we have employed over 400 people at our job site in LaFayette, Alabama and over 850 at our site in Fort Stockton, Texas.

But remedies put forth by petitioners and 3 of the USITC commissioners puts our future in jeopardy. Modules are the single biggest cost for a utility-scale project making up 30 to 40% of a project's total cost. I also must stress that this case is not like other trade cases where companies are simply choosing not to buy American products due to cost. In the case of solar, there is NOT enough American supply to meet the demand.

National security would also be threatened. Our military uses solar to reduce electricity costs and improve operational resilience. The Department of Defense set a mandate to procure 20% of its energy from renewables. This year Swinerton built a 120 MW of solar projects – one of the largest east of the Mississippi – in Pensacola Florida to power local Air Force and Navy bases. In the face of federal budget cuts, tariffs would only make solar uneconomical and damage national security for years to come.

I ask the President and his Administration to listen to the guidance provided in the safeguard statute and make sure that the remedy he chooses does more good than harm. The best option is to avoid restrictive trade relief altogether, recognize the benefits of SEIA's 1102 proposal and stand with the 260,000 Americans working to power America with solar.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF MATTHEW NICELY
HUGHES HUBBARD & REED LLP
COUNSEL FOR SEIA
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

Matt Nicely for SEIA. Before turning it over to our industry witnesses, John and I have a few legal and factual issues that we think are worth pausing over for a moment. I will address the legal problems associated with the remedy proposals the Petitioners have presented.

First, Petitioners' 32 cent/watt tariff for modules and 25 cent/watt tariff for cells would immediately exceed the 50% ad valorem limitation in Section 203(e)(3) of the statute. As you know, not a single Commissioner agreed with the petitioners about imposing a per unit specific duty – of any kind. As the Commission plurality observed, even a specific duty that doesn't immediately violate the 50% ad valorem limitation would risk violating the statute when prices fall as technological advances and production efficiencies take their normal course.

Second, imposition of the tariffs recommended by three of the four commissioners, while not in violation of the 50% limitation, would involve more social and economic costs than benefits, in contravention of Sections 201(a) and 203(a). The testimony from industry witnesses and the economic analysis we have presented, both at the ITC and before this body, strongly counsel against the petitioners' tariff proposals on this basis.

I'll let our industry witnesses speak for themselves. With respect to the economics, Petitioners' analysis is obviously wrong. Look at footnote 96 of SW's responsive comments. The notion that demand for solar cells and modules is inelastic is completely at odds with reality. Given competition with other forms of electricity, it is a plain fact that, if prices for CSPV cells and modules increase, demand will fall and jobs will be lost. Meanwhile, imposition of otherwise legal duty rates is insufficient to make the U.S. cell and module industry profitable. Trade restrictive duties are therefore a lose-lose proposition. Our economist Dr. Tom Prusa is here today to answer any questions you may have on these issues.

Third, petitioners propose a quota on modules that presents its own legal and factual challenges and should likewise be rejected. Like their tariff proposals, their quota would clearly cause more harm than good, as it would cut off U.S. customers' access to imported modules at a time when U.S. production is nowhere near capable of supplying demand in this booming part of the American economy. Petitioners' justification of a small 5.7 GW first year quota is based in part on their unfounded claim of "hoarding", the only support for which is a few news articles. We urge you to look at import statistics, which show that 2017 YTD imports are literally half the size they were for the same period in 2016. There is simply no hoarding. As you will hear from our witnesses, developers are already having a hard time obtaining sufficient supply to meet U.S. demand this year, which is clearly linked to the significant uptick in demand for these products around the rest of the world.

The global trade restrictive relief petitioners seek is neither legal nor wise. I'll turn it over to John to talk about a proposal that both comports with the statute and amply serves the interests of all interested parties, including those of the petitioners.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF ROBERT RYNAR
CHIEF ENGINEER
DEPCOM POWER INC.
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

Good afternoon. I am Robert Rynar, Chief Engineer at DEPCOM Power Incorporated. Based in Arizona, DEPCOM is a development, engineering, procurement, construction and operations and maintenance service provider for utility-scale solar power plants across the United States. It is an honor and privilege to actively participate in our democratic process and thank you for your time and attention.

On average, DEPCOM employees 1,000 construction workers throughout the US. Typically, DEPCOM sources 90 percent of our labor local to the power plant sites. We actively hire veterans first, with over a 25 percent veteran workforce, and we donate ten percent of our net income to the greatest needs in the communities where we work. These are powerful positive impacts made possible by the rapidly growing solar industry.

As much as I am honored to present here, I am more humbled to represent the thousands of laborers that these deliberations will have a dramatic impact on. As I meet our construction workers, I always ask them how they made a living before they found steady employment in the solar industry. While the stories are diverse, the central theme is often similar. Usually they were negatively affected by the economic downtown precipitated by the housing market collapse and are now happy to have steady employment in the solar industry. Tariffs on CSPV will only send hardworking men and women back to the unemployment lines.

In the fiercely competitive electricity markets, tariffs would greatly increase the cost of utility-scale projects effectively rendering them economically infeasible in some states where projects are currently in development and in active construction. Texas, the Southeastern, Mid-Atlantic, West and Northwestern markets will be in jeopardy of a significant demand reduction if not a complete retreat.

Even the threat of significant tariffs has injured our business. DEPCOM had plans to substantially increase employment during 2018. Now those plans have been paused, and at worst, cancelled. Instead, DEPCOM already had to reduce its existing workforce. The specter of mass layoffs isn’t hysteria; it’s real.

Thank you for your time and attention.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF BILL VIETAS
PRESIDENT
RBI SOLAR, INC.
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

Thank you for the opportunity to testify today. My name is Bill Vietas and I am the President of RBI Solar, a Cincinnati-based manufacturer of mounting systems for both commercial and utility-scale solar projects.

American solar manufacturing is a 38,000-person strong industry that builds mounting structures, inverters, and other components for solar projects.

RBI Solar stands here today an American success story. Started in 2009, RBI Solar has grown from 2 employees to over 165 today. Our employees design, engineer, manufacture, and install solar mounting systems. These are well-paying jobs, many of them blue collar. In addition to the 165 full time employees, we also regularly hire over 400 local subcontractors and installers.

Just last week we shipped over 150 full truckloads of material from our locations. And we expect to continue to grow over the next 5 years. To succeed, RBI must innovate. We invest in R&D with our highly-trained team of engineers and designers who constantly develop and test new products until they meet our customers' specifications.

RBI has state-of-the-art manufacturing facilities in Ohio, North Carolina, and California. Our business uses over 75,000 tons of American steel each year to build structures for over 950 MW of US solar projects in over 30 states. This means both jobs and economic development through high-quality American solar products.

As others have testified, tariffs will cripple demand for solar projects. This would reduce our sales and require us to slash our R&D budget as well lay off employees. I know the same is true for multiple other solar manufacturers.

I ask the USTR and the President to consider the best interest of the entire American solar manufacturing industry and not impose devastating trade restrictions.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF RYAN CREAMER
CHIEF EXECUTIVE OFFICER
sPower
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

Good afternoon. I am Ryan Creamer, the Chief Executive Officer at sPower. Based in Utah, sPower is one of the leading solar independent power producers in the country.

SPower has invested more than 2.5 billion dollars in building solar projects and now has an operating portfolio of over 1200 MW across the US. Our projects provide direct benefit and low-cost energy for over 20 years to 13 states such as Indiana, Utah, Arizona, and North Carolina. More than 3,000 jobs were created in rural america and these new areas with low cost energy are perfect for the development of manufacturing plants, data centers and technology parks.

sPower has plans to build another 5000 MW of solar installations in the coming four years. And we want to continue hiring and training more Americans in this dynamic industry. This case jeopardizes all of that.

Developers need to commit significant money years before construction begins. Over the last 18 months, for example, sPower has invested tens of millions for future projects, some of which won't be completed until 2021. The trade case is already causing policy and economic risk that greatly endangers sPower's future plans in the U.S..

Not only will tariffs on solar panels harm the solar industry and the over 3,000 jobs sPower has created, but the harm will be directed at workers in rural communities where the economy is on the mend from the housing collapse of 2008 and the abandonment of oil fields due to low priced natural gas.

I ask the President and his Administration to reject trade relief in this ill-suited Section 201 case.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF ED FENSTER
EXECUTIVE CHAIRMAN
SUNRUN
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

I am Ed Fenster, Executive Chairman and co-founder of Sunrun. Thank you for inviting me here today.

Sunrun is the fastest growing and likely largest provider of solar energy systems to homeowners. Together with our local partners, we employ about 11,000 people in 22 states. These sales, design, and installation jobs are year-round, well paid, and can't be automated or exported.

Today I carry one message: the proposed tariffs will grievously harm people seeking rooftop solar and the 84,000 workers who build it. Tariffs will drive tens of thousands of job losses across all 50 states, and near total losses in many.

Homeowners choose rooftop solar because it is cheaper. But when we can't offer savings vs. the utility of at least 20 percent, demand falls precipitously. The proposed tariffs cut deep into customer savings, destroying the solar value proposition for millions of Americans.

This year, our declining costs allowed Sunrun to offer a savings opportunity for homeowners in 7 new states, including Texas, Florida and Wisconsin. Tariffs will force Sunrun to exit some of these and other markets, shedding jobs. This risk is not academic: in Nevada in 2015, a regulatory order eliminated customer savings from solar. Overnight, 2,600 solar jobs were lost.

Claims that quotas and tariffs will create meaningful CSPV manufacturing jobs are nonsense. On average, our suppliers tell us they employ 212 factory workers per gigawatt of cell capacity and 420 per gigawatt of modules. Fewer than 2,000 factory workers can make all the solar panels used by residential solar's 84,000 workers. At best, tariffs will replace tens of thousands of good American construction jobs with an army of robots, while also damaging Sunpower, an R&D leader.

The economic impacts of tariffs will be most severe in the residential rooftop sector. Although Residential represents only 22% of the market by capacity, it provides more jobs and investment dollars than any other solar sector. By avoiding fuel, transmission and distribution costs, residential solar is cost competitive with retail power rates while providing tremendous employment opportunities. Residential solar employs 10 times as many people per megawatt-hour than the overall grid today, while delivering a lower-cost consumer product.

Sunrun can manage small cost increases, like the 1102 Import License Fee proposed by Commissioner Broadbent. It's absurd that petitioners claim resetting cost structures to 2015 is no-big-deal. That year, margins in development were so bad that four publicly traded U.S. solar developers lost $5.0 billion in cash. As today's low stock market valuations for solar companies attest, investor tolerance for losses of any kind, let alone that kind, is long gone.

Meanwhile, government incentives are falling. Several state utility commissions are curtailing net-metering, and the investment tax credit is phasing down. The House and Senate just passed tax legislation that would eliminate at least 10 cents a watt in value by 2019, coincident with this determination. We need to reduce production costs to offset the incentives-- not increase them.

Solar tariffs will also hobble innovation in storage and smart home, which Mr. Bywater of Vivint Solar will address.

The Labor Department just projected solar installation will be the fastest-growing job over the next decade. Without tariffs, next year, the 84,000 employees in residential solar will install half a million solar systems, driving about $10 billion of investment into communities across the country. Don't reverse this awesome source of economic growth before it has had a chance to take hold.

Thank you for your consideration.

CRYSTALLINE SILICON PHOTOVOLTAIC CELLS
TESTIMONY OF JOHN MAGNUS
COUNSEL FOR
SOLAR ENERGY INDUSTRIES ASSOCIATION ("SEIA")
BEFORE THE TRADE POLICY STAFF COMMITTEE
DECEMBER 6, 2017

No traditional import relief at lawful levels can turn petitioners' red ink to black ink, or generate benefits exceeding costs. It sounds like a terrible trap.

I am here to tell you, in this holiday season, to be of good cheer. There is a way out of the trap. It rests on Section 1102 of the 1979 Trade Agreements Act, which augments the President's authority under Section 201. In general, what the President would need to do is: (1) *proclaim* quantitative import relief, at a high level that will not restrict trade; (2) *operationalize* the quantitative limit by requiring and selling import licenses; and (3) *use* the license sale proceeds to fund the domestic CSPV cell/module industry.

By adopting this proposal the President can achieve both effective relief and preservation of demand. He can redirect funds from foreign goods to American manufacturers, while minimizing the prospect of a WTO challenge.

This approach, while available since 1979, has never been used in a safeguard proceeding. There is of course precedent for steering money, collected in connection with U.S. importations, into special funds used to aid domestic producers. Some such measures, like the wool and citrus trust funds, are in force today; others, like the Byrd Amendment, are not. As for applying the concept to fees charged temporarily as part of a safeguard remedy: the idea isn't novel. ITC Chairman Paula Stern suggested it in 1985. She recognized, and this administration should likewise conclude, that the safeguard statute and Section 1102 provide the necessary authority. Both are written very broadly.

A few quick points about compatibility with the Miscellaneous Receipts Act (MRA), on which I'll be glad to field follow-up questions.

- Reported cases in which agency schemes have been faulted under the MRA involve fact patterns entirely dissimilar to this one.

- Under an escrow arrangement the government would not receive, or constructively receive, the license sale proceeds.

- Import license fees would not constitute payment for government-provided goods or services, or for the use of government property. This has been a key factor in cases applying the MRA.

- With disbursements following criteria set out in in the safeguard proclamation, there would be no need for discretionary decision-making or ongoing governmental supervision.

- It is common for the government to use escrow accounts in this way when settling regulatory enforcement actions in a manner that promotes underlying statutory objectives.

It is, admittedly, a policy tool that Congress would not have intended to be used lightly. But extraordinary cases call for creativity, and this is surely an extraordinary case in terms of:

- *Size*: There has never been a case where petitioners accounting for a few hundred jobs tried to pin duties on so many billions of dollars of annual imports.

- *Demand elasticity*: There has never been a case featuring, as this one does, a "grid parity" condition guaranteeing that cost-raising import relief will systematically shrink US demand.

- *Uncompetitiveness*: Safeguard relief has never been granted to petitioners so uncompetitive that even tariffs at the statutory maximum level would not help them.

So you need something different. Our proposal creates *precisely* what is needed: an injection of capital, funded by those members of the greater solar industry who choose to import.