In the Matter of: CRYSTALLINE SILICON, PHOTOVOLTAIC CELLS AND MODULES FROM CHINA )

) Investigation Nos.: 701-TA-481 and 731-TA-1190 (Final)

REVISED AND CORRECTED TRANSCRIPT

Pages: 1 through 313
Place: Washington, D.C.
Date: October 3, 2012

HERITAGE REPORTING CORPORATION
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THE UNITED STATES INTERNATIONAL TRADE COMMISSION

In the Matter of: ) Investigation Nos.: 
CRYSTALLINE SILICON ) 701-TA-481 and 
PHOTOVOLTAIC CELLS AND ) 731-TA-1190 (Final) 
MODULES FROM CHINA )

Wednesday, 
October 3, 2012

Room 101
International Trade Commission
500 E Street, S.W.
Washington, D.C.

The hearing commenced, pursuant to notice, at
9:31 a.m., before the Commissioners of the United States
International Trade Commission, the Honorable IRVING A.
WILLIAMSON, Chairman, presiding.

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MARCO MANGELSDORF, President
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CHAIRMAN WILLIAMSON: Good morning. On behalf of the U.S. International Trade Commission, I welcome you to this hearing on Investigations No. 701-TA-481 and 731-TA-1190 (Final), involving Crystalline Silicon Photovoltaic Cells and Modules from China. The purpose of these investigations is to determine whether an industry in the United States is materially injured or threatened with material injury or the establishment of an industry in the U.S. is materially retarded by reason of subsidized and less than fair value imports of crystalline silicon photovoltaic cells and modules from China.

Schedules setting forth the presentation of this hearing, notices of investigation and transcript order forms are available at the public distribution table. All prepared testimony should be given to the Secretary. Please do not place testimony directly on the public distribution table. All witnesses must be sworn in by the Secretary before presenting testimony.

I understand that parties are aware of the time allocations. Any questions regarding the time allocations should be directed to the Secretary.

Speakers are reminded not to refer in their
remarks or answers to questions to business proprietary information. Please speak clearly into the microphone and state your name for the record for the benefit of the court reporter. If you will be submitting documents that contain information you wish classified as business confidential, your request should comply with Commission Rule 201.6.

Madam Secretary, are there any preliminary matters?

MS. BELLAMY: No, Mr. Chairman.

CHAIRMAN WILLIAMSON: Very well. Will you please announce our state government witness.

MS. BELLAMY: Thank you. The Honorable Georgia Lord, Mayor, City of Goodyear, Arizona.

CHAIRMAN WILLIAMSON: Okay. Welcome, Mayor Lord.

MS. LORD: Thank you. Good morning, Mr. Chairman and Commissioners. Thank you. Thank you so much for the opportunity to speak before you today. I am Georgia Lord, the Mayor of Goodyear, a city in Arizona with about 70,000 people, and I am also a proud board director for the Greater Phoenix Economic Council. I'm here to represent the people in my community and the region who have a very personal stake in this case. You see, I, and countless others
in Arizona, have been working long and hard to recover from the economic downturn, and you're all familiar with that, and not just recover, but recover in a way that provides a foundation for a more sustainable economy in the future.

I have to tell you, we have placed tremendous emphasis in helping attract the world's most promising industries to our state, the solar and renewable energy industry. After all, greater Phoenix offers a natural advantage for the growing industry. Arizona ranks second in the nation for installed solar capacity, and the U.S. Department of Energy ranked us number one in the nation for solar potential.

Now, in Arizona, more 9,000 jobs -- I'm going to repeat that -- 9,000 jobs are associated with renewable energy in companies and utility-skilled project, which is significant when parts of our state -- and this is shocking -- are nearly at 20 percent unemployment. Today, we have more than 260 companies in the solar supply chain and 27 manufacturing facilities, primarily because our leaders in our region have implemented strategic plan to facilitate an industry cluster for renewable companies.

Furthermore, several international companies operating in the renewable space have established
operations in the greater Phoenix, including Spain's Ribgrass, Spain's Abengoa, England's Faist, Germany's Solon, and France Saint-Gobain and Canada's Cosma International. This influx of foreign firms reflect the importance of the FDI to our community which has stimulated ancillary jobs like solar installers, integrators, system designers and distributors.

In Goodyear, we are a home to Suntech's first U.S. manufacturing factory, and it's really one of our city's shining starts. Within a year of its opening it doubled production capacity, it nearly tripled its staff. It currently employs more than 100 people in Goodyear. Believe me, this is so great because nearly 60 percent of those are Goodyear and cities nearby. The residents finally have some jobs. Arizonans working this facility are world-trained professionals, including highly skilled engineers and technicians, who are manufacturing 15,000 solar panels a month that can power roughly, and I think this is extraordinary, 10,000 American homes per year, as Suntech now considers hiring an additional 100 employees. That's people living in Goodyear. I'm worried that this imposition of punitive duties would put these jobs at risk.

Now, in Goodyear, only 10 percent of our 189
square miles is currently developed, so when Suntech chose Goodyear, it put our community on the map and everyone has benefitted. Not only has Suntech created jobs, but they made significant investments in our city. They have been a good corporate citizen. Look at AZZ Galvanizing. This company has been in the galvanizing business in Goodyear since 1994. When Suntech came to town, the company began to be a supplier to Suntech and many other solar companies in the region. They have since expanded their building and they've hired a dozen additional workers. Fact, it's really into the dozens. When I first learned about the possibility of an impending tariff and the corresponding investigations, it was important to me to discern its implications. Many of Goodyear's economic development efforts center on solar and foreign direct investment. As a small city located in a foreign trade zone, we want more Suntechs, not less. More importantly, I am concerned from the Arizonans that work at Suntech and for those related sectors that depend on Suntech, like AZZ Galvanizing. I am concerned about the residual effects that these duties could have on the people, our schools and the welfare of our community. For years, we've listened to the U.S.
President and other experts talk about the importance of this industry's growth in America, and as local leaders, we have responded. We've created various statewide economic development programs to draw this industry to the greater Phoenix, and were able to provide Suntech just under $2 million in incentives -- this, compared to the Petitioner, SolarWorld, who offered well over $100 million in incentives, according to the public records in Oregon -- and created additional programs that drive local demand to support this industry.

This is my proud part that I'm going to talk about. In fact, 11.2 percent, that's 1,590 households, of Goodyear residents now have solar panels on their homes, including me. This heightened local demand has induced companies, like California Solar City, to expand engineering and system integration operations in Arizona, creating more ancillary jobs.

In today's economy, no nation wins, no industry wins and no communities win when trade disputes escalate. I thank you, truly thank you, for this opportunity to speak to you today. As you review the facts presented in this case, I respectfully urge you to consider the broad and the very significant
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impact your determination will have on tens of thousands of jobs in the larger U.S. solar energy industry and communities of all sizes. Again, once more, thank you so much for this opportunity to come before you.

CHAIRMAN WILLIAMSON: Thank you, Mayor Lord. Does any Commissioner have questions for the Mayor?

MS. LORD: Thank you very much.

CHAIRMAN WILLIAMSON: Okay. Thank you very much for coming so far to speak.

MS. LORD: You're very welcome.

CHAIRMAN WILLIAMSON: Thank you. Okay. So brief opening remarks?

MS. BELLAMY: Yes, Mr. Chairman. On behalf of Petitioners, Timothy C. Brightbill of Wiley Rein LLP.

CHAIRMAN WILLIAMSON: Welcome, Mr. Brightbill. You can begin.

MR. BRIGHTBILL: Thank you. Good morning, Chairman Williamson, Commissioners and staff. We welcome the opportunity to explain how U.S. manufacturers of crystalline silicon photovoltaic cells and modules have been materially injured by dumped and subsidized Chinese imports. The evidence of material injury by reason of
Chinese imports is overwhelming. The injury is severe and getting worse by the day and there is no doubt that Chinese imports are a cause.

The Chinese solar industry is a favored industry, singled out in five year plans and provided with billions of dollars of subsidies from the Chinese national, provincial and local governments. This has fueled extraordinary growth in Chinese solar capacity over the period of investigation, dozens of new Chinese companies, including some of the largest in the world, and gigawatts of new solar capacity every year. China now has world dominating solar production that was built for export, and in the past few years Chinese solar imports have targeted and completely overrun the U.S. market through the use of dumping and subsidies. Although the Commission has seen this happen before with other Chinese industries, the speed and scale of this expansion are astonishing.

From 2009 to 2011, subject imports increased by 1,050 percent, far outpacing any growth in U.S. demand over the period. Chinese producers' share of the U.S. market jumped by 30 percentage points. U.S. producers fell, their share fell by 17 percentage points during the same period. Even this year Chinese imports have continued to increase and domestic
producers have continued to lose sales to subject imports. Massive Chinese underselling of these import volumes caused a collapse in U.S. prices. In 2011 alone, prices fell by 50 percent. These dumped and subsidized Chinese imports have caused grievous material injury to the U.S. industry.

Although U.S. demand doubled from 2009 to 2010, and again last year, domestic producers had to slash prices, which led directly to severe financial losses. Thousands of workers have been laid off. Numerous U.S. producers have been forced to shut down, declare bankruptcy or significantly cut production, all in a rapidly expanding U.S. market. The material injury suffered by the domestic industry could not be any clearer. Chinese imports have placed the very future of the domestic solar cell and module industry at stake.

Remarkably, there is also industry consensus on what caused this harm, as your investigation has confirmed. Nearly everyone from market analysts, to purchasers, to importers, to the Chinese producers themselves agree that the massive Chinese overcapacity, built with the support and direction of the Chinese government, caused market prices to crash, which, in turn, caused the devastating material injury
to domestic producers and their workers.

Many of the Chinese Respondents here today have publicly stated that the massive growth in capacity and excess supply in the solar cell and module industry, particularly in China, is the cause of this industry's harm. Respondents will offer a litany of alternative causes today, but the chain of causation here is simple and inescapable.

China's solar capacity is not going away. In fact, it's still growing. It's projected to reach 42 gigawatts by the end of this year. While the U.S. industry is contracting, the Chinese government is propping up solar companies that are already bankruptcy by western standards. Last week a local Chinese government and state-owned bank gave a $32 million rescue package to Suntech, a company that is already in danger of being removed from the New York Stock Exchange.

With nearly unlimited, and in many cases government-funded, capacity, Chinese producers will continue to take critical U.S. sales and collapse market prices if orders are not imposed. The dumping and subsidies taking place today have harmed the entire U.S. industry, from large, integrated companies to numerous small and start up module producers.
Today you will hear from two senior officials at SolarWorld, the largest integrated producer in the western hemisphere, and the CEO of Helios Solar Works, a cutting edge solar start up company, that had finally decided enough is enough. You will also hear from two installers and one distributor, all of whom have seen firsthand the harm in the marketplace and who have been forced to compete with distributors and installers of dumped and subsidized Chinese panels. You will also hear today from an Army General about the importance of maintaining this U.S. industry from a national security standpoint.

Chinese imports have taken over the U.S. market at precisely the time when it should be poised for strong growth. With strong demand and with domestic solar power as a realistic and affordable energy solution, this should be a booming U.S. industry, adding thousands of jobs. Instead, it is fighting for its very survival.

For these reasons, we request relief from dumped and subsidized Chinese imports and enforcement of our trade laws on behalf of the industry and its workers. Thank you.

CHAIRMAN WILLIAMSON: Thank you.
MS. BELLAMY: Opening remarks on behalf of the Respondents, Richard L.A. Weiner of Sidley Austin LLP.

CHAIRMAN WILLIAMSON: Okay. Welcome, Mr. Weiner. You may begin.

MR. WEINER: Thank you, Mr. Chairman. Good morning. My name is Richard Weiner from Sidley Austin, and I'm here to speak on behalf of Respondents.

For the next few hours you will hear SolarWorld tell a simplistic and highly misleading story. The industry covered by this investigation is more complex and dynamic than portrayed by Petitioners, and to the extent Petitioners are even injured, the causes of that injury are unique and unrelated to imports of subject merchandise. Those causes stem ultimately from the need for solar energy to achieve the holy grail of grid parity in order to compete with conventional energy sources, and from the express policy of federal, state and local governments to promote solar energy and accelerate the pace of solar installations in this country.

The Commission faces a unique situation in which government at all levels enacted measures to drive down prices for the provision of solar energy
and provided financial incentives and adopted performance mandates to achieve that goal. As incentives have declined in recent years, it has become imperative for the solar industry to reduce costs along the entire solar energy value chain, including hardware inputs such as modules. This has been especially important given that competition with energy derived from nonrenewable sources, particularly natural gas, has further reduced the solar electricity price necessary to achieve grid parity.

In this environment, only those solar module manufacturers that have invested, innovated and cut costs are equipped to survive. It is in such technological innovation that Respondents have excelled while Petitioners have faltered. Notably, Respondents have been able to achieve better conversion efficiencies for their products and introduce the higher wattage 72 cell modules required by the utility sector where demand in the United States has boomed as a result of government incentive programs.

As we will demonstrate, the Commission has no basis for reaching an affirmative determination in this investigation based on the statutory factors. First, the volume of subject imports has
increased because U.S. demand has skyrocketed, and Petitioners too have enjoyed stunning increases in U.S. shipments of their modules in the residential and commercial rooftop segments of the market that they serve.

Second, the decline in module prices is explained by declining polysilicon and related costs, competition from thin film modules, competition from other energy sources and the decline in government incentives.

Third, key economic and financial indicators of the domestic industry, including shipments, market share in the nonutility segment, production capacity and investment all point to what should be a healthy and robust domestic industry. To the extent that companies like SolarWorld are not doing well, this reflects their own failures, including being late comers to the utility segment and to module innovation.

There also is no indication that subject imports threaten the domestic industry with material injury because the boom in demand for solar energy is not just a U.S. phenomenon. Rather, solar energy is a global market, and demand in China, Japan, Europe and India, as well as in emerging markets in the Middle
East and Africa, far outpaces demand in the United States, which represents just six percent of global demand. Chinese producers are simply preparing to satisfy domestic and global demand despite Petitioners' claims to the contrary.

Even if the Commission were to make an affirmative material determination, there is no basis for finding critical circumstances. The evidence is overwhelming that subject imports and inventories during the post petition period were responding to, and are consistent with, a growing market and are unrelated to the filing of the petition. In particular, much of the increase in subject imports was a direct result of the impending expiration of Treasury's Section 1603 Cash Grant Program, which provided a 30 percent up front cash payment for solar energy systems, and imports were largely presold, not placed in warehouses. As such, imports during this period will not undermine the remedial effect of the order, if imposed.

In sum, this is not your run of the mill investigation. Respondents will describe an industry in which continual cost cutting is demanded by both government and competitors offering conventional and alternative technologies and which has had the benefit
of incredible growth and demand. The testimony will
demonstrate that any injury suffered by Petitioners
cannot be attributed to imports from China. Thank
you.

CHAIRMAN WILLIAMSON: Thank you.

MS. BELLAMY: Will the first panel please
come forward.

(Pause.)

CHAIRMAN WILLIAMSON: Mr. Brightbill, you
can begin when you're ready. Thank you.

MR. BRIGHTBILL: Thank you, Chairman
Williamson. Good morning again to you, the Commission
and the staff. Before we begin to present our
industry witnesses, I wanted to give a brief overview
of the statutory injury and causation factors driving
this case.

As you see from this first chart, Chinese
producers have continued to expand their solar module
capacity throughout the period of investigation.
Capacity doubled in 2010 and again in 2011, and
continues to increase, according to their own
projections, into 2013. This is only for those
Chinese producers who responded to the Commission. We
have other data that Dr. Kaplan will present for the
industry as a whole.
As a result, there were massive increases in subject imports during the period of investigation, the 1,000 percent increase that I mentioned in my opening statement, and Chinese imports continuing to increase, even this year. Market share, also a 30 percent expansion in market share by China at the expense of the domestic industry and market share continuing to expand this year as well.

How did China accomplish this? Refer you to the words of the former CEO of Suntech who said, Suntech, to build market share, is selling solar panels on the American market for less than the cost of materials, assembly and shipping. This is his statement to The New York Times in 2009. I would note that Suntech lost $1 billion last year, and last week it received a $32 million emergency loan from local state-owned banks, according to China Business News.

More statements from the Respondents themselves confirming the cause of the harm to the U.S. industry is Chinese overcapacity and pricing practices. Canadian Solar says many competitors, or potential competitors, particularly in China, continue to expand their production, creating potential oversupply. That's in 2011. LDK Solar: The past, and continued, expansion of production capacity by us
and our competitors may result in significant excess capacity. Suntech, Yingli, Trina: excess global capacity. Mr. Shah also says everything is crashing right now, the Chinese are maybe overplaying their hand.

Using this capacity they pushed in volume at substantial underselling rates, underselling that was pervasive and significant, about three-quarters of all comparisons by the Commission. The margins of underselling are also very substantial. That information, of course, is business proprietary. You have it in the prehearing report.

This is another look at the underselling as prices dropped substantially throughout the period. Fifty percent down. China undersold throughout the period of investigation.

This is somewhat unusual. This is a photo that I took at the solar industry trade show in Dallas the day after we filed the petition. This is one of the booths from one of the Chinese producers. You see the advertisement for solar modules at 89 cents per watt. Fast forward to this July at another leading trade show, InterSolar in San Francisco. The same producer now offering solar panels at 62 cents a watt. That's a 30 percent price decline since the petition
was filed. 

Price, by the way, is by far the most important factor considered by purchasers, more important than quality, more important than availability, bankability and any other purchase factors. Price is paramount. 

The harm that has resulted, unmistakable. There's a lot of data here. The declines in market share that I mentioned earlier, declines in capacity utilization this year. The value of shipments way down, production workers' hours and wages, and most notably, massive operating losses, both during the period and this year, and losses in operating margin as well. 

Then we should not forget the harm to the industry in terms of companies that are no longer here, that have shut down. This is the list. The injury, again, has not stopped as a result of the filing of the case. Many of these were well-established companies. This does not include bankruptcies, this does not include thin film producers who were also harmed by the Chinese industry, this does not include all worker layoffs that occurred during the period. You have those in your staff report. All right.
With that in mind, we'll turn to Gordon Brinser from SolarWorld to start the testimony.

MR. BRINSER: Good morning. I'm Gordon Brinser, President of SolarWorld Industries, America, the company's manufacturing unit. On behalf of SolarWorld and its more than 950 U.S. employees, I would like to start by thanking the Commission staff for its hard work on this case. I'd also like to extend my sincere appreciation to the Commission and staff for coming out to Oregon and visiting our plant. It was a pleasure showing you what a top quality production facility looks like and having you see firsthand the pride that our company and our American employees take in making some of the most technologically advanced solar cells and modules in the world.

What you could not see in Hillsboro was the commitment and effort that brought our operation into reality. What you could not see was the challenges we overcame to renovate an abandoned semiconductor factory. We invested over $600 million of our own money without any federal subsidies. We hired over 1,000 Oregonians, from operators, to accountants, to Ph.D. scientists. We built a world-class research and development team at the factory. We have planted deep
roots in the community and in the industry, and we intend to remain an integral part of American manufacturing. Today, SolarWorld is the largest silicon solar producer in the western hemisphere and the last remaining producer that is vertically integrated.

As you also saw on the tour, we produce both monocrystalline and multicrystalline cells and modules on the same production line. We grow the crystalline silicon, we cut it into wafers, we convert the wafers into cells and assemble the cells into modules. The 60 cell module that we produce remains the industry standard, widely used in all market segments, commercial, residential and utility.

SolarWorld has been unable to realize the benefits of its investments due to the massive surge in dumped and subsidized imports from China that have overtaken the U.S. market in the past few years.

In 2008, the start up of our Hillsboro site joined our location in southern California where our Camarillo factory had operated since 1975 and was one of the pioneers in this industry. We ramped up the Hillsboro fab quickly, but the Chinese surge had already begun and prices were quickly dropping. Once we reached full capacity we expected to be able to
stay at that level, yet this was not possible. Chinese imports overwhelmed the U.S. market, resulting in a collapse of market pricing and lost sales. In 2010, at its peak, our Camarillo facility employed more than 250 American production workers; however, SolarWorld was forced to shutter this facility just before we filed the trade case as prices continued to fall in the market. Because of this closure we were forced to lay off 186 production workers, some of whom had worked at this facility since it opened in 1979, and all of whom we knew personally. Even after filing this case we were forced to shut down our Hillsboro facility for a three week period at the end of 2011.

SolarWorld has suffered these setbacks despite the fact that the U.S. demand was growing. U.S. PV installations doubled from 2009 to 2010, and again last year. During the period of investigation, total PV installations in the United States increased by 300 percent, and by the end of the year the U.S. market is expected to become the third largest in the world.

While demand has clearly increased over this period, shut downs, lost sales, lost revenue, production declines and layoffs of American workers
have become too common for SolarWorld and the rest of
the domestic industry. China's massive, government-
funded solar capacity has caused this material injury.
The actions we have been forced to take have been all
the more painful to SolarWorld because they're not
cased by fair competition, but they are policies of
the Chinese government.

The Chinese government has targeted solar as
a so-called strategic industry. Because of this, the
government has fueled a massive expansion of capacity.
This expansion far surpasses any foreseeable demand
in China and elsewhere. China's home market remains
extremely small compared to its capacity. China's PV
capacity last year was at least 18 times more than its
home market demand. In fact, Chinese producers
themselves have publicly admitted that Chinese massive
overcapacity is damaging the entire global solar
market. Given this supply glut, Chinese production
had nowhere to go but abroad. Over that period,
Chinese producers exported approximately 90 percent of
their solar panel production, flooding the U.S. and
world markets. This import surge has been devastating
to the U.S. industry. The sheer volume of Chinese
product that has entered the United States is
stunning. From 2009 to 2011, the volume of dumped and
subsidized Chinese imports increased by over 1,000 percent. The U.S. industry market share has dropped dramatically. Further, Chinese dumped and subsidized pricing has caused a collapse in the market pricing. Throughout the period, Chinese prices dropped far more than raw material costs. Polysilicon costs, for example, do not explain the meltdown in market prices. Indeed, today China's prices are completely decoupled from their costs, as demonstrated by the billions of dollars of losses reported by Chinese producers.

Five years ago we saw the industry really taking off in the United States and we carefully planned how we would be a responsible leader in this growing market. We made enormous investments in our facilities and devoted substantial resources to technological development. However, far from benefitting from the growth in U.S. demand, SolarWorld has been severely harmed by the unfairly traded Chinese imports. Our Camarillo facility is closed, our Hillsboro facility has already curtailed production and suffered temporary shut downs, and today we are operating at less than 40 percent of our capacity.

Indeed, if unfairly traded imports from
China are allowed to continue, we may be forced to further scale back production and our employment of U.S. operations and consider other drastic steps. The continued health and survival of SolarWorld U.S. production operations is now in the Commission's hands. As you are aware, more than a dozen U.S. producers have already gone bankrupt or have suffered large scale shutdowns. Long time producers, like BP Solar, which were once significant players in the U.S. market have shut down their operations.

SolarWorld has been in business for over 35 years. While we have held on longer than others, trade relief is necessary to prevent further losses, and any relief granted must include an affirmative finding of critical circumstances given the way the Chinese products have flooded the market to beat the duties. These inventories are affecting the market even today.

As you know from the plant tour, SolarWorld, like many other U.S. producers, is constantly improving its products and developing new technologies for these markets. While the Chinese Respondents will tell you that the U.S. industry is not competitive and we are to blame for our losses, that is nothing more than a fairy tale. Our product and people can compete...
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1 with any producer in the world that trades fairly
2 under international and U.S. law. We cannot compete,
3 however, with a Chinese government or with the Chinese
4 producers that fail to play by the rules. Chinese
5 solar producers have seized the U.S. market share at
6 the expense of the domestic industry and our
7 suppliers.
8
9 The United States already depends on foreign
10 fossil fuels. The question is will the United States
11 come to depend on China for its energy technologies of
12 the future? Without AD and CVD duties, the answer to
13 this question may very well be yes. Thank you for
14 your time, and I'll be happy to answer any questions
15 you might have.
16
17 MR. KILKELLY: Good morning, and thank you
18 for the opportunity to testify today. I'm Kevin
19 Kilkelly, President and Sales Manager for SolarWorld
20 Americas. In this capacity, I'm responsible for all
21 of SolarWorld's sales and marketing operations
22 throughout the Americas.
23
24 As you have heard, the solar power market
25 has grown steadily over the past few years.
26 SolarWorld, like other members of the domestic
27 industry, continues improving our technology,
28 increasing manufacturing efficiencies and lowering
costs. For example, we substantially increased the output of our solar panels in recent years from 175 watts in 2008 to 270 watts this year. By continuously investing in our business, we have steadily reduced cost to less than the gap with conventional fossil fuels. Our goal is to continue to increase our wattage and decrease our costs so that solar power pricing can be competitive with traditional energy sources. Unlike the Chinese producers, however, we do this without massive government intervention.

SolarWorld has increased our marketing and sales effort to keep pace with the demand growth, adding employees across the nation from San Diego to Boston and building customer networks from Detroit to Austin. In this expanding market, we, and others, have made significant investments to expand production of our cells and modules in the United States using U.S. raw material, U.S. suppliers and U.S. workers.

In 2011, SolarWorld purchased significant goods and services in more than 40 states, creating additional jobs and benefits nationwide. In the current market environment we ought to be doing well. Demand for solar is increasing. SolarWorld competes in all channels of distribution in the United States. We manufacture both mono and multicrystalline solar
cells and panels. We sell to distributors, installers and utility companies. We are strong in all these sectors. In fact, the commercial segment is SolarWorld's largest market in terms of sales, followed by utility, then residential, and yet all of these sales channels have been crushed because Chinese producers have flooded the market with unfairly priced product, causing a collapse in pricing.

In fact, since I testified here last October, Chinese imports have surged into the United States at even greater quantities, far surpassing demand in the U.S. market. The vast majority of these imports were of 60 cell modules, the type SolarWorld produces and by far the most commonly used module in the market. Based on my knowledge of the market, this rush of imports caused inventories to build rapidly and prices to crash, further injuring the U.S. industry. Unfortunately, the market won't recover until these substantial inventories are worked off at fair prices.

The recent surge in Chinese imports which led to substantial increases in inventory was not connected to demand in the market. Rather, the recent import surge was intended to beat the preliminary duties that were imposed as a result of this case. It
is important that the import surge be covered by duties.

Since 2009, Chinese producers have used price to drive large volumes of solar panels, and market principles simply do not apply to them. I negotiate price with potential customers all the time. I know that the price per watt of a solar product is the most important factor in the customer's purchasing decision. Price dominates all other factors in the sales process. As the surge in Chinese imports has accelerated, almost on a daily basis I see lower and lower Chinese price offerings which I know simply do not relate at all to their production costs. As the disparity between U.S. and unfairly traded Chinese prices has grown, we have been under increasing pressure to drop our price.

For my job, I travel across the country to various solar trade shows. At every event I find dozens of Chinese companies offering solar products at cut throat prices. From one event to the next, their prices continue to decline. Over time I've seen more and more Chinese exhibitors and fewer and fewer domestic producers.

I am confronted daily by Chinese price offers. In general, at the beginning of 2011 Chinese
producers were offering modules at $1.80 per watt. At the start of this case Chinese modules were being priced at $1 per watt. Now they're offering modules for less than 70 cents a watt. This Chinese pricing caused module prices to fall between 40 and 50 percent in 2011 alone. Such a large drop in prices during a period of strong demand is a direct result of the unfairly priced Chinese imports. Chinese producers have shown that they will undercut the U.S. industry's prices, no matter what they are. They're even willing to sell below their cost to take market share. Chinese prices are frequently so much lower than our prices that we simply lose sales without ever having a chance to compete.

In addition to the sales we're losing, unfairly priced Chinese imports also affect our ability to continue investing in research and development to improve our products to stay at the forefront of the industry like we have for the last 37 years. It is essential that we continue to invest in developing our technology. Chinese imports have undercut the U.S. solar market, hurting our ability to invest and reinvest in increasing efficiencies and reducing costs and threatening the long term viability of the domestic industry.
Chinese producers have dramatically increased their U.S. market share at our expense. By overwhelming the market, the Chinese have collapsed pricing so that it is difficult for U.S. producers even to cover their costs. Many producers have shut down U.S. operations or declared bankruptcy, and thousands of U.S. workers have already lost their jobs. I have no doubt that Chinese producers will continue to take U.S. sales at any cost. These Chinese producers have crippled our industry and stand poised to inflict additional injury in the absence of effective trade relief.

Finally, on a personal note, as President of SolarWorld Americas, my sales staff and I are based in Camarillo, California. The last time I testified here at the Commission staff conference, SolarWorld had just been forced to shut down the Camarillo facility and lay off nearly 200 workers, many of whom I know well. Now, more workers and production at our Hillsboro, Oregon facility is threatened. We hope that with the relief of this case we will be able to stop the harm to this industry and return to fair competition in this market.

On behalf of SolarWorld, its more than 950 current employees and the nearly 300 laid off
employees, I urge the Commission to find that dumped
and subsidized Chinese imports are materially injuring
the domestic industry and threaten the domestic injury
from future injury. Thank you for your time, your
hard work on this case. I'm happy to answer your
questions.

MR. OSTRENGA: Good morning. I'm Steve
Ostrenga, the founder and the Chief Executive Officer
of Helios USA. On behalf of Helios and our workers, I
want to start by thanking the Commission and its staff
for their hard work on this case.

Helios is a start up solar energy company
that was incorporated in 2009. We began with four
employees operating out of a vacated parole office.
Our solar panel manufacturing facility began
operations in February 2011 in Milwaukee's Menomonee
Valley. This industrial area was once heralded as the
machine shop of the world but eventually withered to
become the state's largest brown field site. We are
proud to be part of Milwaukee's modern manufacturing
resurgence.

Helios produces crystalline PV panels,
including 60 cell modules with micro invertors and
larger modules with 72 and 96 cells for ground mount
systems in large commercial and utility scale
installations. Our modules can produce anywhere from 260 to 420 plus watts of power. The U.S. military is one of our primary end customers, with installations in Fort Drum, New York; Fort Polk, Louisiana; and two Marine Corps bases in California.

I would like to quote our first news release in July 2010. "Helios USA believes that solar electricity can help global demand for clean, safe and economical energy, while also serving as a driving force for renewed American manufacturing strength, creating over 50 new, permanent clean energy jobs in Wisconsin." To be clear, we set out to create good jobs with good benefits and be a solar market leader.

I served in the Army Reserves. We prioritized hiring disabled and other veterans who made up 40 percent of our initial workforce. Our factory creates jobs not only for our workers, but also for our vendors, customers and other downstream companies involved in selling, financing and installing solar projects. In fact, a Wisconsin glass manufacturer began making solar glass in order to supply our needs. Another firm recently made a significant capital investment to produce connective ribbon in Wisconsin for our solar panels. We also have a partnership with the Milwaukee Center for
Independence, employing special needs individuals who help build our components. Our goal has always been to provide highly efficient solar modules at a competitive price to help make solar energy more attractive and economical. To do so, we built a state of the art automated facility. Our facility uses advanced robotic machinery which improves the cell breakage rate, and therefore reduces module cost. As a result of these cost savings, we were able to produce our modules very competitively from the outset.

Helios entered the solar industry at what should have been a great time. The U.S. PV market doubled from 2009 to 2010, and again from 2010 to 2011. We were poised and ready to take advantage of this growing market. Given these market conditions, we should have been able to grow our business and make a profit; however, it has been a struggle to get our operations in full gear due to the enormous increase in dumped and subsidized cells and modules.

Just as the market began to flourish, Chinese imports rushed into the U.S. market. In fact, soon after we opened our manufacturing facility in early 2011, Chinese imports surged into the United States at astonishing levels. Market prices began to
plummet. Our customers indicated that Chinese companies were continuously slashing prices, sometimes below their cost of production. We compete directly with the Chinese product in all market segments, from residential, to commercial, to utility scale. As a result, we were forced to keep lowering our prices, but even with our automation, low direct labor cost and freight advantage, we cannot compete with the Chinese government. By the end of 2011, Chinese companies were offering panels as low as $1 per watt and our prices were falling much faster than our cost. China is responsible for the crash in market prices for PV panels, not thin film and not raw material cost decreases. By completely overwhelming the U.S. market, Chinese producers have collapsed pricing to the point where it is nearly impossible for U.S. producers to cover their costs. One of our most common modules is selling for 40 percent less now than just a year ago. When we could not lower prices enough, we lost significant sales to Chinese producers.

The American solar industry has been devastated by Chinese trade practices. We had ramped up production and had grown from one shift in the
first quarter of 2011 to two shifts in the second quarter. We were on pace to run three shifts and operate at a 75 percent capacity utilization rate in August 2011. We planned to employ about 50 people by October and double capacity, and increase employment to be nearly 100 by this time; however, as a result of the rapid increase in unfairly traded Chinese product, our plan to increase production has been put on hold. Instead, we were forced to idle our module factory and lay off workers in November of 2011.

From December 2011 to the beginning of 2012 we employed a skeleton crew. In fact, we operated at less than a 25 percent utilization rate. Moreover, we were forced to stop producing our standard 60 cell module because we simply could not compete with the unfair Chinese pricing for this common module. Helios now focuses primarily on specialty and larger modules. Even these modules, however, have not been insulated from the negative effects of Chinese imports.

Since the issuance of preliminary duties, our condition has improved. However, we are still running only one shift and have a head count of 26 employees. Our credit line is now subject to more oversight and our interest rate has increased significantly. Because of these Chinese imports, we
also have been unable to make R&D investments that
would further increase efficiencies and reduce cost.
Such investments are critical to the future viability
and competitiveness of our company and our industry as
a whole.

The solar cell and module industry was
created here, in the United States, and our technology
is world-class competitive. U.S. cell and module
manufacturers have not gone out of business due to bad
bets on the wrong technology. Most were simply driven
out of the market by China's unfair trade practices.

Helios is proud to be the first solar
manufacturing firm to open in Wisconsin. We are a
high tech, efficient company that is positioned to be
at the forefront of the renewable energy movement in
the United States' quest for energy independence. We
do not want our fate to be like that of so many other
U.S. producers that have been forced to idle
facilities or cease U.S. production altogether as a
result of Chinese imports. We believe American
manufacturers certainly can compete with fairly traded
solar cell and module imports.

On behalf of Helios, our families and the
employees that we had to let go, I respectfully urge
the Commission to give us an opportunity to do so by
imposing AD and CVD duties against dumped and
subsidized Chinese products. Thank you.

MR. CALDWELL: Mr. Chairman, members of the
Commission, good morning. I'm Brig. Gen. Mike
Caldwell. I'm the Deputy Director of the Oregon
Military Department, and currently, the Commander of
the Oregon State Defense Force, which is part of the
Oregon Military Department. As the Deputy Director,
I'm also in charge of all of our armories, camps,
installations, as well as our Office of Emergency
Management. The Oregon State Defense Force's mission
is to augment the Oregon National Guard and provide
emergency management liaison assistance to local
governments in an emergency.

I began my military career in 1971 and have
held numerous command and staff positions, retiring
from the National Guard in 2006. I also have private
sector experience as an owner and an operator of a
construction company and a cattle operation, and have
held a variety of civic positions in my 30 plus years
public service, including a term as a city councilman,
two terms, or eight years, as a county commissioner.

I'm testifying today on the issue of
national security, and, in this case, to help ensure
that producers, like SolarWorld and other U.S.
manufacturers of solar products, are not harmed by unfair competition from abroad, especially when our government has the power and the duty to ensure that fair markets prevail in this country.

In my role as a deputy director, I'm responsible for the development and the implementation of alternative energy sources for the Oregon Military Department, our installations, in accordance with the Net Zero Energy Initiative, which is part of a broader Department of Defense Energy Security Initiative to reduce consumable energy and ideally produce more energy than we consume. By being environmental conscious, we are helping to provide stability and security in communities throughout our state.

Currently, the Oregon Military Department consumes 45 megawatts of electricity a year, and operates more than 40 National Guard facilities throughout the state. The department participates in community energy planning in locations where we have facilities. We have a number of programs currently ongoing in the state, including our Fort Oregon project, which is looking at our entire state facilities, not just one base, one camp or one armory.

The long term goal of our agency's Clean Energy Development Program is to become a national
As part of the fulfillment of the Net Zero Initiative, we have made it a point to, where possible, purchase American-made solar products. In Oregon, SolarWorld has been a solid and dependable supplier for several years. Now there appears to be fewer U.S. producers of solar products left in American.

The Oregon National Guard has led the way in building renewable energy projects. We believe that it is vitally important that we buy and source American-made products to do our job in bolstering the U.S. national security. The purpose of moving to alternative energies and away from dependencies on foreign sources of oil and other energy products is inevitably to secure a greater national security.

It would be an odd twist of fate that as we move away from relying on imported oil from the Middle East, to see this country lose our domestic solar production base and end up being dependent on foreign, potentially unreliable, sources of our alternative
energy needs. All we need to do is look at China's actions to cut off supplies of rare earth materials to Japan over a territorial dispute to see that the Chinese government has no problem flexing its economic muscle to sectors where it has near monopoly status. Couple this with China's plan to dominate global solar panel production, as outlined in the most recent five year plan, and you can understand the national security implications of ceding an important industry to China.

Through the course of my efforts to secure alternative energies for the Oregon Military Department, I have seen market prices plummet and have heard countless stories on how Chinese producers have lowered prices, no matter what the cost, to under price the U.S. domestic producer. It appears to me that due to this gross overproduction, Chinese producers have collapsed pricing to the point that U.S. producers can no longer survive.

The loss of 14 U.S.-based producers over the past two years means that we have fewer and fewer options to source from. It becomes harder and harder to procure domestic supply, which will, unfortunately, drive the United States' military to depend on foreign producers. I believe it would be a great wrong to put
America's military in this position, not to mention American producers, like SolarWorld and its workers, many of whom are Oregon National Guard veterans. I thank you for the opportunity to talk to you today.

MR. MCKECHNIE: Good morning. I'm Michael McKechnie, President of Mountain View Solar in Berkeley Springs, West Virginia. At Mountain View Solar, we are building more efficient homes that conserve energy. That led us into working with solar energy, and that transition happened in 2006. We've been installing just solar panels since 2008. We no longer build houses because there's not many more to build there.

As part of Mountainview's expansion into solar energy, I attended a solar decathlon event here in Washington, D.C. in 2005. That's a biannual event they have sponsored by the U.S. Department of Energy. The teams are collegiate, and the houses are very efficient and powered only by the sun. At the 2005 event, I purchased one of those homes, moved it back to West Virginia, put it back together, and we used it as our demonstration home to educate people in our community and the wider community about solar energy and energy efficiency. My wife and I and our daughter live there. It's completely solar-powered. We've
been there since 2007.

As I mentioned earlier, Mountainview concentrates only on installing solar PV products. We work in West Virginia, Maryland, Pennsylvania and Virginia. Our makeup of our business is 60 percent residential and 40 percent commercial. When mountainview first entered the industry, we sourced our panels from a number of manufacturers, including Sharp, Schott, Suntech, Sanyo, Sun Power, BP Solar and SolarWorld.

Initially, we planned to buy our solar panels from BP Solar in Frederick, Maryland, just an hour from where we are right now. Their panels are on my home in West Virginia. They were made in Frederick, Maryland, and we planned to buy them locally as an American-made product and then sell them to our customers. Soon after we got started with them and started to place our first POs, they disappeared and went out of business.

This happened in 2011 when the Chinese imports caused their surge into the market with huge volumes and unfairly-low prices caused them to go out of business, and we could no longer sell their product. Since then, we've been working with SolarWorld as the last large remaining solar
manufacturer in America. On a weekly basis at Mountainview, we receive a barrage of emails and even phone calls directly from Chinese manufacturers trying to sell us their product on price only. Over the past few years, the prices offered by the Chinese companies and their panels have gone lower and lower without any relationship to their cost to manufacture them. While we do not respond to these offers, our competitors and our distributors around us have done so. This gives us incredible pricing pressure in our market. We compete with these companies every single day in the marketplace, every day, and we try to respond to the constant and ever increasing lower prices from the Chinese companies. For example, you probably here radio adds for Solar City. It might not surprise you to learn that Solar City uses unfairly-priced Chinese solar panels in its installations. Solar City and companies like solar city using those unfairly-priced, dumped and subsidized Chinese panels have taken over 70 percent of the residential marketplace in Maryland in 18 months. It's become harder and harder for us to compete with the Chinese pricing. They've caused the market to collapse.

Pricing pressures exist in all sectors of
the industry, but it's most difficult for us to compete with those Chinese prices in the commercial markets. We're in an area where we've been for a long time. We're known as the solar installers. People come to us with their projects. They ask us first. Then, they look for additional quotes and repeatedly they come back with lower and lower prices. These extremely low prices from the Chinese panels, we try to compete with that. Sometimes, we win the projects, but increasingly we're losing those projects based on price only.

On behalf of myself, my family, all of the employees in our small company in West Virginia, I'd like to thank the Commission for their time. This case is very important to Mountainview solar. Without relief, I'm concerned that China will complete its goal of eliminating all of the U.S. competition, and I'll be forced to start buying dumped and subsidized Chinese solar panels. We don't want to abandon our domestic supply base. We picked that strategy carefully. In the absence of relief, we may have to do so. Thank you.

MR. FERDA: Good morning, Chairman Williamson, members of the Commission and staff. My name's Mark Ferda, and I'm here representing
McNaughton-McKay as the renewable energy account manager. McNaughton-McKay is a 103-year-old, Michigan-based, full line traditional electrical distributor, and we are now stocking and distributing a variety of solar products.

We have 23 locations in Michigan, Ohio, the Carolina and Georgia and also in Germany, and we employ over 700 people at those locations. Our corporate headquarters are in Madison Heights, Michigan. We're a financially-strong, 100-percent employee-owned ESOP. We interact with the solar market in two ways. First, we're a distributor of solar panels to commercial, utility and residential markets, and second, we also supply the manufacturers of solar panels the automation equipment that they use in their factories to produce those solar panels.

We serve both industrial and construction markets including customers such as end-product and equipment manufacturers, electrical contractors, municipalities and utilities. In 2009, McNaughton-McKay strategically entered into the solar market in Michigan, and as of 2012, we've committed resources in all of our U.S. geographic markets. Our sales volume has been strong as U.S. demand for solar energy has increased in the past few years. Revenues from our
efforts were four times our original business plan in 2010. However, our revenues have not kept pace. While our volumes of sales have doubled through 2012, our total revenue remained flat due to the declining market prices. In two and a half years, our experience as far as U.S. solar module prices have decreased by other 60 percent, declining from $1.84 per watt in the first quarter of 2010 to 68 cents per watt in the third quarter of 2012. We've seen no evidence of this drastic decline being the result of a proportionate reduction in material costs, nor from advancements in manufacturing processes or technology develops responsible for those steep declines. These massive-price declines can only be explained by Chinese trade practices.

The unsupported decline in pricing has impacted our business in two ways in both of the market sectors that I explained earlier. McNaughton-McKay has built a reputation over 100 years for providing our customers with out the best-in-class product offerings. As a result, for the past several years, we've purchased solar panels from BP solar, Shot Solar, SolarWorld, Kyocera and Sharp and distributed those products out to the end users.

The damaging result from the declining
pricing is that two of those five, BP and Shot, and their recent announcement of potentially a third, Sharp, have exited the solar market in less than two years. The reason being their inability to maintain a profit given current costs related to dumped and subsidized Chinese imports. This leaves us in a position that the number of suppliers capable of meeting our criteria is becoming dangerously low. We will not risk our reputation by representing manufacturers outside of our criteria.

The second result is one that has even had a greater impact on our business financially. Our primary line of products is automation equipment that we sell to those machine tool manufacturers and facilities that manufacture and go into the production of solar modules. In the past two years, we have realized lost revenues in excess of $3 million annually in automation equipment. Also, we have incurred bad debt losses due to the closures and losses suffered by the PV manufacturers to whom we supply that automation equipment.

The emergence of these new companies in the Midwest was a short-lived sign of hope, but dumped and subsidized Chinese products made it impossible for them to compete. Many of these businesses were
located in the economically hard-hit regions in Michigan and Ohio, and they impact to the jobs goes even deeper than the manufacturers plants and us as a distributor. Many Midwest equipment manufacturers, engineering firms and contractors devastated by the auto industry downturn also saw a glimmer of hope quickly fade.

In conclusion, we see no economic reason why solar modular manufacturing cannot be a sustainable, profitable and growing industry in the United States. The product is comprised of raw materials primarily sourced within the U.S. as low-labor content and technology that could be furthered here. In a county founded on innovation and manufacturing, a fair and level playing field is the only requirement to compete in the global marketplace. We all extend our appreciation to the Commission for ensuring such a playing field exists. Thank you.

MR. MORINVILLE: Good morning. I'm Joe Morinville, President of Energy Independent Solutions. EIS is a solar panel installer based in the Pittsburgh area who's been in operation since 2008. About half of our business comes from the residential sector, the other half from the commercial sector. I'd like to start by giving a little background on our
sales process and the solar market in general. For residential sales, we typically generate leads through word of mouth, trade shows and advertising. For commercial, we respond to RFPs and RFQs, and our sales personnel work with municipalities, universities and others to develop business. From conversations with our customers, we typically know who the other installers are who we're competing against and what kind of solar panels that they're installing or offering to the project.

Over the past few years, the market for solar panels has grown significantly in part due to federal and state incentives and environmental concerns. Notably, these incentives such as federal tax credits are targeted towards consumers, not solar producers. Therefore, it does not matter whether the solar panels that are installed are American made or made in China. This is important because just as the market for solar products began to blossom, huge volumes of Chinese sales and panels rushed into the United States.

The large volumes of low-priced Chinese imports overwhelmed the U.S. market and crushed market prices for solar panels. Our customers are often quote extremely low prices by installers that use
Chinese panels, and we're continuously trying to have to match these falling Chinese prices as residential and commercial installers become harder and harder for us to compete with installers using Chinese modules. The price of the panel really drives a purchasing decision, and the importance of price is magnified as you move from residential to commercial and from commercial to utility scale, this because project initiation labor costs are less of a factor in total project costs for larger installations that they are for smaller installations. For example, certain project installation costs such as the permitting, setup, engineering costs are typically similar regardless of the size of the project. In addition, because large-scale commercial and utility projects involve a single setup and run more efficiently than residential projects, the man hours per panel installed are actually less for these larger installations. For residential, it often takes two or more man hours per installed panel while commercial installations generally require one man hour or less.

As a result, even though we are selling the same panel to all markets, the relative price of the panel become even more important when we're competing
for larger projects. The pricing pressure caused by Chinese imports is particularly bad in the commercial and the utility sectors because of this reduced per-unit installation cost. In fact, EIS recently worked on a bid for a 2.5 megawatt utility-scale project, worked hard with our domestic panel supplier to reach as competitive a price as possible.

However, the just could not come down far enough to win the business. For the same product, Chinese producers immediately upon first phone call, no negotiation, offered 77 cents per watt, which was well below the U.S. manufacturers price. U.S. panel producers are among the best in the world and have no problem competing with fairly-traded imports. However, they can't compete with dumped and subsidized Chinese prices or the Chinese government.

In my experience, the collapse of the market prices is not related to pricing for thin-film products. EIS carries some thin-film products. While there is some overlap between thin film and crystalline silicon panels for certain jobs, they're generally not competitive with each other. Thin film is a less-proven technology. It's physically different. It's also less efficient and not as well suited for residential and commercial installations.
Generally, these products are viewed differently by our customers. On behalf of EIS, I'd like to thank the commission for the opportunity to appear here today. This case is critical for us. We believe in American made solar panels and do not want to be forced into a position where we have to consider abandoning our domestic supply base.

DR. KAPLAN: Good morning. My name is Seth Kaplan, and I'm from Capital Trade Incorporated. I'd like to discuss the economics of the silicon photovoltaic cell and module market. This investigation is a textbook example of the deleterious effects of Chinese industrial policy on a U.S. industry. The chain of causation is clear and plain from the industrial policy, from the highest levels of the Chinese government to the geometric growth of production capacity in China, the targeting of that capacity to export markets despite the need for energy in China itself, the supply glut and price collapse that appeared throughout the world, and finally, harm to U.S. producers.

The industrial policy has been in existence for a while. The 11th five-year plan targeted the solar energy industry, and the state council...
guidelines prioritized low-cost, mass development and utilization of renewable energy. It states, "We will give priority to researching and developing high-performance, low-cost solar voltaic cells and technologies that use them.

The 12th five-year plan identified the new energy industry as a strategic emerging industry, and the solar photovoltaic energy part is part of the new energy industry. The photovoltaic five-year plans speaks of increasing capacity and production, price-level targeting, export orientation and technological advances in innovation. To support this directed industrial policy, China has invested billions and tens of billions of dollars in building new capacity. There has been a geometric growth of new capacity in China from an industry that was founded in the United States and has its roots in the United States and Europe. They are a newcomer to this industry. They are using foreign technology and parts and equipment to build their industry. Note that Chinese consumption in 2011 pales in comparison to Chinese capacity, despite the fact that we all know that China is building coal-fired power plants and it has vast energy needs and growing energy needs given to their rise in income and their manufacturing base.
Nonetheless, this energy industry, this clean energy industry production, is targeted for abroad. Chinese module shipments have increased significantly in accordance with their capacity, and their consumption has lagged their own capacity because the capacity and shipments are targeted for countries abroad. The targeting is plain. I will repeat some of the quotes and maybe some of the new ones that Mr. Brightbill had said earlier.

Yingli Energy Holdings in 2011, one year ago, talked about capturing 50 percent of the North American solar market. The sales prices of these products have been since 2009 below the cost of production, and despite declining production costs that occur in an industry that has semiconductor-like features, the Chinese have continued to lower prices at a rate faster than the rate in technology and the change in the input costs.

The supply glut in place collapse is documented in the staff report, is documented in the financial press. It is documented in the SEC documents that are filed by U.S. and foreign companies. It is documented in the statements of the trade press that views this industry. It is documented in the press releases and the statements
that Chinese producers themselves have made for the
last three years.

Note in the graph that you can see the price
falling in this market, like in semiconductors,
because of increases in technology from companies like
SolarWorld that have 35-year history in this industry
and notice what happens on the Chinese entry. Prices
plummet much faster than previously and not because of
changes in input costs or changes in technology. The
module price trends over the longer term show this.
Price trends, as documented in the staff report and my
conversations with industry representatives, show an
eight- to 12-percent decline in prices due to
technology advancements like semiconductors.

What happened after the Chinese entry? The
prices fell at a much faster rate. As you can see,
that price change is consistent with the imports of
solar cells and modules and in the lower part of the
graph. Harm to U.S. producers is plain. These are
the changes in shipments, in gigawatts. You'll note
in 2009, the U.S. industry and the Chinese industry
and the non-subject industry was about the same level.
In 2010, a massive increase from China followed by
another one in 2011. Interim figures show the same.
These figures are from the ITC's own data that they've
collected, analyzed and verified.

What also we've seen is not only has the imports affected the U.S. market, but they've driven out the non-subject imports as well. Imports from China, which were less than 20 percent in 2008, by 2011 comprised over 50 percent of the imports in the market and are increasing continuously. The Commission recognizes and Respondents have noted, as have we, that prices in this industry are expected to fall because of changes in technology, but the Commission has long considered the rate change in prices relative to the change in input costs and costs of goods sold.

This is a classic cost-price squeeze the Commission has recognized in case after case where prices fall faster than the price of inputs or the costs of goods sold. In this case, we're looking at raw material costs. The next graph talks of polysilicon. This information was from an exhibit on behalf of Respondents in the preliminary phase and equally well demonstrates that looking at polysilicon alone, the U.S. industry is experiencing a cost-price squeeze.

In discussing the input costs with representatives of the industry, I want to note that
the other input costs, things like aluminum and silver that are important components have actually been rising, which explains why the cost-price squeeze has been more severe when you look at total materials cost and not just polysilicon, but even polysilicon shows a cost-price squeeze.

This effect has affected every single segment as demonstrated by the Commission. The Commission collected data for residential, commercial and utility end uses and separately for the channel of distribution from the distributors. Contrary to claims by Respondents that you might have even heard this morning in the opening statement, the Chinese have increased in every single segment and dominate the segment.

The anecdotal information provided by the representative from the installation in both Pennsylvania and in West Virginia is consistent with the overall trends collected by the Commission. This is a national problem. It is happening in every single segment. The Chinese, who have talked about being in the utility segment, which they dominate, in which the U.S. industry has increased in trying to compete, also dominate the commercial segment and also dominate the residential segment.
There is no lack of competition or lack of overlap of competition or segmented market issues in this investigation. There has also been other claims, and I can't recall a case where Respondents have put in so many alternative causes. I will discuss two of the many right now. One has to do with natural gas volatility prices. The blue line shows the price of natural gas, and as we all know it has come down dramatically due to fracking technology.

Despite these changes in natural gas prices, we've seen a continued increase in PV installations. The staff report itself and the questionnaire responses collected by the Commission have not said that there was a relationship between the gas prices and the installations, and you can see this demonstrated here as well.

Finally, thin film was referred to as an alternative cause. I think this speaks for itself. Thin film was a larger share of the market before the period of investigation, but silicon is the large part of the market and the notion that the flea on the hair of the tail is wagging the dog as represented by Respondents is plainly shown to be incorrect by this graph that the silicon module industry itself has done well and has not been harmed by this, but is in fact
been harmed by this and by this. Thank you very much.
I'll be happy to answer questions.

MR. BRIGHTBILL: Tim Brightbill. That concludes our presentation. I'd like to hold the remainder of our time for rebuttal and just one note. As the clerk and the Chairman, I believe, are aware, the General has somewhat of a tight schedule today and will need to leave shortly, so for questions, we would like to either defer to the rest of the panel, or, if it's acceptable to the Commission, to respond to questions in maybe a statement that would be included in our post-hearing brief.

CHAIRMAN WILLIAMSON: Okay. I want to thank all of the witnesses for their testimony and for coming today, and in light of the General's schedule, what I'm going to do is offer the Commissioners a chance to ask General Caldwell questions first, and we'll follow the regular order, but we'll just do those questions, and then we can go to our 10-minute time if that's okay with the clerk, so, Commissioner Pinkert, any questions for General Caldwell?

COMMISSIONER PINKERT: Just one question. You talked about the security implications of Chinese industrial policy in this industry. To what extent can you weigh the economic motivation for those
policies versus the security motivation?

GEN. CALDWELL: Commissioner, I think anytime we look at our business as obviously being good stewards of the public dollars, and so economics is a major part of any decision we do make, but I think if you look at a global picture, and I'm certainly not here to represent the Department of Defense or any other factors in which we look at our overall security policy here in the United States.

Clearly, we've spent a lot of money right now securing fossil fuel in the Middle East for our industry, for all of our industries in the world, and based on what the DOD's doing with respect to the niceties on Net Zero, it's real clear that we're making every effort. They're making every effort to try and generate more of our electricity, our own going to Net Zero wind, water, waste, whatever the case may be, so when you look at those initiatives and how we're going about it, I think it's clear we need to go that way.

We need to secure our own energy sources. We need to secure our own for the DOD and for every element of it, including the National Guard, so yes, economics is absolutely important, but at the same token, we need to look at the long term too, not just
the short term. We need to have a long-term look, and I think that's where DOD's headed with these policies.

COMMISSIONER PINKERT: But what my question was directed to is the motivation for the industrial policy of China that was put forward in the slides and in the testimony, and I thought I heard you say that security policy is a major factor there, and I'm trying to get some sense of whether the policy is directed toward an economic objective or toward some other objective?

GEN. CALDWELL: I think generally security policy, obviously, I think, as a country, we have to secure our own sources and our own capabilities. It would appear to me, and I'm just very much a layman in that respect, but you may want to talk to the doctor behind me who has probably a better scope on the economics of that, but it's pretty obvious that the Chinese policy is to, I think, based on the slides that were shown, dominate this portion of the industry.

I guess it's strange from my standpoint, again as we become very reliant, United States, on fossil fuels, we need to keep moving to other alternatives, and if we don't, then our only security is to have a large expensive military to secure that.
In the long term, that's not good policy, and again, I think we need to look at the long term, not the short term, and it's pretty evident the Chinese industrial policy is not in congruence with what really want as a country in my mind.

Commissioner Pinkert: Thank you.

Chairman Williamson: Commissioner Johanson?

Commissioner Johanson: Yes, General Caldwell. First, thank you for taking the time to come all the way to Washington today to testify. You mentioned that the Oregon Military Department makes an effort to purchase U.S.-produced solar products and other products as well. How much of that is driven by incentives provided by the state and federal governments, and would the expiration of any of those programs impact such purchases?

Gen. Caldwell: Again, Commissioner, as I stated earlier, I think we are very cognizant of our fiduciary responsibilities with the taxpayer's dollars. Having said that, we have a buy America policy as you're probably aware of, and that of course factors into that, and we will always comply with those regulations and those statutes.

I think as we look at our Fort Oregon, as we call it, which includes the entire state, we attempt
1 in everything we do whether we're building a building
2 or we're doing these energy projects to (1) we're
3 going to comply with the statutes, (2) we're going to
4 do everything we can to use domestic suppliers if at
5 all possible, and the only reason we wouldn't is
6 because we can't get it someplace else.
7 Now, if it becomes a cost-driven issue where
8 it's marketably higher than some other product, then
9 typically what we've done is asked for legislative
10 relief from our legislature to continue to buy
11 American products, and they've given it.
12 COMMISSIONER JOHANSON: But would you see
13 the expiration of any programs impacting purchases?
14 GEN. CALDWELL: Commissioner, I believe that
15 has had an impact. Our last project that we did was
16 about 150-kilowatt project in central Oregon in the
17 high desert, and that was supported by ARA money. Had
18 we had to do that out of our own hide, we may not have
19 been able to do that.
20 COMMISSIONER JOHANSON: All right. Thank
21 you.
22 CHAIRMAN WILLIAMSON: Commissioner
23 Broadbent?
24 COMMISSIONER BROADBENT: How do you define
25 American made in terms of a solar panel? How much
value added would you say needs to be in the product?

GEN. CALDWELL: Well, Commissioner, I think the regular or the statute requires 50.001 percent of that total cost of that applications. We've seen instances in other products, not in solar issues where products were actually manufactured outside the United States, but they value added it after it came to the United States as they crafted those items, that raw material into the finished product, and then it became that cost was greater than the raw material process.

COMMISSIONER BROADBENT: Right.

GEN. CALDWELL: So typically we follow the statute, or not typically. We always follow the statute.

COMMISSIONER BROADBENT: Great. Thanks. Are you finding different programs have different value-added requirements?

GEN. CALDWELL: No, ma'am. That's not the case. It really depends on, as we bid projects, larger wins as they come into shape. Our contractors know that's a requirement, and they have to produce that and demonstrate that to us before they can proceed.

COMMISSIONER BROADBENT: Okay. So we're not dealing with different regulations and statutes that
1 have different definitions of value added and what's
domestic?

    GEN. CALDWELL:  Not to my knowledge.

4 COMMISSIONER BROADBENT:  It's all a uniform
5 50-percent value added, is that right, Tim?

6 MR. BRIGHTBILL:  Tim Brightbill. That's
generally correct, but we'd be happy to provide some
more information on that in a post-hearing brief.

9 COMMISSIONER BROADBENT:  Great. Thank you.

10 And then, General, just one other question, and this
11 is beyond the Commission's purview here but just
12 because of your expertise, we're really flattered that
13 you would come and spend the time to talk to us on
14 this. When you sort of talk about the national
15 security interests, I mean, how do you define it
16 broadly in this sector?

17 I mean, what is the dire consequence of
18 Japanese domination of this industry, and is there a
19 way -- I guess I'd leave it as that as how would you
20 paint sort of the most difficult national security
21 issue that the country could face in this sector?

22 GEN. CALDWELL:  Commissioner, I believe that
23 any industry, whether it's solar panel or solar cells
24 or any domestic industry that is important to the
25 United States, it is not, in my mind, a good policy to
advocate a position to a foreign nation whether it be
China or any other nation for that matter. I think we
need to maintain that capacity in this country whether
we're building solar panels or we're building widgets.
If we don't have that capacity, at some point --
COMMISSIONER BROADBENT: But that sort of
leads you to we have to produce every single thing in
this country.
GEN. CALDWELL: No, ma'am. I'm not saying
that. I'm saying we have to have the capacity to do
that and we have to be competitive, and I think that's
what this is really about is not whether or not we
produce it or not, but being competitive in that. I
mean, that's the really the discussion here. Is this
competitive? Is the playing field fair or is it not,
and I think from a personal standpoint, being an
elected official for over 12 years, the most important
thing to me is American people doing American work
creating American products.
Because those are the people that I spent my
total public career supporting them, it doesn't make
a lot of sense to me to ship those, when it's a not a
fair playing field, to ship those products and/or that
industry and/or that manufacturing to another nation.
That simply doesn't add up to me, and I'm a farm kid
from Eastern Oregon, so I grew up on a farm, pretty simple. This is not complicated in my mind.

COMMISSIONER BROADBENT: Thank you very much.

CHAIRMAN WILLIAMSON: General Caldwell, I want to follow up on a couple of questions of my fellow Commissioners. You mentioned, I guess, following the statute. I wasn't clear. Are these federal statutes? Are they state statutes, or are we dealing with both?

GEN. CALDWELL: Both.

CHAIRMAN WILLIAMSON: Both? Maybe at post hearing, we can get sort of an elaboration of that, what the statutes are and what I guess you might call it the rules of origin in those statutes regarding what's covered by them?

MR. BRIGHTBILL: We'll be happy to provide that.

CHAIRMAN WILLIAMSON: Good. Okay. Because the question is are we talking about do you have a finished installation, how do they figure out the value of the cell, the value of the product after it's assembled into a module, or is it really the value at the time that the whole thing is installed with the installation cost, too. I think that would be helpful
for us to gain an understanding of how much these laws bear on the market in the U.S. and demand in the U.S.

MR. BRIGHTBILL: We'll be happy to provide that to the Commission.

CHAIRMAN WILLIAMSON: Okay. Because I know that could be sometimes rather confusing. Good. Okay. Commissioner Pearson?

COMMISSIONER PEARSON: Thank you, Mr. Chairman. I would like to thank General Caldwell for his service to the country and his willingness to testify here today, but I have no questions for him, so I'm happy to let him go catch his plane. Thank you, Mr. Chairman.

CHAIRMAN WILLIAMSON: Good. General Caldwell, thank you very much for coming so for your testimony.

GEN. CALDWELL: Well, I appreciate the opportunity and thank you for your time.

CHAIRMAN WILLIAMSON: Okay. So we will resume the normal procedure with Commissioner Pinkert.

COMMISSIONER PINKERT: Do I get the normal amount of time per round?

CHAIRMAN WILLIAMSON: Yes, you do.

COMMISSIONER PINKERT: Thank you. I want to thank everybody on the panel, again, for appearing
today and helping us to understand these difficult
issues in this case. I want to begin with something
that you emphasized in the testimony that the market
has been expanding, that apparent consumption has been
going up, and I want to ask whether the panel things
that it would be fair to conclude that much of that
increase in apparent consumption has been driven by
imports rather than by increases in demand?


If I understand your question, you're asking if the
imports themselves are driving the demand in the
market?

COMMISSIONER PINKERT: Or simply the
increase in apparent consumption. In other words, is
it being driven by the imports, or is there something
going on in terms of the customers that's driving that
increase in apparent consumption?

MR. BRINSER: So I think demand in the
market, and we'll go a very broad context here, demand
in the market is very complex. There is many things
that are driving demand in the market. You have
federal incentives as we heard about earlier through
the ITC. You have state incentives in various states
that are driving demand, and probably more
importantly, you have RPS standards and also energy
prices that are driving some of the demand in those different markets, so it's very complex market dynamics that does go on.

We do see that demand has risen in the U.S., and it's fairly strong, and it's projected to continue to increase at a decent rate over the coming years. What we do see is that the glut of imports, and obviously it's pushing the prices down and causing the harm on the U.S. industry.

MR. BRIGHTBILL: Tim Brightbill. Just the other base point about demand is that these companies, like SolarWorld, have put themselves in a position to take advantage of that stronger demand during the last few years, and the Chinese imports have taken that all away. Now we expect demand to be strong going forward, but perhaps not as strong as it's been, and that raises even more of a concern with China's sort of dominance in terms of market share and volume of imports.

MR. KILKELLY: Kevin Kilkelly, SolarWorld. One more on the demand side. If we forget about the percentages, the market in the U.S. is increasing, and it has over the last few years. Many of this has been, like my counterpart Gordon Brinser, has talked about through federal tax incentives, state RPSs that
drive the utilities to procure from renewable sources as well as the increasing cost of energy. The size of the market has only increased about one gigawatt a year over the last few years. There is no way that 42 gigawatts worth of overcapacity in China when it's released onto this market, that's an absolute uneven playing field, driving down the price predatorily to push domestic consumers out of the market. So even though demand is going and it's going to continue to go strong within the solar industry for the next few years, at least through 2016 with the ITC timeframe, that demand will not even come close to matching the capacity that China has brought online as well as their intentional targeting on export-oriented markets.

I just want to be clear that although the market's growing, and that there's different demand catalysts or inputs to trigger this demand, there's by no means that the U.S. economy can absorb all that influx of overcapacity. Therefore, the predatory and dump prices has just caused such injury to the industry.

COMMISSIONER PINKERT: Dr. Kaplan?

DR. KAPLAN: Yes. First, I want to repeat again that the market is very small relative to other
energy sources and that the government has taken an
interest in this both by investment tax credits, which
are referred to as ITC, different than this ITC, and
mandates that states generate more electricity using
renewables, so those are the two important things that
are driving it.

In addition, prices based on technology have
been falling over time, and so the relative cost of
this electricity source has been falling compared to
other markets, so demand has been independently
increasing and expected to continue to increase
unrelated to the imports. That's the first point.
The second point is that there was a lot of U.S.
capacity available to fill that increasing demand over
time that is now bankrupt or shuttered due to the
increase in imports.

Finally, I want to refer to those two charts
that Tim took at the trade show. The dumping and
subsidy margins are in the 30- to 40-percent range.
The price decline from those graphs were greater than
that. If the orders go in place and prices increase
by 30 percent, in discussions with people yesterday,
we are back to where we were four months ago?

MR. FERDA: Four or five.

DR. KAPLAN: Four or five months ago, so I
think you should keep that in mind that the price
decline has been so quick. You saw all the damage
from increases with prices that are much higher than
now. Demand was going up quickly during the POI with
prices that were higher, expected to continue, and if
the orders go in place, we are back to where we were
four months ago.

COMMISSIONER PINKERT: I'm going to come
back to this price decline issue in a second, but I
just want to firm up this question about demand and
apparent consumption. Are you saying that you have a
measure of demand independent of apparent consumption
that would enable us to see that the imports are not
creating the increases in apparent consumption?

Therefore, we have an independent measure?

MR. DEFRANCESCO: Commissioner Pinkert?

Robert DeFrancesco. I think in our brief we talk
about installations, the increase in installations in
the market which there's data for in the brief. That
increase in installation has increased about 300
percent over the period whereas Chinese imports
increased by 1,000 over that period, so I think
comparing the degree of installations relative to
actual imports kind of points you in that right
direction, I think.
DR. KAPLAN: I'll provide information in the post-hearing brief trying to disentangle the two effects you're talking about.

COMMISSIONER PINKERT: Thank you. Thank you. Now, I want to turn to this price decline issue because I noted that the graph that you presented in the slides showed more or less a linear decline until a certain point, and then the decline in prices became more dramatic after that. It was also linear after that, but it was a different slope, and so my question is all other things being equal, just looking at technology products over time, would you expect a fixed linear decline in pricing over time, or would you see something more in the way of an accelerating decline over time?

DR. KAPLAN: Well, first, those lines were fitted lines, so they were forced to be linear in that regard, but they do fit the data that the actually prices moved around. It really depends on the industry. You've heard of Moore's law on semiconductors where there's been a particular growth rate in the number of transistors on a cell over time that's been technologically determined. In this industry, my understanding, which is semiconductor related, that there has been an eight- to 12-percent
productivity increase due to technology. At the same time, it's not going to be completely linear because the input prices fluctuate some, but what you've seen is that you have a very long run of this about 10-percent decline with fluctuations above and below, and then with the entry of the Chinese, the line steepens, and the reason why I don't believe it's a technology change is that people were profitable during the previous period. Now, U.S. companies, European companies and Chinese companies themselves are losing extraordinary amounts of money, so the pricing has become unrelated to the change in technology and unrelated to the change in input prices, and people when we're working the testimony said this is irrational, and I'm not saying the Chinese are irrational. They might be doing this to create jobs. They have an industrial, and they've targeted a particular industry because of long-run reasons, but for economic reasons and market-based reasons, it doesn't fit. Everybody is losing money. Everybody's going bankrupt. The capacity is completely out of proportion to consumption both in the U.S. and abroad, and China's using their capacity to target exports even though they have shortages of energy in their own
country, so I don't think it's technologically determined. I don't think there's been this cliff. I think it's still the same eight- to 10-percent, and I think the technology folks from SolarWorld can comment on that as well.

COMMISSIONER PINKERT: Thank you. We'll have to come back to it in the next round because my time is up for this round.

CHAIRMAN WILLIAMSON: Okay. Thank you.

Commissioner Johanson?

COMMISSIONER JOHANSON: Yes. I'd like to begin by thanking all of you for appearing here today, and I'd like to begin by asking questions concerning contentions of Respondents that the U.S. industry has made a mistake by focusing on the residential and commercial sectors and has not paid sufficient attention to growth in the utility sector for modules. I was wondering, perhaps, Mr. Kilkelly, if you could address that? Thank you.

MR. KILKELLY: Thank you, Commissioner.

Kevin Kilkelly, SolarWorld. I'm the commercial sales leader for SolarWorld. Our largest segment is the commercial segment followed by utility. We have proprietary mounting and ground tracking systems that are geared towards the utility sector specifically.
Our single-access tracker, first iteration, was launched seven years ago with systems deployed of Semi-Tropic in California.

Just this year, we've launched our second revision of a single-access tracker geared towards the utility sector with 26 megawatts under construction for utility-scale projects. We are absolutely engaged in this segment, always have been. If you look at our splits between the different segments, 15- to 20-percent of our product categories get deployed into the utility sector, and it's our second largest sector followed by commercial.

I'm not sure they would claim we don't participate in that sector. We've been there for the last 37 years. We were the first company historically to develop and deploy a utility-connected dual access tracker back in the '80s, so SolarWorld and its previous owners have always been in the utility sector dating back from basically our inception.

MR. OSTRENGA: Commissioner, Steve Ostrenga from Helios. I'd also like to add from Helios' perspective we participate in all three segments, residential, commercial and utility scale, and we made different products that fit different sectors, for example, in the residential, a 60-cell module that has...
a micro-inverter and it's also made with a black back sheet and a black frame that's more aesthetically pleasing for a residential rooftop, and we not only make a 72-cell module, but we also make a 96-cell module that's 420 watts. This larger-scale format is a great fit for commercial, large commercial systems and utility-scale systems because it significantly drives down the cost of labor and balance of systems. It's more robust than the 72-cell our opponents here are discussing.

MR. FERDA: Commissioner, Mark Ferda, McNaughton-McKay Electric. As I mentioned earlier, we serve all three markets, residential, commercial and the utilities, and our experience has been, over the last three years, we have sold a total of 10 megawatts of product, and seven of those 10 megawatts have been to the utility sector. Another clarification too is that seven megawatts consisted of 60 cell modules because I know there's been other points made that the 72-cell module was the predominantly main module to serve the utility.

Our particular utility has done engineering studies and has concluded that the most effective way was to use a 60-cell module in all of their applications up to this point of the seven megawatts
that they've purchased, and that was done in
comparison to the 72s, which we provided them also
domestic pricing for 72 cell modules compared to the
60s.

MR. BRIGHTBILL: Tim Brightbill. I think
other compelling evidence is Dr. Kaplan's presentation
that all of these channels were overwhelmed. The
United States is in all three channels. They compete
in all these market segments, and China, the wave of
imports, has taken them all.

COMMISSIONER JOHANSON: In your opinion, and
this is for any of the panelists, is the strongest
growth sector indeed in the utility area?

MR. OSTRENGA: I'll comment.

COMMISSIONER JOHANSON: Go ahead.

MR. OSTRENGA: Depending on what analysts
you listen. I mean, the residential-, commercial- and
utility-scale, roughly they've each been equitable as
far as growth, and we mention Solar City that these
are companies that are betting heavily on the
residential sector. Wells Fargo are putting money
behind maybe residential sector. Then, you've got
utility players that believe the utilities are going
to be the big play. Berkshire Hathaway is putting
money behind those type of projects, but inevitably,
all three sectors seem to be growing at a similar rate and be similar size in scale.

MR. KILKELLY: Commissioner, Kevin Kilkelly, SolarWorld. One thing that's important to realize is scale of these systems, the size of these overall systems, what we also call the super farms. These are in excess of 100 megawatt-deployed farms using panels of all different sizes and different technologies of tracking the sun. When you look at that, that's one project, so if you're saying that the sector has grown because you had one project, you may have multiple projects.

If they're of the super scale, greater than 100 megawatts, of course it's much easier to deploy 100 megawatts to one jobsite than it is to deploy through distributed generation in the commercial sector and also to each individual home in the residential sector. You have to aggregate much more in that fashion, so it is correct to say the utility sector has grown the fastest, and it has been due to the state requirements for the RPSs to meet, which is a mandate from those states for those utilities to meet their Renewable Energy Portfolio Standard.

The utilities want to do that. They want to meet those requirements so they don't have to pay the
penalty. To do that, they want to bring on large megawatts of renewable energy, not just in solar, but also in wind and in other renewable forms, so in the solar sector, it is growing. It's one of the fastest growing, but also, you have to look scale, so by deploying the amounts of panels, these mega farms consume tens of thousands of panels per job compared to a residential or a distributive generate commercial rooftop.

COMMISSIONER JOHANSON: Thank you. The Respondents contend that the U.S. industry focused on products which were perhaps better suited for the European market as opposed to the U.S. market, products which would function better in more densely-populated areas. Could you all possibly address that?

MR. OSTRENGA: If I hear this question correctly, this might have to do with maybe a high-efficient versus a lower-efficient module, polysilicon versus monocrystalline?

COMMISSIONER JOHANSON: This is addressed --

MR. OSTRENGA: I guess, I'll comment this. I think the argument is that we make more high-efficient modules. At Helios, we make a 60-cell, 72-cell and a 96-cell module. Those are three different products that can have applications to either a
residential, commercial or utility scale, so our products compete for all different applications.

MR. BRINSER: Gordon Brinser, SolarWorld Industries. As you saw previously, the domestic industry does participate in all market segments, residential, commercial and utility scale. If the reference is to a 60- versus a 72-cell, the 60-cell module has been the work horse of the industry for years, and it still is a predominant module that is used in all three segments. The 72-cell module is a recent entry into the utility scale.

As Kevin had mentioned, there are other alternatives to the module configuration itself that you can basically give equivalent power output out of a linear foot or square foot of a system, and we've been in the utility segment. We would like to sell more, but at the end of the day, the domestic industry has been priced out of this market.

COMMISSIONER JOHANSON: All right. Thank you. I would now just like to bring up one more question in my remaining. I know this is rather short, but the Respondents contend that the U.S. industry has been negatively impacted by the decline in purchases in Europe, and I was wondering if you all could perhaps address that?
MR. KILKELLY: Kevin Kilkelly, SolarWorld.

Our business model has been to manufacture in the markets that we participate in. I am now required to and responsible for the European markets. We are a global company. It is our business model that we participate in as many global markets as possible to help. As markets increase, emerge and decrease based on different types of incentives or policies, we believe that this blended portfolio of market participation strengthens our organization for the U.S.

This is a growing market. We're designed to sell our products that are manufactured here in the United States for this market, and that has absolutely been hindered by the price deflation and the speed of that price decrease by the massive rush of these imports from China.


MR. BRINSER: I think the main thing like Kevin had mentioned, I mean, we built the facility in Hillsboro. We invested $600 million into that factory, into the people, into the community, into the suppliers to sell into the U.S. market because we saw five years ago the growth in the U.S. market taking
off, and we would sell more into the U.S. market if it wasn't for the collapse in the pricing today. The collapse in the pricing has forced us to look at various other markets to see where we can try to export at a reasonable price.

MR. BRIGHTBILL: Tim Brightbill. Just two quick points. First of all, the Chinese imports are having the same effect in Europe as they're having in the United States, and the European Union has recently initiated trade actions there. Secondly, I think Respondents tend to talk about this as a one-company domestic industry. You saw the list of all the companies that had been in this market during the period.

Those companies' fates have not been determined by European demand. They've been determined by U.S. market conditions and by the Chinese overcapacity coming here and taking away that growth and demand.

COMMISSIONER JOHANSON: Thank you. And just to point out, when I asked my question on the size of panels being sold to the European market, there was a little bit of confusion, I think, expressed on some of your faces. That's at page 2 of the Respondent's brief, so if you wanted to respond further to that by
CHAIRMAN WILLIAMSON: Commissioner Broadbent.

COMMISSIONER BROADBENT: Thank you. We've got testimony both from the Petitioner and the Respondents about the federal and state incentive programs and how they've spurred demand for the cells and the modules over the period of investigation. The Respondents, as you know, are contending that these programs are designed to have an impact on driving prices lower and that they did so during the period that we're looking at.

Can you provide us with any publicly available data that indicates the exact degree and amount of impact of these programs -- what they've had on demand and pricing in the market? Is there anything that we can look to that would kind of give us a better sense of what the effects have been on demand and pricing?

MR. OSTRENGA: Well, first off, the RPS, the renewable portfolio standards --

COMMISSIONER BROADBENT: Right.

MR. OSTRENGA: They've not existed only for the term of this deliberation or the POI.

COMMISSIONER BROADBENT: So can you just
kind of say when they were in effect?

MR. OSTRENGA: The RPS standards, there are about 29 states in the United States right now that have renewable portfolio standards, and they vary. Some states have had them for five years, some of them have had them for ten years. And to be clear, what an RPS states is that it's an individual state decision. And what that means is that that state has to generate electricity from renewables, meaning solar, geothermal, and wind. So they've been in long for one place.

Each state has control. For example, Wisconsin has a 10 percent mandate by 2015. I believe the state of California has a 25 or 30 percent by 2025 or 2030. What we have seen during these RPS standards since they have been in place, solar three to five years ago, California was 85 percent of the market. New Jersey followed with the balance.

Now you look at today, California for solar is less than 40 percent of the market, and New Jersey is 15 to 20 percent of the market, and there is 10 other states or 8 other states that solar is starting becoming more prevalent. So we're seeing more diversification in geography of where solar is installed.
COMMISSIONER BROADBENT: Okay.

MR. OSTRENGA: And there was no intent of the RPS to drive down the cost of solar. It was to bring on more -- to diversify. For example, in the state of Wisconsin, I think 65 percent of our energy is generated by coal. It is way for states to start diversifying their energy base.

COMMISSIONER BROADBENT: Do you think these renewable portfolio standards will have a bigger effect on the market in the future, or do you --

MR. OSTRENGA: I think they'll be similar as they had in the past.

COMMISSIONER BROADBENT: So you're sort of predicting a steady --

MR. OSTRENGA: Yeah.

COMMISSIONER BROADBENT: -- market impact of those in the future? Okay. Can you talk a little bit about the federal incentives in this industry?

MR. OSTRENGA: The ITC has called the investment tax credit. That was a 30 percent tax credit for the total system installation cost. In 2008, that was extended by President Bush to 2016. So right now, it's currently a tax credit.

From 2011-2012, I believe, there was a grant in lieu of a tax credit, but that was suspended last
year, and it does not --

COMMISSIONER BROADBENT: And that is the 1603?

MR. OSTRENGA: Yeah, that's the 1603.

COMMISSIONER BROADBENT: Cash grant.

MR. OSTRENGA: Yeah. Within the ITC there is also a depreciation, an accelerated depreciation value there that is due to expire at the end of this year as well.

COMMISSIONER BROADBENT: And how does the depreciation impact -- what is the mechanism of that?

MR. OSTRENGA: You can write off the cost of that system accelerated against your --

COMMISSIONER BROADBENT: So the purchaser.

MR. OSTRENGA: Yes, correct.

COMMISSIONER BROADBENT: Okay. So you're not seeing any other programs here that are sort of drivers of demand or pricing.

MR. OSTRENGA: No. I mean, at the state level, you can have some utilities intervening. But overwhelmingly, what our policy in the United States is, is for consumption. That's a big -- please note that it's based on consumption, not production. There really is no incentive for us as a manufacturer to produce. It's more for the installers and the buyers
1 of the solar products.

2 COMMISSIONER BROADBENT: Okay.

3 MR. BRINSER: And if I can add.

4 COMMISSIONER BROADBENT: Sure.

5 MR. BRINSER: Gordon Brinser, SolarWorld Industries. I think again it's clear that the volume increase of over 1,000 percent in imports when the demand is only increasing by 300 percent is another factor that we can look to that there is a clear disconnect on the surge of imports and the demand.

6 COMMISSIONER BROADBENT: Seth?

7 DR. KAPLAN: Thank you, Commissioner. I just want to point out the price effects of those different programs. Clearly tax credits increase demand, and the price viewed by the consumer is going to be different than the price from the producer. That's kind of the point.

8 But the requirements by states actually increase demand, and all of those things being equally, that should cause prices to go up because there is no subsidy there. They are just telling people you have to buy more of this kind of stuff, and in any particular market, when you see a mandate for greater usage, all else being equal prices should rise rather than fall.
The mandate is not saying we'll give you the subsidy to reach this rate. It says you need to be at 10 percent or you need to be at 30 percent on a state-by-state basis. And the prices actually have moved in directions opposite of that effect, and consistent with the effect of the subsidization.

COMMISSIONER BROADBENT: Okay.

DR. KAPLAN: Thank you.

COMMISSIONER BROADBENT: I guess this is probably for the sales manager. Who are the price leaders in the market? Can you identify them by name?

MR. KILKELLY: The price leaders are the Chinese importers, everyone from Yingli, Trina, Suntech, LDK. The list goes on into the 40s, 50s, 100s of Chinese producers that have entered this market.

COMMISSIONER BROADBENT: And they're all downward leaders on price?

MR. KILKELLY: All downward leaders on price, absolutely. Nonsubject imports have not been leading in price. Neither has the domestic industry. We've been holding on as best we can to get close, you know, and still make -- everyone is losing right now. There isn't -- that's where the decoupling of cost and price really show.
In the public interim reports of these companies that are traded publicly, everyone right now is losing money. So price has obviously gotten away from -- the pricing scheme has gotten away from China to the point that I don't know how they're going to self-correct, right, because they just continue to just dump and dump at any cost. They realize that the lower that they can sell the price point into the U.S. market, the lower the tariffs are for them in total dollar amount. And so while the remedies are helping, okay, we're seeing benefit in slowing down the imports, but we need to continue to have these remedies, you know, enforced. And with your vote, we'll see that improvement.

COMMISSIONER BROADBENT: Okay. And you haven't seen any dynamic where there was anybody raising prices or --

MR. KILKELLY: I have not seen any attempt to raise price from any of the Chinese importers.

MR. McKECHNIE: Commissioner?

COMMISSIONER BROADBENT: Yes. The gentleman in the back there. Yes, please.

MR. McKECHNIE: Thank you, Commissioner. Mike McKechnie, Mountain View Solar. Out in the residential and commercial field, we see the price
leaders being the Chinese tier one companies. Kevin mentioned several of them. The ones that we run into consecutively are Suntech, Yingli, Mage, Canadian Solar, and LDK.

We ran into them because of the super low, obtusely low, prices. Certainly there has been no increase. We see weekly and monthly reductions in price from the people that -- so we're at the kitchen table or in the boardroom. We're trying to win the project for our clients.

During that time, they disclose to us because they know us who else we're competing against, and oftentimes show us a proposal that they received from XYZ solar company, and we get to see which panel they're using and all the other equipment. The panel companies they're using can help us realize what the pricing strategy is, and those are the companies I just mentioned that are dropping the prices.

If we bid a job and then bid it again 30 days later, go back and take another look at it, we know for a fact that the Chinese companies will have lowered their price, just lowered it for no reason, just I'm going to lower it again. And that has been going on for two years.

COMMISSIONER BROADBENT: And then would you
just talk again a little bit about the other factors or other criteria that you look at in addition to price, the wattage --

MR. McKECHNIE: Yes.

COMMISSIONER BROADBENT: -- the quality?

MR. McKECHNIE: Yeah. Quality is something that personally -- we're contractors from West Virginia. We've been building nice houses for folks that have moved from this community and communities around us out to our beautiful little town. Very discerning clients. We know the difference between a good product and one that's not as good. We know that the American-made products that we've used are built better.

But that's no longer important. The client is choosing only price. That's what it has come to because the price is so low and getting lower every month. We've been watching it drop and wondering why for years. It just keeps going down and down and down. I heard 50 percent. We've experienced 60 to 65 percent reduction in prices in the marketplace in two years. That can't be healthy.

MR. OSTRENGA: Commissioner?

COMMISSIONER BROADBENT: Yes.

MR. OSTRENGA: I apologize for interrupting,
but I think this is a great anecdote. Last October a
year ago at the Solar Power International Conference,
which is the largest conference in North America, my
CO and I went and spoke with a Chinese company called
Magi, not to be confused with Mage, which is a German
company, engaging them about discussions of purchasing
their solar cells because we were forced to look at
low-cost components.

So the pricing discussion on the solar cells
-- so they give us a solar price, the price of cell at
that time 70-75 cents per watt. Immediately she goes
on to say, Steve, stop making solar panels. You can't
compete. Just start distributing for us. I'm like,
really. So how much was the solar panel. It was
about 10 cents more than the solar cell. I go, there
is no way you can make the solar panel for the 10
cents over the solar cell. She goes, Steve, you don't
understand. At the beginning of the year, our central
planners had told us we had a revenue -- our central
planners told us we had a revenue and a margin goal.
As of now, we've been told we've got no margin goal.
We're told to sell at whatever price is out there to
sell product. Central planners.

This was the day that the case was announced
last year. I wish I had a tape recorder right there
just to -- it was an open-and-shut case.

COMMISSIONER BROADBENT: Great. Just one more question -- oh, I guess I'm out of my time. I'll come around again.

CHAIRMAN WILLIAMSON: Go ahead.

COMMISSIONER BROADBENT: Okay. Mr. McKechnie, from Mountain View, setting aside price, what other things are your customers asking you for?

MR. McKECHNIE: It used to be that they would ask us for quality. They liked American-made. We live in a rural area. People drive GMCs and Chevrolets and Fords there. And they appreciated American-made product like the general alluded to. And we chose to position ourselves as an American-made company because of our clientele in our region.

So it used to be that they would pick the American-made product because it's made in our country and employs people here. And it is a better built product, and our installers used all the products that I mentioned in my testimony, and we tried them all. Now, they didn't know where they came from necessarily. They unpackaged them. They put them on the roofs. We called them back in, and we said, which ones do you like better, and they picked the panels made in America.
That was how we made our choice. That used to be a differentiating factor for us to close our sales. Now what we're finding is people want to do that, but when they see the price so much lower, for what we believe is an inferior product as well, it just -- they forget about the American-made, and they got to go with this super low price that they got. So everything else is kind of out the door, the balance of systems, the inverters. Our reputation is what they want, and that's why they give us a second look at the proposal, which we love to get. And then we try to match that price. And every month it gets harder. Does that answer the question?

COMMISSIONER BROADBENT: Yes, thank you.

MR. FERDA: Commissioner, Mark Ferda from McNaughton-McKay. If I could elaborate a little bit from a larger perspective because we service about a third of the country, and we see the same thing not just in a particular geographic, where the Chinese are the price leader in a downward fashion. We provide extra value to people like Mike and to Joe as far as being a local distributor to support the product and have it on hand, and do some of those extra value-added services.

So the people want to work with somebody
like us locally. But continually it keeps coming back to price. So because they want to work with us they share with us a lot of market information that we wouldn't be privy to normally. And we continue to fight the same battle that Mike mentioned. Price after price, no matter what we do, no matter how hard we try to work with the domestic suppliers to stay competitive, we keep getting undercut. And at the end, even though our values include things like quality of product, numbers of years in business, financial strength of the companies, our values don't mean anything at the end of the day if we can't sell something. And we continue to lose those opportunities.

COMMISSIONER BROADBENT: Thank you.

MALE VOICE: If I could just comment. Oh, sorry.

CHAIRMAN WILLIAMSON: I was about to say to the commissioner, since we're only five today, I was being rather lax, but I think I'd better draw a line someplace. You'll get a chance to come back, so we'll hold your question.

Actually, it's my turn now. Mr. Ferda, I want to sort of kind of continue along this line. And I guess you had made a comment that you sort of --
MR. FERDA: I did mention in my testimony that our company would not compromise our selection criteria for suppliers.

CHAIRMAN WILLIAMSON: Yeah. And I wanted you to elaborate on that.

MR. FERDA: Sure, absolutely. So again, being in business for 100 years, even though I haven't been there quite that long, you know, the company has done some things right. And that's one of the primary, core values to the business is selecting the right partners to distribute for.

So, for example, in the automation field that I mentioned, we sell Rockwell and Bradley products and only that line. So we have a select criteria that we go through when we bring on any new manufacturer. And first and foremost for us quality of product. It's our due diligence to represent to our customers that we've looked at these manufacturers.

So quality is always big. And then again, the availability and support of that product. So, you know, as this global economy keeps moving forward just
in time delivery, having things that you can support quickly is important. And so most of our, if not 98 percent, of our companies are somewhat U.S.-based. So that U.S. content is important to us.

Warranty is another major factor. And with the solar panels that created a new challenge for us because solar panels have a 25-year warranty, and we were never accustomed to anything greater than a year. So looking at then the fourth criteria being the financial stability and strength, financial strength and years in business of these manufacturers became even more critical.

So we started looking at the 250 companies that were in the solar market and said, well, if our criteria was who has been in the market longer than their warranty, that 250 shrunk to 5. And those are the five that I mentioned in our testimony that we made relationships with and started to represent. And now unfortunately three of those are gone.

So we look at this market and say if all five are gone on that list, we have a 100-year reputation to look at, and we may likely just exit the market before we would go out and compromise our reputation by representing companies to our customers that don't have the same values that we've represented.
all along.

CHAIRMAN WILLIAMSON: Okay. Mr. Brinser?

MR. BRINSER: Yeah. Let me expand on that a little bit. I think one of the things that is brought up here as far as some of these differentiating factors in the market that you should be able to differentiate a product on in the market doesn't exist today. The certifications, whether it's a UL certification or other certifications are pretty much standard with all products coming into the market today.

The warranties -- SolarWorld has led the industry in the warranty, whether a 25-year warranty or a linear warranty or workmanship warranty, and that was quickly copied by almost every one of the Chinese competitors within weeks of us bringing and rolling out a new advantage, there is no innovation in that. So those items that typically you could differentiate a product on today is gone. The customers, have you heard from many folks, it's based upon price, and I think the data that the staff has collected also shows that. Price is a dominant decision factor in the consumer's decision today.

CHAIRMAN WILLIAMSON: Thank you. Along that line, I guess the question I'm wondering about, who
makes the decision on which solar panel or what manufacturer they want to pick? I assume the consumer probably doesn't -- say a residential consumer probably -- you know, they only make that decision one time or something. In the commercial market, is it the architect or the contractor who is building the project, and also in the utility sector?

MR. FERDA: Commissioner, Mark Ferda. And again, because we service all three of these markets, it's an interesting question because, for example, the commercial market. There is always in these commercial requests for quotes an architect that puts out a scope of work and a specification. And those specifications, especially if they're municipal or the like, always have that or-equal clause in them.

So the architect will make a selection, but when it comes out to bid, the or-equal comes into play every time because of price. And we see the same thing on -- you know, the residential you've mentioned.

CHAIRMAN WILLIAMSON: Yeah.

MR. FERDA: You know, that's an individual's decision, and it's their personal money out-of-pocket, so price is always a predominant factor. And with the commercials, they're looking to maximize how much they
can put on or minimize the budgets, so that's always a pricing decision. And the utility is buying in such huge volumes that every penny per watt is a major decision on all those purchases.

CHAIRMAN WILLIAMSON: Okay. So like for the utility then, it's going to be whoever is in charge of the project for the utility.

MR. FERDA: At the utility level, yeah.

That's always a traditional purchasing person.

CHAIRMAN WILLIAMSON: Okay.

MR. FERDA: You know, that there is some engineering criteria given out on a very high level of specification, you know, 60-cell versus 72, minimum wattage type of thing. And that is given to somebody in purchasing, and then he goes and does his job of finding the lowest price.

CHAIRMAN WILLIAMSON: Okay. Thank you.

MR. KILKELLY: Commissioner, Kevin Kilkelly, SolarWorld.

CHAIRMAN WILLIAMSON: Sure.

MR. KILKELLY: Just to elaborate on this. So at the utility sector, there is a technology review of the products that would be installed into these large systems. There is a recommendation that the purchaser and the engineering group make. At the end
of the day, at the utility level, that is then reviewed by treasury within that utility. So the treasury department within that utility is going to make the call. And when they see, yeah, maybe a little better here, maybe a little better there, from engineering and everything else, but then they're going to look at the price from the subsidized and illegally imported Chinese, they choose price.

Now, you are talking millions and millions of dollars for these large utility systems there. That is an overwhelming decision for that purchaser and for that organization and for that utility, both investor-owned and also private. So price again is the number one decision-making factor in all segments, especially the utility, especially the commercial, and also in the residential. And the residential, many of the residential systems are now being leased, which means that the individual homeowner is not the asset owner of that system. That is owned by some other fund that has put forward the money to aggregate these smaller systems into their portfolio.

That homeowner is making one decision: what price do I want to pay for my utility bill. Do I want to pay my utility direct, or do I want to save $40 a month and put a solar system on and contract a new
utility rate with this residential lease provider.

CHAIRMAN WILLIAMSON: So you're saying the lease provider is the one that is going to make the decision about what product --

MR. KILKELLY: Yes, sir, absolutely.

CHAIRMAN WILLIAMSON: -- they're going to put on.

MR. KILKELLY: Absolutely.

MR. McKECHNIE: Yes. And, Commissioner, to follow up on that.

CHAIRMAN WILLIAMSON: Sure.

MR. McKECHNIE: Mike from Mountain View Solar. On the residential and commercial side, the consumer is not aware of any brand. There is no brand-name recognition. It's just a difference between -- they know we're selling an American-made product, and they assume that the competitors have a less expensive, less value Chinese product, but they don't have the name recognition because there is no big names out there that are settled in the consumer's mind residentially and commercially.

So they are making the decision based on what we tell them and how they normally make their decisions in the boardroom.

CHAIRMAN WILLIAMSON: Okay. Now,
significant is this lease trend in the residential sector?

MR. McKECHNIE: That's something -- if I can follow up on that.

CHAIRMAN WILLIAMSON: Yes.

MR. McKECHNIE: Something I alluded to in the presentation earlier. Extremely significant. You did say residential?

CHAIRMAN WILLIAMSON: Yes.

MR. McKECHNIE: Yeah, residential, extremely significant in the states that have the strongest incentives. So the RPS, renewable portfolio standards, the states that have the strongest RPS standards lead the nation in growth for residential leasing, and at the same time for the commercial level, which is called a PPA. And all of those companies, every one of them that I'm aware of uses the lower-priced, subsidized, unfairly-traded Chinese panels because like Kevin mentioned, the leasing company is leasing it to the customer. The customer gets a lower utility bill residually or commercially, and the company that owns the asset only cares about the money.

They're going to sell the lowest price option every single time. So in Maryland, where we...
could compete and install systems that homeowners would own, now 70 to 71 percent of that market is in the leasing company's hands in 18 months with those same products, the Chinese panels that I mentioned. And that's happening just up the road from where we are right now.

CHAIRMAN WILLIAMSON: Okay. And I assume that since you've got a 25-year warranty, it's not like the old telephone, where the one you got from AT&T was going to last you forever.

MR. McKECHNIE: Yeah. I mean --

CHAIRMAN WILLIAMSON: That's not a factor.

MR. McKECHNIE: The consumers ask us that question all the time. What is the warranty, right? You buy something significantly priced, what is the warranty? It's a 25-year production warranty. Most of the companies that I've mentioned earlier from the Chinese companies haven't been around even close to 25 years. So what is a 25-year warranty for a company that has been around for three or four years in the consumers' eyes that we sell to?

When I tell them I've got a company that has got a 37-year history, or BP Solar that had a 25-year history in that plant, they like that. These companies haven't been around even half of their
warranty lifespan.

CHAIRMAN WILLIAMSON: Okay. But that doesn't apply to the purchasing PPAs you're talking about.

MR. McKECHNIE: Yeah. It's not owned by the -- the ultimate investment is made by investment money, venture capital money, from New York, and they care only about the price.

CHAIRMAN WILLIAMSON: Okay. Thank you for those questions. Commissioner Pinkert? Those answers, I'm sorry. Thank you.

COMMISSIONER PINKERT: Thank you. Mr. Chairman, what is the regular order today?

CHAIRMAN WILLIAMSON: Oh, I'm sorry. I was so intent into my questions, I forgot. Commissioner Pearson.

COMMISSIONER PEARSON: Not a problem. I've done the same thing when I had the privilege to sit in the chair. Thank you, Mr. Chairman. I would also like to thank both Petitioners and Respondents in this case for the really quite extraordinary tours that they were able to provide. I really found it most helpful in understanding the production process and how the product is used. And given that we've not dealt with this technology before, it was a real
benefit to me. I could explain that I have a good friend who is a materials engineer, and I visited with him the evening before getting on the plane and flying to Phoenix. And he was very envious that he wasn't going on the tour.

Let me ask about demand. My question is if we didn't have the significant government incentives, what would this industry look like? I assume it would be much smaller, but clearly there would be some industry because the industry existed going back to 1977 or whatever. Tell me about how important the incentives are in this marketplace in terms of the demand base.

MR. KILKELLY: Mr. Commissioner, Kevin Kilkelly, SolarWorld. The incentives at both the federal and the state level, whether it's a rebate program or a credit for, say, like New Jersey, a solar renewable energy credit, or a rebate structure in California, these incentives have been great catalysts to spur the industry and the demand there.

That demand we should have been able to participate in much more. But because of the price dumping that has occurred from the Chinese imports, it has overwhelmed the entire market. We should be able
1 to sell our capacity that is manufactured here in the
2 United States into the U.S. market.
3     COMMISSIONER PEARSON: Right, right.
4     MR. KILKELLY: And because of the
5 overwhelming oversupply and glut of Chinese imports
6 from, you know --
7     COMMISSIONER PEARSON: Right. But the
8 person who is buying the product doesn't care much
9 about all of that. He has got some need for a
10 product, and there is some financial considerations
11 that he deals with, and he buys or he doesn't buy.
12     MR. KILKELLY: Absolutely.
13     COMMISSIONER PEARSON: And so if we didn't
14 have those incentives, is it fair to say that in the
15 current world that the demand base would be relatively
16 small?
17     MR. KILKELLY: I would say that it's
18 increasing. It will continue to increase every year.
19 If you look at the cost of energy, it continues to
20 increase every year. If you look at Hawaii, that
21 state is at parity right now. So the demand for solar
22 and renewables or some other alternative source to
23 conventional fossil fuels is of high demand. And you
24 have other markets with high utility rates that are --
25 you have pockets of those that are already existing as

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well.

So the question is that, you know, when do incentives need to peal off, and when can the market survive. Well, that's based on the inflation rate of the utility, you know, utility rates.

COMMISSIONER PEARSON: Mr. Ostrenga.

MR. OSTRENGA: Yes, Commissioner. Steve Ostrenga. No. Clearly, yes, the subsidies that we receive are important to our industry, just like coal and natural gas and nuclear. I mean, the energy industry is one of the most subsidized industries in the world. So we participate in making electricity.

But the one thing that -- as compared to our competitors, meaning coal, natural gas, and nuclear, most likely if you own a home, your electric bill has probably doubled in the last five to ten years because their conventional forms of electricity have increased 4-1/2 to 5-1/2 percent per year.

Meanwhile, our costs have been declining 9 to 11 percent per year, okay? And that's driven by incremental improvements in technology, getting economies of scale going, improving installation techniques. But there is another component to this, that solar -- when we look at our competitors coal and natural gas, when everyone talks about solar, they
always talk about payback. How quick can I get my money. And when you tell them it's between 9 and 15 years, they're taken aback.

Well, when you look at a coal plant, they look at a 40-year horizon. If you put us on that same timetable, we're equitable to coal, especially now with new financing mechanisms that are coming in place with private equity or banks.

COMMISSIONER PEARSON: Okay.

MR. FERDA: Commissioner, Mark Ferda, McNaughton-McKay. With incentives, I assume you're not also including the RPS requirements from the -- okay.

COMMISSIONER PEARSON: The whole panoply of stuff that's out there.

MR. FERDA: Right.

COMMISSIONER PEARSON: I won't try to list them.

MR. FERDA: So there are two things. There are incentives like the ITC tax credit. And then there are the RPS, you know, requirements by the states. So the incentives are driving and spearing primarily private investment in purchasing of solar, where the RPS are state legislated mandates for the utilities to have to bring these on. And we see that
as a much larger part of the demand and something that's actually increasing.

So I don't think if the incentive being, say, the tax credit were to go away -- I think it would be offset by the increases in the RPS. In Michigan, for example, it's on our ballot in November to vote to increase us from 10 percent by 2015 to 25 percent by 2025, which is huge. I mean, that would be a requirement by state legislation in a constitutional amendment that our utility would have to have 25 percent of their energy come from renewables?

COMMISSIONER PEARSON: Okay. Well, in many cases it's quite common that we consider the business cycle for that product, and we look at how it might go up and down, how we might expect demand to change as time moves on. And here I'm finding that the typical business cycle is hard for me to grasp, and it's much more like an incentive cycle or something, except I'm not sure that cycle is the right term.

For purposes of threat -- and this would be for the posthearing -- could you give me your best estimate of what the demand for this product is going to be going out a couple of years? Perhaps Dr. Kaplan could do that, because, you know, if incentives start going away, the demand may contract, I assume.
DR. KAPLAN: Yeah. I mean, there are certain incentives, there are certain mandates, and then there is also the technological decline in price. And that's going to cause, you know, in general a relative price shift toward solar over time.

COMMISSIONER PEARSON: Right. And that's my next question, which is for you, too. The price elasticity of demand, you know, the price has come down a lot over the POI. And, you know, the demand base is certainly somewhat larger because of that. I know our staff estimated that the price elasticity of demand might be somewhere between -0.75 and -1.0. For the posthearing, could you give me an estimate of how much the demand base you think has expanded because of the price coming down?

DR. KAPLAN: Yes, I'll be happy to.

COMMISSIONER PEARSON: Okay. And, Mr. Brinser, did you have a comment.

MR. BRINSER: Yeah. I was just going to follow up and close a little bit on the demand. As we mentioned, and I think as you guys were alluding to, the demand is very complex in this. You know, we would still see an increase in demand over the period of time even without some of the incentives. There is other factors that do play into it. I think we can
get into that in the posthearing brief. And I think a
lot of the incentives that we've talked about are
really focused on the consumption side, on the
consumer side.

That's available to any producer anywhere in
the world regardless of their origin. And so these
are not direct incentives that are focused on the
producers themselves or the manufacturers like the
government of China has done.

COMMISSIONER PEARSON: I appreciate that.

That's why it's a little bit difficult for me to get
my arms around the whole package of incentives at
various levels that enter into the decision-making of
whether I buy one of these systems or not.

Then another question that relates to
demand, to what degree have subject imports been drawn
into the U.S. market due to the surge in demand that
we have seen? Is there an argument that it was a
challenge to satisfy all of that from domestic
production?

MR. KILKELLY: Commissioner, you have data
on U.S. capacity, and you've seen all the closures. I
mean, that is, in talking with representatives of the
domestic industry, the bitterest pill they've had to
swallow. You had really increased demand in the
market for a variety of reasons we talked about, the relative price decline from technology, the incentives, the mandates. And in anticipation of the increased demand from that and the historical increased demand, the domestic producers increased capacity. They invested hundreds of millions of dollars, and now one company is here today that could speak to their own investments of $500 million. They had to shutter a facility.

There were 12 other firms that had completely disappeared from the U.S. market despite this increase in demand. So there is two parts of it. One is, you know, would you need some imports. That's a separate question. But the question was, was the U.S. industry capable of supplying product, and what happened. And the answer is of course they were, and now they're out of business.

COMMISSIONER PEARSON: I may come back to that in my next round, but my time has just expired. So I'll pass for now. Thank you.

CHAIRMAN WILLIAMSON: Commissioner Pinkert?

COMMISSIONER PINKERT: Thank you again, Mr. Chairman. I want to come back to the pricing issues that I was asking about in the first round. Given the importance in this case of imports of cells, are you
1 concerned that we're unable to make price-to-price
comparisons of cell prices to cell prices in
performing our price-to-price analysis in this case?

        MR. BRIGHTBILL: Commissioner, Tim

5 Brightbill. I'm not sure I understand. I mean, the
6 price comparisons for the -- are you talking about the
7 pricing products? Because those were all module
8 prices, of course.

COMMISSIONER PINKERT: Correct.

        MR. BRIGHTBILL: So you're asking could we
11 do the same thing with cell prices?

COMMISSIONER PINKERT: Well, one way to
answer the question would be to try to figure out some
way to break out cell prices so that you could do a
comparison of cell prices to cell prices. But my more
general question is, is there a concern -- is there an
analytical problem in this case when you can't do the
kind of pricing product analysis for cells that you
can do for modules?

        MR. BRIGHTBILL: I don't think there is any
analytical problem there. I think the Commission has
more than enough data in terms of the percentage of a
cell that goes into a module, and then the price
declines for the modules, the module market as a
whole, and also average unit values on cells. So I
think you've got plenty of evidence of dumping and subsidies affecting both the cell side and the module side and the resulting injury that has occurred. I mean, we've had injury to cell makers. Some of the 12 companies listed are cell manufacturers. Many were module manufacturers, so you've got injury covering both. And I think you do have data that shows underselling and Chinese price undercutting on both.

MR. DeFRANCESCO: Commissioner Pinkert, Robert DeFrancesco. In addition to what Mr. Brightbill just said, at the prelim the Commission found the cells and modules to be in the semifinished analysis, found them to be one single-like product. We made that same argument in our brief. I think in light of the semifinished analysis it is appropriate to look primarily at module sales insofar as market shares and pricing products.

COMMISSIONER PINKERT: Of course, the purpose of my question was to get more at the issue of underselling. And if there is some way that you can break out the data so that you can see what a price-to-price comparison for cells would look like, admittedly you'd have to make some assumptions in order to back out to a cell price in the United
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1 States. But I think it would be useful if you could
do that.

3 Dr. Kaplan, I see you shaking your head.
4 DR. KAPLAN: Yeah. We'll try to do that on
5 a price-to-price basis, and we'll also -- and I think
6 you might find it interesting to do it on a price-to-
7 cost basis as well to give you an understanding of why
8 the condition of the domestic industry is as it is,
9 and why cell producers have ceased production in the
10 United States as well. The injury has been up and
11 down the complete supply chain.
12 COMMISSIONER PINKERT: Thank you. If you
13 could provide both of those in the posthearing, I
14 think that would be helpful.
15 MR. BRIGHTBILL: Tim Brightbill. We will do
16 that.
17 COMMISSIONER PINKERT: Thank you. Now, I
18 don't know if any of my colleagues have touched on
19 this next issue, which is the question of whether the
20 domestic industry was caught holding long-term
21 polysilicon supply contracts when the spot market
22 price declined dramatically. What is your response to
23 that allegation?
24 MR. BRINSER: Gordon Brinser, SolarWorld
25 Industries America. The polysilicon, as was
mentioned, is a traded product across global markets. It's used both in the semiconductor industry and the solar industry for the manufacturer of the crystalline photovoltaic cells. It is a component of our bill of material and a cost of goods sold. SolarWorld, like many crystalline wafer manufacturers worldwide, does have long-term contracts with major polysilicon suppliers that go back for years.

We were no different than many of the Respondents in the case having long-term contracts also. As polysilicon being a main input into our manufacturing process, we do have to ensure a secure supply and a stable supply of that material long-term.

MR. BRIGHTBILL: Tim Brightbill. So the two main points are, first of all, as Gordon said, the U.S. producers have these contracts. The Chinese producers have these contracts. It's similar for everyone. And secondly, both U.S. producers and Chinese producers were able to renegotiate those when prices fell, and therefore there is no difference. No one was particularly caught by this decline any worse than anyone else.

MR. BRINSER: This is Gordon Brinser again. And if you follow up on this, I think, you know, while the polysilicon is a cost driver, and other raw
material inputs like silver and aluminum have gone up also, you see a decoupling, or like Seth pointed out earlier, a compression around those polysilicon prices. Even though polysilicon prices have come down, the prices for the modules have dropped significantly more than the pricing for polysilicon, and therefore they are decoupled when you look at the two.

MR. BRIGHTBILL: Commissioner, your prior round you had asked about the technological innovation. We could return to that briefly if you want.

COMMISSIONER PINKERT: Please complete the answer, yeah.

MR. BRIGHTBILL: I think Mr. Brinser could sort of underscore what was said, that this isn't an area where there are rapid breakthroughs in technology. It's more of a gradual improvement, where the cells and the modules get a little better every year, the wattage goes up. The commissioners and staff saw that on the plant tours, too, the kind of innovation that goes on to make the incremental improvements rather than some sort of large technological breakthrough.

If anything, it would be the thin film side
of the industry that's looking for that breakthrough but hasn't found it yet. For crystalline silicon, it's really incremental. I think Gordon could speak to that.

MR. BRINSER: And this is Gordon. I think it's very clear to say that, you know, the Chinese producers really have no technological advantage in the product that they produce. We buy equipment, global equipment, from Europe, from the U.S., from Asia on the open market. With that equipment comes very standard processes that you can buy. Equipment manufacturers try to differentiate their products by providing intellectual property and processes with that product.

So the ability for a manufacturer to have similar technology is very common. So there isn't a technological advantage that we see. There has been no significant breakthrough in technology over the last three to four years. We are all working on very similar research and development activities as we go forward. You know, and we also buy the same raw materials off the open market. So there is no advantage there from a raw materials standpoint in the technology itself.

So again, the innovation that has occurred
has occurred for the last 35 years. We've been incrementally innovating the product. There is a limited ability for the photovoltaic cell to also convert sunlight to electricity. And we're getting closer and closer to that limit. And so those gains and those breakthroughs get smaller each and every year.

You know, maybe 20 years ago we could get some major gains. Now those incremental improvements as we hit that upper threshold become much more difficult and much smaller. So you do see a small technological advantage through innovation.

COMMISSIONER PINKERT: Thank you. Now, earlier I believe I heard you, Mr. Brinser, and Mr. Kilkelly talking about the problem of getting priced out of the utilities segment, and that there is a particular problem there. What is it about the utilities purchaser or the utilities customer that makes the pricing competition with the subject imports particularly difficult?

MR. KILKELLY: Yes, sir. Kevin Kilkelly, SolarWorld. It really comes back to the financing mechanisms that these utilities need to use. They're either going to go to the capital markets to secure capital at a certain interest rate, or they're going
1 to use their own capital to build those solar systems
2 and keep those systems on their balance sheet for the
3 duration, you know, 25-30 years.
4
5 Those decisions happen at the treasury
groups with the CFO and in the corporate treasury and
6 controlling within those organizations. They look at
7 all the analysis. They want to make sure that, one,
8 the technology is safe, okay, check the block; and
9 other than that, what is the cheapest, you know, way
10 to get capital, to go ahead and fund these projects.
11 And then what is the overall cost, what is the end
12 ticket price to actually build these systems.
13
14 Those decisions are financial decisions made
15 in the boardroom with treasury, with the CFO, with the
16 CEO on these large systems. These are multimillion
17 dollar systems that are being deployed for the
18 duration of their span that they're going to be able
19 to generate power, which is a 20-year investment in
20 many cases for these companies.
21
22 Sometimes you'll have tax equity that will
23 also come in, and they will also do their financial
24 due diligence on these systems as well, too. So there
25 will also be a technology review much like the utility
company has done, but there will also be a financial
due diligence review on at what cost do we actually
want to pay this. So they're always looking for the total -- the lowest cost of electricity, the levelized cost of electricity that is actually going to be able to generate power over the lifetime of that product.

So these decisions -- so price is paramount when it comes to the bottom line of the total amount of capital needed to build these projects so they can meet their RPS standards. That's it. It comes down to the bottom line of what is it going to take to build this. And if you build using imported, illegally subsidized product, you have an advantage on the bottom line. That's it. They get the lowest price of these components and go ahead and build it.

COMMISSIONER PINKERT: Thank you. Dr. Kaplan, very briefly.

DR. KAPLAN: Yes. And two points about this that fit with the Commission's standard analysis. The first, the financialization of the sale of these products, both at utility level and as discussed earlier at the residential level, makes the domestic industry more vulnerable because the competition is more price-sensitive. And this has increased over time.

And second, small price changes will have large effects. So when the staff considers the
substitutional elasticity, I believe it should be increased because of this financialization that has been discussed by members of the panel. Thank you.

COMMISSIONER PINKERT: Thank you very much.

CHAIRMAN WILLIAMSON: Commissioner Johanson.

COMMISSIONER JOHANSON: Yes. Thank you, Mr. Chairman. I'd like to get back to the point that I left off on at the end of the last round of questions, and that was of exports of U.S. products. And I apologize. My question was probably not that articulate. I took a group of cub scouts camping last weekend, and it was a lot of fun, but a little stressful, so I'm still trying to get to recuperate from that.

But at page 68 of the Respondent's brief, they write that the U.S. module industries exports increased in 2009 and 2010, and then dropped somewhat significantly in 2011. And in a footnote, they attribute those decline in exports to weakening demand in Europe due to the recession there.

What role have your export shipments played on your profitability, and how has a drop in U.S. exports impacted the U.S. industry? Thank you.

MR. KILKELLY: Kevin Kilkelly, SolarWorld.

Again I'm responsible for the Americas, so we also
1 manufacturer out of Hillsboro, Oregon, for products to
2 be deployed in the continental United States as well
3 as the Caribbean and Latin America. Of that, about 15
4 percent of our total volume is going into these export
5 markets, Latin America and the Caribbean. If I could
6 have sold that in the United States, I would have sold
7 it in the United States. The inability for us to
8 compete due to price and the pace of that drop has
9 been monumental. And so we wanted to invest in the
10 United States to meet the U.S. demand, and we have
11 been pushed out of that market by the dumping of the
12 Chinese imports.

13 MR. BRINSER: This is Gordon Brinser. Let
14 me follow on. I think, clearly the European market,
15 the demand there has weakened during the period of
16 investigation. Recently the financial difficulties
17 have created some difficulties for that market. But I
18 come back to the basic fact is that the demand in the
19 U.S. was sufficient for SolarWorld to provide product
20 into the market if the prices in the market had been
21 at a rational level and at a market level.

22 The low pricing and the collapse in the
23 pricing in the U.S. market basically required us to
24 look at other markets. And like Kevin says, we do
25 look at other markets as far as looking to export
also. But there is enough demand in the U.S. market given, you know, rational market pricing, we should be able to supply it into the U.S. market, and continue to invest, continue to make a profit, invest in R&D, invest in expansion to meet further demand growth in the U.S., and because of the pricing we have been unable to do that.

MR. BRIGHTBILL: Tim Brightbill. Just briefly, the point of Respondents, I guess, is that somehow we're losing employment because of declining export shipments. I just think that's completely wrong, and is looking at a small bit of data when the overwhelming mass of data shows why we've lost jobs and lost employment and lost whole companies in the industry.

MR. DeFRANCESCO: In addition to that, Commissioner, I would point you to the public staff report and the C table. You can see from that that the domestic industry's export shipments are on always highest -- the highest priced AUV, and the domestic shipments are usually they're lowest, so that the argument there would be, you know, they're making more money exporting this product to Europe, yet, you know, the injury obviously, as Mr. Brightbill said, the vast majority of their sales are here in the U.S. Those
have consistently priced lower. That's driving the
injury here, not the exports.

MR. OSTRENGA: Commissioner, Steve Ostrenga.

I guess two other points to add about exports for the
solar market. Another big driver of the European
firms purchasing U.S. product was the currency
exchange rate. The euro was a little bit stronger
prior. Additionally, for exports for our industry,
similar to other industries, the Export-Import Bank
can be involved with a series of large products. I
don't know if the Export-Import Bank did many more
projects the prior year versus this year as well.

COMMISSIONER JOHANSON: All right. Thank
you for answering my question. I have another -- I
guess this is more of a technical question. But in
the Petitioner's brief, you referred to the fact that
some U.S. producers have sold their equipment and
transferred their equipment -- have sold equipment and
transferred it elsewhere. This is at page 31. How
portable is equipment that is used to manufacture
cells and modules?

MR. BRINSER: I'll take that one. So the
equipment that is used to make cells and modules, I
think most of you saw on the tour the equipment
itself. Most of it can be disassembled and
reassembled at different locations. That can take anywhere, depending on if it's a robot it can take a month to maybe four to six months. You have to make sure it gets decontaminated, then it gets crated. We've done that successfully as we've looked at even our own expansion and bringing equipment in from Europe and repositioning that equipment to other factories. It is pretty common in the semiconductor industry. So there is lots of experience around doing that, and the vendors are used to doing it.

MR. BRIGHTBILL: Tim Brightbill. Two points. First of all, SolarWorld still has the equipment from Camarillo available, and it's good equipment. It's still top-of-the-line, would work fine, and could easily be restarted if market conditions were better, either in Camarillo or moved up to Hillsboro.

Those of you that went on the plant tour saw the module factory in Hillsboro actually has a place planned to knock out the wall and put a second module factory in. So there is plenty of ability to move equipment around and to expand capacity relatively rapidly. And, of course, the U.S. industry has just not been able to do that because of the horrendous pricing conditions.
MR. OSTRENGA: Steve Ostrenga. I would add in our facility in Milwaukee, our local community -- if you're ever in the area, stop by. You'll see that we are building -- the mechanical and electrical is already built out to put two more production lines in our facility in Milwaukee. One of our equity partners actually is in automation, so that would help us purchase, erect, and get to commercialized product immediately.

Additionally, when we started the company, our intention was to build out the entire building, triple capacity, as well as we already had a site selection committee at our board level that looked at a couple of states to build additional plants. So we saw the market growing. Our plan was not to grow in Milwaukee, but in other states, the Southwest and Southeast of this country. But because of the Chinese dumping, it just, you know, stopped all of our strategic plan.

COMMISSIONER JOHANSON: Thank you. And I have just one more question. This is for Mr. Kaplan. Mr. Kaplan, you had one of your charts demonstrating -- showed the price of natural gas going down. And I believe it was purchases of modules and cells going up. Was that the case for all three sectors, or was a
divergence among the sectors as to how much sales grew? And the sectors I'm referring to are industrial, commercial, and residential.

DR. KAPLAN: I believe that someone could put up the sector chart. But in any case, it did show that sales went up in all three segments. I believe it's page 14 of my exhibit. So residential increased, commercial increased, and utility increased.

COMMISSIONER JOHANSON: All right. You answered my question. Thank you.

DR. KAPLAN: Thank you.

CHAIRMAN WILLIAMSON: Commissioner Broadbent.

COMMISSIONER BROADBENT: I just want to get back a little bit once more to this question that the Petitioners were sort of a late entrance in the utilities market. And that seems to be one of the main points that the Respondents are making. And if you could sort of summarize why you disagree with that argument.

They're saying that you were growing in other sectors, the distributor, commercial, residential sectors of the market, but that you just couldn't move into the utilities section. And this was just sort of an inability to compete adequately in
an area of the market that was growing pretty fast.

Is there a way you could sort of summarize what your message has been today just so I could get it clearly in my mind?

MR. KILKELLY: Commissioner, Kevin Kilkelly, SolarWorld. We've been doing this for 37 years. We were the first back in the eighties to introduce utility-scale systems and dual-access tracking. That expertise has continued with us over our duration that we've been in this market participating.

We participate with local municipalities within California as well as utilities outside of California, in Maryland. This is -- in Florida we are actively participating and have been participating in this sector. We have proprietary balance-of-system, single-access trackers, fixed-mount product that is specifically deployed into this sector to shore up and complement our high-performing module.

Again, we have been -- I'm not sure exactly why, and I'm a little offended why they would say that we just don't participate there. It's 15 percent of our segment, and it has been growing as well, too.

MR. OSTRENGA: Commissioner, I would add I guess three points. One -- well, from Helios perspective, we're relatively new. So one of the
criteria that we'd have a problem with utilities is 1
we're not old enough to meet their criteria. However, 2
I would say we showed a matrix up there that there is 3
some venerable firms out there, Sharp, BP, Solar, that 4
have been in this industry much longer than the 5
Chinese participants who could fit that need, both 6
from a capacity perspective, and secondly the product 7
that we make, that solar module there, fits whether in 8
a residential house, a commercial rooftop, or a 9
utility. It fits all applications. 10
So I just don't see how their argument can 11
be made that as a late entrant -- they're the late 12
entrants. We've had manufacturers in this industry on 13
American soil much longer than the Chinese who just 14
entered. 15

MR. BRINSER: So Gordon Brinser, SolarWorld. 16
The utility market, as the chart showed, has seen 17
some growth in the last year or so. But I think what 18
is telling is the fact that the underselling that was 19
taking place and the price collapse in the residential 20
and commercial just bled off into the utility so 21
quickly, so fast, and that segment is so price- 22
sensitive, it is very difficult to compete, if at all, 23
and only because of the pricing of the product and the 24
collapsing of the pricing that had already occurred in
MR. BRIGHTBILL: Commissioner, Tim Brightbill. Just one other point. SolarWorld has some very good data on the fact that its 60-cell modules, which are the standard, the workhouse, dominant product, are so much more efficient that if you use them with the equipment Kevin talked about, they're better than the 72-cell modules, of the competitors. We'll provide that in the brief.

COMMISSIONER BROADBENT: Yes, that would be helpful.

MR. BRIGHTBILL: So there is no disadvantage there at all. It's just the price sensitivity which has taken over the utility market like the other ones.

COMMISSIONER BROADBENT: Okay, great. This is for Dr. Kaplan. Just back on the federal and state incentives, are you completely disagreeing that these incentives didn't have a cause to price declines, didn't cause price declines?

DR. KAPLAN: Well, I'm saying that if there is a mandate that someone, just as an economic principle, uses a increased supply of something that the demand increase from the states, all things being equal, would cause prices to rise. Suddenly now you have existing capacity and existing plant, and there...
is more people line up at your day saying, I am
mandated by law to buy your product. That's a good
thing to have happen.

Along with it, you've seen these technology
changes that have been causing prices to go down. But
this particular type of increased demand is not price
driven. It's mandated by states because of
environmental reasons, by the Army for security
reasons, for reasons unrelated to price. So as an
economic matter, that would, all things being equal,
be an increase in demand, shift the demand curve out,
and cause a price increase rather than a price
decrease.

COMMISSIONER BROADBENT: Okay, thanks. I
guess sort of going beyond our purview here just to
give me a little bit of perspective, I know we're
looking here at, you know, volume and price and
assessing those effects. But I just wonder if looking
at this industry and kind of thinking of it as a
global good, which all governments are trying to
promote and strengthen, is there another alternative
here where we could organize something that would
increase the health of a lot of these industries and
get rid of some of the over-capacity and the
challenges that we're facing, but something that can
put this industry on a healthy path. I mean, I guess it's going in a bad direction at this point, and if we were brainstorming and looking at other options, what other things might you suggest?

MR. BRIGHTBILL: Tim Brightbill. Maybe there are some parallels to an industry the Commission knows well, which is the steel industry where, you know, ten years ago there were also concerns about global over-capacity and subsidies and so forth. But what turned out to be the solution was in large part the global -- the safeguards that were put in place by this Commission and by the President to address that issue.

The same thing is true here. I mean, we've got to address the unfair trade practices first before any sort of global effort to resolve this problem. The law is clear. The rules are the same for everyone. When China joined the WTO, it agreed to these rules as far as dumping and subsidies. And so the duty of the Commission and the Commerce Department is pretty clear, and that is to enforce the law.

There are plenty of things that the renewable energy industry can work on together to increase demand, to make technological breakthroughs, but when trade issues happen like this, the trade laws
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1 are the way to go.

2 COMMISSIONER BROADBENT: Dr. Kaplan?

3 DR. KAPLAN: I think there is -- I don't want to say a simple solution. I haven't completely done an analysis of this. But if you look at the demand for energy within China and the fact that they're building coal-fired electrical-generating power plants, and you look at the capacity of their solar industry which is exported, and their needs in their home market, I think if they concentrated their capacity in China, that would alleviate some of the over-capacity generated in markets in the United States and Europe.

4 That is, you know, something that struck me.

5 It's not as if they're building a product where there is no home demand. It's not as if they're building a product that's a product that's an electronic product that can only be consumed in high-income countries. This is a product that generates electricity. China needs a lot of electricity. Why is China exporting 90-plus percent of a technology that generated electricity rather than using it at home and building instead a power plant using dirty coal?

6 So I think it's a question you might want to ask the participants this afternoon. Why is the
commercial and industrial policy of the Chinese government to build an industry of a product that they could use at home, and instead target it to the United States and Europe? That might solve the problem.

COMMISSIONER BROADBENT: Okay. Thank you.

CHAIRMAN WILLIAMSON: You've mentioned that your company is abandoned the 60-cell modules for the larger format ones and are to compete with the imports from China. I was just wondering is that demand for -- who sets that demand that says I want a 90-cell module rather than a 60? Is that part of when a product is designed, or are they saying they want a certain output, and you have a choice of 60 or 90?

MR. OSTRENGA: The 96-cell module, there is probably less than five manufacturers in the whole world make that module. So one barrier we have is dealing with education and experience, educating the customer the value of that product. Generally, the 60-cell is the workhouse, it has been termed, that dominates the market. But the 96-cell module, the numbers we've shown and have been proven out with installations we've done in California, save labor costs between 40 to 45 percent in installations. So we can -- you know, we should be able to get a premium on that because we're saving the total
system cost installation, right? So one would assume that we should be able to sell on our facility with this product, right, because it's saving the total system cost. But the fact is that China is coming in with such low pricing, subsidized pricing, that it undercuts the value that we provide to the market.

CHAIRMAN WILLIAMSON: Are they subsidizing -- do they make 96 or do some --

MR. OSTRENGA: No. I'm aware there might be one Chinese manufacturer who makes a 96-cell, and there is one in Korea, there is one in Florida, and ourselves that I'm aware of.

CHAIRMAN WILLIAMSON: Okay. So you're saying their general pricing is just so low that --

MR. OSTRENGA: Yeah.

CHAIRMAN WILLIAMSON: -- any advantage you might normally get from --

MR. OSTRENGA: Correct.

CHAIRMAN WILLIAMSON: -- the savings of I guess having to install fewer more modules is --

MR. OSTRENGA: Correct.

CHAIRMAN WILLIAMSON: -- wiped out. Okay.

MR. BRINSER: Can I follow up on that, Commissioner?

CHAIRMAN WILLIAMSON: Sure.
MR. BRINSER: Again I'd like to point out that, between the 72-cell module and 60-cell module, the 60-cell, as has been mentioned, is the workhorse. And you have to look at the overall power density of the module or the efficiency of the module itself. For SolarWorld, we're in the middle of rolling out the newest, highest efficiency 60-cell module at a 270, 275 watt. So that's in a much smaller footprint than what some of the other standard 72-cell modules are. If you look at the power density or even the efficiency of those larger modules, they're much less efficient on an a per square-foot basis.

MR. BRIGHTBILL: And Tim Brightbill. Just another way to say that is the 72-watt modules that the Chinese producers have are a way of using the less powerful cells that they have, just grouping them together in a bigger group to try and get rid of inventory that would otherwise be not as efficient as what SolarWorld and others have been able to accomplish.

CHAIRMAN WILLIAMSON: Okay. So you're saying that if the pricing were fair, then say the purchaser or whoever is making the purchasing decision could figure out, okay, well, I can -- could compare the two, and they might want to go to 72, or they
might want to go to a 60, depending on efficiency and things like that, and it's not --

MR. BRINSER: Yeah. The purchaser, right now, as has been clearly identified this morning, price is the dominant driver. But if not, you would look at things like the power output of the module itself. And like Tim had mentioned, if you take a 72-cell module that is producing 280, 285, the actual cell efficiency or the power output of those individual cells are very low.

If you were to put that into a 60-cell format, it's a much lower wattage module. And therefore, in order to get rid of the excess cell inventory, they put these lower power cells in the larger modules trying to basically push them into the market, and again on much lower prices, as Steve mentioned.

CHAIRMAN WILLIAMSON: Okay. Is it generally these decisions get mostly made in the utility sector? Is that -- or is it --

MR. KILKELLY: Mr. Commissioner, that's correct. Kevin Kilkelly, SolarWorld.

CHAIRMAN WILLIAMSON: Yes.

MR. KILKELLY: That's correct. Usually this is a recent product that has been introduced around
third, fourth quarter of 2011. So it's a recent
phenomenon in the market that they've introduced this
type of platform or this product there.

At the end of the day, the utility company
really wants total kilowatt hours generated. The
power purchase agreements and the contracts and the
performance guarantees are around total power produced
over a certain period of time. And so they're looking
at the aggregate amount of power that can be generated
from an area, okay? So when you look at groundcover
ratio and all these other things, time-of-day usage
comes into play. That's why you have such other
mounting structures like tracking systems or fixed
systems, what is the cost of the land.

So there are many, many variables that go
into the decision-making of that utility system. The
module is just one piece of it. But it happens to be
very, very price sensitive. And so because of, you
know, the dumping that has occurred in this, product
irrelevant, it comes down to price at the end of the
day because the systems -- we can use a 60-cell
module, very high performance, and win, but yet the
price is still the number one decision-making. And
that's where it comes down to the financing of those
utility-scale systems.
CHAIRMAN WILLIAMSON: Okay. Thank you.

MR. OSTRENGA: Commissioner, I just want to add.

CHAIRMAN WILLIAMSON: Yes.

MR. OSTRENGA: The argument that the 72-cell is new, I mean, our platform can make -- we've been able to make that platform since we started. Once again, on 60-, 72-, 96-cell, on our exact same production line, we invested in the technology from the get-go, spent the extra money on capital to ensure our platform could run all different formats.

CHAIRMAN WILLIAMSON: Okay. Thank you. You may want to do this posthearing. On page 1-13 of the staff report and the table 1-1, the staff has reported the efficiency of mono-crystalline and multi-crystalline silicon. And I was just wondering if you agree with these efficiency ranges, and have these ranges changed over the period of investigation.

MR. BRIGHTBILL: Yeah, right here. Tim Brightbill. I won't speak to the exact numbers. I'll leave that to the experts. But it's true that mono-crystalline is generally more efficient than multi-crystalline. And the price per watt is largely unaffected by the choice of mono versus multi. There is not a substantial cost difference between the two.
1 As the commissioners and the staff saw, SolarWorld 
2 runs mono and multi virtually side by side through its 
3 factory.
4
5 CHAIRMAN WILLIAMSON: Okay. And the 
6 efficiency ranges, have they changed over time?
7
8 MR. BRINSER: The efficiency, as we 
9 mentioned earlier, there has been a progress in the 
10 efficiency over time over the last three decades we've 
11 been manufacturing. We get closer and closer to the 
12 upper limit of the efficiency that we can get from a 
13 cell. In the posthearing brief we can get you some 
14 detailed efficiency numbers. But generally, it does 
15 so continuously -- there is a technology improvement 
16 that happens over time that allows us that 10 percent 
17 cost reduction each and every year. And the 
18 increments that we've seen over the last couple of 
19 years falls in line with that 10 percent reduction, 
20 not with the price decrease that we've seen.
21
22 CHAIRMAN WILLIAMSON: Okay. Thank you. On 
23 page 1-19 of the prehearing staff report, it reports 
24 that polysilicon accounts for about 23 percent of the 
25 costs of the value added in a PV module. And I was 
26 wondering if you agree with that estimate, and has 
27 that also changed over time?
28
29 MR. BRINSER: In general it's close. I
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1 think I'd like to reserve that for posthearing brief --

CHAIRMAN WILLIAMSON: Sure.

MR. BRINSER: -- because that is proprietary what our costs are. But I'd say in general it's in the 20 percent range.

CHAIRMAN WILLIAMSON: Okay. And maybe you could also address whether there is any difference between multi-crystalline and the mono-crystalline in terms of that percentage.

MR. BRINSER: Okay.

CHAIRMAN WILLIAMSON: Thank you. Okay.

Let's see. Respondents appear to suggest that this is critical circumstances that the Commission should analyze critical circumstance issues on a firm-by-firm basis. Although the Commission has never really done this before, what would be the legal basis for the Commission to analyze critical circumstances on a firm-by-firm basis? And if you want to take it posthearing, that's fine.

MR. BRIGHTBILL: We'll take it posthearing.

Tim Brightbill. But in general, we think you should continue your practice. And I don't know that there is support for doing it on a company-by-company basis.

I do think the import levels and the inventory levels
are convincing either way, that there was a surge of imports to beat the duties, and there is sharply higher inventories and therefore critical circumstances are warranted for everyone in the Chinese industry.

CHAIRMAN WILLIAMSON: Okay. Thank you.

Commissioner Pearson?

COMMISSIONER PEARSON: Thank you, Mr. Chairman. I can't even hit the button today. Dr. Kaplan, we had been discussing earlier the question of whether there had been demand pull that had brought cells in relative to a supply push. And you were giving some examples of firms that have gone out of business in the United States as evidence that there was plenty of supply available within the United States.

But when we're talking about the utility sector, you put up a chart earlier based on information from our staff report that showed zero U.S. shipments to the utility sector in 2009, and then a smaller amount in 2010, and a large amount in 2011. So the Respondents are making an argument that the domestic industry was not positioned to serve effectively the utility sector. And they may point to your chart as part of that evidence. What should we
1 think of this?

2 DR. KAPLAN: Well, if they pointed to my
3 chart, they'd be misinterpreting it and be incorrect,
4 if that's the conclusion they drew. But what you've
5 heard testimony from is the same type of panels that
6 are used in home and commercial can be used and are
7 used in the utility sector. So there is nothing
8 preventing U.S. producers from servicing that market.
9 So that's the first point.
10
11 The second point would be then to look at
12 U.S. capacity and to see how much U.S. capacity is
13 available to serve all three segments. And if there
14 is excess capacity, or if there is shuttered capacity
15 over that period, that all could have been used to
16 serve the utility sector.
17 If there is still not enough domestic
18 capacity, then imports could come in at fairly traded
19 prices to serve any excess needs beyond domestic
20 capacity. But what struck me, and as I say was the
21 bitter pill of this industry, is that there was a
22 growth in capacity. Excess capacity is available, and
23 firms with capacity were shuttered.
24
25 This industry, like all -- you know, like
26 industries that appear before here aren't asking for,
27 you know, the market to be shut down. They're asking
for fairly-traded competition.

COMMISSIONER PEARSON: Okay.

DR. KAPLAN: And if there were fairly-traded competition, that capacity would have been used, and would have been used in the utility sector.

COMMISSIONER PEARSON: You fully answered that question.

DR. KAPLAN: Thank you.

COMMISSIONER PEARSON: A related question.

MR. BRINSER: Just one last point there. I think, everybody relates the 72-cell and the utilities segment together. The 72-cell is only one product that goes into the utility scale. I think you'll still find lots of product of 60-cell that does go in over that period of time. Again, it has been the pricing that has driven us to lose sales and lose that share in the utility scale.

We built the factory, as said, to serve all three segments of the market. And, unfortunately we have not been able to capitalize on that due to the pricing in those markets.

COMMISSIONER PEARSON: Okay. Well, either now or in the posthearing, could you give me an estimate of the percentage of U.S. utility installations that use 60-cell modules versus 72-cell
modules, certainly over the period of investigation? And then actually, it might be helpful, given that you're making the case that 60-cells have been used in utility for some period of time, maybe we can go back and get a little history that even predates the POI, if possible, just to give a sense that, yes, they have had a role in the market, and then the 72s came in later.

That would be somewhat the opposite of the argument that I think Respondents are making.

MR. BRIGHTBILL: Yes. Tim Brightbill. We can work on getting both of those things posthearing.

COMMISSIONER PEARSON: Okay. You've made the point that the Chinese industry is quite heavily subsidized. And if that's the case, why has Commerce calculated relatively modest countervailing duty margins ranging from 2.9 percent to 4.73 percent?

MR. BRIGHTBILL: Tim Brightbill, Wiley Rein. A couple of things there. First of all, Commerce conducted several things after the preliminary investigations. For example, it did not apply uncreditworthiness premiums in the preliminary determination. It did not look at several very large categories of subsidies, including glass and aluminum extrusions.
So, unfortunately, the preliminary subsidy margins do not address all of the subsidies put forward in even all of the subsidy allegations that we made.

COMMISSIONER PEARSON: And do you know whether in their final calculation they're having an opportunity to look at some of those issues?

MR. BRIGHTBILL: Some are being looked at. Some are not being looked at. I will note that Commerce made a post-preliminary determination where it found affirmative use of three additional subsidy programs that will increase the rates on Suntech and Trina and the other Chinese producers.

COMMISSIONER PEARSON: Okay. And partly the reason for asking this question is that we don't look behind Commerce's margins. I see Commerce has given us modest margins, and I hear you talking about large subsidies, and so there just was a disconnect there that I -- an apparent disconnect that you've helped to explain. Thank you.

Now, for critical circumstances, Mr. Brightbill, could you, probably in the posthearing, unless you're prepared to do it now, give us some assessment of how imports and inventories in this case compared to other cases in recent years where there
have been critical circumstances allegations --

MR. BRIGHTBILL: We can do that for the posthearing brief. I would just say that inventories, both in the U.S. and outside of the U.S., are very substantial and warrant an affirmative finding of critical circumstances for the period.

COMMISSIONER PEARSON: Well, perhaps, but, you know, I've looked at the numbers, and I see an increase in imports over a 12-month period, and inventories seem to be moving into the marketplace relatively quickly rather than piling up. And so I hear you saying that, and yet the data that I have available aren't jumping out and reinforcing your argument.

MR. BRIGHTBILL: I think the surge of -- if you're comparing the surge of imports to the level of inventories, both increased. But we'd be happy to explain that in the posthearing.

COMMISSIONER PEARSON: Okay. Either now or in the posthearing, could you respond specifically to the arguments presented by LDK andUpsolar on this critical circumstances issue?

MR. BRIGHTBILL: Yes, we'll do that in the posthearing brief.

COMMISSIONER PEARSON: Okay. Thank you. In
the event that the Commission votes in the affirmative on injury, would there be a benefit to the domestic industry if we also find critical circumstances?

MR. BRIGHTBILL: Tim Brightbill. Yes, absolutely. And our industry witnesses can attest to that, that because there was -- part of the reason why prices have failed to change course or why we have seen little in the way of price relief is because of the massive -- the inventory that overhangs here in the United States. We provided evidence in our brief of a single distributor that has megawatts on megawatts of inventory.

And so, yes, there is a benefit to having affirmative critical circumstances determination in addition to an affirmative material injury determination.

COMMISSIONER PEARSON: But let me ask about that again --

MR. BRIGHTBILL: Yes.

COMMISSIONER PEARSON: -- because the inventory already is in the United States. And if we find -- make an affirmative finding on critical circumstances, it won't in any way change the presence of that inventory or its ability to move into domestic commerce, will it?
MR. BRIGHTBILL: Just by imposing the duties retroactively under critical circumstances, that alone has an effect by ensuring fair trade for that additional period of time. So including --

COMMISSIONER PEARSON: Well, but I don't know if I'm following you because I agree -- I mean, this is not a section 337 proceeding where we can issue a cease and desist order and prevent the inventory from being sold. It's there, it's in the marketplace. If we impose critical circumstances, it's still in the marketplace.

My understanding is that the Respondent firms that have brought that product in would be receiving a penalty if we find critical circumstances. But what I'm not able to discern yet is how that provides any actual benefit to the domestic industry. I mean, it hurts the other guy. Does it help you?

MR. BRIGHTBILL: It certainly does help us.

MR. GORDON: Commissioner Pearson, if I may. This is Adam Gordon from Wiley Rein. As a matter of clarification, first the importer who is bringing the product in would not receive a penalty. They would be receiving a bill for duties that those imports are subject to. And in this case, many of the importers on record are those sitting on those inventories at
this moment. So retroactive application of the duties pursuant to a critical circumstances determination will have the same effect as application of duties to imports during since the provisional measures went into effect and in the future.

Those imports when they are sold into the market will presumably be sold at fair prices, fairly traded prices as opposed to -- because the importer has a different obligation because the duties have been imposed on those imports to reflect the behavior of the surge of imports after the case was filed.

COMMISSIONER PEARSON: Mr. Chairman, I'm going a little bit over time, but still I'm missing something here because in the dynamics of the marketplace the product is already here, it's legal to enter commerce. It's going to enter at whatever price the market will pay for it. I just don't see how you guys get a benefit from that because I don't see your price rising, and I don't see your ability to sell additional volume increasing the imported volume is there in the market.

So for purposes of the posthearing, spell it out to me so that even I can understand it.

MR. GORDON: Well, could I just elaborate for one moment on that? Think about an easy example.
If you're an importer of record, and you're sitting on an inventory that you brought in worth a million dollars, and that's your landed price, and then you get a bill from Customs for another $500,000, if there is a 50 percent duty in place, all of a sudden your costs of that good is $1-1/2 million. So when you sell that into the market, you're not going to look to recover a million dollars plus whatever other costs you have. You're looking to recover a million and a half. Your pricing will have to change.

COMMISSIONER PEARSON: I'd probably go broke in that situation, but I hear what you're saying. I just don't think the effect you're describing is going to have much of an influence in the marketplace. Thank you, Mr. Chairman.

CHAIRMAN WILLIAMSON: Commissioner Pinkert.

COMMISSIONER PINKERT: I have no further questions for the panel, but I do look forward to the posthearing submission, and I thank you for the testimony.

CHAIRMAN WILLIAMSON: Commissioner Johanson?

Okay. Commissioner Broadbent? Okay. I have no further questions. Commissioner Pearson, do you have any further questions?

COMMISSIONER PEARSON: I'd better pass.
CHAIRMAN WILLIAMSON: Okay. Do staff have any questions for this panel?

MR. McCLURE: Jim McClure, Office of Investigations. I'd like to thank the panel for our visits and your testimony. Staff has no questions.

CHAIRMAN WILLIAMSON: Do Respondents have any questions for this panel?

MR. ELLIS: No questions, Mr. Chairman.

Thank you.

CHAIRMAN WILLIAMSON: Okay. Well, with that, I think it's time to take a lunch break. And so we'll take a break until 2:10. And I have to remind everybody that during the break the room is not secure, and so you'll need to take any proprietary information with you. And with that, I want to thank the panel for their testimony, and this session is adjourned. Thank you.

(Whereupon, at 1:10 p.m., the hearing in the above-entitled matter was recessed, to reconvene at 2:10 p.m. this same day, Wednesday, October 3, 2012.)
AFTERNOON SESSION

(2:10 p.m.)

CHAIRMAN WILLIAMSON: Good afternoon. You may proceed, Mr. Ellis.

MR. ELLIS: Thank you, Mr. Chairman. My name is Neil Ellis of Sidley Austin, representing the Respondents in this investigation. You heard this morning at length a description of the marketplace that we submit is incorrect. The panel from which you will now hear will offer a very different world view, one that we believe is more dynamic, more realistic, and more relevant to your analysis, and one that we believe leads inexorably to a negative injury determination.

Our first witness is Jigar Shah of Inerjys. Jigar?

MR. SHAH: Thank you. Good afternoon. My name is Jigar Shah, and I'm currently a partner at Inerjys, whose ambition is to be a billion dollar fund that focuses on accelerating the deployment of underappreciated new energy technologies by providing growth capital and project finance.

Previously, I founded SunEdison in 2003, which is the leading developer of solar energy systems in the United States and around the world. SunEdison
pioneered the use of the power purchase agreement business model, which allowed organizations such as utilities to purchase solar energy services under long-term predictably priced contracts and to avoid the significant capital costs of ownership and operation of solar energy systems. This groundbreaking model helped turn solar PV into a multibillion dollar industry worldwide, and helped SunEdison develop more than 836 megawatts of solar energy capacity since its founding.

I would like to speak with you about two topics that should inform your analysis in this case. The first is the solar industry's need to achieve what is known as grid parity, and how this has been the cause of the decline in solar cell and module pricing during your period of investigation. And the second is the unparalleled technological innovation of Chinese cell and module producers, which has been a critical factor explaining the volume of imports from China.

Turning first to grid parity, this term refers to the point at which the levelized cost of electricity generated from renewable sources such as solar equals the cost of conventional electricity from the grid. Levelized cost means the sum of all costs.
over the life of an energy system divided by the quantity of electricity expected to be generated over the financing period of that system. The basic notion is that until a system generating electricity from a renewable source achieves grid parity, it will not be widely accepted as a viable alternative source of energy without government subsidies. In other words, for solar energy systems to be viable, they must generate electricity at a price comparable to conventional energy sources.

Naturally, this goal puts downward pressure on all the cost components of a solar energy system, including the solar modules that are used to construct the system. The federal and several state governments decided that it was desirable public policy to encourage solar energy systems to achieve grid parity so they can compete with conventional sources of energy and reduce America's dependence on fossil fuels.

Moreover, the incentive programs adopted by federal and state governments were temporary, with the assumption that once the incentives helped the solar industry off the ground, the cost reductions required to achieve grid parity would occur naturally as the
market matured and technological advances were implemented. As incentive programs declined, much of which occurred during the period of investigation, solar cell and module producers were required by solar energy developers to reduce prices substantially. Solar developers such as myself could continue to market systems only if we could achieve levelized costs equal to conventional sources of electricity.

In the large-volume utility sector, this meant natural gas price declines have forced solar power prices to compete directly with combined cycle gas turbine plants. In this environment, with or without the presence of Chinese modules, solar module prices in the U.S. had to decline. If they did not, solar energy would not be a viable means of electricity production today.

SolarWorld's belief that Chinese module pricing has been the cause of the decline in prices in the United States, and that it can survive in the marketplace by selling higher-priced solar modules if afforded the protection it seeks from the Commission, are simply unfounded.

This brings me to my second topic. Why were Chinese producers able to increase the volume of modules sold in the United States? A critical reason
is technological innovation in terms of both better
conversion efficiency and better production efficiency
as compared with the U.S. and other producers. The
Chinese have been at the forefront of deploying
technological innovation in this industry. For
example, they have been leaders in installing new
solar equipment that allowed for thinner silicon
wafers, and new solar coatings capable of converting
more sunlight to electricity in the same amount of
surface area.

They have also been able to introduce large
72-cell, 300-watt modules that are in strong demand by
the utility sector in the United States. In short,
the Chinese manufacturers were the first to implement
innovations from American firms like Dupont's
Innovalight silicon ink, to reduce the cost of solar
cell manufacturing, which in turn helped U.S. solar
ergy systems achieve the requisite grid parity.

The Chinese have also been able to improve
their production efficiency through the use of the
latest production equipment. Technological advances
are so rapid in this industry that production
equipment becomes uncompetitive within two to three
years. More importantly, the Chinese chose to build
their plants around lower-cost multi-crystalline
versus SolarWorld's higher cost mono-crystalline technology. As a result, the silicon costs for the Chinese are substantially lower than for SolarWorld.

To conclude, I have worked in the solar industry since 1995. Since that time, the solar industry has gone from a small, multimillion dollar industry for off-grid weather stations to a mainstream energy solution reaching almost 100 billion in revenues last year. The solar industry is now prominent in India, South Africa, and other countries that cannot afford solar subsidies. In fact, solar support programs in the U.S., Germany, U.K., and other places have been reduced during this time of declining government budgets.

I am proud to work in an industry where innovation is alive and well. In the face of declining natural gas prices and competitive electricity electric rates, we have been able to keep our competitive edge. A finding in favor of SolarWorld, however, would undermine these achievements. Thank you.

MR. ELLIS: Thank you, Jigar. We're now going to hear from Polly Shaw from Suntech America.

MS. SHAW: Good afternoon. I'm Polly Shaw, senior director of -- the variety of incentive --
excuse me. I appreciate this opportunity to review the variety of incentive programs that have affected the solar energy industry throughout the period of investigation. I'm going to discuss the programs offered by the federal government as well as the state governments.

I have firsthand knowledge of these programs because I previously was a senior regulatory analyst at the California Public Utilities Commission, PUC, and led implementation of the $2.2 billion California solar initiative program. At the federal level, the U.S. Government has chosen to promote the adoption of solar energy by providing tax benefits to system owners.

By allowing consumers and businesses to deduct a portion of the cost of the system from the taxes they would otherwise owe, solar systems become more competitive with conventional energy sources and therefore move towards achieving grid parity.

There have been two major federal tax incentives encouraging the adoption of solar energy: the investment tax credit, or ITC, and the grant in lieu of tax credit, better known as the section 1603 Treasury program. There are other federal incentives, but I will focus on these two.
The ITC was first enacted in 2006 as a 30 percent tax credit for commercial and residential solar energy systems. It was initially in effect for just two years, but was later extended, and is now available through 2016, when the credit drops off to 10 percent. Significantly, when the credit was extended in 2008, it was changed to include utility-scale and utility-owned systems.

The value of the ITC was undermined by the October 2008 economic crash. With profits down, many companies did not owe enough taxes to take advantage of it. Congress responded by including in the 2009 Stimulus Act a temporary new financing mechanism as an alternative to the ITC.

Section 1603 allowed renewable energy project developers to receive a direct 30 percent cash grant. To qualify, solar facilities had to have begun construction by December 31st, 2010. In December 2010, lawmakers extended the 1603 program for one more year, enabling projects that commenced construction by December 2011.

Both the ITC and the cash grant drove major growth in utility-scale solar energy systems, and the cash grant greatly enabled developers to lower their cost of financing transactions. The impact of the
cash grant is unmistakable when you look at the data demonstrating the surge in awards in the months approaching and following the ultimate expiration of the program at the end of 2011.

At the state level, states have encouraged the deployment of solar and renewables in two primary ways, first by mandates that require utilities to obtain a certain percentage of their total electricity generation from renewable sources by a certain date; and second by rebates that pay installers or developers a set amount per watt or kilowatt hour for solar energy systems.

These programs are typically called renewable portfolio standards, RPS. For example, California requires that each utility obtain 33 percent of its total electricity from renewable energy by 2020. Utilities in turn meet these mandates by, one, providing incentives to individual homes and businesses to generate their own solar energy; two, contracting with very large-scale solar projects; and/or three, owning the solar energy generation directly and dispersing it to their customers.

No state programs are exactly alike, but there are elements that inevitably appear in all of them. One of those key features is a reduction in
rooftop incentive levels and wholesale contract prices over time. That's a function of both capped annual incentive budgets and an assumption that solar energy can and must decline to achieve grid parity on its own. There is zero tolerance among state regulators for solar prices to price.

The California PUC, the agency for which I worked, designed a program that reduced rebates as certain volumes of solar installations were achieved. As the solar market grew, solar system costs were expected to drop, and therefore the incentive levels offered by the program could decline. California committed to declining the subsidy to zero by 2017, while lowering solar energy costs and achieving the installation of 3,000 megawatts of solar through, one, improved or new technologies; two, enhanced solar system efficiency or performance; and three, lower sales and installation costs.

To give you a sense of how this has worked, California's residential solar rebate was $2.80 a watt in December 2006. Today, based on the volume installed, the rebate has dropped by 90 percent in six years. Other states also have predesigned rooftop incentive declines, which aid the industry in its own planning to find cost efficiencies at a known pace.
For wholesale or utility-scale PPA contracts, the contract price that have been accepted by public utility commissions also have declined significantly over the last few years. As gas and solar prices have plummeted, PUCs are even forcing the solar industry to reduce already-contracted PPA rates from two to three years ago in order to obtain PUC approval.

Most RPS programs include a fee for noncompliance with their mandates. These penalties function as a ceiling on the price set by the market, and these too are designed in advance to dial down. This is the social compact that the American solar industry has struck with government regulators and elected officials, economic support for solar today in exchange for a growing and vibrant market that has the economies of scale necessary to compete directly with traditional energy sources like natural gas and to survive without financial support tomorrow.

There is no overstating the role that government has played and continues to play in forcing down costs and pressuring down prices. But for these programs and their pressure on prices, there would not be the growth in demand and consumption of solar in the U.S. energy market today. Thank you.
MR. ELLIS: Thank you, Polly. Our next speaker is Kevin Lapidus of SunEdison. Kevin?

MR. LAPIDUS: Thanks, Neil. Good afternoon. I am Kevin Lapidus, senior vice president of legal and government affairs at SunEdison. SunEdison is a U.S. company that is one of the world's largest developers of solar power plants. We develop, install, finance, and operate solar power plants. We have developed more than 750 solar power plants in the U.S. and foreign countries, aggregating more than 800 megawatts.

SunEdison has raised more than $4 billion of project finance capital for these projects. SunEdison evaluates and underwrites the financial and regulatory risk of the new solar power plant, and makes the decision whether to risk our capital to build that plant. At the end of the day, we decide if a new solar power plant will be financially viable in the United States and whether to build it.

SunEdison's parent company is MEMC, a St. Louis, Missouri-based company. MEMC is the only U.S. solar manufacturer that is vertically integrated through the entire solar supply chain, including through project development and operations. We manufacture polysilicon in Pasadena, Texas, and
produce solar ingots in Portland, Oregon. As such, we are uniquely position to talk about the solar cell and module market. I'm here today to explain why this case brought by the U.S. division of the German company SolarWorld and any resulting duties on solar module imports from China will not address the problems that SolarWorld is experiencing.

Contrary to SolarWorld's focus on the activities of Chinese manufacturers, there are economic, political, and regulatory forces in the United States that are driving down the cost of solar components such as modules, as well as solar energy in general. It's the demand side equation that is driving down the prices of solar modules in the U.S.

First, federal and state incentives that were meant as bridges to enable the solar market to reach grid parity by creating economies of scale are steadily declining, thereby reducing the overall revenue potential for solar power plants. Federal and state governments provide incentives to encourage the installation of solar power plants. As these incentives decline from year to year, the revenue potential of solar power plants decline, and a commensurate reduction in the cost of modules and
building the solar power plants must be found, or the solar power plant will not be built.

Second, there is a significant political pressure forcing down the costs of solar energy. Companies like SunEdison enter into power purchase agreements or PPAs, including with utilities. Utility PPAs must be approved by public utility commissions. Because of budgetary constraints and a desire to avoid electricity price increases to customers, these utility commissions are requiring solar PPAs to be ever closer in price to electricity from conventional energy sources.

Historically low natural gas prices have added considerable price pressure to solar PPAs by lowering the effective price required to achieve grid parity. RPS requirements are driving down PPA prices, driving them down.

Third, crystal silicon PV modules are almost always compared with price-competitive, thin-film solar technology in the utilities sector thereby putting further downward price pressure on solar modules and systems in the United States.

Fourth, the steep decline in raw material prices has deeply affected the U.S. solar industry over the period of investigation. For instance, from
the beginning of 2008 to 2012, the price of polysilicon and silver wafers fell 84 percent. While on the subject of polysilicon, I will note that SolarWorld made the ultimately unsuccessful decision to focus on mono-crystalline modules as compared to multi-crystalline modules, which became less expensive when polysilicon prices fell. Other components have also experienced significant price reductions, such as invertors, trackers, meters, and software monitoring systems, and helped lower the overall cost of solar installations. The factors accounting for the steady decline in the cost of solar components over the period of investigation demonstrate that the U.S. solar industry is doing well. We are winning in the U.S. The aggregate U.S. solar industry currently has 100,000 employees, up 6.8 percent last year, and is forecast to grow again this year. Fifty-two percent of these solar workers are in the installation segment. These are U.S. workers who wake up in the morning, put on a toolbelt, and go and build something, precisely the kinds of workers we need in this economy. Moreover, the quantity of installed solar in the U.S. went from 1.8 gigawatts in 2011 to 3.2
1 gigawatts expected in 2012. Solar energy infrastructure investment went from $8-1/2 billion in 2011 to $12 billion expected in 2012.

Our challenge moving forward is not the importation of Chinese cells and modules. Our challenge is the achievement of the grid parity in order to compete with fossil fuels.

Finally, I would like to discuss the critical circumstances finding made by the Department of Commerce. As a solar developer, SunEdison can attest to the fact that for solar developers the fourth quarter each year is by far the busiest quarter of the year. Tax equity investors, the key driver of project finance for solar in the U.S., are more aware of their tax footprint later in the year, and many projects are scheduled for completion in the fourth quarter.

This project completion pattern has impacted my personal year-end vacation plans each of the five years I have been in the solar industry. In addition, the fourth quarter of 2011 witnesses a particularly large push due to the expiration of the 1603 cash grant program.

In summary, the timing of this case could not be more ironic. After years in which the
criticism of solar energy in the United States was that it is too expensive, the U.S. solar industry is now delivering on its social compact to meaningfully reduce the price of solar in exchange for the government support it has received to date.

The imposition of tariffs would run counter to U.S. renewable energy policy, would undermine one of the few engines of job growth in the U.S., and would set back the standing and competitiveness of the United States. Thank you.

MR. ELLIS: Thank you, Kevin. We will now hear from Robert Petrina of Yingli Americas.

MR. PETRINA: Good afternoon. My name is Robert Petrina, and I'm the managing director for Yingli Americas, a subsidiary of Yingli Green Energy Holding Company, which is currently the largest module manufacturer in the world.

I've been in the solar industry since 1998. I want to start by reaffirming a bedrock principle underlying the dynamics of the solar energy market. As already explained by Kevin and Polly, the pricing for solar energy products is constrained by competition with both renewable and unrenewable energy sources.

Over the past three years, solar energy
system prices have declined by over 45 percent in the U.S., and that has been driven by two factors: first, the plunge in the price of fossil fuels, specifically natural gas; and second, the reductions of solar-related federal and state government subsidy programs.

Previously, solar project developers would use their government financial incentives and tax equity breaks to reduce the overall cost of their solar projects. That ultimately reduced the cost of renewable electricity for consumers. As you've heard, over this past year, our industry has been able to achieve remarkable technical and commercial breakthroughs so that, combined with the industry incentives, the price of solar energy is approaching grid parity in many U.S. states.

Things have changed radically since the end of 2011, with the reduction of many major subsidies. The only way to make a solar energy project economically feasible today is to reduce its underlying cost, and 50 percent of that is the solar module. As a result of projects facing declining incentives and declining electricity, if selling prices are to survive, there is great pressure to cut the module cost to make the project's economic returns attractive and competitive with project proposals.
based on non-renewable energy sources.

Moreover, this fundamental point is true regardless of the presence or absence of Chinese modules. With that basic understanding, I would like to address two additional topics, the U.S. market conditions that led to Yingli entering the market in 2009 and grow, particularly in the utility segment of the market, and the competition between crystalline silicon and thin-film products.

Yingli entered the U.S. market as an importer in 2009 because the U.S. at that time was grossly underserved. The solar module supply shortage was so great that U.S. customers were at times waiting for six months to receive product. The bulk of worldwide production, including U.S. production at the time, was going to Europe, and particularly Spain, Germany, and Italy, where solar-friendly energy policies were creating a windfall for their local solar companies.

The United States was and still is a relatively small market, particularly in comparison to Europe. However, the U.S. has been expanding rapidly and was the fourth largest market worldwide in 2011. As you can see from the slide showing, the market has been doubling year over year since 2009. As a result,
the total quantity of PV cell installations in the United States in 2010 equal 900 megawatts. In 2011, the figure rose to 1.9 gigawatts. And it is projected to jump to 3.2 gigawatts in 2012.

One of the reasons for this radical growth can be attributed to the spike in demand from the large-scale utility project segment. As an example, Yingli's sales in the utility segment were only a minor percentage of its total sales of PV products in 2009, but by 2012 they had risen to nearly 50 percent.

Beyond the state-specific RPS requirements, one of the major reasons for expansion in the segment can be tied to the federal investment tax credit in late 2008. This gave utilities an immediate incentive towards ownership of solar energy programs. Yingli and other module producers focused extensively on this market as a result. SolarWorld did not.

Yingli and others started manufacturing 270 watt-plus modules by mid-2010, when SolarWorld was producing in the 230- to 240-watt range. And now that Yingli and others are routinely manufacturing 300-plus watt modules, SolarWorld is only now touting its 270-watt module. Keep in mind that SolarWorld's product will not even be available until the end of this year.

Utilities give great consideration to panel
selection, and they are now requiring these higher output modules. That's because they want more power in a smaller footprint, which improves the project economics. Given the long absence of such a product in SolarWorld's portfolio, it has led to a lagging in SolarWorld's participation in the utility segment of the U.S. market.

Yingli only manufactures crystalline silicon PV cells and modules. But I want to address another relevant PV technology, thin film. Thin film solar generation is just another means to the same end, the production of electrical energy. From my experience in the marketplace, and as I've testified previously, it is simply incorrect to suggest that these two technologies are different businesses.

There is head-to-head competition between thin film and crystalline silicon PV equipment every day, and they are in fact close substitutes. For example, we compete directly with thin film, particularly with First Solar, the largest U.S. module producer, in the vast majority of utility-scale requests for proposals that we receive to date.

It's important to understand that even within thin film and crystalline silicon, there are technology subtypes that form a continuum of module
Looking at the slide showing, you can see some of the differences among these various subtypes. Efficiencies have increased similarly over time and across both technology types. From my experience, developers consider these as like products when they're designing solar energy.

With regards to pricing, before the collapse of polysilicon prices, thin film panels routinely cost less than crystalline silicon panels. But because more thin film product is required per set area to match the production of crystalline silicon panels, the total system costs for these two technologies are often similar.

I want to end by stating that I am a firm believer in the U.S. solar energy market and its vast potential. I've devoted my entire professional life to shifting the paradigm of how we produce and where we can access energy. I have seen our industry achieving incredible milestones over a compressed period of time, and we are on the cusp of incredible sustainable growth.

SolarWorld's action is seeking to impose irreparable damage on local jobs, innovation, and America's clean energy future. That concludes my remarks. Thank you.
MR. ELLIS: Thanks, Robert. We're now going
to hear from Alan King of Canadian Solar USA. Alan?


My name is Alan King, and I'm general manager and vice
president of sales for Canadian Solar. I'm pleased to
have the opportunity to address the Commission
concerning what is in my view the single most
important determinant of a module manufacturer's
success: innovation.

The potential of solar power has been known
for decades. However, it has proven difficult to
translate this potential into an economically
practical form of energy generation until recently.
This shift in solar power's fortunes is attributable
to factors such as the advent of government incentive
programs and the increase in fossil fuel prices. Both
have helped to level the playing field.

But innovation is what has made solar power
a viable alternative to conventional electricity
generation. Innovation has brought down the price of
modules and solar energy systems as a whole, to the
point where this industry now stands a fighting chance
against fossil fuels.

The continuing importance of innovation to
the solar industry cannot be overstated. It consists
of many individual components all working together to increase performance and lower costs. These include the implementation of new supply-chain and manufacturing techniques that increase factory yield and lower raw material costs, improvements in wafer and cell processing to increase efficiency, and the introduction of new products that incorporate all of these innovations as well as ancillary technologies such as power electronics.

Canadian Solar considers itself a leader in this category. We were one of the first to bring to market a number of innovations that have dramatically improved the efficiency of our modules, which translates directly into lower overall solar system cost.

For example, our breakthrough ELPS technology features a unique and patented design that increases cell efficiency resulting in 19.5 percent efficiency for mono-crystalline cells, and 18 percent for poly-crystalline cells. These innovations give solar systems more bang for their module buck.

We've also achieved efficiency gains with our Intelligrated power line of products, so-called AC modules that integrate power electronics into the modules to significantly reduce labor, installation
time, and system design.

But perhaps our most important innovation is the MAX power module, which generates 290 to 310 watts of electricity. This module is extremely attractive to utility customers seeking to minimize costs associated with large solar installations by reducing the number of modules as well as balance-of-system components, again lowering overall construction costs.

Canadian Solar has been manufacturing this high-wattage module since late 2010. It's rapidly becoming our largest selling module worldwide, reflecting the importance of the utility sector to Canadian Solar's future growth strategy.

Of course, Canadian Solar is not alone with these innovations. We continually strive to outpace our technologically savvy competitors, including companies such as Suntech, Sun Power, Trina, and Yingli. However, when I think of the companies who really have been at the forefront of module innovations, there is one company noticeably absent, SolarWorld.

As Robert previously mentioned, SolarWorld launched its 270-watt peak sun module solar panel just last month, well behind its competitors and delivering lower overall performance. Not only is their utility
module late to market, but the business decisions SolarWorld made to focus on higher cost mono-
crystalline cells and modules has put them in a position where their lower conversion efficiency and higher-priced raw materials have produced a product that is not competitive for the utility market.

Being late to market is not the only way to fall behind in the solar power innovation. It may be obvious, but the technology has to work as well. Good technology does more than just simply produce efficient modules. It must also be user-friendly and cost-effective. The technologies advanced by recently bankrupted companies Evergreen and Solyndra failed on both accounts.

For example, the unique nature of Evergreen's technology was effective only in the wafering process. By using less silicon, their wafers were very competitive, especially when silicon costs were at their peak in 2009. However, the rest of their module production process required the use of custom equipment, limiting the benefits of their technology and increasing the overall manufacturing costs of the module. In short, Evergreen's technology did not work, at least not as well as its competitors.

Solyndra's much-publicized demise is
similarly attributable to a technology bet that just
didn't pan out. Their technology and IP was unique,
but unfortunately even with its lightweight platform
and ability to capture light across a 360 degree
surface, Solyndra was not able to translate these
features into a cost-effective solution.
As we have said many times, our goal has to
be to reach grid parity, an accomplishment that will
enable the solar industry to be free of government
largess and the political ramifications there attached
to it. The impact of a strong solar industry to our
country, the environment, its economy, and employment
should not be underestimated.
To achieve this, innovation must continue to
be our primary goal, especially for those
manufacturers that hope to survive and thrive in the
future. A module manufacturer that does not innovate
quickly and effectively will find its products
rendered obsolete. This is not the way to thrive in
the solar industry, a lesson that SolarWorld has been
slow to learn. Thank you.
MR. ELLIS: Thank you, Alan. Our next
witness is Thomas Young of Trina Solar. Thomas?
MR. YOUNG: Good afternoon. My name is
Thomas Young, and I am the vice president of investor
relations at Trina Solar. Trina Solar is a tier one, vertically integrated module supplier, and has a long history as a solar PV pioneer in markets around the world. I joined Trina Solar in 2007 after nine years in China's corporate M&A sector. Since then, I have divided my time at Trina between China and the United States. This has given me significant insight into Trina's global marketing efforts and global demand for solar modules.

Despite daily headlines, this is actually an exciting time to be in the solar industry. You may be a little surprised to hear me say this, given the widely reported declines in government incentive programs in Europe and the United States. However, this is just one of several changing dynamics that we've been actively anticipating.

As referenced by my peers today, this reduction in the cost of solar has been achieved through the dynamic drop in the cost of polysilicon and other raw materials, through industry-recognized premium performing supply chain components, and through lean manufacturing competencies among tier one module producers.

This also includes technological advances that have greatly improved module efficiency.
The reduction in the cost of solar is a key factor spurring demand for this alternative energy source in markets around the world. We at Trina, like our competitors, evaluate demand globally to prepare our multiyear projections and plan our business. The United States is just one of many markets we see growing.

In particular, China is poised to vastly expand its domestic installations of solar power over the next five years. Trina Solar’s expectation for China to be a key and rapidly growing market for our industry is reflected by the recent restructuring of our global commercial organization into four regions: the Americas, Europe, Asia-Pacific, Middle East-Africa, and China as a standalone market.

These efforts are further encouraged by the fact that China, unlike Europe and the U.S., actually is increasing its cumulative solar installation target. With its latest five-year plan, the Chinese government has made domestic solar installations a clear priority, targeting over 20 gigawatts by 2015, representing a tenfold increase over their original 2005 announced target of less than 2 gigawatts over the same period.

In turn, Trina and other module producers
have made China a priority, and I anticipate that a significant amount of Trina's production capacity will be directed to the Chinese market. However, China is not the sole growth market on the horizon. Demand for solar power and thus solar modules is growing in new markets that historically have shown little interest in solar power due to disadvantaged economics and other factors.

These markets include India, countries in the Middle East that have historically relied and still rely on oil, countries in Africa, particularly South Africa, Japan, and throughout Latin America. With huge populations and growing industrial segments requiring electricity, ample sunlight, and political or security sensitivity surrounding fossil fuel extraction or importation, these countries are the new frontier for the solar industry.

An important feature of the demand shift to these emerging markets is that it is focused primarily on the utility sector. This is in contrast to the more traditional rooftop first solar markets such as in Europe and in the U.S., where demand for solar began with residential and small commercial applications before shifting to the utility sector.

The situation is different in these markets,
as solar as already been proven viable as a source of large-scale energy production, and because prices of utility solar installations are low enough to be attractive from the get-go.

Because of this focus on utilities, demand is anticipated to increase in these markets by leaps and bounds compared to the gradual growth seen in the U.S. and Europe during the early years of solar adoption. We have seen a similar demand trend in the U.S. where demand spiked after 2009 as the utility sector began embracing large-scale solar projects. We expect that similar growth will occur in these new markets in the next one to three years, which concurs with third-party forecasts that demand in the newer solar markets could reach 26 gigawatts by 2014 alone.

Companies with the right high-wattage product solutions and sufficient capacity to meet this demand will be the success stories of the future. As a result, solar module producers like Trina have been evaluating their production capacity continually to determine whether it is sufficient to take advantage of the expected opportunities in these new markets as well as China.

This exercise is particularly important for us whereby we've long favored a diversified customer
base spanning multiple regions, and thus our goal
remains to serve a portfolio of markets. Industry
analyst reports indicate that our industry peer group
are generally maintaining current production capacity
levels in 2013.

   Nonetheless, tier one module producers are
constantly improving their technologies in order to
create more efficient products. Technological
breakthroughs in either process or supply chain can
increase production capacity in terms of wattage
without the addition of significant new production
equipment. As a result, Trina Solar's business model
anticipates a modest growth in production capacity
driven solely by its market-leading innovation. And
from my observations, other tier one module producers
are working to achieve the same.

   With this expectation of technological
advancement as industry norm and larger new markets
that will be driving demand, I maintain that solar has
and will continue to expand into a dynamic and global
industry.

   Thank you, and this concludes my testimony.

MR. ELLIS: Thank you, Thomas. Our next
speaker is my colleague, Brenda Jacobs. Brenda?

MS. JACOBS: Thank you. Good afternoon. If
the Commission were to find material injury by reason of the subject imports, it would also face the issue of whether critical circumstances exist, that is, whether the absence of duties on the subject imports entered during the period following the filing of the petition would undermine the efficacy of the order. The answer in this case is clearly no.

The evidence is overwhelming that there have been no insidious plans by Respondents or importers to intentionally subvert the remedial effects of an order by rushing to stockpile inventories that could be sold later. To the contrary, there are credible, publicly acknowledged reasons other than the petition that explain the increase in subject import volumes and inventories, and those reasons also highlight that these panels are largely sold.

The evidence is overwhelming that the subject imports and inventories during the post-petition period were responding to and are consistent with a growing market. In particular, the subject imports were responding to the impending expiration of the very valuable cash grant program and to the tax considerations identified by SunEdison.

In fact, in its petition on October 19, Petitioner described this phenomenon almost as well as
you heard it explained here today by Respondents. Petitioner forewarned, although in an understated way, that because the investment tax credit, which remains in force, is less favorable than the cash grant, Petitioner fully anticipated that the expiration of the cash grant, "likely will explain some growth in U.S. demand in the latter portion of 2011 as applicants attempt to lock down 5 percent of their project costs by the end of the year to ensure eligibility for the grant," closed quote.

Their prediction was right. The Solar Energy Industry Association reported that the solar industry grew by 85 percent in the first quarter of 2012 over the first quarter of 2011, due in large part to the cash grant incentive, which created a project application boom in mid-2011 followed by an installation boom in early 2012.

The fact that the subject import volumes in late 2011 and early 2012 were responding to the expiration of the cash grant program also tells you that these imports were largely sold or committed to existing customers, and they're not sitting in warehouses waiting to flood the market following the issuance of an order.

These imports are dedicated to projects
initiating to qualify for the cash grant. That's also clear from questionnaire responses provided to the Commission, some of which we quoted in our prehearing brief. We can provide the Commission with additional information. The specifics are business proprietary, but some of the largest U.S. importers of subject merchandise have data showing that the majority of their imports were already sold and already committed to particular projects at the time of entry and that their unsold inventories are minimal or at the very least proportionately consistent with their inventory levels throughout the period of investigation.

There has been no inventory increase that would undermine the remedial effects of an order. This is hardly surprising. As you heard during your tours of Suntech, Arizona, PV modules are like melting ice cream. Given the rapid pace of innovation, inventories are a quickly depreciating asset, making holding excess inventory a losing proposition.

The Commission has also received letters from small importers who purchased subject imports for their own projects and are now devastated by the imposition of retroactive and provisional duties as a result of the Commerce Department's preliminary determination. Those companies have not sought to
circumvent a potential order, but they now face financial ruin. The increase in subject imports is clearly unrelated to the filing of the petition. For all of these reasons, there is no basis for the Commission to find critical circumstances here. Thank you.

MR. ELLIS: Thanks, Brenda. The next witness is Troy Dalbey of Upsolar America.

MR. DALBEY: Thank you very much. My name is Troy Dalbey, and I'm the managing director of Upsolar America, a U.S. importer of solar cells and panels from China during the period of investigation. I'm here to discuss why the ITC should make a negative critical circumstances determination in this case.

Unlike most of the previous companies offering testimony, Upsolar America is the wholly-owned subsidiary of a privately held asset-light company employing less than 200 people globally, and which does not own large-scale manufacturing operations in mainland China or elsewhere.

As many smaller privately-held importers in the United States, Upsolar America is now facing a massive multimillion dollar liability due to the critical circumstances determination associated with the importation of products contained Chinese cells
during the 90-day period prior to the Department of Commerce's preliminary antidumping determination. As indicated in the prior testimony, the surge of Upsolar America's imports during the six months after the petition was filed was due to the U.S. Government programs coming to a close at the end of 2011 and the sharply declining costs of polysilicon over the period of investigation.

Upsolar's PV panels are a made-to-order product. Upsolar America never has and does not currently hold substantial inventory. After the complaint was filed in October, the products Upsolar America imported were to supply our customers solar power projects primarily to qualify for the 1603 safe harbor carveout, and there are no substantial stockpiles of Upsolar solar modules in the United States.

Upsolar America is now facing a critical circumstances liability that will total close to 10 percent of our projected revenues for 2012. Like many small U.S. importers, this retroactive liability would likely wipe out most of Upsolar America's margins for the year and put my company's long-term viability at risk.

Although relatively small, Upsolar America
supplies nearly 100 companies, which employ thousands of workers throughout the United States. Our customers depend on Upsolar America to supply our high quality, affordable solar modules, which enable them to design and build affordable, clean solar power plants.

Almost all of these companies have experienced very aggressive growth since 2010, primarily spawned by the fact that they are now able to offer solutions which are finally becoming cost competitive with other sources of power generation.

It is important that the Commission understand that your decision could have a ripple effect that will impact over 100 small, privately held importers like Upsolar America. Combined, these importers supply affordable solar power products to over 1,000 downstream companies, which employ tens of thousands of U.S. workers whose jobs may be at stake if the critical circumstances decision is affirmative.

In closing, I ask you all to do the right thing for the U.S. solar power industry, and come November provide a negative critical circumstances determination in this case. Thank you.

MR. ELLIS: Thank you. Our next witness is Kenneth Button of Economic Consulting Services. Ken?
MR. BUTTON: Good afternoon. I'm Kenneth Button of Economic Consulting Services. There are a number of conditions of competition that make the U.S. CSPV module industry different from other industries examined by the Commission.

First, U.S. demand for solar modules has increased extraordinarily during the POI. Slide one shows the large increase in total U.S. PV installations from 2005 to the first half of 2012. The next slide similarly presents the large increase in U.S. apparent consumption of CSPV modules as presented in the prehearing report. The Commission data show that consumption in the United States increased by a remarkable 594 percent from 2009 to 2011, and by 66 percent during the first half of 2012. Demand growth has been particularly impressive in the utility sector, which constituted a relatively small portion of consumption at the beginning of the POI.

The SEIA data show that installations of the utility sector increased by 984 percent just from 2009 to 2011, and by 548 percent during the first half of 2012. Residential and commercial rooftop installations increased greatly, but at a somewhat lesser rate of 210 percent from 2009 to 2011, and 28 percent in the first half of 2012.
Why has U.S. demand increased so much? The answer is the declining cost of solar electricity generation that was itself the combined result of the falling solar system prices and the extensive programs of federal and state government incentives.

However, as you've heard today, these government incentives have been declining and were designed to do so. These incentives were structured to encourage installation of solar powered generation while the cost of solar power generation was being progressively reduced to a level competitive with other power sources, so-called grid parity.

As a general matter, any given solar project's total system cost must be sufficiently low to make it competitive with conventional energy alternatives, and must also be financially attractive to private-sector investors whose financial backing is necessary for the project actually to be implemented. Government incentives have been key in lowering net costs so that projects achieve these goals. Demand for solar electricity is highly price elasticity, that is, it is very sensitive to changes in solar electricity prices relative to those of the alternative energy sources. A decline in solar electricity prices tends to cause a shift in demand.
away from other generation sources toward solar electricity.
Likewise, a decline in the price of conventional energy such as falling natural gas prices creates downward pressure on solar electricity prices. If solar prices do not decline accordingly, demand will shift toward the lower cost energy sector. The demand for solar modules is a derived demand arising from the demand for solar electricity.
Because solar modules constitute roughly half of the total cost of a solar electricity system, a change in the price of the solar modules has a substantial direct impact on total cost of solar electricity system, and hence the quantity of modules demanded in the market. As a result, the elasticity of demand for solar modules is itself very high.
As to injury, the record evidence does not indicate that the domestic industry has suffered any material injury to its shipment volume. The extraordinary increase in U.S. demand during the POI has been a rising tide that has greatly lifted all boats in the U.S. market.
Indeed, the prehearing report data show that the domestic CSPV module industry increased its U.S. shipments by 288 percent from 2009 to 2011, and by 17
percent in the first half of 2012. This growth is consistent with the growth in the residential commercial rooftop segment, where U.S. producer shipments are concentrated.

Although subject imports also grew considerably during the period, such increases are in line with growth in the utility segment. Demand in the utility segment significantly outpaced growth in the residential and commercial rooftop segment. It is clear, however, from the questionnaire pricing product data that the domestic industry has not supplied commercially significant volumes of the pricing products four and five, the higher wattage models favored by utility customers.

Indeed, only 3 percent of the domestic industry's volume was pricing products four and five. In contrast, products four and five accounted for almost half of the subject import volume.

In a market where everyone's shipments more than tripled during the POI, it is not surprising that there were relative changes in market share. I'm unaware of any investigation in which the Commission saw apparent consumption volume increases of this magnitude. Although the Commission generally considers a loss of aggregate market share by the
domestic industry to be an indicator of injury, we suggest that the unprecedented economic conditions that you confront in this investigation warrant especially careful consideration of market share changes within the utility segment and within the residential commercial rooftop segment as presented in Respondent's prehearing brief Exhibits 19 and 20.

As to price, the record shows that despite booming demand for solar modules, prices have declined over the POI. As an initial matter, the Commission should appreciate that consistent with the history of a wide range of semiconductor-type products, the price of PV modules has been declining progressively for many years.

However, the recent declines in CSPV module prices have their roots in several factors unrelated to the subject imports, including, one, falling of polysilicon prices; two, competition from thin film modules; three, falling natural gas prices; and four, declining government incentives.

First, the POI module decline was accompanied by a sharp decline in polysilicon prices, as shown in slide nine. The fall in the cost of polysilicon represents a supply-side factor pulling down the prices of CSPV modules made from it. The
linkage between these polysilicon and module price data is even more compelling when expressed in an index form, where the declines in polysilicon, wafer, cell, and module values are virtually identical. Because information about polysilicon prices is widely published, the U.S. purchasers of CSPV modules are well aware of each incremental drop in the market prices for polysilicon, and expect that the prices of CSPV modules offered by their suppliers will reflect these declines. As a result, purchasers place great pressure on the CSPV module suppliers to lower module prices in step with falling polysilicon prices. An additional important factor underlying the decline in CSPV module prices has been the head-to-head competition from thin film modules, primarily those sold by First Solar, which is the largest and lowest cost U.S. producer of any type of PV module. First Solar states that, quote, "Our advanced technology has allowed us to reduce our average module manufacturing cost to the lowest in the world," closed quote, and that in 2011, its total average manufacturing costs of 75 cents per watt were, quote, "less than those of traditional crystalline silicon solar module manufacturers," closed quote. Public data support the accuracy of this
First Solar statement. As you have heard, the all-in costs for a thin film module is significantly lower than the all-in cost for a CSPV module expressed on a comparable per watt basis. The low-priced position of thin film also exists on an installed system basis, and is expected to continue into the future.

A competitive reality that the solar industry must face is the price of electricity charged by conventional energy sources. This is the concept of grid parity, which represents in essence the approximate opportunity cost for utilities and others in deciding whether to install new solar electricity-generating systems or another system, such as a natural gas system.

As a result, throughout the POI an important demand-side factor depressing U.S. CSPV module prices has been the competitive impact of the falling prices of natural gas, which is the key competitive alternative to solar-based electricity. Large increases in U.S. natural gas supplies associated with fracking technology developments and the Marcellus shale field is viewed by many in the industry as an energy supply game changer, which has had dramatic implications for the grid parity target that solar industry developers must meet.
In particular, as natural gas prices fall, the demand for solar-based electricity declines unless the solar system costs are correspondingly reduced. Because CSPV modules constitute roughly one-half of the cost of the solar system, the price pressure imposed by dropping natural gas prices tends to be focused on price reductions demanded of the CSPV modules.

The urgency that solar project developers faced in forcing supplier concessions on CSPV modules has been increased by the reduction in federal and state incentive levels over the course of the POI. For example, as the reduction in the state incentives has caused the permissible electricity rate premium enjoyed by solar to be progressively lowered, solar project developers have been faced with reductions in anticipated solar project revenues. And with the closing of the federal 1603 cash grant program, the cost offsetting benefit of the upfront federal cash grant was also lost.

Moreover, the extreme drop in the market value of solar renewable energy credits nearly eliminated what had been a material additional revenue source for solar project developers. Therefore, solar project developers confronting these costs and revenue
constraints have had to achieve progressively more severe reductions for their solar energy systems, which has meant demanding increasingly severe cost concessions from CSPV module suppliers.

Therefore, the evidence indicates that the domestic industry did not suffer any material injury to its shipment volumes during the POI and that the price declines can be tied to important and powerful factors unrelated to the subject imports. Thank you.

MR. ELLIS: Thank you. That was the last presentation under the first hour of the Respondent's side presentation. There's now an additional five minutes to be given to Marco Mangelsdorf of ProVision Solar. So, Marco, your turn.

MR. MANGELSDORF: Good afternoon, and thank you for this opportunity to speak to you five Commissioners and to the assembled.

My name is Marco Mangelsdorf. I am the owner of a solar electric contracting company in Hilo, Hawaii. My company, ProVision Solar, is one of the oldest photovoltaic companies in Hawaii and employs 20 people.

I have been working in the solar energy field for 34 years in the U.S. and abroad. I also have a doctorate in political science from the
University of California and have taught a course on the politics of energy at the University of Hawaii. I am here today to tell you my story, a story which I believe is representative of a number of American solar businesses that have been innocently caught up in and harmed by the decisions taken by the Commerce Department in this trade dispute.

Perhaps the most oft-repeated word that I heard as I was listening to the Petitioners was price. Is price important? Of course it is. But important above everything else? Absolutely not.

Look at the Sun Power Corporation example. Though making the most expensive mass-produced modules in the world as in 200 or more percent higher in cost than the rest of the PV market, Sun Power has been and continues to be one of the major players in the U.S. and abroad because of their top efficiency products and attractive financing.

In fact according to California Solar Initiative data, Sun Power has been the number one player over the past year in the residential third party finance market despite their higher cost.

Yes, pricing matters, but does not trump higher efficiencies, quality, innovation or creative financing.
Since 2005 I have been a Sun Power Corporation dealer, the California based modular manufacturer. I had also been purchasing lower cost, U.S. made Shot solar modules as well, but at times was unable to be adequately supplied by Shot. Therefore last January in order to provide an affordable quality option to my customers, I made a purchase of Chinese-made solar modules from a company known as Ori Solar. The value of that order was $54,432. The order arrived in the United States in early March before the Commerce Department's initial announcement levying countervailing duties of three to four percent. In early June I was contacted by U.S. Customs in Honolulu and was told that I had ten days to pay a bond of $138,023.33 to cover the combined countervailing and antidumping duties of over 253 percent, and unless I paid that by the due date I risked falling into the black hole of liquidated damages.

I'm here to emphasize that the countervailing and antidumping duties imposed have had a devastating impact on American small businesses like mine who have been innocently caught in the wide net cast by the Commerce Department.

The news that I had to pay a duty of over $138,000 was crushing for me and my business. In fact
paying this amount was close to 100 percent of my
profit for the year and caused me to look hard at
reducing my work force.

While I was lucky enough to be able to pay
that duty, that bond on time and keep my business
going, I know for a fact having spoken to a number of
other businesses, that other small American businesses
affected by these duties imposed were not as fortunate
and have been driven to the edge of insolvency.

I was told that because Ori Solar either did
not receive or did not complete and submit the
separate rate questionnaire that Commerce sent out,
they were arbitrarily placed into this extremely
punitive antidumping duty of 249.96 percent.

On the finding of critical circumstances
going back 90 days retroactive, at no time did I nor
to my knowledge did Ori Solar intend to beat any type
of announcement from Commerce possibly imposing
duties. Again, this was one order that I placed to
meet the needs of the customers in my state.

In sum, I'm a small business owner who has
been doing my best to reliably provide a quality
product to my customers and stable jobs to my
employees in what has become a hyper-competitive
market. I have not done anything wrong or underhanded
by making that single purchase from Ori in January and
yet I and many of my solar colleagues have effectively
become what I see as collateral damage in a much wider
economic and political dispute between countries and
the titans of the solar electric industry.

To harshly penalize me and my small business
and employees along with the other independent
American businesses caught in this same government
retroactive tariffs dragnet is just not fair or just.

I respectfully urge you to find the critical
circumstances do not exist in this case.

Thank you.

MR. ELLIS: I believe that's the end of our
presentation. Thank you.

CHAIRMAN WILLIAMSON: Thank you very much.

I want to extend a welcome to all the panelists today
and express our appreciation for them coming, taking
time from their business to present their testimony.

We'll begin the questioning this afternoon
with Commissioner Johanson.

COMMISSIONER JOHANSON: Thank you, Mr.
Chairman. Also I would like to thank all the
witnesses for appearing here today.

I'd like to start off with where I started
off this morning, just a few hours ago. That is the
presence of the domestic industry in the utility sector.

As you heard this morning, the Petitioners argue that they supply all channels of distribution and sectors of the U.S. market including utilities.

I believe Dr. Button, this is your chart? Page seven of your chart demonstrates rather minimal activity of the U.S. industry in products four and five which is the utilities. I was wondering, this puts us in kind of a hard position. We're trying to determine which side, exactly where the U.S. industry is in this area.

Do you happen to have any literature or know of anything written that would describe the practice of the U.S. industry in focusing in the residential and commercial areas?

DR. BUTTON: I believe a couple of points with respect to that.

This is, I think, the best empirical evidence with respect to where the parties in this market sell the sizes of the modules that are most favored by the utility customers, and that tells a story.

There was indeed a slide by Dr. Kaplan this morning that showed the participation of the domestic
industry and the utility sector being very small and then growing, but still being relatively small.

I think with respect to the role of the SolarWorld in the utility sector I think comments by some of the members of the panel who participate in that sector telling you the degree to which they have in fact encountered SolarWorld as a competitor may be useful for you.

MR. PETRINA: Commissioner Johanson, Robert Petrina with Yingli.

To understand your question correctly, you're asking if other American participants are in the utility space, other manufacturers, and the answer is an overwhelming yes. Companies like First Solar, like Sun Power have proven to compete very effectively in that space.

We come across such companies every, just about every time that we look at a request for proposal from our utility type customers. So we have to date have not been involved in a specific solicitation where SolarWorld was part of it, but have come across the other American suppliers time and time again.

Thank you.

MR. BEEBE: Commissioner, my name is Andrew
Beebe with Suntech Power. I would say just to echo the comments from Yingli, we have for four years been building some of the largest solar power plants in the country and in Arizona near our factory. We are with Sempra Generation also building the first or second largest field. It's a 235 megawatt facility.

I would say the same. We've been involved in dozens or maybe hundreds of solicitations for utility scale solar in the United States. We built our organization around this marketplace in the U.S., and we have never once seen SolarWorld in competition, on site walks or anywhere involved in the processes leading up to those sales.

However, we have repeatedly and perhaps 95 percent of the time seen First Solar and Sun Power, two American companies, competing with us aggressively. And in addition to the competition just on the solicitations, they have won some and lost some in competition with us.

MR. ELLIS: I just want to point out for clarification though, First Solar is not a CSPB producer, they are a thin film producer.

MR. KING: I'd just like to add, this is Allen King from Canadian Solar, that unless my numbers are wrong, SolarWorld has about 825 megawatts of
global production. What was said by the Petitioners earlier this morning is approximately 15 percent of their business is in the utility marketplace.

If we just do the math you'll see that that means that they have 120 megawatts globally available for the utility scale marketplace. There was just a report that was put out in Q2 for total installations of about 700 megawatts, of which 400 megawatts was utility scale product in the United States alone.

So my argument is that if SolarWorld only has 120 megawatts or so dedicated globally to the utility market, I don't see how they can be a significant player in the U.S. market or the global market for that matter, for utility scale.

Thank you.

COMMISSIONER JOHANSON: Thank you.

Let me consult with my staff real quickly on something. Thank you.

(Pause.)

Thank you for your patience there.

SolarWorld has emphasized, among other things, that the number of U.S. cell and modular makers that have ceased, that there have been a number of cellular modular makers which have ceased operations, declared bankruptcy or otherwise scaled
down their operations. The staff report has
information along those lines as well.

Is it your contention that all of these
firms bet wrongly in the type of product that they
produce or the sector of the market that they target?
Because there has indeed been a large contraction in
the U.S. industry.

MR. KING: This is Allen King from Canadian
Solar.

I have some actually kind of in-depth
experience in that, having spent seven years of my
career with Evergreen Solar, joining them when they
were producing about two megawatts a year and leaving
them just prior to their declaring bankruptcy when
they were producing globally somewhere in the
neighborhood of 300 megawatts.

I don't think it's a matter of betting on
the wrong technology. I think each one of these
companies have had some unique technology that they
brought to the marketplace. However, I don't think
they brought the complete package to the marketplace.

As I said in my testimony, Evergreen Solar
had a very unique wafering technology that used about
50 percent as much silicon as traditional cast ingot
and sawn cell manufacturers use. That was an
advantage to them when silicone prices were 90, 100, 250, 350, 400 dollars a kilo. However, as silicon prices dropped and as you started looking across the broad expanse of manufacturing a module, they gave away much of their advantage when they got past the wafering process.

I can go into excruciating detail and probably put everybody to sleep, but the fact of the matter is they didn't build an industry standard cell which required custom downstream equipment from metalization, from lamination, and ultimately in the manufacture of the module. Their final product wasn't as efficient as modules manufactured even by SolarWorld. So they didn't bring the complete package to the marketplace.

I think the same is true for companies like Solyndra and some other smaller manufacturers that just didn't have the advantage either of scale or the full downstream ability to produce a competitive module in the marketplace.

MR. SHAH: Commissioner, just to add to that. My name is Jigar Shah. I think Allen gave a good summary of the technology side of it. the other side of it today is when you look at the winners in the marketplace from First Solar to Sun Power is that
both of those companies are vertically integrated. They actually actively go out and win projects directly with utility scale RFPs. And that the companies that did not do that, which included BP Solar which is who I worked for, found themselves in a difficult place because the developers, like SunEdison, the company I founded, who did win those projects, didn't have to declare who the modules were that they were using until the moment before they started construction.

What you found was that those manufacturers who were not involved with the early stages of producing these contracts were absolutely placed in a commodity situation where the lowest price as well as other features like bankability, where banks for instance only have approved ten companies in the world right now to be bankable by Tier 1 manufacturers. So you have these constraints that are placed on you if you're not in the position of developing the projects yourself.

MR. LAPIDUS: Can I make a comment?
COMMISSIONER JOHANSON: Yes.

As a U.S. developer our goal is to make sure the solar system produces as much energy as possible. We look at it as kilowatt hours per kilowatt. What is the performance of the system? So when we're choosing a module provider, absolutely we look into technology, we're underwriting the performance, we've tried other U.S. module manufacturers and there were some technology issues. So I think to answer your question, each module manufacturer probably has a personal story, but we as a developer have tried multiple companies. It's not just about price.

COMMISSIONER JOHANSON: Thank you for your responses. I have about 15 seconds left so I think I will pass on the questioning to the next Commissioner. Thanks.

CHAIRMAN WILLIAMSON: Commissioner Broadbent?

COMMISSIONER BROADBENT: Thank you. I'd like to talk a little bit about what's going on in China if you guys could give us your perspective. I notice the Petitioners had a quote from the founder of Suntech saying that, I guess this was a 2009 interview in the New York Times, where he says that Suntech's goal is to build market share by selling solar panels in the American market for less
than cost of the materials assembly and shipping. What's your sense on that quote? Is that accurate, or --

MR. BEEBE: This is Andrew Beebe with Suntech. We're publicly traded and we're publicly traded then. I think it's very clear from our financials that we have never sold product below the cost of production.

What Dr. Shi had said at the time was that as we entered the United States as a marketplace we had to invest in the operations of the business there. The question was are we investing more than we're recouping right away? The answer there was yes, but not on a product basis. We have never sold our products below the cost of production.

COMMISSIONER BROADBENT: The Petitioners are also saying that there are crazy things going on in the Chinese market in the sense that they're losing money hand over fist and the government's propping up insolvent companies. Huge over-capacity there. What is the explanation for this, or is this an inaccurate characterization of what's going on there?

MR. SHAH: I'll just start with a piece of the answer and then I'll let my colleagues talk about the rest of it.
When I referred to bankable companies, I think that really matters. In the U.S. market what you have is the largest growth segment in residential is through residential leased systems. In the utility scale market you have major banks who have to approve the products that you can actually invest in. So when you look at Bloomberg New Energy Finances' analysis, they have only approved about ten manufacturers within this bankable category, of which five are Chinese. Those five manufacturers represent at most 14 gigawatts of capacity, not the full 42 gigawatts. So when you look at the companies in the United States that want to buy these modules, they're restricted only to those companies if they're going to get outside bank financing. So I think it's important to note that only a subset of the Chinese market is actually approved for use in these projects.

MR. PETRINA: Robert Petrina with Yingli. I think one other important aspect to highlight from this morning's presentation was that the growth in China is actually very significant. If you look at the growth in the market from 2011 or 2010, it's actually a 400 plus percent growth and the projections for this year are also quite significant.
in terms of domestic consumption. Specifically for Yingli in 2011, more than 22 percent of our sales were to the domestic Chinese market and about 18 percent of our sales were to the U.S. market, the rest being Europe and the rest of the world. We have similar projections for 2012.

So I think in China there are some tremendously positive things that are happening in terms of growth but it takes time to put these processes in place. I think we're looking at China being one of the largest markets very, very quickly.

MR. ELLIS: This is Neil Ellis. I just want to add that what you saw this morning was binary. They just showed China and the United States. As we testified just now, there's a lot of demand growth in third country markets like Japan, India, elsewhere in the world, that is also sopping up the production in China. So it's not just China demand versus China capacity.

COMMISSIONER BROADBENT: What's your estimate of the over-capacity in China right now?

MR. SHAH: Just to briefly answer that from a specific point of view, the global market for solar this year is expected to be somewhere in the 30,000 megawatt range globally. The tier one Chinese
manufacturers who actually can sustain third party financing in Europe and the U.S. is only 14 gigawatts. That's less than half of that 30 gigawatts. So the rest of that tier one capacity is coming from companies such as SolarWorld and others around the world.

COMMISSIONER BROADBENT: How does one get certified to be a tier one company? It's a financing designation?

MR. SHAH: Some of my colleagues can answer it as well, but it's -- Do you want to talk about it, Kevin?


Honestly, it's a dialogue with the banks. The banks drive this part of the process. The banks have underwritten technology, warranty, performance and other considerations and they each have, although frequently unpublished, lists of module providers they're willing to bank. In other words they'll provide the financing for a project after looking at who the module provider is in the system.

So this is a finance-driven aspect of the technology chain, and we have those dialogues with banks. We will actually go to a bank. If we put this
module provider in the system will you finance our project? That is the dialogue.

COMMISSIONER BROADBENT: Got it. Thanks.

MR. ELLIS: I'm sorry, Neil Ellis again.

Just to add to that, the criteria that Kevin just mentioned are not price-based. In other words you have inherent in the competition non-price-based criteria for certain providers. Which I think is very important, actually.

MR. BEEBE: This is Andrew Beebe. I just want to additionally point out that the banks will actually apply a discount rate. So this gets very, very quantitative. This is not just sort of a short list, and that list is usually a spectrum.

So over the last four years, for example, Suntech has spent a very large amount of time, as was said earlier in the morning, the utility market goes to the capital markets. I think that was a direct quote. They go to the capital markets to get capital for these large projects.

We should also point out that the residential installer channel also goes to the capital markets to get financing dollars for the financing of systems.

So all of it comes back to the capital
markets and they will look at each system provider,
look at the different components that they're using,
panels and elsewise, and then come up with a discount
rate that they're going to apply. That's the
quantitative value of how bankable that product is.
So some products will have a higher rate
than others and that will have an impact on that long
term cost of electricity.

DR. BUTTON: Commissioner, Kenneth Button.
To make sure the link was clear, the reason
that the residential installations get tied to the
financial sector is because of the lessor, a third
party that owns the equipment and then leases it to
the residential homeowner. That lessor has the
interest and the links into the financial system.

COMMISSIONER BROADBENT: Then how are all of
these guys in the Chinese market surviving that aren't
sort of certified or making the grade in terms of the
banks?

MR. BEEBE: This is Andrew Beebe.
I think that the photos that were shown were
instructive early this morning from this company that
I had not heard of that had one price at one show and
then at a subsequent show had a lower price. That
compromise is not competing with anyone here. That
company, as far as I can tell, is not surviving. So what you're really looking at is a group that Jigar was referring to who are in that top tier who are, who have done the work globally to work with all the banks to make sure that they are bankable. That is the only portion of the production in China or anywhere that is applicable to these markets in the U.S..

COMMISSIONER BROADBENT: That's all I have.

Thank you.

CHAIRMAN WILLIAMSON: Thank you.

Just to follow Commissioner Broadbent's question, this morning we heard that no U.S. producer of solar cells or modules is currently profitable. Mr. Kaplan's presentation. We also heard that Suntech lost $1 billion last year.

Do you agree with any of these statements?

MR. BEEBE: This is Andrew Beebe with Suntech. I'll just respond to the Suntech piece. We had non-cash writeoffs last year that increased the number of loss on paper.

CHAIRMAN WILLIAMSON: My next question was going to be, if Suntech has made the correct choices with respect to technology and markets, why have its losses been so great?

I guess you would say, are these non-cash,
one-time things or --

MR. BEEBE: That's right. But I think additionally we should all acknowledge that because of the strong demand in the industry and the drive toward grid parity, we have seen aggressive competition around the world.

CHAIRMAN WILLIAMSON: That means the price that modular manufacturers are getting is affecting their profitability?

MR. BEEBE: Correct.

CHAIRMAN WILLIAMSON: One of the things, the impression I got from a number of you who were testifying that were talking about the way the credits, the incentives and all that, was to work of course was to get the solar manufacturers to grid parity, and that's, you're saying that's why the prices have been going down. The prices for the products have been going down.

I was just curious. This was the folks who set up the schemes were envisioning, were they expecting that the companies were going to be losing this much money at this point?

MS. SHAW: This is Polly Shaw, Mr. Chairman.

I might start the answer and allow my colleagues to jump in as well.
The entire design of these programs was to build economies of scale that in turn brought down the whole solar system cost so that they would achieve grid parity, whether it was grid parity on the wholesale side, utility scale, or grid parity with residential or commercial electricity rates.

So the point of that clarification is to note that it wasn't just driving manufacturing costs, but it was the whole solar system cost through improved efficiencies, delivery, product performance, lower cost of sales.

One example is that in the California Solar Initiative, as the scale of this program was known and installers could build their business models around the plan of the program, they found new ways of selling that lowered their own costs. In my solar installation, for example, no sales person came to my door. They Google-earthed my roof and did the bid on-line in one minute, saving them an awful lot of labor costs. By setting up these grand economies of scale through their renewal portfolio systems you gave the entire solar system value chain a lot of head way to be able to plan where their cost-cutting could be found.

MR. LAPIDUS: Kevin Lapidus, SunEdison.
This is an important point so if you don't mind I really want to focus on this.
The incentives are part of the revenue stream when we build a solar project. So as a developer we basically build a financial model. The financial model is like a three-legged stool. This is what undergirds solar energy in the U.S.

You have revenue in that financial model from selling the power, the power purchase agreement. You have revenue in the model from the incentives, government support for that solar system. At the end of the day it's a revenue input in a financial model that we use to determine can we build a solar power plant. Is it financially viable? And the third leg of the stool is the investment tax credit, so federal tax attributes.

The three legs of the stool are all required. If one leg is missing or shortened, the stool falls over.

So specifically to your question, incentives in the U.S. are designed to reduce over time. What that means for a developer is the revenue model for our solar power plant is declining over time. The only way the financial model works, and we can build that power plant, is if we force down, if we reduce...
1 the cost of the modules and the other components.
2 So it's the demand side that's driving down
3 that cost. If the model doesn't work, if the module
4 costs don't go down in an era of declining incentives,
5 the numbers don't tie out, you cannot make a profit in
6 building that power plant, it will not be built.
7 So it's important to understand the demand-
8 driven nature of solar and these three revenue streams
9 on a power plant.
10 CHAIRMAN WILLIAMSON: I understood, but what
11 I'm saying, in terms of the manufacturers of the
12 modules, were they expected to be sustainable
13 businesses and viable businesses over the long term?
14 Not everybody. I realize some folks bet the wrong
15 technology, mismanagement, any number of things.
16 MR. LAPI DUS: I would look at it from a
17 slightly different perspective.
18 We enter into an agreement with elected
19 officials who want to incentivize solar power in the
20 U.S. Elected officials don't want to see the costs go
21 up for their constituency, customers of solar energy
22 or electricity in general. So the agreement that is
23 made on a state by state basis really is provided
24 incentive today to bridge the industry to grid parity
25 tomorrow.
Nobody wants to be an incentive-driven world forever. These incentives from elected officials or regulators of the public utility commission in certain states are to enable solar to be financially viable now, but they're going down over time. That's expected in the industry. That's the agreement. And we'll move to grid parity, we'll reduce the cost. So the focus is not on the manufacturers. The focus is on public interest. How do we have more solar energy while reducing the price and while reducing the incentive. We don't want to be on the incentives forever.

CHAIRMAN WILLIAMSON: I understand all of that, and that's all on the demand side. Or did they just not care about whether the manufacturer is going to make it or not? But that's our problem. Is the domestic industry, the people who are manufacturing these products, are they being injured by imports?

MR. DALBEY: Mr. Chairman, if I may?

CHAIRMAN WILLIAMSON: Yes.

MR. DALBEY: I think --

CHAIRMAN WILLIAMSON: Could you identify yourself?

MR. DALBEY: Troy Dalbey from Upsolar. I apologize.
I think that you're focusing on the profitability and forward-looking viability of solar companies around the world and trying to gain an understanding of why it is there are so many that are going through a difficult time. And you have to understand that the U.S. is a very small segment of the global market. There have been rapidly declining incentive schemes in multiple countries throughout Europe, and I think that it's caught everyone by surprise.

As others have indicated before, the U.S. market is far less than 20 percent of the global market. And Europe is the largest market on earth. When you have a situation where countries like Italy, France, Spain are virtually eliminating their incentive schemes and they used to have extremely profitable incentive schemes, it's really cut down the demand globally. That has been the, I would say the sucker punch or the unexpected event that has had such an effect on our industry. Not anything in the United States.

CHAIRMAN WILLIAMSON: Since they have a case too, maybe they're asking the question. What about the imports?

Mr. Button?
DR. BUTTON: Thank you, Mr. Chairman.

As I said in my testimony, the economic reality that the industry, whether it's the developers or the suppliers of the modules have to face is that the price they have to meet is not the imports, it's the price of the alternative energy source, grid parity. Like natural gas.

If they can't meet the price of natural gas, there won't be a project, period. There won't be volume sold. Nobody will sell anything. That, unfortunately, is the reality.

So when you consider things like price in this market, ask two questions. Start with the price for the grid. Then once you're at grid, then you've got the other prices.

What you're discussing now, in the difficult situation, is that the price for modules in the U.S. market is being set at the grid. If that causes problems for the manufacturers, maybe it does but that's not caused by the subject imports. That's coming from the grid.

CHAIRMAN WILLIAMSON: I guess, I hear what you're saying, but that possibility I guess, was that imagined when the system was set up?

Ms. Shaw, you seem to have been in there
from the beginning.

MS. SHAW: Yes. The intent of the policymakers in the industry was to develop these bridge mechanisms to get to economies of scale such that they could compete at the grid level by the time that the RPS was complete. And the economies of scale with the competition from gas essentially forces that maturation. Yes, the intent was to achieve grid parity without incentives.

CHAIRMAN WILLIAMSON: I'm not questioning that. I'm questioning whether or not it was expected that they could achieve grid parity and still be viable companies making some kind of profit -- Clearly they've got the volume because the volume has been going up.

MR. ELLIS: If I may jump in, one thought. They followed the incentives, they're rational decision-makers so they were following the process that Polly Shaw just described. The unique development here was the big drop in prices of natural gas which led the grid parity price downward. So therefore people were having financial troubles.

Again, it's not because of subject imports. It's because the grid parity number is lower than perhaps they anticipated when they started building
capacity a couple of years ago.

MS. SHAW: Polly again. This is absolutely the point.

When we developed the California Solar Initiative and launched it in 2007 it was supposed to go until 2016. During the last four years the price of natural gas has dropped 80 percent or more.

CHAIRMAN WILLIAMSON: My time has expired, but maybe post-hearing, if there are any kinds of studies, and I'm not looking for volumes of stuff, but studies forecasts that when this thing was set up show that we were expecting certain prices, certain things to happen with natural gas prices and -- I'm just trying to figure out why is it this that's hurt the manufacturers so much.

Thank you.

Commissioner Pearson?

COMMISSIONER PEARSON: Thank you, Mr. Chairman.

I'd like to express my appreciation to all of you on this panel. Many of you have come long distances and I welcome and really appreciate your testimony today.

A special word for Mr. Mangelsdorf who may win the prize for having come the farthest. I'm not
completely sure. But let me start with a question for you.

MR. ELLIS: Excuse me. Our witness from Guam is still on his way.

COMMISSIONER PEARSON: Okay.

Let me begin with a question for you, Mr. Mangelsdorf.

If the Commission makes an affirmative finding regarding material injury but then makes a negative finding regarding critical circumstances, the basic problem that you discussed in your testimony would be taken care of, is that correct?

MR. MANGELSDORF: Yes, it would.

COMMISSIONER PEARSON: My question is a step beyond that.

If there is an order in place on subject imports from China, would that have some ongoing effect on your business? Would it affect your ability to obtain lower priced solar modules at times when you needed them? How would you see the marketplace in Hawaii responding to this order?

MR. MANGELSDORF: If there were to be countervailing and/or antidumping duties imposed?

COMMISSIONER PEARSON: Right, but not the critical circumstances side of it. Just the rest of
MR. MANGELSDORF: I can't speak to the whole of the Hawaii PV industry, but speaking for myself and one who has been doing it for longer than almost anybody else has in the State of Hawaii, is that my preference has been two-fold over the years. One is to offer the very best quality, highest efficiency modules on the planet, which I'm not trying to toot the Sunpower horn too loudly because even though I'm a dealer of theirs, I don't have an exclusive with them nor vice versa. But the reality is they are the highest efficiency modules on the planet. They come at a premium price. I am still amazed that there is a substantial clientele that is willing to pay a substantial premium for the highest quality, highest efficiency modules on the planet.

So one of my strategies or part of my sales strategy and marketing strategy is to offer the best for those people who are willing to pay for it. Secondly, it's clear that not everybody either has that type of financial assets to afford the best. Therefore, I would be somewhat foolish if I didn't offer another alternative that was lower in cost. And I have done that by using a number of
different modules from different manufacturers including Shot Solar which I had a longstanding direct relationship with. But the reality was that sometimes I could get Schott solar modules when I needed them and sometimes they were not as readily available so I'd look for alternatives. Ori Solar is one of the alternatives.

I've traveled back and forth to China a number of times over the past several years, made a number of contacts, and came to know one or more people in the Chinese PV industry and that was a reasonable option at the time given the lack of immediate availability of a comparable module in terms of price and quality.

COMMISSIONER PEARSON: So in the future if you have a need for a solar module that's somewhat more competitively priced than Sun Power is able to provide, would you be looking to other U.S. manufacturers or perhaps modules coming out of some country other than China? What would your practical alternatives be?

MR. MANGELSDORF: U.S. made modules, especially in the current shall I say political climate, U.S. manufactured goods have a, for a lot of people, a degree of desirability. Understandably so.
After learning that Schott Solar was no longer going to be manufacturing out of their plant in Albuquerque, and exiting the crystalline solar market, I in fact looked to U.S. manufacturers and interviewed Mr. Ostrenga from Helios who is on the Petitioner's side, and had a very good conversation with him and his marketing manager and another couple of American-made module manufacturers as well, and have decided to start a relationship with one of them.

So American-made modules still come with a high value to me and also to my customers.

COMMISSIONER PEARSON: But at this point you wouldn't be looking to a third country as a supplier. you'd be trying to stay with a U.S. supplier if feasible?

MR. MANGELSDORF: If given the opportunity and everything being equal, which they often are not in this world, that would certainly be something I'd strongly consider in order to meet that certain demand for people who want to buy as much American as possible in getting a photovoltaic system.

COMMISSIONER PEARSON: And this is at the other end of the efficiency scale, but have you ever installed any thin film modules?

MR. MANGELSDORF: I have. To a limited
extent. And anyone, such as my friend Jigar Shah and others who have been in this business long enough know full well that the big attribute for thin film has been, or I should say had been over the years, it was so much cheaper than crystalline.

Now that delta has shrunk so much that for my applications which are kind of a mix, 50/50 of residential and small to medium commercial, the thin films just don't have a compelling rationale given how much the price of crystalline silicon has been driven down over the years. It's been compared to thin film. Plus, nothing can beat crystalline silicon in terms of reliability and efficiency. It goes back to the 1950s in Bell Labs when the first order cells started cranking out power, and many of those cells are still cranking out power.

So there's a lot to be said for a technology that has been in the field not for a few years or ten years or 15 years, but for decades. So I feel compelled to try to offer the best product that I have high confidence is going to be around for a very long time.

COMMISSIONER PEARSON: Thank you very much for those answers. I appreciate them.

For the panel then, what would be the broad
effects on prices for solar modules in the U.S. market if an order does go into effect for the next five years? Would prices rise? Or are the competitive pressures such and the technological change such that we would see a continued downturn in prices? Or a leveling off? How would you characterize the market after an order goes into effect, assuming one does? 

Dr. Button?

DR. BUTTON: Thank you. Let me take a first answer and let the other members of the panel. Starting with what I would state is the key condition in competition in the market, that the prices is set basically by grid parity. That tells the developer what kind of technology he's going to use.

If the prices of solar modules was increased materially by the impact of a dumping order, the effect that we would anticipate is you increase the price of a solar energy electricity system and it would be above, significantly above where it is now, which would be significantly above grid parity, and you would see a major decline in the volume demanded on solar electricity generation.

COMMISSIONER PEARSON: But my question was really before that. I'm curious, will the prices rise
in the United States if an order goes into effect?

DR. BUTTON: The producers can seek to offer
the modules at a higher price. If they do, the demand
will go down, so what they have to do then is bring
the price back down to where it was if they want to
maintain the demand.

COMMISSIONER PEARSON: Those of you who are
actually out there in this marketplace, what's going
to happen to prices for modules?

MR. LAPIDUS: Kevin Lapidus, SunEdison.
As I mentioned before, it's a demand-driven
market. So if that module price goes up, the module's
not viable in the cost structure or the revenue model
of the project we're building. So I think you have a
limitation there from the demand side. If the project
economics don't work, no project, no modules. It's
really stopped short at that aspect of looking at it.

MS. SHAW: Polly Shaw. Can I add on another
aspect to this that we didn't have enough time to
discuss before?

Hawaii is a little bit of a different
situation in which it doesn't have as tight a
performance demand on incentives as the rest of the
continental United States. Its electricity is mostly
fed by diesel so its incentive structure is a little
bit more generous than the rest of the U.S.
In the rest of the U.S. the 30 renewable portfolio standards, two-thirds of them have cost caps associated with them whereby if the cost of procuring those renewables forces up retail electricity rates more than one, two, three percent, the utility can petition the regulator to opt out of the renewable portfolio standard. In fact First Energy in Ohio is going through that deliberation right now.
That effectively sets the direction. All of the solar energy, whether it's wholesale or rooftop, has to achieve grid parity because these incentive prices and wholesale contracts are expected to decline.
If prices ever go up, you lose all political will for the renewable portfolio standards and you cannot go back to the regulators and ask for increased prices in your contracts.
COMMISSIONER PEARSON: My time has expired but what I'm hearing I think is that yes, there may be some increase in prices of panels in the U.S. market, and that that would have first a deleterious effect on their use in utility projects and then backing up into commercial and residential projects. Okay.
Thank you, Mr. Chairman.
CHAIRMAN WILLIAMSON: Thank you.
Commissioner Pinkert?
COMMISSIONER PINKERT: Thank you, Mr. Chairman, and I join my colleagues in thanking all of you for being here today and being willing to answer all our questions.
I've heard a lot today about the era of declining incentives. I'm wondering when exactly did that era begin? We're looking at lots of graphs here about falling module prices and so forth. I'm trying to get a fix on when that era began.

MS. SHAW: Of the 30 state renewable portfolio standards, many of them were either passed or expanded during the period of investigation, actually from 2007 until 2010. And specifically, 16 states passed solar carve outs where they deliberately set up a solar market with declining incentives for rooftop solar.

Ten of those solar carve outs were passed between 2007 and 2009.

The process by which that takes place is usually through statute, and then moves to the regulatory agency to develop the design rules of the program. That's where sometimes the step down decline of the incentives is planned out between regulators,
utilities and industry participants.

In California though, for example, in 2006 when the California Solar Initiative was passed as statute, it was written into the statute that the incentives had to decline by at least seven per cent per annum.

So it's really been in the last 2007 to 2009 period that a lot of these new programs have been developed, and over the course of that period through regulatory mechanisms to design that schedule. I myself took part with the industry associations trying to schedule out what that incentive decline would look like as proposals to submit to the regulators.

MR. LAPIDUS: If I could just add to Polly's comments, Polly was describing significantly residential and commercial solar. If you look at utility there's a parallel set of pressures driving down the cost.

When we go and sign a utility power purchase agreement, an agreement to sell electricity from solar to a big utility in a state, that agreement has to be approved by the public utility commission of the state. They have a set of guidelines they're going to look at.

What we've seen noticeably in the last
couple of years as the cost of natural gases decline, 
is the reference price or the alternative of natural 
gas electricity is coming down. That acts as pressure 
forcing down the cost of our solar contract to sell 
electricity because the utility commissioners are 
looking at two alternatives. 

Yes, they want to do renewable energy, they 
want to have green energy. But they also don't want 
that gap between an alternative or the opportunity 
costs of electricity to be too great. So there is 
this pressure and we've seen it firsthand as a company 
going in and having the conversations, seeking 
approval for big power purchase agreements with 
utilities at reference price. 

COMMISSIONER PINKERT: Thank you. 

What is the economic mechanism by which the 
declining incentive translates into a declining price 
for the module? Is it a decline in demand, Dr. 

Button?

DR. BUTTON: The incentives have the net 
effect of reducing the cost of a system. In other 
words if you have the cost of a system without 
incentives and you have certain incentives, subsidies, 
it reduces to the developer the cost of the system. 

If you reduce the incentives, that means to
get to the same original system cost you have to reduce the base costs in it. For example the cost of modules. So as incentives start out large, you can afford more expensive modules. As incentives shrink, for example, the premium electricity rate which a utility will pay to a developer. Polly mentioned $2.80. That permits a module price to be relatively high.

When it comes down to 20 cents, as I believe she mentioned, that forces the cost for the whole system to produce electricity, that system cost has to come down to be the same net level. That's what the effect is. The decline on the incentive systems, that compression which causes the total system cost to be lower and therefore the cost of the modules to be lower.

COMMISSIONER PINKERT: Are you describing a shift in the demand curve?

DR. BUTLER: No. What I'm saying is the position of the developer is that he's trying to -- If all the costs going into it, the cost of the module, the cost of the land, the frame, everything else stayed the same, and the incentives went down, that would raise the system cost and that would be a shift in the demand schedule in the sense that it would be,
now you're offering electricity to the grid at a higher price and you're going to have a lower quantity of that being sought out.

MR. LAPIDUS: Kevin Lapidus, SunEdison.

As a solar developer, just to give you a sense of how we look at it. The incentive is part of our revenue stream to build that power plant. Remember my three-legged stool analogy. The incentives provide cash flow into the project.

If the cash flow is being decreased because the incentive is being decreased, if we want to make money building that power plant, if revenue's dropping the expense has to drop or else you don't make money building the power plant. It's at that fundamental level.

So this relationship, and it really goes in three steps. Incentives are reduced, which means the revenue is reduced, which means the cost structure has to be reduced or else the power plant is not profitable.

To kind of show how this comes full circle, if you were holding your revenue model constant and just the cost of the module is decreasing, that kind of exogenous price shock would lead to windfall profits for developers, which we're not seeing. As a
developer I can tell you we're not seeing that.

What that means is you have to drive lower the cost of the components as the revenues coming down. There's that relationship because all else being equal, you're holding steady the profit margin.

MR. DALBEY: This is Troy Dalbey from UpSolar.

To answer your question, I think the driving force behind the ratcheting down of incentives over time is when states become closer to going into compliance with the renewable portfolio standard that has been assessed. When that occurs, and there are states like Arizona that have through large utility scale development have been able to ratchet down the incentive scheme much faster than had been forecast originally. So utility scale development is because of that, but the actual driving force is the fact that the utility goes to the state and says that we're further along the line with being at the pace that we need to hit to get X percentage by X year in line, so we would like to reduce this incentive scheme and to get people to do so.

COMMISSIONER PINKERT: Thank you.

I'm looking at an exhibit supplied by the Petitioners this morning and an exhibit supplied by
this panel this afternoon. The one this afternoon is called Module Pricing Trends. The exhibit this morning is called Supply Glut an Price Collapse. 

You may remember that I asked a question about this exhibit this morning. What it shows with fitted lines, admittedly, is that the slope shifted in terms of the price decline around 2008 or so. You start to see a steeper decline in module prices. 

The module pricing trends exhibit also shows a fitted line, admittedly, but it also in addition to the fitted line shows the raw data kind of circling around the fitted line. And the way that you've drawn the fitted line, it's a linear decline with a fixed slope. 

My question is, which sort of fitted line or set of fitted line should one have confidence in? Is this just a question of sort of subjectively drawing fitted lines on a chart? Or is there something more fundamental that we can pin this analysis to? 

DR. BUTTON: The module price decline did occur, and some things changed around that period of time. So it's germane to ask what in fact changed? What I'm going to suggest to you is that there are
some variables which did change that are important.

In that respect I would ask you to take a look first off at Exhibit 9 from this morning which is the chart showing the Polysilicon price declines. This isn't to explain everything. If you go to the next one, you put it on an index form, you see that Polysilicon went down, cells, wafers, modules all went down. This is a supply side element. It has its demand side analog in that when purchasers see the price of -- the purchaser of modules, a developer who buys modules -- sees that the raw materials to make these products goes down, he anticipates and expects the suppliers to reduce the price of the modules. So that's an element. That does pull down prices for the modules.

Second, if you turn then to the natural gas prices which again we had our own chart of. Around the same period of time. This is the opportunity cost. This is the grid parity. This means that for a developer, if you want to build a project you've got to meet this system cost. Make a system cost that can produce electricity, that can meet the electricity coming out of a gas-fired system.

Additionally you have going on at the same time the gradual decline of various forms of
incentives. There are incentives started big, but as they come down they put additional pressure on the prices that developers are willing to pay for the modules themselves and the combined effect of these things have the result of getting a curve that you saw in the Petitioner's chart this morning.

So the supply side reasons, the Polysilicon. Demand side, primarily the change in the target, the alternative for them, the opportunity costs, the grid parity numbers that they faced which caused in essence the flex that you see on the price chart.

MR. SHAH: Commissioner if I might.

COMMISSIONER PINKERT: Thank you, briefly since I'm at the end of my round.

MR. SHAH: The solar industry has had an 18 percent decline in the learning curve ever since 1995 when I joined the industry. So that means for every cumulative doubling of manufactured product and shipments, you get about an 18 percent reduction.

I think as Dr. Button talked about, we did have a deviation from that line when there was a silicon shortage in 2007, 2008, but we quickly returned back to that line once that silicon shortage abated. But this has been a long term trend that we
can actually send you scientific papers that have been written since 2003.

COMMISSIONER PINKERT: That would be helpful.

Thank you very much.

Thank you, Mr. Chairman.

CHAIRMAN WILLIAMSON: Commissioner Johanson?

COMMISSIONER JOHANSON: Thank you, Mr. Chairman.

Could you all possibly address exactly what is current global demand? Respondents have discussed today that demand is growing in places like India, South Africa and in China. But what is happening globally? I'm thinking about what is occurring in the European Union.

You all mentioned in page 68 of your pre-hearing brief that you believe there's been a decline in U.S. exports of modules and cells to the European Union due to the recession there.

Can one of you all please discuss the global situation?

MR. YOUNG: This is Thomas Young from Trina Solar.

It's a very good question and one that you will need generally to pool different sources.
Typically the one that I quoted as representing a part of a forecast for 2014 was from Bloomberg New Energy Finance.

In 2014 they estimate that global demand could be as high as 46 gigawatts. Within that 46 gigawatts was the number that I presented earlier for the newer market growth of 26.

COMMISSIONER JOHANSON: How does that compare to today?

MR. YOUNG: Today we estimate as we heard earlier, approximately 30 gigawatts. High 20s or 30 range. Again, there is generally a consensus. You'll have ten consultants or ten PV forecast that will range, but we're looking at approximately 30 gigawatts for this year.

COMMISSIONER JOHANSON: Do you know what the situation is in the European Union as far as demand goes? Let's say this year compared to last year or whatever you might have?

MR. LAPIDUS: If I can make a comment, Kevin Lapidus, SunEdison.

We develop solar projects in Europe, in Asia, South America, U.S. I think we have a pretty good perspective.

I think your insight is correct. There is a
rotation of the global market for solar with somewhat of a rotation out of the traditional European markets into new markets.

Here's some of the data points.

Saudi Arabia announces $109 billion program for solar.

Japan announces a very significant feed-in tariff as they move away from nuclear due to issues they've had there. It's expected to be a very significant market in Japan.

Active in Brazil and Chile.

There is a rotation that is more Middle East focus, South America focused and Asia focused out of some of the historically larger markets in Europe.

All of that is growth, but it's rotating in that growth. It's absolutely a good insight.

COMMISSIONER JOHANSON: Would you say that growth right now is somewhat stable? Let's say over the past year or so, in light of what has happened in the European Union?

MR. LAPI DUS: The aggregate --

COMMISSIONER JOHANSON: Talking worldwide.

MR. LAPI DUS: Is increasing.

COMMISSIONER JOHANSON: So it's increasing.

MR. LAPI DUS: But it's changing in terms of
where those markets are as I've described. Japan, huge market. We're active in Thailand, in Malaysia, these are relatively new markets. We're looking at South America. Really brand new markets in terms of where they could go.

Saudi Arabia I talked about. Israel is another great market. It's just a rotation. All of it is growth, but it's moving away from some of the traditional markets.

COMMISSIONER JOHANSON: Do you see U.S. demand continuing to grow even with the current fiscal situation and the possible decline in the use of incentives?

MR. LAPIDUS: For example, this year the U.S. market is forecast to be 3.2 gigawatts. A significant growth over the prior year, 1.8 gigawatts. The answer is yes. It's growth that's coming with a significantly increased demand on reducing the price. So it's growth with a tradeoff.

As you grow --

(Static.)

MR. LAPIDUS: The U.S. market does have growth opportunities, absolutely. We're very bullish on the U.S. market. That growth will come with a seemingly increased demand for reducing the price of
solar. The public utility commissions are driving down the costs. The incentives are being reduced. So as you make that kind of economic model work, driving down the price of the components. Yes, you'll see growth in the U.S..


As a follow-up to that I'd like to discuss or speak on capacity, Chinese capacity. According to Chinese producers, and this is at page 7-5 of the staff report, cell capacity is increased by 237 percent between 2009 and 2011. That's very high growth. That is occurring at a time of declining prices.

I know there is increased demand, but can this, can you all explain why there's been such a buildup in capacity of the Chinese industry?

MR. YOUNG: This is Thomas Young again. I think to quote a round figure, approximately 20 percent only of the global demand is for China and the U.S., so again it's natural that we're talking the most about these two markets, particularly the U.S., but the opportunities and the expectation for growth in the newer markets is taking up the bulk of what we see in the next two years.
Keep in mind as our peers may have not detailed, that it takes a year to two years to plan these projects. That's why I quoted 2014. Another aspect as highlighted in my testimony, is that the type of growth we expect in this other 80 percent does not come on through more and more smaller residential projects like we see in the U.S. and Germany. We're now at the point, an exciting point economically, where large-scale utility projects can be launched into.
The issue there, it's exciting and it's very chunk business. But there are ramps. So there are preparations.
Of course you need the economics to work, but along with that it has to be in, as Kevin mentioned, it's in concert with other factors including network planning and other.
The numbers for the new markets are quite extraordinary and in on way do they represent the type of growth that was seen say in the U.S. if you pulled back three to five years as now suggested.
The numbers are quite large as you go forward.

COMMISSIONER JOHANSON: Mr. Petrina?

MR. PETRINA: Thanks, Robert Petrina with
Yingli.

I think if the question is companies expanded between 2009, 2011, why did they do that?

That's the question?

COMMISSIONER JOHANSON: Capacity in general in China has grown very rapidly in recent years. It looks like it will continue to grow fairly rapidly.

That's a projection --

(Static.)

CHAIRMAN WILLIAMSON: Do you want to --

(Pause.)

COMMISSIONER JOHANSON: I have no idea what's causing that noise.

There's been a large growth in Chinese capacity. I know there's significant demand out there, but at the same time there are declining prices. I just wanted you all to address that issue.

MR. PETRINA: We'll try again.

(Pause.)

MR. PETRINA: So just to answer that question, Commissioner Johanson -- it is on, but -- I think it's working now, very good. So in that period in time, I think companies looked out to the global demand as growing significantly. That happened and companies expanded in a period of significant
shortages to meet that demand. And I think we've seen that demand growth in lots of different places like China where it's grown by over 400 percent year over year, 2011 over 2010. Thank you.

COMMISSIONER JOHANSON: All right. Thank you for your response. My time has about expired, so I'll turn to the next Commissioner. Thank you.

CHAIRMAN WILLIAMSON: Okay. Commissioner Broadbent?

COMMISSIONER BROADBENT: Thanks. This is my first case, but my sense is that we're looking at very positive capacity levels, production, shipment, employment levels in this case that are kind of unusual to what we generally see here and it's during a period of growing demand. How do you think that we ought to take into account the Petitioner's claims and the Petitioner's view that the industry has been suffering injury and market share losses? Is it that we should put maybe less weight on these market share losses and look at capacity, production, and sales levels? How would you measure the two?

MR. BUTTON: Commissioner, I would like the first crack at that. That answer is that in short, yes. In an unusual situation of this where you have an extraordinary rapid expansion of apparent
consumption and an extraordinary rapid expansion in U.S. shipments, yes, I think there's less weight on apparent -- on market shares. And we've offered an alternative view that we think deals with issues of causation as to the market share shifts in Exhibits 19 and 20 of Respondent's pre-hearing brief.

When you deal with the utility sector and you'll see what's going inside of that and then you look at what's inside of the residential, commercial rooftop sector, what's happening there, you also get a different view of is this injury. So from our point of view on the basic of volumes, this is an unusual case, not evidence of volume injury.

And then with respect to price, in essence, the short of it is we're seeing there's no causation and we're providing additional sources we think that are important in -- powerful sources that are affecting price and that are, in that sense, unrelated to the subject imports.

COMMISSIONER BROADBENT: Dr. Button, I --

MR. ELLIS: Commissioner, I'd also like to jump in. One of Petitioner's own handouts, this one, the page, "the industry is materially injured," if you take a look, there's some non-injured factors listed
there in the time period 2009 to 2011 when the imports
were -- subject imports were increasing. So even they
are acknowledging there's an increase in capacity
utilization despite a gigantic increase in capacity in
the United States as well, and improvements in the
inventory quantity -- and the inventory quantity and
PRWs, hours, wages, et cetera. So even they are
reflecting non-injurious criteria. And our focus has
not even been on that, but rather on the causal
connection. Thank you.

COMMISSIONER BROADBENT: Just kind of making
sure I understand the charts here. I'm looking at
your handout on page nine, Dr. Button, and here you're
talking about the factors that are affecting the CSPV
pricing. On page nine, you point out that there's
some correlation between polysilicon pricing. And so

MR. BUTTON: Is it our handout or theirs?

COMMISSIONER BROADBENT: Yours. Excuse me,
yours, Dr. Button. I apologize, yeah.

MR. BUTTON: Thank you.

COMMISSIONER BROADBENT: Yeah, this one.

That's it. Page nine.

MR. BUTTON: Yes, Commissioner.

COMMISSIONER BROADBENT: You point out that
there's a correlation between polysilicon pricing and cell and module pricing between 2008 and 2012 there. But it looks to me like polysilicon falls about 90 cents per watt, while the price of the cells falls by 275 per watt and the price of the modules falls by 343 per watt. So it seems to be a much bigger price decrease that we need to account for just sort of notionally. It's not all polysilicon, some of these other factors that we've talked about. How would you flush that out?

MR. BUTTON: My answer is, absolutely right.

COMMISSIONER BROADBENT: Right.

MR. BUTTON: We're not claiming this explains everything. We're talking about a series of factors that are going into this process and that purchasers have one basis for seeking a reduction in the prices that they get from their modules, at least of this amount. Then they've got all these other things that we've talked about, which are on the developers, purchasers' minds with respect to the fact that they're facing declining incentives or you've got greater parity or they've got Thin film competition. So it's all four of them in that sense are having a role on affecting pricing.

COMMISSIONER BROADBENT: Can you talk a
little more about the Thin film. I think if you look at page 12 to 13 and a much lower dollar per kilowatt hour in the CSPV price. I know that going forward we've got this lower polysilicon price, which will impact the competitiveness here. Do you think that Thin film -- I mean, before we had the drop in the price of polysilicon, it looked like Thin film was going on to be pretty dominant in terms of what was going to be successful in the market. And this one factor kind of is pulling it out of the market in terms of competition.

MR. BUTTON: We cite Thin film for two reasons in your analysis in this case. One of them has to do with the like product analysis. And a point we're trying to make is that Thin film and crystalline silicon compete in the market. And as you have heard in the panel, there has been direct competition in projects between those. So that's simply one point. Even if you decide that this is not a situation of single like product, Thin film still competes with crystalline silicon on the market as an independent factor and has lower prices within this slide and the slide before it I believe. So these slides are in essence averages and we're not saying that there's a specific amount by which there's a gap
here, which is scientifically precise in all locations. What we’re saying is the fact of being lower, having lower costs is one other thing on the purchasers' minds because they have this lower cost alternative to which they can turn as well. So all of these effects have the impact of reducing the prices the purchasers are willing to pay for the crystalline silicon product.

COMMISSIONER BROADBENT: Okay, thank you. I think I'll probably just end with the question which is beyond our round here, but the same question I asked the previous panel. In terms of dealing with all of this price decline and over capacity worldwide in any industry that major economies want to nurture and support, is there another way to approach this market? I mean is there another way we can get at some of the problems that the domestic industry is having that would go a little bit beyond what we're talking about here? But do you all have any suggestions in that regard?

MR. BUTTON: Well, the fundamental point, and I think this is what Chairman Williamson raised, is what we described as the fundamental economic reality that the solar photovoltaic industry has to face. It's the price of the alternative product and
the grid, which is electricity generated from natural gas. And that sets the price that they have to start with because if you don't meet -- if the developers don't have a system that meets that price, it's not going to be the project.

Once you get to that price, then a variety of issues of, okay, which module do I pick and then you've got a whole array of questions of quality. Do you want to get a utility grade scale, 72 cell product? Do you want to have particular technological features that these various folks have indicated? But the baseline reality is, is the LCOE, the Levelized Cost of Electricity of their competitor, which was natural gas.

MR. ELLIS: I would just like to add, this morning one of the answers to the question was antidumping laws apply to all industries, which obviously it does. We don't deny that. But also it could be like -- you have an example, like the steel industry where there were a series of negotiated agreements over the years. But this is different from steel and it's different from lumber, another industry where there were repeated government interventions to negotiate deals, in that those, there had been a long history of trade frictions and so there was some basis.
to negotiate.

Here, this is a new technology, a new industry that exploded the United States over the past few years. There's a lot of technological developments and there's a lot of ferment. And you've got price incentive change and you've got issues developing. This is the place where you don't stop and take a snapshot and say because one segment is doing badly at the moment, for exogenous reasons, we're therefore going to intervene and adopt an antidumping order, which is not relevant at this time.

CHAIRMAN WILLIAMSON: Okay. Thank you. I guess the thing we're wrestling is this question, is it all exogenous. There has been a lot of talk about natural gas and the price of natural having gone down. I was just curious, which percentage -- anybody have the percentage of electricity in the United States generated by natural versus coal, versus hydro, and why you've only focused on natural gas prices?

MS. SHAW: Thank you, Mr. Chairman. This is Polly Shaw. In the United States, roughly 45 percent of electricity generation is from coal and it's dwindling over the next five years. Twenty percent is from nuclear. Twenty-four percent is natural gas. Only one percent is oil. So nuclear and coal both
provide base load power and in the last 20 years, the U.S. has overbuilt actually natural gas plants, mostly for peaking power.

When utilities most need power, it's during the day time when especially in the hot climates, the air conditioner is turned on, lights go on, motors and so on in industry. And so what is at the margin essentially is gas for us. Solar competes directly with natural gas peaker plants and that power the utility has to buy in the afternoon is the costliest power of the day. So when we're talking about competition, we're not really talking about coal because new EPA rules are phasing out older uneconomical smaller coal power plants and they're being replaced by a choice between natural gas or solar because it produces during the day time when energy is needed most.

CHAIRMAN WILLIAMSON: Okay, thank you for that clarification. But are you saying that we should just ignore what's happening to the price of nuclear or coal given the percentages that you just mentioned?

MS. SHAW: Sir, I'm not saying that at all. Coal and nuclear mostly supply base load power. And so when utilities need new power, it's usually during the afternoon when they have a choice of turning,
asking a gas generator to turn on by a peaker plant versus asking for energy efficiency or demand response, which means usually asking people to turn off --

CHAIRMAN WILLIAMSON: No, I understand that. But are you saying only the parity basis is the price of natural gas?

MS. SHAW: It is.

CHAIRMAN WILLIAMSON: Okay.

MS. SHAW: Thank you.

CHAIRMAN WILLIAMSON: Okay. That's what I wanted to find. I might ask why, but I won't. This morning, Dr. Kaplan presented an exhibit on pages 12 and 13 showing a cost price squeeze. Oh, this is of their handout. And I was wondering, do you agree that there is a cost price squeeze in this investigation and why or why not?

MR. BUTTON: This is Ken Button. What we would say is that the costs are what they are for all the producers. The price is set by what you describe as an exogenous force, you know, the grid --

CHAIRMAN WILLIAMSON: No, you all said that. Okay, I'm sorry.

MR. BUTTON: Thank you. We said that, that the price is set in essence by grid parity of natural
gas. So if there is a squeeze, it's the squeezes from this exogenous force and that's what I'd say.

CHAIRMAN WILLIAMSON: Okay. Because this chart talks about raw material costs versus the sales of modules. This is on page 12 of this handout. So are you saying you disagree with that?

MR. BUTTON: What I'm saying is that to the extent that they in fact have increases in the raw materials that he's describing, that, yeah, I'm not disputing that they went up. I think if you look at the overall P&L data that they've provided for the cost structure, you can see the trends of that over time. And so you're not dealing in that sense with a generally rising cost and rising COGS. But the squeeze part, which is what the Commission traditionally looks at, that's a causation, why they've got a squeeze going on, a cost price squeeze.

Commonly, the allegation is, well the subject imports, whatever they might be, are preventing the domestic industry from raising the price to a point where they can cover their costs. Well what's preventing the domestic industry from raising the module price in this particular investigation? This is unusual in this investigation. It's not like steel. It's not like any of the other
products. Here you've got something that is very powerful, very exogenous, the grid parity price of natural gas, which is setting the price at which they can charge for the electricity, the system, and the module.

CHAIRMAN WILLIAMSON: Okay. Thank you. Out of curiosity, is the bid parity price, that ratio relationships apply in Europe, too? Do we have a similar system there or is it different?

MS. SHAW: I would say that in parts -- I'm sorry, Polly Shaw, Suntech. In parts of Europe for certain market segments, solar is nearing grid parity because they also have a tension between rising electricity rates, for example, for retail solar versus the dropping solar costs. But in Europe, the incentive remuneration philosophy is a little bit different than in the U.S. and I would say there is a great deal of political will to give very generous subsidies for decades compared to here.

CHAIRMAN WILLIAMSON: Okay. Anyone else?

MR. BEEBE: Yes. This is Andrew Beebe with Suntech. I'll just add that in Europe, we're absolutely seeing a significant reduction in the total amount of government-supported subsidies and it is having the same effect as the United States.
CHAIRMAN WILLIAMSON: Okay. I was raising the question because there's -- you know, they have a case now, too, and I was wondering if imports are playing a different role there. Any other comments on that question? Mr. Shah?

MR. SHAH: Sorry, Jigar Shah, Inerjys. I think it's important to note that in Germany, there is a number of people pushing back now. I mean the cost of the solar subsidies in Germany have exceeded now 100 billion Euros. And so people are suggesting that solar absolutely has to achieve grid parity or will face the axe because people don't want to keep spending more and more money on their electricity bill to pay for these types of incentive programs.

CHAIRMAN WILLIAMSON: Okay. Thank you. Let's see, you've mentioned sort of a number of factors today. We've talking, you know, the declining price in natural gas, declining cost of the price of the polysilicon, and of course the Petitioners have talked about the imports. And I was just wondering how much do we allocate to each of these different factors and other factors as to why the industry is losing money?

MR. BUTTON: Mr. Chairman, I would respond in terms of you would allocate to them some level of
importance to degree which they actually are going to affect the price. And what I think you have heard is the things -- the variables that you're considering that would affect the price that a solar electricity system developer is going to be willing to pay for a module begins with the opportunity costs in natural gas.

Second, well, what other products can they get besides CSPV modules? Thin film. That's another alternative that affects them. And then those are kind of direct things. The environment is very much affected. The price is affected directly by the fact of the decline in the incentives systems. And lastly, it is admitted that the cost to make a module goes down to some degree by the reduction of the polysilicon prices.

Now if the subject imports weren't there, would the grid parity price change? Would natural gas change? I believe the answer is no. So that's the first price you've got to begin with and that's the one that really sets the amount, the price of the product.

CHAIRMAN WILLIAMSON: Okay. I'll leave it to Petitioner's to maybe offer a different view on that, but thank you for that. Let's see, okay, why
don't I stop there for right now. Let's see, who is
next? Commissioner Pearson?

MR. MCCLURE: Mr. Chairman, sorry to
interrupt, one bit of housekeeping. For all the
parties in the APO, there is an APO release ready in
the Secretary's office now and since they lock the
doors at 5:15, you may want to send the appropriate
people down there to get it. And if Bill Perry is in
the room, I assume you don't want your UPS? You will
pick it up? Okay. I'll let them know. Thank you,
Mr. Chairman.

CHAIRMAN WILLIAMSON: Commissioner Pearson?

COMMISSIONER PEARSON: Thank you, Mr.
Chairman. Dr. Button, we've talked a little bit about
the price elasticity of demand. Could you perhaps in
the post-hearing provide your estimate of how much of
the increase in apparent consumption over the POI has
been due to the decline in price? Again, we had the
staff estimate of the price elasticity of demand being
somewhere between minus 0.75 and minus 1.0 and I'm
just curious about it.

MR. BUTTON: I'll be happy to take a look at
the numbers and see what calculations we might make.

COMMISSIONER PEARSON: Okay, because I think
this case is a little bit unusual in that the price
decline has been significant enough and we see demand expanding and so is this simple economics?

MR. BUTTON: I would simply note that, no criticism of staff, but our estimates of elasticities of demand tend to be somewhat impressionistic.

COMMISSIONER PEARSON: Well, then that's why I asked for your impression, right?

(Laughter.)

MR. BUTTON: Mr. Commissioner, I'd be delighted to provide my impression. Thank you.

COMMISSIONER PEARSON: Thank you. Another topic that's come up a number of times, should we expand the domestic like product to include Thin film modules? And my thinking on this is going around and around in part because there's been some discussion of the changing price relationship between solar cell modules and Thin film modules, because Mr. Mangelsdorf talked about the delta coming down with solar cells approaching in price the Thin film cells. And in that case, the Thin film is less competitive and less likely to substitute for the silicon cell modules, okay. And if indeed the marketplace is working in such a way so that Thin film is a less good substitute, then the argument for including it in the domestic like product weakens, okay. So I'm wrestling
with this and any thoughts you have on it, I'd be
happy to hear, either now or in the post-hearing.

MR. LAPI DUS: Sure. Kevin Lapidus, Sun
Edison. Thin film is an alternative. When we build a
power plant, particularly now we're talking about the
utility space. We have a choice of modules, and in
some applications Thin film might be better and some
applications other technology might be better. So
cost is one component, but it's also how that module
function at different latitudes. How it will function
in hot versus cold environments. How much snow
there's going to be in the location.

So there are other non-priced factors.

They're based on the technology. And sometimes Thin
film will win out on these other consideration even
putting aside price. So when we build a power plan,
Thin film, polycrystalline, they're both something we
can look at, yes.

COMMISSIONER PEARSON: Okay. So you see
them as -- in your business, they are quite active
competitors depending on each individual situation?

MR. LAPI DUS: Yes. These are substitutes
and depending on the mix -- technology, price,
location -- we can pick one or the other.

COMMISSIONER PEARSON: Okay, thank you.
MR. BEEBE: This is Andrew Beebe with Suntech. I'll just add that our customers, the developers, and the utility scale customers look at their business as selling electrons. They sell electrons. How they get there, as long as it meets the renewable criteria that they're chasing after -- I mean, these are -- I can't imagine how they wouldn't be considered substitutes. The pricing -- we've become more competitive over time with them, but the pricing is still very competitive from our Thin film peers in the industry and we see it on a regular basis. And they are still winning business that we go after and occasionally we win business that they go after. And so from our customer's perspective, as Kevin said, and we've seen it again and again, day in and day out, they look at these products as substitutes.

COMMISSIONER PEARSON: Okay. And perhaps no one here is -- oh, did you have something?

MR. KING: I was just going to say, Mr. Commissioner, that --

COMMISSIONER PEARSON: This is Mr. King incidently.

MR. KING: I'm sorry. Alan King, Canadian Solar. Thank you. First Solar sells 100 percent of
its product into the utility marketplace. Canadian Solar does about 40 percent of its business in the utility marketplace. It is inevitable and unavoidable that we will compete against them. We don't chase different projects. We don't engage in different bidding processes. We engage in the same kind of competition that all manufacturers do, and that includes competing against Thin film product.

COMMISSIONER PEARSON: Okay. And earlier in the day, the point was made that the technological advances in solar cell technology are getting smaller and it's a little harder to achieve them because we're getting closer to the theoretical productivity of silicon I guess. Is the same thing true in Thin film or are there technologies in Thin film that might shift the cost paradigm of that product?

MR. BEEBE: This is Andrew Beebe again. Before I ran worldwide sales, I for two years ran product management at Suntech. And I guess if I could, I would first take exception with the concept that the incrementalism is sort of leveling out. We are consistently over the last 10 years or maybe I can say over the last six years that I know of, we have consistently been able to increase the output of any given panel, without increasing the price, by about
five to 10 percent, usually seven to 10 percent per year. And that rate of increase has not changed and it's due to significant technology advancements. And we could enumerate them if necessary afterward.

But I don't think it's the case that crystalline is somehow topped out. And we can see through companies like Sun Power, who have fantastic leadership in some of their cell, and we at Suntech have had some leadership cells. You see that innovation continues.

On the Thin film side, certainly First Solar more than anybody I think has been transparent -- has been the most transparent in their public filings, explaining their roadmap and explaining the technology innovations that lead to that cost reduction roadmap. It's a very aggressive roadmap and I think, as far as I know, they've consistently hit their targets. It's a very impressive downward trend.

MR. SHAH: I mean, just to add --

COMMISSIONER PEARSON: Mr. Shah?

MR. SHAH: Jigar Shah from Inerjys. Just to add some flavor, Sun Power is the market share leader in residential in California based on its technology prowess and the fact that it continues to improve its technology, as Mr. Mangelsdorf talked about as his
preferred module. And the same thing is true with First Solar. So First Solar's impressive improvement in its Thin film technology has allowed it to get the number one market share lead on the utility scale side in the U.S. And so I think to suggest that both products are irrelevant to this case I think is overstating.

COMMISSIONER PEARSON: Okay, good. Well, I think my last question has to deal with basic issue of causation. In this record -- for those of you who are always in front of us, you know this. But for those who aren't here so terribly often, our job is to try to determine whether what we see happening in this industry amounts to material injury. And the threshold for material injury is fairly low because it's basically any injury that's not immaterial, inconsequential, more than tangential -- you know the standard, okay.

So on this record, we look at the data. I'm going to get a direct quote from Mr. Ellis, I can see that. We look at the information that we have and we see a meaningful increase in subject imports, really no question about that. We see quite a bit of underselling and an expectation that if there was an order put in place, that prices might rise. And we
see relatively weak financial performance of the
domestic industry. So your challenge either now or in
the post-hearing is help me to integrate all that data
and come in with a conclusion that's below the
material injury threshold that gets us to a negative
in this vote, in this case.

MR. BUTTON: Mr. Commissioner, my comment
would simply be that you, of course, as you well know,
have to deal with the issue of causation. And if you
come to a determination that they are materially
injured as a kind of a steady state, like the old
bifurcation views of the analysis, what caused them to
get there, and if that cause wasn't there, would
things be any different. And the short version of
what we're saying is what caused them to get there is
the impact of pricing from grid parity, which is not
related to the subject imports.

COMMISSIONER PEARSON: Okay.

MR. ELLIS: I can't resist. The statutory
definition is -- this is Neil Ellis by the way --

COMMISSIONER PEARSON: Right.

MR. ELLIS: -- harm which is not
inconsequential, immaterial, or unimportant. And the
point though, the statutory point that Dr. Button just
addressed, is the fact that obviously the material
injury has to be "by reason of imports" of the subject
merchandise. And there's some questions about how
injured this industry is in any event, the basic
question you asked about. But in addition, obviously,
we've been dwelling heavily on the point of causation
under the "by reason of" standard.

COMMISSIONER PEARSON: Okay. Well, that
concludes my questioning. I thank all of you, very
much. It's been a most interesting day. This is for
me a more interesting than usual case. And when I
figure out, well you'll know when I vote. Thank you.
Thank you, Mr. Chairman.

CHAIRMAN WILLIAMSON: Thank you.

Commissioner Pinkert?

COMMISSIONER PINKERT: Thank you, Mr.
Chairman. I just have one or two additional
questions. I want to begin with a hypothetical, so
please understand that I'm not really assuming
anything. I just want to get a hypothetical answer.
If the Petitioners's theory of the case were correct,
would one expect to see more impact beneficial to the
domestic industry from the petition going forward?

MR. ELLIS: This sounds like a Lewis Carroll
mathematical thing.

COMMISSIONER PINKERT: Well, let me make the
question simpler. Often we hear that there was a petition effect in a case, that the industry began to benefit from the filing of the petition. Now I'm asking you, look at it from your point of view, is it a problem for the Petitioner's case that we don't see more of a beneficial impact on the domestic industry from the petition going forward?

MR. BUTTON: Let me take -- Ken Button. Let me make the following comment that just makes this -- that I would suggest makes this case fundamentally different from the typical case that you get to because one of the effects of the petition effect, one of the results of a petition is that it closes off the alternative product. And if you take a steel case, that means that the imports, some portion of the imports, subject imports of the steel product, which would be the opportunity -- the alternative to a buyer, it's cut off and there's really no choice. You get one or the other.

Typically, you don't have in that situation that they don't buy any steel at all. And that's what you're facing here is if you try -- if the subject imports are cut off, if the domestic industry seeks to raise the price, then the developers, you've heard, basically will stop buying the product because they'll
be buying natural gas systems. So that sets the --
makes this case significantly different from one that
you typically run into.
MR. ELLIS: This is Neil Ellis. I would
agree with that and point out that you're not having
the normal trends post-petition or even post-prelim,
in the short period in the half year 2012 that was
post-prelim, that you would expect in a typical case,
that is imports continue to rise and prices continue
to fall. It's not following the normal trends, which
suggests that there's something else -- there are
exogenous factors that are affecting the marketplace
here, which has been what we've been talking about
this afternoon. So I agree with what you're saying.
Thank you.
COMMISSIONER PINKERT: Perhaps both sides
for the post-hearing could look at the most current
data they can get their hands on and address this
question of the petition effect.
MR. ELLIS: Sure. We'll be glad to do that.
COMMISSIONER PINKERT: Thank you. And I
thank both sides and I appreciate the effort and the
willingness to answer the questions today. And I look
forward to the post-hearing submissions.
CHAIRMAN WILLIAMSON: Thank you.
COMMISSIONER JOHANSON: Yes. I just have one or two more questions. The U.S. industry can be broken down into three sectors: the commercial, residential, and utility. Do you all have a breakdown for those three sectors percentage-wise of the U.S. industry?

MR. BUTTON: We have been relying -- excuse me, this is Ken Button. We've been relying on the staff report data with respect to that. Though I must admit for some purposes in the economic analysis, I would think it makes more sense to deal with what amounts to the utility on the one side and then the commercial, residential rooftop on the other because the economics seem to split more easily there. But we've been relying on the pre-hearing report data for that.

COMMISSIONER JOHANSON: I of course have that and I apologize it's not in my head, but there's a lot of information we've been going through here. Just one more issue. Dr. Button, at your chart at page seven, you break down products one to three and products four and five. And your chart indicates that there's not much overlap in competition in products four and five between the U.S. and China's industries.
But there's still quite a bit of overlap in products one to three, is that safe to say?

MR. BUTTON: Ken Button. Yes, there is some overlap indeed and this is why we suggest that you pay particular attention to the pre-hearing brief Exhibits 19 and 20, when we then look at what we see as the market share developments within the commercial, residential rooftop segment where these products, the one to three, tend to be sold.

COMMISSIONER JOHANSON: Okay. All right.

That concludes my questions. Thank you.

CHAIRMAN WILLIAMSON: Okay. I have just a few questions. This morning Petitioners stated that they had not been harmed by long-term supply contracts with polysilicon suppliers because they were able to renegotiate prices. Do you agree with that or do you disagree and if so, why?

MR. KING: I'm sorry, can you repeat the question?

CHAIRMAN WILLIAMSON: This morning the Petitioners indicated that they had not been harmed by their long-term supply contracts with polysilicon suppliers. I think you all had suggested that that was a problem for them. And they said that's because they were able to renegotiate the prices in those
contracts. And I was just wondering whether or not you all agree with that and if you don't, why?

MR. BEEBE: This is Andrew Beebe with Suntech. I guess what I would say is that it's my understanding and I'm not privy to their internal negotiations or confidential negotiations, but it is an industry standard and it certainly happens to all of us that we enter into a percentage of short-term negotiations, which allow us to buy on the spot market, and long-term negotiations or long-term contracts, which usually force us to some sort of binding relationship. The type of those long-term contracts can result in either the right to renegotiate or a more binding commitment to a fixed price. And when those are negotiated at higher prices, it's very common that the polysilicon providers will not allow for significant renegotiation and thus you see a blended average of high long-term pricing and short -- and low short-term pricing.

And additionally, if anyone produces their own silicon, it is extremely common that if they have any history to that technology, they're usually making that silicon at a price higher than the spot market and, therefore, they have to buy from themselves, and that's not a renegotiation they can enter into at a
higher price, and then buy a smaller amount on the short-term market or on the spot market.

CHAIRMAN WILLIAMSON: Okay. That's when the price goes up, is that what --

MR. BEEBE: I'm saying that when the price is down in the spot market --

CHAIRMAN WILLIAMSON: Okay.

MR. BEEBE: -- they can buy low, but they still have to buy from themselves --

CHAIRMAN WILLIAMSON: I got it, okay.

MR. BEEBE: -- whatever that price is and it's usually higher.

CHAIRMAN WILLIAMSON: Okay, thank you. And this applies both to domestic producers and foreign producers?

MR. BEEBE: It does, except to say that some of us, Suntech, for example, does not make a significant amount of polysilicon itself and, therefore, we have a stronger ability to just buy a greater percentage in the short-term or spot market, which allow us to take advantage of lower costs in the moment.

CHAIRMAN WILLIAMSON: Okay, thank you.

MR. ELLIS: I'm sorry, Commissioner Williamson?
CHAIRMAN WILLIAMSON: Yes.

MR. ELLIS: I would just point out also that the statement that was said this morning and I think in Petitioner's brief, that the same conditions for the purchase of polysilicon apply to both the domestic industry and the Chinese producers is not necessarily correct and we'll have to address that in the post-hearing brief. But I don't want to the sense to leave this room that polysilicon doesn't matter because everybody is in the same condition because that isn't correct.

CHAIRMAN WILLIAMSON: Okay, thank you. This morning we have some discussion about utility products, the role I guess of finance, had to finance the company and doing a purchasing, of making the decision in the importance of price there. And I was wondering whether or not you all agree with that description. And what I'm getting at is really the process about which utilities go about purchasing modules.

MR. KING: This is Alan King, Canadian Solar. I actually completely agree with what Mr. Kilkelly said this morning and I think it all circles around finance and as he put it, the Treasury. I think that at the end of the day, the determination is
return on investment. Cost of building the system determines what prices that the project developer will pay for all of his product, balance of system, as well as modules. So in my opinion and what we've seen more and more over recent years is that pricing is determined by the financing or financial group, not necessarily by simply market prices.

CHAIRMAN WILLIAMSON: Okay. One thing we didn't discuss this morning is this usually kind of a bidding process or is it more of a negotiated process?

MR. KING: Yes. It starts out bidding and it goes negotiation.

CHAIRMAN WILLIAMSON: Okay. So it's iterative --

MR. KING: Yeah, many iterations.

CHAIRMAN WILLIAMSON: Okay.

MR. SHAH: Mr. Chairman?

CHAIRMAN WILLIAMSON: Yes.

MS. SHAW: Jigar Shah from Inerjys, probably the somebody who is responsible for some of those finance conversations. What I would say, but it's not about price. The challenge in the financing realm if you're in the Treasury Department is you have to convince a third-party financing company to actually finance the project, right. And so there's a short
list of technologies which is not based on price, but more based on the reliability and quality of their products that get them on that list. And so you're restricted to those products, in terms of the ones you want to buy.

And then for the company I started, Sun Edison, what we did was we actually created a systematic database of how well those technologies operated in our projects and we found stark differences. There were some crystalline products which looked exactly the same that produced five percent more energy per rated watt that we were paying for than other technologies. And so people were not selling us the same exact watts. And so once we determined that information, we used that information to choose which panels to buy.

So while the Treasury does care, as Alan said, about rate of return, rate of return doesn't just come from price. It also comes from quality, from production, from other factors.

CHAIRMAN WILLIAMSON: But for the finance guys, I assume it still gets down to how much it's going to cost, it's just what factors he's taking into account.

MS. SHAW: No. You would be surprised.
What they care about is the internal rate of return. So they want to know that if they're putting 50 million of their own money into the project, what rate of return will they get on that money. And that absolutely is impacted by the cost and the price that they pay for those panels, but it's more often than not also influenced by how much production they get. So as Kevin said, if it was in a high heat environment, you want a panel with a low temperature coefficient. If it's in a cold climate, you want to make sure that it has certain characteristics. And also the reputation of the manufacturer, some manufactures have a reputation for selling lower watts, you know. So their 280 watt panel produces less power than somebody else's 280 watt panel. And so it really comes down to the rate of return that we expect for that money invested, not just the price.

CHAIRMAN WILLIAMSON: Okay. I invite Petitioners to comment on that if they have a different view of that description. But thank you for that clarification. It almost sounds like you're dealing with a finance company buying a house and they keep talking about who they're going to pass the loan off to. That's the standards.

Okay. I think with that, I have no further
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1 questions and none of my fellow Commissioners have  
2 questions. Does staff have any questions for this  
3 panel?  
4 MR. MCCLURE: Jim McClure, Office of  
5 Investigations. Ms. Alves and David each have a  
6 question and I would let the parties know if tomorrow  
7 or whatever the Commission and/or staff have  
8 additional questions, we will transmit those to you as  
9 soon as possible.  
10 MS. ALVES: Thank you. Mary Jane Alves from  
11 the General Counsel's Office. One quick question.  
12 Mr. Shah or any of the other witnesses, you mentioned  
13 that there are approximately 10 bankable producers out  
14 there of which there are approximately five who are  
15 Chinese. Would you mind identifying who the 10 are  
16 and also specifying which of the five are the Chinese  
17 bankable producers?  
18 MS. SHAW: Yeah. I unfortunately didn't  
19 print that out, but we'll submit it to you in the  
20 post-hearing notes.  
21 MS. ALVES: Do any of the other witnesses  
22 have any sense of who those approximately 10 might be?  
23 MR. ELLIS: I'd rather not have dueling --  
24 people trying to remember the eighth and the ninth  
25 guy. So let's submit it as an exhibit, if you don't
mind, with the post-hearing brief. Is that okay?

MS. ALVES: Sure, that's fine.

MR. ELLIS: Okay, thank you.

MS. ALVES: Thank you.

MR. DALBEY: I have a copy of the list on my iPad, if you'd like me to recite it, I mean, according to BNEF. Okay.

MS. ALVES: Sure, go ahead.

MR. DALBEY: Okay. There are some that have recently exited the business, as you've heard, so I'm going to omit them. But you have Suntech; Trina; Yingli; J.A. Hanwack, Canadian; R.E.C., which is a European company; Sharp; Solar World; Panasonic; Kyocera; you have Siliken; Mitsubishi; Aleo, which is Bosch; and then Bosch itself, so those two are the same company effectively; Isofoton; Sun Power; AU; CMPV; ET; and UpSolar.

MR. ELLIS: We'll still submit the list in writing.

DR. KAPLAN: Could he add to the list the companies that were bankable and are now bankrupt? He said he didn't --

MR. DALBEY: Oh, I can recite them if -- that have exited the business, you have Schott; you have BP, which may still have modules out in
MS. ALVES: Okay, thank you. And just checking with the court reporter, did we have the question from the audience reflected? But did you hear the question that he was responding to, the second question?

THE COURT REPORTER: Yes.

MS. ALVES: Okay, thank you.

MR. DAVID: Okay, thank you. Andrew David.

So my question which you can answer now or in your post-hearing briefs is so you stated that subject producers have done well in the utility scale market because of the ability to supply 72 cell modules of 275 to 300 blocks that are best suited for the utility scale sector. At the same time, you've indicated that you frequently compete with First Solar's Thin film modules in the utility scale market. Yet, First Solar's modules are less than 100 watts. This seems inconsistent with your statement that you need to have large high wattage modules to compete in the utility scale sector. How do you account for that seeming inconsistency?

MR. BEEBE: This is Andrew Beebe with Suntech. The simple answer is that we compete with
total system cost and with the cost per kilowatt hour of an output plant. And our customers evaluate the comparisons of Thin film, which are very small frame modules, combined with First Solar's very proprietary racking system, essentially a very different way of installing the product, and then compare that with 60 cell crystalline modules and 72 cell crystal modules.

And to be clear, we sell -- at Suntech, we sell 60 cell and 72 cell modules side by side at very similar pricing per watt. And repeatedly our customers have selected the 72 because when combined, that total system cost or total install cost is more competitive than both Thin film and a 60 watt crystalline module.

MR. McCLURE: Jim McClure, Office of Investigations. We have no further questions. And thanks to this panel for your testimony and to Suntech and Sempra for our visits.

CHAIRMAN WILLIAMSON: Thank you. Does Petitioners have any questions for this panel?

MR. BRIGHTBILL: No questions.

CHAIRMAN WILLIAMSON: Okay, thank you. Okay. Then it's come time for closing statements. And you all agree on this, both supporters and those in opposition have three minutes of direct and five
minutes for closing for a total of eight minutes each.
And we usually like to combine the time. So if it's okay with you, we'll do that. And so then I'll dismiss this panel and thank you, very much, for your testimony and the time you've taken and then we'll have closing statements after everybody gets settled down. Thank you.

(Panel dismissed.)

CHAIRMAN WILLIAMSON: Okay. You may proceed.

MR. KAPLAN: It would seem inevitable the way our economy is moving that instead of the auto people coming in and saying I need dumped steel or a chemical producer saying I need a dumped input, the project finance guys would show up and say I need a dumped component as well. All of these have the same thing in common, is that if they lower their cost, they think they'll -- their prices, they think they'll sell more. And if demand is downward sloping, they're right. But none of the purchasers and users of components have a right to access of dumped imports just so they can sell more.

They sold in 2011 close to two gigawatts in terms of imports. Prices have fallen 30 percent since then. If we have the orders go into place, they'll
have lower prices than they had in 2011 when they sold those quantities.

The notion that the shipments turn off and off at some parity level is just wrong. First of all, we've seen changes without major changes in parity. Second of all, we've heard testimony from both Petitioners and Respondents that states are required to purchase shares of renewable for their utilities regardless of price.

So both of these specs show that the Petitioners are demonstrably wrong. Some of the questions that weren't answered should be particularly -- I mean, sorry, Respondents -- which side of the aisle I'm on and, ah -- you've got petitioners, complainants, and respondents in this building and they're jumbled up.

I think some of the questions that were asked by Commissioner Broadbent were extremely telling and the lack of answers. At one point, she asked three questions in a row about what was going on in China and what she got was finance -- project finance gobbledygook about how I need lower prices to sell more projects. I'm not arguing that it can sell more projects, so you get a lower price. What I'm saying is at prices that are lower than those to be sold
those projects at, he'd still be able to sell projects because prices have fallen so severely. I have more points I'll make in the post-hearing brief. Tim?

MR. BRIGHTBILL: Thank you. Several other points, there was a lot of talk about grid parity today. Dumping is not acceptable because it gets us to grid parity faster. Subsidies are not acceptable because they get us to grid parity faster. And in fact, the problem is we are going to get to grid parity. You heard this industry is getting better all the time and more efficient. It's particularly bad because by the time we get there, there won't be a domestic industry left because of the unfair trade. There was also talk about Chinese technological innovation and how that is a real difference maker in this market. Look at the staff report. There's no evidence that the Chinese product is a better product. If you look at the quality ratings, the quality assessments from purchasers and importers, there's nothing there. No one thinks of China as the technological innovator. And if that was true, how come they're losing so much money and why are they underselling the market? That's another contradiction. It just does not make any sense.
There were a lot points about the incentives programs declining. I don't believe that that's so and I will expound in our post-hearing brief. If it's true, it's another sign of vulnerability and threat to the domestic industry. But certainly, the incentives were not declining during the period of investigation 2009, 2010, 2011, when so much of the harm occurred. So it doesn't explain the import surge and the injury except those incentives, which were open to Chinese producers, helped to bring those imports in as well.

Mono-crystalline versus multi-crystalline, that is a completely irrelevant issue. Multi-crystalline is not substantially lower in price. The staff report efficiencies are more accurate than Respondent's exhibits and we'll comment on that.

Critical circumstances, I would note that Respondent's conceded growth in imports and inventories. They only say it happened for different reasons. So they concede the fundamental things that you need to find.

Thin film technology, I would encourage you to look at the questionnaire responses of the Thin film producers, who you went out and got. They gave you very interesting comments about the role of China in this marketplace. So I would urge you to look at
With respect to the utility sector, we heard a lot about the utility sector today. And some of the respondents said they don't see Solar World at the table on these utility projects. They don't see Solar World because Solar World sells to its customers, installers who on their own compete for those jobs. Solar World and the domestic industry are very active in the utility sector. Solar World has whole product lines, like access trackers to follow the sun, that are only useful in the utility sector. So they are active there. The domestic industry is all three segments of this market and all three have been crushed by the Chinese imports.

Bankability, I thought the staff question on bankability was very good. Solar World is on that list, so are three producers that have gone out of business. I thought that highlighted the fundamental contradiction very well, as did Mr. David's question. Commissioner Broadbent asked about China, did not get those answers three times. And I believe respondents asked you to ignore two-thirds of China's capacity. I don't think the statute allows you to ignore all that capacity. It is something that we are forced to compete with and it is massive and it has
overrun this market.

Similarly, Chairman Williamson asked about U.S. injury and were the companies expecting to lose that much money. And I think the answers or lack of answers there were very telling as well.

The supplier from the Respondent's panel on critical circumstances basically underscored that U.S. product would be price competitive with the dumping duties in place, that he would take sales to the U.S. product, confirming our theory of the case.

So just to conclude, we heard a lot of alternative causes in the last few hours. The evidence -- I'd like to take you back to your investigation that you and the staff spent months on and the evidence here is overwhelming according to each of the statutory factors. Respondents would have you believe that a 1,000 percent volume increase in Chinese imports is unimportant or immaterial. That's not the case, almost three billion dollars worth of products that came in. A 50 percent price drop, that is important. That is material. Underselling in three quarters of the comparisons, more than a dozen companies that have shut down in the last two years, that is material and important. And the causal link is clear, between that surge in unfairly-traded
Chinese imports and the injury being experienced by domestic producers, it's clear from the analysts in this case, it's clear from the statements of the Chinese producers themselves, it's clear from what the importers and purchasers said in their questionnaire responses.

So there's really only one question left to consider here, in a growing market with such a bright future, why is the U.S. solar cell and module industry fighting for its very survival? The answer is clear. Your evidence is clear. That's why we ask for affirmative determinations in these cases. Thank you, very much.

CHAIRMAN WILLIAMSON: Thank you. Okay. You may begin.

MR. ELLIS: Good afternoon. I appreciate this final opportunity to talk with you for a few moments. I want to start by thanking the staff for their extraordinary efforts and also for the Commissioners, for your attention and interest in this long and complicated conversation.

During this afternoon's session, we explored Solar World's erroneous description of the marketplace for solar energy and CSPV cells. The industry covered by this investigation is more complex and dynamic than
that portrayed by Solar World. And to the extent that Solar World has been suffering material injury at all, the causes of that injury are unrelated to the imports of subject merchandise.

Most importantly, we have discussed the fundamental goal of the solar industry to attain grid parity in order to be competitive with conventional energy sources. We've also highlighted the express government policies to promote solar energy and accelerate the pace of solar installations in the United States in order to Wean America off its dependence on non-renewable energy sources. Toward this goal, governments at all levels have provided financial incentives and adopted performance mandates aimed at driving down prices for the provision of solar energy.

However, pursuant to the social compact we've heard about between industry and government, those financial incentives have declined recently and as they have declined, so must the prices of solar installations in order to remain competitive. As you've heard, cost reductions must be made along the entire solar energy value chain, including hardware inputs such as modules. In this environment, only those solar module manufacturers that have invested,
innovated, and cut costs are equipped to survive. The Respondents have done so. Solar World less so.

This is reflected in the data before the Commission, showing that Respondents have targeted the utility sector with its explosive growth during the POI by focusing on better conversion efficiencies and higher wattage modules. The comparisons permitted by the pricing product data graphically demonstrate the lack of competition offered by Solar World. That was in the chart with the 97 percent versus three percent we had earlier.

Our panel discussed in detail why the statutory factors to be considered by the Commission do not support an affirmative determination. First, the volume of subject imports has increased because U.S. demand has skyrocketed, and Petitioners, too, have enjoyed stunning increases in U.S. shipments of their modules, particularly in the residential and commercial rooftop segment of the market that they serve. This shows the enormous growth in U.S. demand. And the explosion of demand in the utility segment of the market for which Solar World was less prepared has driven the growth and the volume of subject imports.

Second, the trend in CSPV module prices has been compelled by the need to remain competitive with
conventional non-renewable sources of energy, particularly natural gas, combined with a decline in government incentives that supported artificially high solar energy prices. At the same time, the decline in prices was encouraged by the collapse in costs or prices of the polysilicon during the POI.

And third, key economic and financial indicators of the domestic industry point to what should be a healthy and robust domestic industry. These factors are detailed in our pre-hearing brief at pages 60 to 75 and our exhibits. But here are a couple of examples. In the non-utility segment of the market on which Solar World focused, U.S. producers' shipments increased faster than consumption over the years 2009 to 2011, so U.S. producers gained market share.

The industry invested to expand capacity over those years, despite which its capacity utilization rate increased more rapidly. This in itself is unusual in an investigation before the Commission, that is an industry is complaining about being injured despite the fact that it was able to increase both capacity and capacity utilization over the very period in which subject imports were increasing. But this trend is not surprising here in
which U.S. apparent consumption has exploded.

Moreover, the lost sale and lost revenue allegations, which have not been discussed today, had been exposed as all but empty. Despite the lengthy list of such allegations presented by Petitioner, a thorough review by the staff has resulted in the verification of a trivial number of those allegations and in some instances demonstrated that the purchasers obtained the merchandise from other U.S. suppliers, not the subject imports. There's no causation here.

Even if the Commissioner were to make an affirmative material injury determination, there's no basis for you to find critical circumstances. The evidence is overwhelming that subject imports and inventories during the post-petitioned period were responding to and are consistent with a growing market and are unrelated to the filing of the petitioner. In particular as you have heard during our presentation, the growth of imports during the last quarter of 2011 and the first quarter of 2012 were the direct result of the impending expiration of Treasury's section 1603 cash grant program, and Exhibit 40 of our pre-hearing brief shows a very nice time trend showing the correlation.

Subject imports responding to the programs
and pending expiration were largely sold, not simply placed in warehouses to flood the U.S. market following the issuance of an order if there is one. In other words, in the statutory parlance, the imports are not "likely to undermine seriously the remedial effect of the antidumping order."

Turning to the bigger picture for a moment, this actually is an exciting time for the U.S. solar industry. We have seen staggering growth, vast opportunities, rapid technological developments, tens of thousands of U.S. workers up and down the value chain placed in good jobs, in an industry favored by government policies looking to the future of American society.

But with growth comes change. Some market participants succeed and some don't. Some bet correctly on technology and foresee the right vector of growth, some don't. This is fundamental part of the American market and capitalist process. It is a trend we've witnessed time and again in other industries at the times of their initial appearance and transformation, whether it be automobiles 100 years ago, which I was not around for, VCRs, computers, or cell phones. In any such instance, in any such industry, it is possible to identify a niche
that is not doing well and to blame imports for the harm that is actually nothing more than manifestation of the natural and exciting ferment inherent in a rapidly changing industry.

We submit that the Commission should not permit itself to be drawn into such an easy and false causal connection. To the contrary, when you review the record and the achievements of the solar industry in America, the evidence in the record can lead to only one conclusion, that the subject imports are not causing or threatening to cause material injury to that industry. Thank you.

CHAIRMAN WILLIAMSON: Okay, thank you. I thank all of our witnesses today and closing statement. Post-hearing briefs, statements responsive to questions and request of the Commission and corrections to the transcript must be filed by October 11, 2012. Closing of the record and final release of data to parties is October 30, 2012. Final comments are due November 1, 2012. And with that, this hearing is adjourned.

(Whereupon, at 5:35 p.m., the hearing in the above-entitled matter was concluded.)
CERTIFICATION OF TRANSCRIPTION

TITLE: Crystalline Silicon Photovoltaic Cells and Modules from China

INVESTIGATION NO.: 701-TA-481, 731-TA-1190

HEARING DATE: October 3, 2012

LOCATION: Washington, D.C.

NATURE OF HEARING: Hearing

I hereby certify that the foregoing/attached transcript is a true, correct and complete record of the above-referenced proceeding(s) of the U.S. International Trade Commission.

DATE: October 3, 2012

SIGNED: LaShonne Robinson
Signature of the Contractor or the Authorized Contractor's Representative
1220 L Street, N.W. - Suite 600
Washington, D.C. 20005

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceeding(s) of the U.S. International Trade Commission, against the aforementioned Court Reporter's notes and recordings, for accuracy in transcription in the spelling, hyphenation, punctuation and speaker-identification, and did not make any changes of a substantive nature. The foregoing/attached transcript is a true, correct and complete transcription of the proceeding(s).

SIGNED: Rebecca McCrary
Signature of Proofreader

I hereby certify that I reported the above-referenced proceeding(s) of the U.S. International Trade Commission and caused to be prepared from my tapes and notes of the proceedings a true, correct and complete verbatim recording of the proceeding(s).

SIGNED: David Jones
Signature of Court Reporter