

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)

REVISED AND CORRECTED TRANSCRIPT

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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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STEVEN OSTRENGA, Chief Executive Officer,
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Antidumping and Countervailing Duty Orders:

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Interested Party Witness:

On behalf of ProVision Solar, Inc., Hilo, HI:

MARCO MANGELSDORF, President

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1 PROCEEDINGS

2 (9:31 a.m.)

3 CHAIRMAN WILLIAMSON: Good morning. On
4 behalf of the U.S. International Trade Commission, I
5 welcome you to this hearing on Investigations No.
6 701-TA-481 and 731-TA-1190 (Final), involving
7 Crystalline Silicon Photovoltaic Cells and Modules
8 from China. The purpose of these investigations is to
9 determine whether an industry in the United States is
10 materially injured or threatened with material injury
11 or the establishment of an industry in the U.S. is
12 materially retarded by reason of subsidized and less
13 than fair value imports of crystalline silicon
14 photovoltaic cells and modules from China.

15 Schedules setting forth the presentation of
16 this hearing, notices of investigation and transcript
17 order forms are available at the public distribution
18 table. All prepared testimony should be given to the
19 Secretary. Please do not place testimony directly on
20 the public distribution table. All witnesses must be
21 sworn in by the Secretary before presenting testimony.
22 I understand that parties are aware of the time
23 allocations. Any questions regarding the time
24 allocations should be directed to the Secretary.

25 Speakers are reminded not to refer in their

1 remarks or answers to questions to business
2 proprietary information. Please speak clearly into
3 the microphone and state your name for the record for
4 the benefit of the court reporter. If you will be
5 submitting documents that contain information you wish
6 classified as business confidential, your request
7 should comply with Commission Rule 201.6.

8 Madam Secretary, are there any preliminary
9 matters?

10 MS. BELLAMY: No, Mr. Chairman.

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

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

15 CHAIRMAN WILLIAMSON: Okay. Welcome, Mayor
16 Lord.

17 MS. LORD: Thank you. Good morning, Mr.
18 Chairman and Commissioners. Thank you. Thank you so
19 much for the opportunity to speak before you today. I
20 am Georgia Lord, the Mayor of Goodyear, a city in
21 Arizona with about 70,000 people, and I am also a
22 proud board director for the Greater Phoenix Economic
23 Council. I'm here to represent the people in my
24 community and the region who have a very personal
25 stake in this case. You see, I, and countless others

1 in Arizona, have been working long and hard to recover
2 from the economic downturn, and you're all familiar
3 with that, and not just recover, but recover in a way
4 that provides a foundation for a more sustainable
5 economy in the future.

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

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

24 Furthermore, several international companies
25 operating in the renewable space have established

1 operations in the greater Phoenix, including Spain's
2 Ribgrass, Spain's Abengoa, England's Faist, Germany's
3 Solon, and France Saint-Gobain and Canada's Cosma
4 International. This influx of foreign firms reflect
5 the importance of the FDI to our community which has
6 stimulated ancillary jobs like solar installers,
7 integrators, system designers and distributors.

8 In Goodyear, we are a home to Suntech's
9 first U.S. manufacturing factory, and it's really one
10 of our city's shining starts. Within a year of its
11 opening it doubled production capacity, it nearly
12 tripled its staff. It currently employs more than 100
13 people in Goodyear. Believe me, this is so great
14 because nearly 60 percent of those are Goodyear and
15 cities nearby. The residents finally have some jobs.

16 Arizonans working this facility are world-
17 trained professionals, including highly skilled
18 engineers and technicians, who are manufacturing
19 15,000 solar panels a month that can power roughly,
20 and I think this is extraordinary, 10,000 American
21 homes per year, as Suntech now considers hiring an
22 additional 100 employees. That's people living in
23 Goodyear. I'm worried that this imposition of
24 punitive duties would put these jobs at risk.

25 Now, in Goodyear, only 10 percent of our 189

1 square miles is currently developed, so when Suntech
2 chose Goodyear, it put our community on the map and
3 everyone has benefitted. Not only has Suntech created
4 jobs, but they made significant investments in our
5 city. They have been a good corporate citizen.

6 Look at AZZ Galvanizing. This company has
7 been in the galvanizing business in Goodyear since
8 1994. When Suntech came to town, the company began to
9 be a supplier to Suntech and many other solar
10 companies in the region. They have since expanded
11 their building and they've hired a dozen additional
12 workers. Fact, it's really into the dozens.

13 When I first learned about the possibility
14 of an impending tariff and the corresponding
15 investigations, it was important to me to discern its
16 implications. Many of Goodyear's economic development
17 efforts center on solar and foreign direct investment.
18 As a small city located in a foreign trade zone, we
19 want more Suntechs, not less. More importantly, I am
20 concerned from the Arizonans that work at Suntech and
21 for those related sectors that depend on Suntech, like
22 AZZ Galvanizing. I am concerned about the residual
23 effects that these duties could have on the people,
24 our schools and the welfare of our community.

25 For years, we've listened to the U.S.

1 President and other experts talk about the importance
2 of this industry's growth in America, and as local
3 leaders, we have responded. We've created various
4 statewide economic development programs to draw this
5 industry to the greater Phoenix, and were able to
6 provide Suntech just under \$2 million in incentives --
7 this, compared to the Petitioner, SolarWorld, who
8 offered well over \$100 million in incentives,
9 according to the public records in Oregon -- and
10 created additional programs that drive local demand to
11 support this industry.

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

20 In today's economy, no nation wins, no
21 industry wins and no communities win when trade
22 disputes escalate. I thank you, truly thank you, for
23 this opportunity to speak to you today. As you review
24 the facts presented in this case, I respectfully urge
25 you to consider the broad and the very significant

1 impact your determination will have on tens of
2 thousands of jobs in the larger U.S. solar energy
3 industry and communities of all sizes. Again, once
4 more, thank you so much for this opportunity to come
5 before you.

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

8 MS. LORD: Thank you very much.

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

11 MS. LORD: You're very welcome.

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

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

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

19 MR. BRIGHTBILL: Thank you. Good morning,
20 Chairman Williamson, Commissioners and staff. We
21 welcome the opportunity to explain how U.S.
22 manufacturers of crystalline silicon photovoltaic
23 cells and modules have been materially injured by
24 dumped and subsidized Chinese imports.

25 The evidence of material injury by reason of

1 Chinese imports is overwhelming. The injury is severe
2 and getting worse by the day and there is no doubt
3 that Chinese imports are a cause.

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

19 From 2009 to 2011, subject imports increased
20 by 1,050 percent, far outpacing any growth in U.S.
21 demand over the period. Chinese producers' share of
22 the U.S. market jumped by 30 percentage points. U.S.
23 producers fell, their share fell by 17 percentage
24 points during the same period. Even this year Chinese
25 imports have continued to increase and domestic

1 producers have continued to lose sales to subject
2 imports. Massive Chinese underselling of these import
3 volumes caused a collapse in U.S. prices. In 2011
4 alone, prices fell by 50 percent. These dumped and
5 subsidized Chinese imports have caused grievous
6 material injury to the U.S. industry.

7 Although U.S. demand doubled from 2009 to
8 2010, and again last year, domestic producers had to
9 slash prices, which led directly to severe financial
10 losses. Thousands of workers have been laid off.
11 Numerous U.S. producers have been forced to shut down,
12 declare bankruptcy or significantly cut production,
13 all in a rapidly expanding U.S. market. The material
14 injury suffered by the domestic industry could not be
15 any clearer. Chinese imports have placed the very
16 future of the domestic solar cell and module industry
17 at stake.

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

1 to domestic producers and their workers.

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

9 China's solar capacity is not going away.
10 In fact, it's still growing. It's projected to reach
11 42 gigawatts by the end of this year. While the U.S.
12 industry is contracting, the Chinese government is
13 propping up solar companies that are already
14 bankruptcy by western standards. Last week a local
15 Chinese government and state-owned bank gave a \$32
16 million rescue package to Suntech, a company that is
17 already in danger of being removed from the New York
18 Stock Exchange.

19 With nearly unlimited, and in many cases
20 government-funded, capacity, Chinese producers will
21 continue to take critical U.S. sales and collapse
22 market prices if orders are not imposed. The dumping
23 and subsidies taking place today have harmed the
24 entire U.S. industry, from large, integrated companies
25 to numerous small and start up module producers.

1 Today you will hear from two senior
2 officials at SolarWorld, the largest integrated
3 producer in the western hemisphere, and the CEO of
4 Helios Solar Works, a cutting edge solar start up
5 company, that had finally decided enough is enough.
6 You will also hear from two installers and one
7 distributor, all of whom have seen firsthand the harm
8 in the marketplace and who have been forced to compete
9 with distributors and installers of dumped and
10 subsidized Chinese panels. You will also hear today
11 from an Army General about the importance of
12 maintaining this U.S. industry from a national
13 security standpoint.

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

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

25 CHAIRMAN WILLIAMSON: Thank you.

1 MS. BELLAMY: Opening remarks on behalf of
2 the Respondents, Richard L.A. Weiner of Sidley Austin
3 LLP.

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

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

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

23 The Commission faces a unique situation in
24 which government at all levels enacted measures to
25 drive down prices for the provision of solar energy

1 and provided financial incentives and adopted
2 performance mandates to achieve that goal. As
3 incentives have declined in recent years, it has
4 become imperative for the solar industry to reduce
5 costs along the entire solar energy value chain,
6 including hardware inputs such as modules. This has
7 been especially important given that competition with
8 energy derived from nonrenewable sources, particularly
9 natural gas, has further reduced the solar electricity
10 price necessary to achieve grid parity.

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

22 As we will demonstrate, the Commission has
23 no basis for reaching an affirmative determination in
24 this investigation based on the statutory factors.

25 First, the volume of subject imports has

1 increased because U.S. demand has skyrocketed, and
2 Petitioners too have enjoyed stunning increases in
3 U.S. shipments of their modules in the residential and
4 commercial rooftop segments of the market that they
5 serve.

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

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

20 There also is no indication that subject
21 imports threaten the domestic industry with material
22 injury because the boom in demand for solar energy is
23 not just a U.S. phenomenon. Rather, solar energy is a
24 global market, and demand in China, Japan, Europe and
25 India, as well as in emerging markets in the Middle

1 East and Africa, far outpaces demand in the United
2 States, which represents just six percent of global
3 demand. Chinese producers are simply preparing to
4 satisfy domestic and global demand despite
5 Petitioners' claims to the contrary.

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

21 In sum, this is not your run of the mill
22 investigation. Respondents will describe an industry
23 in which continual cost cutting is demanded by both
24 government and competitors offering conventional and
25 alternative technologies and which has had the benefit

1 of incredible growth and demand. The testimony will
2 demonstrate that any injury suffered by Petitioners
3 cannot be attributed to imports from China. Thank
4 you.

5 CHAIRMAN WILLIAMSON: Thank you.

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

8 (Pause.)

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

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

17 As you see from this first chart, Chinese
18 producers have continued to expand their solar module
19 capacity throughout the period of investigation.
20 Capacity doubled in 2010 and again in 2011, and
21 continues to increase, according to their own
22 projections, into 2013. This is only for those
23 Chinese producers who responded to the Commission. We
24 have other data that Dr. Kaplan will present for the
25 industry as a whole.

1 As a result, there were massive increases in
2 subject imports during the period of investigation,
3 the 1,000 percent increase that I mentioned in my
4 opening statement, and Chinese imports continuing to
5 increase, even this year. Market share, also a 30
6 percent expansion in market share by China at the
7 expense of the domestic industry and market share
8 continuing to expand this year as well.

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

18 More statements from the Respondents
19 themselves confirming the cause of the harm to the
20 U.S. industry is Chinese overcapacity and pricing
21 practices. Canadian Solar says many competitors, or
22 potential competitors, particularly in China, continue
23 to expand their production, creating potential
24 oversupply. That's in 2011. LDK Solar: The past,
25 and continued, expansion of production capacity by us

1 and our competitors may result in significant excess
2 capacity. Suntech, Yingli, Trina: excess global
3 capacity. Mr. Shah also says everything is crashing
4 right now, the Chinese are maybe overplaying their
5 hand.

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

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

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

1 was filed.

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

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

15 Then we should not forget the harm to the
16 industry in terms of companies that are no longer
17 here, that have shut down. This is the list. The
18 injury, again, has not stopped as a result of the
19 filing of the case. Many of these were well-
20 established companies. This does not include
21 bankruptcies, this does not include thin film
22 producers who were also harmed by the Chinese
23 industry, this does not include all worker layoffs
24 that occurred during the period. You have those in
25 your staff report. All right.

1 With that in mind, we'll turn to Gordon
2 Brinser from SolarWorld to start the testimony.

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

17 What you could not see in Hillsboro was the
18 commitment and effort that brought our operation into
19 reality. What you could not see was the challenges we
20 overcame to renovate an abandoned semiconductor
21 factory. We invested over \$600 million of our own
22 money without any federal subsidies. We hired over
23 1,000 Oregonians, from operators, to accountants, to
24 Ph.D. scientists. We built a world-class research and
25 development team at the factory. We have planted deep

1 roots in the community and in the industry, and we
2 intend to remain an integral part of American
3 manufacturing. Today, SolarWorld is the largest
4 silicon solar producer in the western hemisphere and
5 the last remaining producer that is vertically
6 integrated.

7 As you also saw on the tour, we produce both
8 monocrystalline and multicrystalline cells and modules
9 on the same production line. We grow the crystalline
10 silicon, we cut it into wafers, we convert the wafers
11 into cells and assemble the cells into modules. The
12 60 cell module that we produce remains the industry
13 standard, widely used in all market segments,
14 commercial, residential and utility.

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

19 In 2008, the start up of our Hillsboro site
20 joined our location in southern California where our
21 Camarillo factory had operated since 1975 and was one
22 of the pioneers in this industry. We ramped up the
23 Hillsboro fab quickly, but the Chinese surge had
24 already begun and prices were quickly dropping. Once
25 we reached full capacity we expected to be able to

1 stay at that level, yet this was not possible.

2 Chinese imports overwhelmed the U.S. market, resulting
3 in a collapse of market pricing and lost sales.

4 In 2010, at its peak, our Camarillo facility
5 employed more than 250 American production workers;
6 however, SolarWorld was forced to shutter this
7 facility just before we filed the trade case as prices
8 continued to fall in the market. Because of this
9 closure we were forced to lay off 186 production
10 workers, some of whom had worked at this facility
11 since it opened in 1979, and all of whom we knew
12 personally. Even after filing this case we were
13 forced to shut down our Hillsboro facility for a three
14 week period at the end of 2011.

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

23 While demand has clearly increased over this
24 period, shut downs, lost sales, lost revenue,
25 production declines and layoffs of American workers

1 have become too common for SolarWorld and the rest of
2 the domestic industry. China's massive, government-
3 funded solar capacity has caused this material injury.
4 The actions we have been forced to take have been all
5 the more painful to SolarWorld because they're not
6 caused by fair competition, but they are policies of
7 the Chinese government.

8 The Chinese government has targeted solar as
9 a so-called strategic industry. Because of this, the
10 government has fueled a massive expansion of capacity.
11 This expansion far surpasses any foreseeable demand
12 in China and elsewhere. China's home market remains
13 extremely small compared to its capacity. China's PV
14 capacity last year was at least 18 times more than its
15 home market demand. In fact, Chinese producers
16 themselves have publicly admitted that Chinese massive
17 overcapacity is damaging the entire global solar
18 market. Given this supply glut, Chinese production
19 had nowhere to go but abroad. Over that period,
20 Chinese producers exported approximately 90 percent of
21 their solar panel production, flooding the U.S. and
22 world markets. This import surge has been devastating
23 to the U.S. industry. The sheer volume of Chinese
24 product that has entered the United States is
25 stunning. From 2009 to 2011, the volume of dumped and

1 subsidized Chinese imports increased by over 1,000
2 percent.

3 The U.S. industry market share has dropped
4 dramatically. Further, Chinese dumped and subsidized
5 pricing has caused a collapse in the market pricing.
6 Throughout the period, Chinese prices dropped far more
7 than raw material costs. Polysilicon costs, for
8 example, do not explain the meltdown in market prices.
9 Indeed, today China's prices are completely decoupled
10 from their costs, as demonstrated by the billions of
11 dollars of losses reported by Chinese producers.

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

25 Indeed, if unfairly traded imports from

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

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

19 As you know from the plant tour, SolarWorld,
20 like many other U.S. producers, is constantly
21 improving its products and developing new technologies
22 for these markets. While the Chinese Respondents will
23 tell you that the U.S. industry is not competitive and
24 we are to blame for our losses, that is nothing more
25 than a fairy tale. Our product and people can compete

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 The United States already depends on foreign
9 fossil fuels. The question is will the United States
10 come to depend on China for its energy technologies of
11 the future? Without AD and CVD duties, the answer to
12 this question may very well be yes. Thank you for
13 your time, and I'll be happy to answer any questions
14 you might have.

15 MR. KILKELLY: Good morning, and thank you
16 for the opportunity to testify today. I'm Kevin
17 Kilkelly, President and Sales Manager for SolarWorld
18 Americas. In this capacity, I'm responsible for all
19 of SolarWorld's sales and marketing operations
20 throughout the Americas.

21 As you have heard, the solar power market
22 has grown steadily over the past few years.
23 SolarWorld, like other members of the domestic
24 industry, continues improving our technology,
25 increasing manufacturing efficiencies and lowering

1 costs. For example, we substantially increased the
2 output of our solar panels in recent years from 175
3 watts in 2008 to 270 watts this year. By continuously
4 investing in our business, we have steadily reduced
5 cost to less than the gap with conventional fossil
6 fuels. Our goal is to continue to increase our
7 wattage and decrease our costs so that solar power
8 pricing can be competitive with traditional energy
9 sources. Unlike the Chinese producers, however, we do
10 this without massive government intervention.

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

19 In 2011, SolarWorld purchased significant
20 goods and services in more than 40 states, creating
21 additional jobs and benefits nationwide. In the
22 current market environment we ought to be doing well.
23 Demand for solar is increasing. SolarWorld competes
24 in all channels of distribution in the United States.
25 We manufacture both mono and multicrystalline solar

1 cells and panels. We sell to distributors, installers
2 and utility companies. We are strong in all these
3 sectors. In fact, the commercial segment is
4 SolarWorld's largest market in terms of sales,
5 followed by utility, then residential, and yet all of
6 these sales channels have been crushed because Chinese
7 producers have flooded the market with unfairly priced
8 product, causing a collapse in pricing.

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

21 The recent surge in Chinese imports which
22 led to substantial increases in inventory was not
23 connected to demand in the market. Rather, the recent
24 import surge was intended to beat the preliminary
25 duties that were imposed as a result of this case. It

1 is important that the import surge be covered by
2 duties.

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

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

24 I am confronted daily by Chinese price
25 offers. In general, at the beginning of 2011 Chinese

1 producers were offering modules at \$1.80 per watt. At
2 the start of this case Chinese modules were being
3 priced at \$1 per watt. Now they're offering modules
4 for less than 70 cents a watt. This Chinese pricing
5 caused module prices to fall between 40 and 50 percent
6 in 2011 alone. Such a large drop in prices during a
7 period of strong demand is a direct result of the
8 unfairly priced Chinese imports. Chinese producers
9 have shown that they will undercut the U.S. industry's
10 prices, no matter what they are. They're even willing
11 to sell below their cost to take market share.
12 Chinese prices are frequently so much lower than our
13 prices that we simply lose sales without ever having a
14 chance to compete.

15 In addition to the sales we're losing,
16 unfairly priced Chinese imports also affect our
17 ability to continue investing in research and
18 development to improve our products to stay at the
19 forefront of the industry like we have for the last 37
20 years. It is essential that we continue to invest in
21 developing our technology. Chinese imports have
22 undercut the U.S. solar market, hurting our ability to
23 invest and reinvest in increasing efficiencies and
24 reducing costs and threatening the long term viability
25 of the domestic industry.

1 Chinese producers have dramatically
2 increased their U.S. market share at our expense. By
3 overwhelming the market, the Chinese have collapsed
4 pricing so that it is difficult for U.S. producers
5 even to cover their costs. Many producers have shut
6 down U.S. operations or declared bankruptcy, and
7 thousands of U.S. workers have already lost their
8 jobs. I have no doubt that Chinese producers will
9 continue to take U.S. sales at any cost. These
10 Chinese producers have crippled our industry and stand
11 poised to inflict additional injury in the absence of
12 effective trade relief.

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

24 On behalf of SolarWorld, its more than 950
25 current employees and the nearly 300 laid off

1 employees, I urge the Commission to find that dumped
2 and subsidized Chinese imports are materially injuring
3 the domestic industry and threaten the domestic injury
4 from future injury. Thank you for your time, your
5 hard work on this case. I'm happy to answer your
6 questions.

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

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

22 Helios produces crystalline PV panels,
23 including 60 cell modules with micro invertors and
24 larger modules with 72 and 96 cells for ground mount
25 systems in large commercial and utility scale

1 installations. Our modules can produce anywhere from
2 260 to 420 plus watts of power. The U.S. military is
3 one of our primary end customers, with installations
4 in Fort Drum, New York; Fort Polk, Louisiana; and two
5 Marine Corps bases in California.

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

14 I served in the Army Reserves. We
15 prioritized hiring disabled and other veterans who
16 made up 40 percent of our initial workforce. Our
17 factory creates jobs not only for our workers, but
18 also for our vendors, customers and other downstream
19 companies involved in selling, financing and
20 installing solar projects. In fact, a Wisconsin glass
21 manufacturer began making solar glass in order to
22 supply our needs. Another firm recently made a
23 significant capital investment to produce connective
24 ribbon in Wisconsin for our solar panels. We also
25 have a partnership with the Milwaukee Center for

1 Independence, employing special needs individuals who
2 help build our components.

3 Our goal has always been to provide highly
4 efficient solar modules at a competitive price to help
5 make solar energy more attractive and economical. To
6 do so, we built a state of the art automated facility.
7 Our facility uses advanced robotic machinery which
8 improves the cell breakage rate, and therefore reduces
9 module cost. As a result of these cost savings, we
10 were able to produce our modules very competitively
11 from the outset.

12 Helios entered the solar industry at what
13 should have been a great time. The U.S. PV market
14 doubled from 2009 to 2010, and again from 2010 to
15 2011. We were poised and ready to take advantage of
16 this growing market. Given these market conditions,
17 we should have been able to grow our business and make
18 a profit; however, it has been a struggle to get our
19 operations in full gear due to the enormous increase
20 in dumped and subsidized cells and modules.

21 Just as the market began to flourish,
22 Chinese imports rushed into the U.S. market. In fact,
23 soon after we opened our manufacturing facility in
24 early 2011, Chinese imports surged into the United
25 States at astonishing levels. Market prices began to

1 plummet. Our customers indicated that Chinese
2 companies were continuously slashing prices, sometimes
3 below their cost of production.

4 We compete directly with the Chinese product
5 in all market segments, from residential, to
6 commercial, to utility scale. As a result, we were
7 forced to keep lowering our prices, but even with our
8 automation, low direct labor cost and freight
9 advantage, we cannot compete with the Chinese
10 government. By the end of 2011, Chinese companies
11 were offering panels as low as \$1 per watt and our
12 prices were falling much faster than our cost.

13 China is responsible for the crash in market
14 prices for PV panels, not thin film and not raw
15 material cost decreases. By completely overwhelming
16 the U.S. market, Chinese producers have collapsed
17 pricing to the point where it is nearly impossible for
18 U.S. producers to cover their costs. One of our most
19 common modules is selling for 40 percent less now than
20 just a year ago. When we could not lower prices
21 enough, we lost significant sales to Chinese
22 producers.

23 The American solar industry has been
24 devastated by Chinese trade practices. We had ramped
25 up production and had grown from one shift in the

1 first quarter of 2011 to two shifts in the second
2 quarter. We were on pace to run three shifts and
3 operate at a 75 percent capacity utilization rate in
4 August 2011. We planned to employ about 50 people by
5 October and double capacity, and increase employment
6 to be nearly 100 by this time; however, as a result of
7 the rapid increase in unfairly traded Chinese product,
8 our plan to increase production has been put on hold.
9 Instead, we were forced to idle our module factory
10 and lay off workers in November of 2011.

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

20 Since the issuance of preliminary duties,
21 our condition has improved. However, we are still
22 running only one shift and have a head count of 26
23 employees. Our credit line is now subject to more
24 oversight and our interest rate has increased
25 significantly. Because of these Chinese imports, we

1 also have been unable to make R&D investments that
2 would further increase efficiencies and reduce cost.
3 Such investments are critical to the future viability
4 and competitiveness of our company and our industry as
5 a whole.

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

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

23 On behalf of Helios, our families and the
24 employees that we had to let go, I respectfully urge
25 the Commission to give us an opportunity to do so by

1 imposing AD and CVD duties against dumped and
2 subsidized Chinese products. Thank you.

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

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

23 I'm testifying today on the issue of
24 national security, and, in this case, to help ensure
25 that producers, like SolarWorld and other U.S.

1 manufacturers of solar products, are not harmed by
2 unfair competition from abroad, especially when our
3 government has the power and the duty to ensure that
4 fair markets prevail in this country.

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

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

24 The long term goal of our agency's Clean
25 Energy Development Program is to become a national

1 leader in DOD's Energy Security Initiatives. Towards
2 that end, the department is investigating
3 opportunities to leverage its clean energy development
4 activities to support research, education and training
5 in Oregon.

6 As part of the fulfillment of the Net Zero
7 Initiative, we have made it a point to, where
8 possible, purchase American-made solar products. In
9 Oregon, SolarWorld has been a solid and dependable
10 supplier for several years. Now there appears to be
11 fewer U.S. producers of solar products left in
12 American.

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

21 It would be an odd twist of fate that as we
22 move away from relying on imported oil from the Middle
23 East, to see this country lose our domestic solar
24 production base and end up being dependent on foreign,
25 potentially unreliable, sources of our alternative

1 energy needs. All we need to do is look at China's
2 actions to cut off supplies of rare earth materials to
3 Japan over a territorial dispute to see that the
4 Chinese government has no problem flexing its economic
5 muscle to sectors where it has near monopoly status.
6 Couple this with China's plan to dominate global solar
7 panel production, as outlined in the most recent five
8 year plan, and you can understand the national
9 security implications of ceding an important industry
10 to China.

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

20 The loss of 14 U.S.-based producers over the
21 past two years means that we have fewer and fewer
22 options to source from. It becomes harder and harder
23 to procure domestic supply, which will, unfortunately,
24 drive the United States' military to depend on foreign
25 producers. I believe it would be a great wrong to put

1 America's military in this position, not to mention
2 American producers, like SolarWorld and its workers,
3 many of whom are Oregon National Guard veterans. I
4 thank you for the opportunity to talk to you today.

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

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

1 been there since 2007.

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

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

20 This happened in 2011 when the Chinese
21 imports caused their surge into the market with huge
22 volumes and unfairly-low prices caused them to go out
23 of business, and we could no longer sell their
24 product. Since then, we've been working with
25 SolarWorld as the last large remaining solar

1 manufacturer in America. On a weekly basis at
2 Mountainview, we receive a barrage of emails and even
3 phone calls directly from Chinese manufacturers trying
4 to sell us their product on price only.

5 Over the past few years, the prices offered
6 by the Chinese companies and their panels have gone
7 lower and lower without any relationship to their cost
8 to manufacture them. While we do not respond to these
9 offers, our competitors and our distributors around us
10 have done so. This gives us incredible pricing
11 pressure in our market. We compete with these
12 companies every single day in the marketplace, every
13 day, and we try to respond to the constant and ever
14 increasing lower prices from the Chinese companies.

15 For example, you probably here radio ads
16 for Solar City. It might not surprise you to learn
17 that Solar City uses unfairly-priced Chinese solar
18 panels in its installations. Solar City and companies
19 like solar city using those unfairly-priced, dumped
20 and subsidized Chinese panels have taken over 70
21 percent of the residential marketplace in Maryland in
22 18 months. It's become harder and harder for us to
23 compete with the Chinese pricing. They've caused the
24 market to collapse.

25 Pricing pressures exist in all sectors of

1 the industry, but it's most difficult for us to
2 compete with those Chinese prices in the commercial
3 markets. We're in an area where we've been for a long
4 time. We're known as the solar installers. People
5 come to us with their projects. They ask us first.
6 Then, they look for additional quotes and repeatedly
7 they come back with lower and lower prices. These
8 extremely low prices from the Chinese panels, we try
9 to compete with that. Sometimes, we win the projects,
10 but increasingly we're losing those projects based on
11 price only.

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

23 MR. FERDA: Good morning, Chairman
24 Williamson, members of the Commission and staff. My
25 name's Mark Ferda, and I'm here representing

1 McNaughton-McKay as the renewable energy account
2 manager. McNaughton-McKay is a 103-year-old,
3 Michigan-based, full line traditional electrical
4 distributor, and we are now stocking and distributing
5 a variety of solar products.

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

17 We serve both industrial and construction
18 markets including customers such as end-product and
19 equipment manufacturers, electrical contractors,
20 municipalities and utilities. In 2009, McNaughton-
21 McKay strategically entered into the solar market in
22 Michigan, and as of 2012, we've committed resources in
23 all of our U.S. geographic markets. Our sales volume
24 has been strong as U.S. demand for solar energy has
25 increased in the past few years. Revenues from our

1 efforts were four times our original business plan in
2 2010. However, our revenues have not kept pace.

3 While our volumes of sales have doubled
4 through 2012, our total revenue remained flat due to
5 the declining market prices. In two and a half years,
6 our experience as far as U.S. solar module prices have
7 decreased by other 60 percent, declining from \$1.84
8 per watt in the first quarter of 2010 to 68 cents per
9 watt in the third quarter of 2012. We've seen no
10 evidence of this drastic decline being the result of a
11 proportionate reduction in material costs, nor from
12 advancements in manufacturing processes or technology
13 develops responsible for those steep declines. These
14 massive-price declines can only be explained by
15 Chinese trade practices.

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

25 The damaging result from the declining

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

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

22 The emergence of these new companies in the
23 Midwest was a short-lived sign of hope, but dumped and
24 subsidized Chinese products made it impossible for
25 them to compete. Many of these businesses were

1 located in the economically hard-hit regions in
2 Michigan and Ohio, and they impact to the jobs goes
3 even deeper than the manufacturers plants and us as a
4 distributor. Many Midwest equipment manufacturers,
5 engineering firms and contractors devastated by the
6 auto industry downturn also saw a glimmer of hope
7 quickly fade.

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

19 MR. MORINVILLE: Good morning. I'm Joe
20 Morinville, President of Energy Independent Solutions.
21 EIS is a solar panel installer based in the
22 Pittsburgh area who's been in operation since 2008.
23 About half of our business comes from the residential
24 sector, the other half from the commercial sector.
25 I'd like to start by giving a little background on our

1 sales process and the solar market in general.

2 For residential sales, we typically generate
3 leads through word of mouth, trade shows and
4 advertising. For commercial, we respond to RFPs and
5 RFQs, and our sales personnel work with
6 municipalities, universities and others to develop
7 business. From conversations with our customers, we
8 typically know who the other installers are who we're
9 competing against and what kind of solar panels that
10 they're installing or offering to the project.

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

22 The large volumes of low-priced Chinese
23 imports overwhelmed the U.S. market and crushed market
24 prices for solar panels. Our customers are often
25 quote extremely low prices by installers that use

1 Chinese panels, and we're continuously trying to have
2 to match these falling Chinese prices as residential
3 and commercial installers become harder and harder for
4 us to compete with installers using Chinese modules.

5 The price of the panel really drives a
6 purchasing decision, and the importance of price is
7 magnified as you move from residential to commercial
8 and from commercial to utility scale, this because
9 project initiation labor costs are less of a factor in
10 total project costs for larger installations that they
11 are for smaller installations. For example, certain
12 project installation costs such as the permitting,
13 setup, engineering costs are typically similar
14 regardless of the size of the project.

15 In addition, because large-scale commercial
16 and utility projects involve a single setup and run
17 more efficiently than residential projects, the man
18 hours per panel installed are actually less for these
19 larger installations. For residential, it often takes
20 two or more man hours per installed panel while
21 commercial installations generally require one man
22 hour or less.

23 As a result, even though we are selling the
24 same panel to all markets, the relative price of the
25 panel become even more important when we're competing

1 for larger projects. The pricing pressure caused by
2 Chinese imports is particularly bad in the commercial
3 and the utility sectors because of this reduced per-
4 unit installation cost. In fact, EIS recently worked
5 on a bid for a 2.5 megawatt utility-scale project,
6 worked hard with our domestic panel supplier to reach
7 as competitive a price as possible.

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

17 In my experience, the collapse of the market
18 prices is not related to pricing for thin-film
19 products. EIS carries some thin-film products. While
20 there is some overlap between thin film and
21 crystalline silicon panels for certain jobs, they're
22 generally not competitive with each other. Thin film
23 is a less-proven technology. It's physically
24 different. It's also less efficient and not as well
25 suited for residential and commercial installations.

1 Generally, these products are viewed differently by
2 our customers.

3 On behalf of EIS, I'd like to thank the
4 commission for the opportunity to appear here today.
5 This case is critical for us. We believe in American
6 made solar panels and do not want to be forced into a
7 position where we have to consider abandoning our
8 domestic supply base.

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

23 The industrial policy has been in existence
24 for a while. The 11th five-year plan targeted the
25 solar energy industry, and the state council

1 guidelines prioritized low-cost, mass development and
2 utilization of renewable energy. It states, "We will
3 give priority to researching and developing high-
4 performance, low-cost solar voltaic cells and
5 technologies that use them.

6 The 12th five-year plan identified the new
7 energy industry as a strategic emerging industry, and
8 the solar photovoltaic energy part is part of the new
9 energy industry. The photovoltaic five-year plans
10 speaks of increasing capacity and production, price-
11 level targeting, export orientation and technological
12 advances in innovation. To support this directed
13 industrial policy, China has invested billions and
14 tens of billions of dollars in building new capacity.

15 There has been a geometric growth of new
16 capacity in China from an industry that was founded in
17 the United States and has its roots in the United
18 States and Europe. They are a newcomer to this
19 industry. They are using foreign technology and parts
20 and equipment to build their industry. Note that
21 Chinese consumption in 2011 pales in comparison to
22 Chinese capacity, despite the fact that we all know
23 that China is building coal-fired power plants and it
24 has vast energy needs and growing energy needs given
25 to their rise in income and their manufacturing base.

1 Nonetheless, this energy industry, this
2 clean energy industry production, is targeted for
3 abroad. Chinese module shipments have increased
4 significantly in accordance with their capacity, and
5 their consumption has lagged their own capacity
6 because the capacity and shipments are targeted for
7 countries abroad. The targeting is plain. I will
8 repeat some of the quotes and maybe some of the new
9 ones that Mr. Brightbill had said earlier.

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

19 The supply glut in place collapse is
20 documented in the staff report, is documented in the
21 financial press. It is documented in the SEC
22 documents that are filed by U.S. and foreign
23 companies. It is documented in the statements of the
24 trade press that views this industry. It is
25 documented in the press releases and the statements

1 that Chinese producers themselves have made for the
2 last three years.

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

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

1 collected, analyzed and verified.

2 What also we've seen is not only has the
3 imports affected the U.S. market, but they've driven
4 out the non-subject imports as well. Imports from
5 China, which were less than 20 percent in 2008, by
6 2011 comprised over 50 percent of the imports in the
7 market and are increasing continuously. The
8 Commission recognizes and Respondents have noted, as
9 have we, that prices in this industry are expected to
10 fall because of changes in technology, but the
11 Commission has long considered the rate change in
12 prices relative to the change in input costs and costs
13 of goods sold.

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

24 In discussing the input costs with
25 representatives of the industry, I want to note that

1 the other input costs, things like aluminum and silver
2 that are important components have actually been
3 rising, which explains why the cost-price squeeze has
4 been more severe when you look at total materials cost
5 and not just polysilicon, but even polysilicon shows a
6 cost-price squeeze.

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

16 The anecdotal information provided by the
17 representative from the installation in both
18 Pennsylvania and in West Virginia is consistent with
19 the overall trends collected by the Commission. This
20 is a national problem. It is happening in every
21 single segment. The Chinese, who have talked about
22 being in the utility segment, which they dominate, in
23 which the U.S. industry has increased in trying to
24 compete, also dominate the commercial segment and also
25 dominate the residential segment.

1 There is no lack of competition or lack of
2 overlap of competition or segmented market issues in
3 this investigation. There has also been other claims,
4 and I can't recall a case where Respondents have put
5 in so many alternative causes. I will discuss two of
6 the many right now. One has to do with natural gas
7 volatility prices. The blue line shows the price of
8 natural gas, and as we all know it has come down
9 dramatically due to fracking technology.

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

17 Finally, thin film was referred to as an
18 alternative cause. I think this speaks for itself.
19 Thin film was a larger share of the market before the
20 period of investigation, but silicon is the large part
21 of the market and the notion that the flea on the hair
22 of the tail is wagging the dog as represented by
23 Respondents is plainly shown to be incorrect by this
24 graph that the silicon module industry itself has done
25 well and has not been harmed by this, but is in fact

1 been harmed by this and by this. Thank you very much.

2 I'll be happy to answer questions.

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

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

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

1 policies versus the security motivation?

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

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

21 We need to secure our own energy sources.
22 We need to secure our own for the DOD and for every
23 element of it, including the National Guard, so yes,
24 economics is absolutely important, but at the same
25 token, we need to look at the long term too, not just

1 the short term. We need to have a long-term look, and
2 I think that's where DOD's headed with these policies.

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

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

21 I guess it's strange from my standpoint,
22 again as we become very reliant, United States, on
23 fossil fuels, we need to keep moving to other
24 alternatives, and if we don't, then our only security
25 is to have a large expensive military to secure that.

1 IN the long term, that's not good policy, and again,
2 I think we need to look at the long term, not the
3 short term, and it's pretty evident the Chinese
4 industrial policy is not in congruence with what
5 really want as a country in my mind.

6 COMMISSIONER PINKERT: Thank you.

7 CHAIRMAN WILLIAMSON: Commissioner Johanson?

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

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

24 I think as we look at our Fort Oregon, as we
25 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

1 value added would you say needs to be in the product?

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

11 COMMISSIONER BROADBENT: Right.

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

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

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

24 COMMISSIONER BROADBENT: Okay. So we're not
25 dealing with different regulations and statutes that

1 have different definitions of value added and what's
2 domestic?

3 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
7 generally correct, but we'd be happy to provide some
8 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

1 advocate a position to a foreign nation whether it be
2 China or any other nation for that matter. I think we
3 need to maintain that capacity in this country whether
4 we're building solar panels or we're building widgets.
5 If we don't have that capacity, at some point --

6 COMMISSIONER BROADBENT: But that sort of
7 leads you to we have to produce every single thing in
8 this country.

9 GEN. CALDWELL: No, ma'am. I'm not saying
10 that. I'm saying we have to have the capacity to do
11 that and we have to be competitive, and I think that's
12 what this is really about is not whether or not we
13 produce it or not, but being competitive in that. I
14 mean, that's the really the discussion here. Is this
15 competitive? Is the playing field fair or is it not,
16 and I think from a personal standpoint, being an
17 elected official for over 12 years, the most important
18 thing to me is American people doing American work
19 creating American products.

20 Because those are the people that I spent my
21 entire public career supporting them, it doesn't make
22 a lot of sense to me to ship those, when it's a not a
23 fair playing field, to ship those products and/or that
24 industry and/or that manufacturing to another nation.
25 That simply doesn't add up to me, and I'm a farm kid

1 from Eastern Oregon, so I grew up on a farm, pretty
2 simple. This is not complicated in my mind.

3 COMMISSIONER BROADBENT: Thank you very
4 much.

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

11 GEN. CALDWELL: Both.

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

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

19 CHAIRMAN WILLIAMSON: Good. Okay. Because
20 the question is are we talking about do you have a
21 finished installation, how do they figure out the
22 value of the cell, the value of the product after it's
23 assembled into a module, or is it really the value at
24 the time that the whole thing is installed with the
25 installation cost, too. I think that would be helpful

1 for us to gain an understanding of how much these laws
2 bear on the market in the U.S. and demand in the U.S.

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

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

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

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

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

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

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

23 CHAIRMAN WILLIAMSON: Yes, you do.

24 COMMISSIONER PINKERT: Thank you. I want to
25 thank everybody on the panel, again, for appearing

1 today and helping us to understand these difficult
2 issues in this case. I want to begin with something
3 that you emphasized in the testimony that the market
4 has been expanding, that apparent consumption has been
5 going up, and I want to ask whether the panel things
6 that it would be fair to conclude that much of that
7 increase in apparent consumption has been driven by
8 imports rather than by increases in demand?

9 MR. BRINSER: Gordon Brinser, SolarWorld.
10 If I understand your question, you're asking if the
11 imports themselves are driving the demand in the
12 market?

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

18 MR. BRINSER: So I think demand in the
19 market, and we'll go a very broad context here, demand
20 in the market is very complex. There is many things
21 that are driving demand in the market. You have
22 federal incentives as we heard about earlier through
23 the ITC. You have state incentives in various states
24 that are driving demand, and probably more
25 importantly, you have RPS standards and also energy

1 prices that are driving some of the demand in those
2 different markets, so it's very complex market
3 dynamics that does go on.

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

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

20 MR. KILKELLY: Kevin Kilkelly, SolarWorld.
21 One more on the demand side. If we forget about the
22 percentages, the market in the U.S. is increasing, and
23 it has over the last few years. Many of this has
24 been, like my counterpart Gordon Brinser, has talked
25 about through federal tax incentives, state RPSs that

1 drive the utilities to procure from renewable sources
2 as well as the increasing cost of energy.

3 The size of the market has only increased
4 about one gigawatt a year over the last few years.
5 There is no way that 42 gigawatts worth of
6 overcapacity in China when it's released onto this
7 market, that's an absolute uneven playing field,
8 driving down the price predatorily to push domestic
9 consumers out of the market. So even though demand is
10 going and it's going to continue to go strong within
11 the solar industry for the next few years, at least
12 through 2016 with the ITC timeframe, that demand will
13 not even come close to matching the capacity that
14 China has brought online as well as their intentional
15 targeting on export-oriented markets.

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

23 COMMISSIONER PINKERT: Dr. Kaplan?

24 DR. KAPLAN: Yes. First, I want to repeat
25 again that the market is very small relative to other

1 energy sources and that the government has taken an
2 interest in this both by investment tax credits, which
3 are referred to as ITC, different than this ITC, and
4 mandates that states generate more electricity using
5 renewables, so those are the two important things that
6 are driving it.

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

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

24 MR. FERDA: Four or five.

25 DR. KAPLAN: Four or five months ago, so I

1 think you should keep that in mind that the price
2 decline has been so quick. You saw all the damage
3 from increases with prices that are much higher than
4 now. Demand was going up quickly during the POI with
5 prices that were higher, expected to continue, and if
6 the orders go in place, we are back to where we were
7 four months ago.

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

16 MR. DEFRANCESCO: Commissioner Pinkert?
17 Robert DeFrancesco. I think in our brief we talk
18 about installations, the increase in installations in
19 the market which there's data for in the brief. That
20 increase in installation has increased about 300
21 percent over the period whereas Chinese imports
22 increased by 1,000 over that period, so I think
23 comparing the degree of installations relative to
24 actual imports kind of points you in that right
25 direction, I think.

1 DR. KAPLAN: I'll provide information in the
2 post-hearing brief trying to disentangle the two
3 effects you're talking about.

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

16 DR. KAPLAN: Well, first, those lines were
17 fitted lines, so they were forced to be linear in that
18 regard, but they do fit the data that the actually
19 prices moved around. It really depends on the
20 industry. You've heard of Moore's law on
21 semiconductors where there's been a particular growth
22 rate in the number of transistors on a cell over time
23 that's been technologically determined. In this
24 industry, my understanding, which is semiconductor
25 related, that there has been an eight- to 12-percent

1 productivity increase due to technology.

2 At the same time, it's not going to be
3 completely linear because the input prices fluctuate
4 some, but what you've seen is that you have a very
5 long run of this about 10-percent decline with
6 fluctuations above and below, and then with the entry
7 of the Chinese, the line steepens, and the reason why
8 I don't believe it's a technology change is that
9 people were profitable during the previous period.

10 Now, U.S. companies, European companies and
11 Chinese companies themselves are losing extraordinary
12 amounts of money, so the pricing has become unrelated
13 to the change in technology and unrelated to the
14 change in input prices, and people when we're working
15 the testimony said this is irrational, and I'm not
16 saying the Chinese are irrational. They might be
17 doing this to create jobs. They have an industrial,
18 and they've targeted a particular industry because of
19 long-run reasons, but for economic reasons and market-
20 based reasons, it doesn't fit.

21 Everybody is losing money. Everybody's
22 going bankrupt. The capacity is completely out of
23 proportion to consumption both in the U.S. and abroad,
24 and China's using their capacity to target exports
25 even though they have shortages of energy in their own

1 country, so I don't think it's technologically
2 determined. I don't think there's been this cliff. I
3 think it's still the same eight- to 10-percent, and I
4 think the technology folks from SolarWorld can comment
5 on that as well.

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

9 CHAIRMAN WILLIAMSON: Okay. Thank you.
10 Commissioner Johanson?

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

20 MR. KILKELLY: Thank you, Commissioner.
21 Kevin Kilkelly, SolarWorld. I'm the commercial sales
22 leader for SolarWorld. Our largest segment is the
23 commercial segment followed by utility. We have
24 proprietary mounting and ground tracking systems that
25 are geared towards the utility sector specifically.

1 Our single-access tracker, first iteration, was
2 launched seven years ago with systems deployed of
3 Semi-Tropic in California.

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

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

20 MR. OSTRENGA: Commissioner, Steve Ostrenga
21 from Helios. I'd also like to add from Helios'
22 perspective we participate in all three segments,
23 residential, commercial and utility scale, and we made
24 different products that fit different sectors, for
25 example, in the residential, a 60-cell module that has

1 a micro-inverter and it's also made with a black back
2 sheet and a black frame that's more aesthetically
3 pleasing for a residential rooftop, and we not only
4 make a 72-cell module, but we also make a 96-cell
5 module that's 420 watts.

6 This larger-scale format is a great fit for
7 commercial, large commercial systems and utility-scale
8 systems because it significantly drives down the cost
9 of labor and balance of systems. It's more robust
10 than the 72-cell our opponents here are discussing.

11 MR. FERDA: Commissioner, Mark Ferda,
12 McNaughton-McKay Electric. As I mentioned earlier, we
13 serve all three markets, residential, commercial and
14 the utilities, and our experience has been, over the
15 last three years, we have sold a total of 10 megawatts
16 of product, and seven of those 10 megawatts have been
17 to the utility sector. Another clarification too is
18 that seven megawatts consisted of 60 cell modules
19 because I know there's been other points made that the
20 72-cell module was the predominantly main module to
21 serve the utility.

22 Our particular utility has done engineering
23 studies and has concluded that the most effective way
24 was to use a 60-cell module in all of their
25 applications up to this point of the seven megawatts

1 that they've purchased, and that was done in
2 comparison to the 72s, which we provided them also
3 domestic pricing for 72 cell modules compared to the
4 60s.

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

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

14 MR. OSTRENGA: I'll comment.

15 COMMISSIONER JOHANSON: Go ahead.

16 MR. OSTRENGA: Depending on what analysts
17 you listen. I mean, the residential-, commercial- and
18 utility-scale, roughly they've each been equitable as
19 far as growth, and we mention Solar City that these
20 are companies that are betting heavily on the
21 residential sector. Wells Fargo are putting money
22 behind maybe residential sector. Then, you've got
23 utility players that believe the utilities are going
24 to be the big play. Berkshire Hathaway is putting
25 money behind those type of projects, but inevitably,

1 all three sectors seem to be growing a at a similar
2 rate and be similar size in scale.

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

13 If they're of the super scale, greater than
14 100 megawatts, of course it's much easier to deploy
15 100 megawatts to one jobsite than it is to deploy
16 through distributed generation in the commercial
17 sector and also to each individual home in the
18 residential sector. You have to aggregate much more
19 in that fashion, so it is correct to say the utility
20 sector has grown the fastest, and it has been due to
21 the state requirements for the RPSs to meet, which is
22 a mandate from those states for those utilities to
23 meet their Renewable Energy Portfolio Standard.

24 The utilities want to do that. They want to
25 meet those requirements so they don't have to pay the

1 penalty. To do that, they want to bring on large
2 megawatts of renewable energy, not just in solar, but
3 also in wind and in other renewable forms, so in the
4 solar sector, it is growing. It's one of the fastest
5 growing, but also, you have to look scale, so by
6 deploying the amounts of panels, these mega farms
7 consume tens of thousands of panels per job compared
8 to a residential or a distributive generate commercial
9 rooftop.

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

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

20 COMMISSIONER JOHANSON: This is addressed --

21 MR. OSTRENGA: I guess, I'll comment this.
22 I think the argument is that we make more high-
23 efficient modules. At Helios, we make a 60-cell, 72-
24 cell and a 96-cell module. Those are three different
25 products that can have applications to either a

1 residential, commercial or utility scale, so our
2 products compete for all different applications.

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

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

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

1 MR. KILKELLY: Kevin Kilkelly, SolarWorld.
2 Our business model has been to manufacture in the
3 markets that we participate in. I am now required to
4 and responsible for the European markets. We are a
5 global company. It is our business model that we
6 participate in as many global markets as possible to
7 help. As markets increase, emerge and decrease based
8 on different types of incentives or policies, we
9 believe that this blended portfolio of market
10 participation strengthens our organization for the
11 U.S.

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

18 MR. BRIGHTBILL: Tim Brightbill. I'm sorry,
19 Gordon. Go ahead.

20 MR. BRINSER: I think the main thing like
21 Kevin had mentioned, I mean, we built the facility in
22 Hillsboro. We invested \$600 million into that
23 factory, into the people, into the community, into the
24 suppliers to sell into the U.S. market because we saw
25 five years ago the growth in the U.S. market taking

1 off, and we would sell more into the U.S. market if it
2 wasn't for the collapse in the pricing today. The
3 collapse in the pricing has forced us to look at
4 various other markets to see where we can try to
5 export at a reasonable price.

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

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

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

1 chance, just refer to page 2. Thank you.

2 CHAIRMAN WILLIAMSON: Commissioner
3 Broadbent.

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

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

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

22 COMMISSIONER BROADBENT: Right.

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

25 COMMISSIONER BROADBENT: So can you just

1 kind of say when they were in effect?

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

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

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

1 COMMISSIONER BROADBENT: Okay.

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

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

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

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

15 MR. OSTRENGA: Yeah.

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

19 MR. OSTRENGA: The ITC has called the
20 investment tax credit. That was a 30 percent tax
21 credit for the total system installation cost. In
22 2008, that was extended by President Bush to 2016. So
23 right now, it's currently a tax credit.

24 From 2011-2012, I believe, there was a grant
25 in lieu of a tax credit, but that was suspended last

1 year, and it does not --

2 COMMISSIONER BROADBENT: And that is the
3 1603?

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

5 COMMISSIONER BROADBENT: Cash grant.

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

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

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

14 COMMISSIONER BROADBENT: So the purchaser.

15 MR. OSTRENGA: Yes, correct.

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

19 MR. OSTRENGA: No. I mean, at the state
20 level, you can have some utilities intervening. But
21 overwhelmingly, what our policy in the United States
22 is, is for consumption. That's a big -- please note
23 that it's based on consumption, not production. There
24 really is no incentive for us as a manufacturer to
25 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
6 Industries. I think again it's clear that the volume
7 increase of over 1,000 percent in imports when the
8 demand is only increasing by 300 percent is another
9 factor that we can look to that there is a clear
10 disconnect on the surge of imports and the demand.

11 COMMISSIONER BROADBENT: Seth?

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

18 But the requirements by states actually
19 increase demand, and all of those things being
20 equally, that should cause prices to go up because
21 there is no subsidy there. They are just telling
22 people you have to buy more of this kind of stuff, and
23 in any particular market, when you see a mandate for
24 greater usage, all else being equal prices should rise
25 rather than fall.

1 The mandate is not saying we'll give you the
2 subsidy to reach this rate. It says you need to be at
3 10 percent or you need to be at 30 percent on a state-
4 by-state basis. And the prices actually have moved in
5 directions opposite of that effect, and consistent
6 with the effect of the subsidization.

7 COMMISSIONER BROADBENT: Okay.

8 DR. KAPLAN: Thank you.

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

12 MR. KILKELLY: The price leaders are the
13 Chinese importers, everyone from Yingli, Trina,
14 Suntech, LDK. The list goes on into the 40s, 50s,
15 100s of Chinese producers that have entered this
16 market.

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

19 MR. KILKELLY: All downward leaders on
20 price, absolutely. Nonsubject imports have not been
21 leading in price. Neither has the domestic industry.
22 We've been holding on as best we can to get close,
23 you know, and still make -- everyone is losing right
24 now. There isn't -- that's where the decoupling of
25 cost and price really show.

1 In the public interim reports of these
2 companies that are traded publicly, everyone right now
3 is losing money. So price has obviously gotten away
4 from -- the pricing scheme has gotten away from China
5 to the point that I don't know how they're going to
6 self-correct, right, because they just continue to
7 just dump and dump at any cost. They realize that the
8 lower that they can sell the price point into the U.S.
9 market, the lower the tariffs are for them in total
10 dollar amount. And so while the remedies are helping,
11 okay, we're seeing benefit in slowing down the
12 imports, but we need to continue to have these
13 remedies, you know, enforced. And with your vote,
14 we'll see that improvement.

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

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

20 MR. McKECHNIE: Commissioner?

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

23 MR. McKECHNIE: Thank you, Commissioner.
24 Mike McKechnie, Mountain View Solar. Out in the
25 residential and commercial field, we see the price

1 leaders being the Chinese tier one companies. Kevin
2 mentioned several of them. The ones that we run into
3 consecutively are Suntech, Yingli, Mage, Canadian
4 Solar, and LDK.

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

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

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

25 COMMISSIONER BROADBENT: And then would you

1 just talk again a little bit about the other factors
2 or other criteria that you look at in addition to
3 price, the wattage --

4 MR. McKECHNIE: Yes.

5 COMMISSIONER BROADBENT: -- the quality?

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

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

23 MR. OSTRENGA: Commissioner?

24 COMMISSIONER BROADBENT: Yes.

25 MR. OSTRENGA: I apologize for interrupting,

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

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

24 This was the day that the case was announced
25 last year. I wish I had a tape recorder right there

1 just to -- it was an open-and-shut case.

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

5 CHAIRMAN WILLIAMSON: Go ahead.

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

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

16 So it used to be that they would pick the
17 American-made product because it's made in our country
18 and employs people here. And it is a better built
19 product, and our installers used all the products that
20 I mentioned in my testimony, and we tried them all.
21 Now, they didn't know where they came from
22 necessarily. They unpackaged them. They put them on
23 the roofs. We called them back in, and we said, which
24 ones do you like better, and they picked the panels
25 made in America.

1 That was how we made our choice. That used
2 to be a differentiating factor for us to close our
3 sales. Now what we're finding is people want to do
4 that, but when they see the price so much lower, for
5 what we believe is an inferior product as well, it
6 just -- they forget about the American-made, and they
7 got to go with this super low price that they got.

8 So everything else is kind of out the door,
9 the balance of systems, the inverters. Our reputation
10 is what they want, and that's why they give us a
11 second look at the proposal, which we love to get.
12 And then we try to match that price. And every month
13 it gets harder. Does that answer the question?

14 COMMISSIONER BROADBENT: Yes, thank you.

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

25 So the people want to work with somebody

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

15 COMMISSIONER BROADBENT: Thank you.

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

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

23 Actually, it's my turn now. Mr. Ferda, I
24 want to sort of kind of continue along this line. And
25 I guess you had made a comment that you sort of --

1 almost like there was a level that you would not go
2 below or beyond in choosing what product you would
3 make. I don't have the quote quite --

4 MR. FERDA: I did mention in my testimony
5 that our company would not compromise our selection
6 criteria for suppliers.

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

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

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

23 So quality is always big. And then again,
24 the availability and support of that product. So, you
25 know, as this global economy keeps moving forward just

1 in time delivery, having things that you can support
2 quickly is important. And so most of our, if not 98
3 percent, of our companies are somewhat U.S.-based. So
4 that U.S. content is important to us.

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

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

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

1 all along.

2 CHAIRMAN WILLIAMSON: Okay. Mr. Brinser?

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

12 The warranties -- SolarWorld has led the
13 industry in the warranty, whether a 25-year warranty
14 or a linear warranty or workmanship warranty, and that
15 was quickly copied by almost every one of the Chinese
16 competitors within weeks of us bringing and rolling
17 out a new advantage, there is no innovation in that.

18 So those items that typically you could
19 differentiate a product on today is gone. The
20 customers, have you heard from many folks, it's based
21 upon price, and I think the data that the staff has
22 collected also shows that. Price is a dominant
23 decision factor in the consumer's decision today.

24 CHAIRMAN WILLIAMSON: Thank you. Along that
25 line, I guess the question I'm wondering about, who

1 makes the decision on which solar panel or what
2 manufacturer they want to pick? I assume the consumer
3 probably doesn't -- say a residential consumer
4 probably -- you know, they only make that decision one
5 time or something. In the commercial market, is it
6 the architect or the contractor who is building the
7 project, and also in the utility sector?

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

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

21 CHAIRMAN WILLIAMSON: Yeah.

22 MR. FERDA: You know, that's an individual's
23 decision, and it's their personal money out-of-pocket,
24 so price is always a predominant factor. And with the
25 commercials, they're looking to maximize how much they

1 can put on or minimize the budgets, so that's always a
2 pricing decision. And the utility is buying in such
3 huge volumes that every penny per watt is a major
4 decision on all those purchases.

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

8 MR. FERDA: At the utility level, yeah.
9 That's always a traditional purchasing person.

10 CHAIRMAN WILLIAMSON: Okay.

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

17 CHAIRMAN WILLIAMSON: Okay. Thank you.

18 MR. KILKELLY: Commissioner, Kevin Kilkelly,
19 SolarWorld.

20 CHAIRMAN WILLIAMSON: Sure.

21 MR. KILKELLY: Just to elaborate on this.
22 So at the utility sector, there is a technology review
23 of the products that would be installed into these
24 large systems. There is a recommendation that the
25 purchaser and the engineering group make. At the end

1 of the day, at the utility level, that is then
2 reviewed by treasury within that utility. So the
3 treasury department within that utility is going to
4 make the call. And when they see, yeah, maybe a
5 little better here, maybe a little better there, from
6 engineering and everything else, but then they're
7 going to look at the price from the subsidized and
8 illegally imported Chinese, they choose price.

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

22 That homeowner is making one decision: what
23 price do I want to pay for my utility bill. Do I want
24 to pay my utility direct, or do I want to save \$40 a
25 month and put a solar system on and contract a new

1 utility rate with this residential lease provider.

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

5 MR. KILKELLY: Yes, sir, absolutely.

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

8 MR. KILKELLY: Absolutely.

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

11 CHAIRMAN WILLIAMSON: Sure.

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

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

25 CHAIRMAN WILLIAMSON: Okay. Now,

1 significant is this lease trend in the residential
2 sector?

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

5 CHAIRMAN WILLIAMSON: Yes.

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

9 CHAIRMAN WILLIAMSON: Yes.

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

24 They're going to sell the lowest price
25 option every single time. So in Maryland, where we

1 could compete and install systems that homeowners
2 would own, now 70 to 71 percent of that market is in
3 the leasing company's hands in 18 months with those
4 same products, the Chinese panels that I mentioned.
5 And that's happening just up the road from where we
6 are right now.

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

11 MR. McKECHNIE: Yeah. I mean --

12 CHAIRMAN WILLIAMSON: That's not a factor.

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

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

1 warranty lifespan.

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

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

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

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

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

17 COMMISSIONER PEARSON: Not a problem. I've
18 done the same thing when I had the privilege to sit in
19 the chair. Thank you, Mr. Chairman. I would also
20 like to thank both Petitioners and Respondents in this
21 case for the really quite extraordinary tours that
22 they were able to provide. I really found it most
23 helpful in understanding the production process and
24 how the product is used. And given that we've not
25 dealt with this technology before, it was a real

1 benefit to me.

2 I could explain that I have a good friend
3 who is a materials engineer, and I visited with him
4 the evening before getting on the plane and flying to
5 Phoenix. And he was very envious that he wasn't going
6 on the tour.

7 Let me ask about demand. My question is if
8 we didn't have the significant government incentives,
9 what would this industry look like? I assume it would
10 be much smaller, but clearly there would be some
11 industry because the industry existed going back to
12 1977 or whatever. Tell me about how important the
13 incentives are in this marketplace in terms of the
14 demand base.

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

22 That demand we should have been able to
23 participate in much more. But because of the price
24 dumping that has occurred from the Chinese imports, it
25 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

1 well.

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

6 COMMISSIONER PEARSON: Mr. Ostrenga.

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

13 But the one thing that -- as compared to our
14 competitors, meaning coal, natural gas, and nuclear,
15 most likely if you own a home, your electric bill has
16 probably doubled in the last five to ten years because
17 their conventional forms of electricity have increased
18 4-1/2 to 5-1/2 percent per year.

19 Meanwhile, our costs have been declining 9
20 to 11 percent per year, okay? And that's driven by
21 incremental improvements in technology, getting
22 economies of scale going, improving installation
23 techniques. But there is another component to this,
24 that solar -- when we look at our competitors coal and
25 natural gas, when everyone talks about solar, they

1 always talk about payback. How quick can I get my
2 money. And when you tell them it's between 9 and 15
3 years, they're taken aback.

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

9 COMMISSIONER PEARSON: Okay.

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

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

16 MR. FERDA: Right.

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

19 MR. FERDA: So there are two things. There
20 are incentives like the ITC tax credit. And then
21 there are the RPS, you know, requirements by the
22 states. So the incentives are driving and spearing
23 primarily private investment in purchasing of solar,
24 where the RPS are state legislated mandates for the
25 utilities to have to bring these on. And we see that

1 as a much larger part of the demand and something
2 that's actually increasing.

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

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

20 For purposes of threat -- and this would be
21 for the posthearing -- could you give me your best
22 estimate of what the demand for this product is going
23 to be going out a couple of years? Perhaps Dr. Kaplan
24 could do that, because, you know, if incentives start
25 going away, the demand may contract, I assume.

1 DR. KAPLAN: Yeah. I mean, there are
2 certain incentives, there are certain mandates, and
3 then there is also the technological decline in price.
4 And that's going to cause, you know, in general a
5 relative price shift toward solar over time.

6 COMMISSIONER PEARSON: Right. And that's my
7 next question, which is for you, too. The price
8 elasticity of demand, you know, the price has come
9 down a lot over the POI. And, you know, the demand
10 base is certainly somewhat larger because of that. I
11 know our staff estimated that the price elasticity of
12 demand might be somewhere between -0.75 and -1.0.

13 For the posthearing, could you give me an
14 estimate of how much the demand base you think has
15 expanded because of the price coming down?

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

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

19 MR. BRINSER: Yeah. I was just going to
20 follow up and close a little bit on the demand. As we
21 mentioned, and I think as you guys were alluding to,
22 the demand is very complex in this. You know, we
23 would still see an increase in demand over the period
24 of time even without some of the incentives. There is
25 other factors that do play into it. I think we can

1 get into that in the posthearing brief. And I think a
2 lot of the incentives that we've talked about are
3 really focused on the consumption side, on the
4 consumer side.

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

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

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

21 MR. KILKELLY: Commissioner, you have data
22 on U.S. capacity, and you've seen all the closures. I
23 mean, that is, in talking with representatives of the
24 domestic industry, the bitterest pill they've had to
25 swallow. You had really increased demand in the

1 market for a variety of reasons we talked about, the
2 relative price decline from technology, the
3 incentives, the mandates. And in anticipation of the
4 increased demand from that and the historical
5 increased demand, the domestic producers increased
6 capacity. They invested hundreds of millions of
7 dollars, and now one company is here today that could
8 speak to their own investments of \$500 million. They
9 had to shutter a facility.

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

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

21 CHAIRMAN WILLIAMSON: Commissioner Pinkert?

22 COMMISSIONER PINKERT: Thank you again, Mr.
23 Chairman. I want to come back to the pricing issues
24 that I was asking about in the first round. Given the
25 importance in this case of imports of cells, are you

1 concerned that we're unable to make price-to-price
2 comparisons of cell prices to cell prices in
3 performing our price-to-price analysis in this case?

4 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.

9 COMMISSIONER PINKERT: Correct.

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

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

20 MR. BRIGHTBILL: I don't think there is any
21 analytical problem there. I think the Commission has
22 more than enough data in terms of the percentage of a
23 cell that goes into a module, and then the price
24 declines for the modules, the module market as a
25 whole, and also average unit values on cells. So I

1 think you've got plenty of evidence of dumping and
2 subsidies affecting both the cell side and the module
3 side and the resulting injury that has occurred.

4 I mean, we've had injury to cell makers.
5 Some of the 12 companies listed are cell
6 manufacturers. Many were module manufacturers, so
7 you've got injury covering both. And I think you do
8 have data that shows underselling and Chinese price
9 undercutting on both.

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

19 COMMISSIONER PINKERT: Of course, the
20 purpose of my question was to get more at the issue of
21 underselling. And if there is some way that you can
22 break out the data so that you can see what a price-
23 to-price comparison for cells would look like,
24 admittedly you'd have to make some assumptions in
25 order to back out to a cell price in the United

1 States. But I think it would be useful if you could
2 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

1 mentioned, is a traded product across global markets.
2 It's used both in the semiconductor industry and the
3 solar industry for the manufacturer of the crystalline
4 photovoltaic cells. It is a component of our bill of
5 material and a cost of goods sold. SolarWorld, like
6 many crystalline wafer manufacturers worldwide, does
7 have long-term contracts with major polysilicon
8 suppliers that go back for years.

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

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

23 MR. BRINSER: This is Gordon Brinser again.
24 And if you follow up on this, I think, you know,
25 while the polysilicon is a cost driver, and other raw

1 material inputs like silver and aluminum have gone up
2 also, you see a decoupling, or like Seth pointed out
3 earlier, a compression around those polysilicon
4 prices. Even though polysilicon prices have come
5 down, the prices for the modules have dropped
6 significantly more than the pricing for polysilicon,
7 and therefore they are decoupled when you look at the
8 two.

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

13 COMMISSIONER PINKERT: Please complete the
14 answer, yeah.

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

25 If anything, it would be the thin film side

1 of the industry that's looking for that breakthrough
2 but hasn't found it yet. For crystalline silicon,
3 it's really incremental. I think Gordon could speak
4 to that.

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

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

25 So again, the innovation that has occurred

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

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

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

21 MR. KILKELLY: Yes, sir. Kevin Kilkelly,
22 SolarWorld. It really comes back to the financing
23 mechanisms that these utilities need to use. They're
24 either going to go to the capital markets to secure
25 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 Those decisions happen at the treasury
5 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 Those decisions are financial decisions made
14 in the boardroom with treasury, with the CFO, with the
15 CEO on these large systems. These are multimillion
16 dollar systems that are being deployed for the
17 duration of their span that they're going to be able
18 to generate power, which is a 20-year investment in
19 many cases for these companies.

20 Sometimes you'll have tax equity that will
21 also come in, and they will also do their financial
22 due diligence on these systems as well, too. So there
23 will also be a technology review much like the utility
24 company has done, but there will also be a financial
25 due diligence review on at what cost do we actually

1 want to pay this. So they're always looking for the
2 total -- the lowest cost of electricity, the levelized
3 cost of electricity that is actually going to be able
4 to generate power over the lifetime of that product.

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

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

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

24 And second, small price changes will have
25 large effects. So when the staff considers the

1 substitutional elasticity, I believe it should be
2 increased because of this financialization that has
3 been discussed by members of the panel. Thank you.

4 COMMISSIONER PINKERT: Thank you very much.

5 CHAIRMAN WILLIAMSON: Commissioner Johanson.

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

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

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

24 MR. KILKELLY: Kevin Kilkelly, SolarWorld.
25 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

1 also. But there is enough demand in the U.S. market
2 given, you know, rational market pricing, we should be
3 able to supply it into the U.S. market, and continue
4 to invest, continue to make a profit, invest in R&D,
5 invest in expansion to meet further demand growth in
6 the U.S., and because of the pricing we have been
7 unable to do that.

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

16 MR. DeFRANCESCO: In addition to that,
17 Commissioner, I would point you to the public staff
18 report and the C table. You can see from that that
19 the domestic industry's export shipments are on always
20 highest -- the highest priced AUV, and the domestic
21 shipments are usually they're lowest, so that the
22 argument there would be, you know, they're making more
23 money exporting this product to Europe, yet, you know,
24 the injury obviously, as Mr. Brightbill said, the vast
25 majority of their sales are here in the U.S. Those

1 have consistently priced lower. That's driving the
2 injury here, not the exports.

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

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

22 MR. BRINSER: I'll take that one. So the
23 equipment that is used to make cells and modules, I
24 think most of you saw on the tour the equipment
25 itself. Most of it can be disassembled and

1 reassembled at different locations. That can take
2 anywhere, depending on if it's a robot it can take a
3 month to maybe four to six months. You have to make
4 sure it gets decontaminated, then it gets crated.
5 We've done that successfully as we've looked at even
6 our own expansion and bringing equipment in from
7 Europe and repositioning that equipment to other
8 factories. It is pretty common in the semiconductor
9 industry. So there is lots of experience around doing
10 that, and the vendors are used to doing it.

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

18 Those of you that went on the plant tour saw
19 the module factory in Hillsboro actually has a place
20 planned to knock out the wall and put a second module
21 factory in. So there is plenty of ability to more
22 equipment around and to expand capacity relatively
23 rapidly. And, of course, the U.S. industry has just
24 not been able to do that because of the horrendous
25 pricing conditions.

1 MR. OSTRENGA: Steve Ostrenga. I would add
2 in our facility in Milwaukee, our local community --
3 if you're ever in the area, stop by. You'll see that
4 we are building -- the mechanical and electrical is
5 already built out to put two more production lines in
6 our facility in Milwaukee. One of our equity partners
7 actually is in automation, so that would help us
8 purchase, erect, and get to commercialized product
9 immediately.

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

20 COMMISSIONER JOHANSON: Thank you. And I
21 have just one more question. This is for Mr. Kaplan.
22 Mr. Kaplan, you had one of your charts demonstrating
23 -- showed the price of natural gas going down. And I
24 believe it was purchases of modules and cells going
25 up. Was that the case for all three sectors, or was a

1 divergence among the sectors as to how much sales
2 grew? And the sectors I'm referring to are
3 industrial, commercial, and residential.

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

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

11 DR. KAPLAN: Thank you.

12 CHAIRMAN WILLIAMSON: Commissioner
13 Broadbent.

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

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

1 an area of the market that was growing pretty fast.

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

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

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

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

23 MR. OSTRENGA: Commissioner, I would add I
24 guess three points. One -- well, from Helios
25 perspective, we're relatively new. So one of the

1 criteria that we'd have a problem with utilities is
2 we're not old enough to meet their criteria. However,
3 I would say we showed a matrix up there that there is
4 some venerable firms out there, Sharp, BP, Solar, that
5 have been in this industry much longer than the
6 Chinese participants who could fit that need, both
7 from a capacity perspective, and secondly the product
8 that we make, that solar module there, fits whether in
9 a residential house, a commercial rooftop, or a
10 utility. It fits all applications.

11 So I just don't see how their argument can
12 be made that as a late entrant -- they're the late
13 entrants. We've had manufacturers in this industry on
14 American soil much longer than the Chinese who just
15 entered.

16 MR. BRINSER: So Gordon Brinser, SolarWorld.
17 The utility market, as the chart showed, has seen
18 some growth in the last year or so. But I think what
19 is telling is the fact that the underselling that was
20 taking place and the price collapse in the residential
21 and commercial just bled off into the utility so
22 quickly, so fast, and that segment is so price-
23 sensitive, it is very difficult to compete, if at all,
24 and only because of the pricing of the product and the
25 collapsing of the pricing that had already occurred in

1 the market.

2 MR. BRIGHTBILL: Commissioner, Tim
3 Brightbill. Just one other point. SolarWorld has
4 some very good data on the fact that its 60-cell
5 modules, which are the standard, the workhouse,
6 dominant product, are so much more efficient that if
7 you use them with the equipment Kevin talked about,
8 they're better than the 72-cell modules, of the
9 competitors. We'll provide that in the brief.

10 COMMISSIONER BROADBENT: Yes, that would be
11 helpful.

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

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

20 DR. KAPLAN: Well, I'm saying that if there
21 is a mandate that someone, just as an economic
22 principle, uses a increased supply of something that
23 the demand increase from the states, all things being
24 equal, would cause prices to rise. Suddenly now you
25 have existing capacity and existing plant, and there

1 is more people line up at your day saying, I am
2 mandated by law to buy your product. That's a good
3 thing to have happen.

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

14 COMMISSIONER BROADBENT: Okay, thanks. I
15 guess sort of going beyond our purview here just to
16 give me a little bit of perspective, I know we're
17 looking here at, you know, volume and price and
18 assessing those effects. But I just wonder if looking
19 at this industry and kind of thinking of it as a
20 global good, which all governments are trying to
21 promote and strengthen, is there another alternative
22 here where we could organize something that would
23 increase the health of a lot of these industries and
24 get rid of some of the over-capacity and the
25 challenges that we're facing, but something that can

1 put this industry on a healthy path. I mean, I guess
2 it's going in a bad direction at this point, and if we
3 were brainstorming and looking at other options, what
4 other things might you suggest?

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

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

22 There are plenty of things that the
23 renewable energy industry can work on together to
24 increase demand, to make technological breakthroughs,
25 but when trade issues happen like this, the trade laws

1 are the way to go.

2 COMMISSIONER BROADBENT: Dr. Kaplan?

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

14 That is, you know, something that struck me.
15 It's not as if they're building a product where there
16 is no home demand. It's not as if they're building a
17 product that's a product that's an electronic product
18 that can only be consumed in high-income countries.
19 This is a product that generates electricity. China
20 needs a lot of electricity. Why is China exporting
21 90-plus percent of a technology that generated
22 electricity rather than using it at home and building
23 instead a power plant using dirty coal?

24 So I think it's a question you might want to
25 ask the participants this afternoon. Why is the

1 commercial and industrial policy of the Chinese
2 government to build an industry of a product that they
3 could use at home, and instead target it to the United
4 States and Europe? That might solve the problem.

5 COMMISSIONER BROADBENT: Okay. Thank you.

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

14 MR. OSTRENGA: The 96-cell module, there is
15 probably less than five manufacturers in the whole
16 world make that module. So one barrier we have is
17 dealing with education and experience, educating the
18 customer the value of that product. Generally, the
19 60-cell is the workhouse, it has been termed, that
20 dominates the market. But the 96-cell module, the
21 numbers we've shown and have been proven out with
22 installations we've done in California, save labor
23 costs between 40 to 45 percent in installations.

24 So we can -- you know, we should be able to
25 get a premium on that because we're saving the total

1 system cost installation, right? So one would assume
2 that we should be able to sell on our facility with
3 this product, right, because it's saving the total
4 system cost. But the fact is that China is coming in
5 with such low pricing, subsidized pricing, that it
6 undercuts the value that we provide to the market.

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

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

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

15 MR. OSTRENGA: Yeah.

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

18 MR. OSTRENGA: Correct.

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

21 MR. OSTRENGA: Correct.

22 CHAIRMAN WILLIAMSON: -- wiped out. Okay.

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

25 CHAIRMAN WILLIAMSON: Sure.

1 MR. BRINSER: Again I'd like to point out
2 that, between the 72-cell module and 60-cell module,
3 the 60-cell, as has been mentioned, is the workhorse.
4 And you have to look at the overall power density of
5 the module or the efficiency of the module itself.
6 For SolarWorld, we're in the middle of rolling out the
7 newest, highest efficiency 60-cell module at a 270,
8 275 watt. So that's in a much smaller footprint than
9 what some of the other standard 72-cell modules are.

10 If you look at the power density or even the
11 efficiency of those larger modules, they're much less
12 efficient on an a per square-foot basis.

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

21 CHAIRMAN WILLIAMSON: Okay. So you're
22 saying that if the pricing were fair, then say the
23 purchaser or whoever is making the purchasing decision
24 could figure out, okay, well, I can -- could compare
25 the two, and they might want to go to 72, or they

1 might want to go to a 60, depending on efficiency and
2 things like that, and it's not --

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

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

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

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

23 CHAIRMAN WILLIAMSON: Yes.

24 MR. KILKELLY: That's correct. Usually this
25 is a recent product that has been introduced around

1 third, fourth quarter of 2011. So it's a recent
2 phenomenon in the market that they've introduced this
3 type of platform or this product there.

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

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

1 CHAIRMAN WILLIAMSON: Okay. Thank you.

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

4 CHAIRMAN WILLIAMSON: Yes.

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

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

19 MR. BRIGHTBILL: Yeah, right here. Tim
20 Brightbill. I won't speak to the exact numbers. I'll
21 leave that to the experts. But it's true that mono-
22 crystalline is generally more efficient than multi-
23 crystalline. And the price per watt is largely
24 unaffected by the choice of mono versus multi. There
25 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 CHAIRMAN WILLIAMSON: Okay. And the
5 efficiency ranges, have they changed over time?

6 MR. BRINSER: The efficiency, as we
7 mentioned earlier, there has been a progress in the
8 efficiency over time over the last three decades we've
9 been manufacturing. We get closer and closer to the
10 upper limit of the efficiency that we can get from a
11 cell. In the posthearing brief we can get you some
12 detailed efficiency numbers. But generally, it does
13 so continuously -- there is a technology improvement
14 that happens over time that allows us that 10 percent
15 cost reduction each and every year. And the
16 increments that we've seen over the last couple of
17 years falls in line with that 10 percent reduction,
18 not with the price decrease that we've seen.

19 CHAIRMAN WILLIAMSON: Okay. Thank you. On
20 page 1-19 of the prehearing staff report, it reports
21 that polysilicon accounts for about 23 percent of the
22 costs of the value added in a PV module. And I was
23 wondering if you agree with that estimate, and has
24 that also changed over time?

25 MR. BRINSER: In general it's close. I

1 think I'd like to reserve that for posthearing
2 brief --

3 CHAIRMAN WILLIAMSON: Sure.

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

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

11 MR. BRINSER: Okay.

12 CHAIRMAN WILLIAMSON: Thank you. Okay.
13 Let's see. Respondents appear to suggest that this is
14 critical circumstances that the Commission should
15 analyze critical circumstance issues on a firm-by-firm
16 basis. Although the Commission has never really done
17 this before, what would be the legal basis for the
18 Commission to analyze critical circumstances on a
19 firm-by-firm basis? And if you want to take it
20 posthearing, that's fine.

21 MR. BRIGHTBILL: We'll take it posthearing.
22 Tim Brightbill. But in general, we think you should
23 continue your practice. And I don't know that there
24 is support for doing it on a company-by-company basis.
25 I do think the import levels and the inventory levels

1 are convincing either way, that there was a surge of
2 imports to beat the duties, and there is sharply
3 higher inventories and therefore critical
4 circumstances are warranted for everyone in the
5 Chinese industry.

6 CHAIRMAN WILLIAMSON: Okay. Thank you.
7 Commissioner Pearson?

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

17 But when we're talking about the utility
18 sector, you put up a chart 14 earlier based on
19 information from our staff report that showed zero
20 U.S. shipments to the utility sector in 2009, and then
21 a smaller amount in 2010, and a large amount in 2011.
22 So the Respondents are making an argument that the
23 domestic industry was not positioned to serve
24 effectively the utility sector. And they may point to
25 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 The second point would be then to look at
11 U.S. capacity and to see how much U.S. capacity is
12 available to serve all three segments. And if there
13 is excess capacity, or if there is shuttered capacity
14 over that period, that all could have been used to
15 serve the utility sector.

16 If there is still not enough domestic
17 capacity, then imports could come in at fairly traded
18 prices to serve any excess needs beyond domestic
19 capacity. But what struck me, and as I say was the
20 bitter pill of this industry, is that there was a
21 growth in capacity. Excess capacity is available, and
22 firms with capacity were shuttered.

23 This industry, like all -- you know, like
24 industries that appear before here aren't asking for,
25 you know, the market to be shut down. They're asking

1 for fairly-traded competition.

2 COMMISSIONER PEARSON: Okay.

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

6 COMMISSIONER PEARSON: You fully answered
7 that question.

8 DR. KAPLAN: Thank you.

9 COMMISSIONER PEARSON: A related question.

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

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

22 COMMISSIONER PEARSON: Okay. Well, either
23 now or in the posthearing, could you give me an
24 estimate of the percentage of U.S. utility
25 installations that use 60-cell modules versus 72-cell

1 modules, certainly over the period of investigation?
2 And then actually, it might be helpful, given that
3 you're making the case that 60-cells have been used in
4 utility for some period of time, maybe we can go back
5 and get a little history that even predates the POI,
6 if possible, just to give a sense that, yes, they have
7 had a role in the market, and then the 72s came in
8 later.

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

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

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

18 MR. BRIGHTBILL: Tim Brightbill, Wiley Rein.
19 A couple of things there. First of all, Commerce
20 conducted several things after the preliminary
21 investigations. For example, it did not apply
22 uncreditworthiness premiums in the preliminary
23 determination. It did not look at several very large
24 categories of subsidies, including glass and aluminum
25 extrusions.

1 So, unfortunately, the preliminary subsidy
2 margins do not address all of the subsidies put
3 forward in even all of the subsidy allegations that we
4 made.

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

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

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

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

1 have been critical circumstances allegations --

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

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

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

19 COMMISSIONER PEARSON: Okay. Either now or
20 in the posthearing, could you respond specifically to
21 the arguments presented by LDK and Upsolar on this
22 critical circumstances issue?

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

25 COMMISSIONER PEARSON: Okay. Thank you. In

1 the event that the Commission votes in the affirmative
2 on injury, would there be a benefit to the domestic
3 industry if we also find critical circumstances?

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

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

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

19 MR. BRIGHTBILL: Yes.

20 COMMISSIONER PEARSON: -- because the
21 inventory already is in the United States. And if we
22 find -- make an affirmative finding on critical
23 circumstances, it won't in any way change the presence
24 of that inventory or its ability to move into domestic
25 commerce, will it?

1 MR. BRIGHTBILL: Just by imposing the duties
2 retroactively under critical circumstances, that alone
3 has an effect by ensuring fair trade for that
4 additional period of time. So including --

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

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

18 MR. BRIGHTBILL: It certainly does help us.

19 MR. GORDON: Commissioner Pearson, if I may.
20 This is Adam Gordon from Wiley Rein. As a matter of
21 clarification, first the importer who is bringing the
22 product in would not receive a penalty. They would be
23 receiving a bill for duties that those imports are
24 subject to. And in this case, many of the importers
25 on record are those sitting on those inventories at

1 this moment. So retroactive application of the duties
2 pursuant to a critical circumstances determination
3 will have the same effect as application of duties to
4 imports during since the provisional measures went
5 into effect and in the future.

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

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

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

24 MR. GORDON: Well, could I just elaborate
25 for one moment on that? Think about an easy example.

1 If you're an importer of record, and you're sitting
2 on an inventory that you brought in worth a million
3 dollars, and that's your landed price, and then you
4 get a bill from Customs for another \$500,000, if there
5 is a 50 percent duty in place, all of a sudden your
6 costs of that good is \$1-1/2 million. So when you
7 sell that into the market, you're not going to look to
8 recover a million dollars plus whatever other costs
9 you have. You're looking to recover a million and a
10 half. Your pricing will have to change.

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

16 CHAIRMAN WILLIAMSON: Commissioner Pinkert.

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

21 CHAIRMAN WILLIAMSON: Commissioner Johanson?
22 Okay. Commissioner Broadbent? Okay. I have no
23 further questions. Commissioner Pearson, do you have
24 any further questions?

25 COMMISSIONER PEARSON: I'd better pass.

1 CHAIRMAN WILLIAMSON: Okay. Do staff have
2 any questions for this panel?

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

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

8 MR. ELLIS: No questions, Mr. Chairman.
9 Thank you.

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

18 (Whereupon, at 1:10 p.m., the hearing in the
19 above-entitled matter was recessed, to reconvene at
20 2:10 p.m. this same day, Wednesday, October 3, 2012.)

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1 pioneered the use of the power purchase agreement
2 business model, which allowed organizations such as
3 utilities to purchase solar energy services under
4 long-term predictably priced contracts and to avoid
5 the significant capital costs of ownership and
6 operation of solar energy systems.

7 This groundbreaking model helped turn solar
8 PV into a multibillion dollar industry worldwide, and
9 helped SunEdison develop more than 836 megawatts of
10 solar energy capacity since its founding.

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

21 Turning first to grid parity, this term
22 refers to the point at which the levelized cost of
23 electricity generated from renewable sources such as
24 solar equals the cost of conventional electricity from
25 the grid. Levelized cost means the sum of all costs

1 over the life of an energy system divided by the
2 quantity of electricity expected to be generated over
3 the financing period of that system.

4 The basic notion is that until a system
5 generating electricity from a renewable source
6 achieves grid parity, it will not be widely accepted
7 as a viable alternative source of energy without
8 government subsidies. In other words, for solar
9 energy systems to be viable, they must generate
10 electricity at a price comparable to conventional
11 energy sources.

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

21 Moreover, the incentive programs adopted by
22 federal and state governments were temporary, with the
23 assumption that once the incentives helped the solar
24 industry off the ground, the cost reductions required
25 to achieve grid parity would occur naturally as the

1 market matured and technological advances were
2 implemented. As incentive programs declined, much of
3 which occurred during the period of investigation,
4 solar cell and module producers were required by solar
5 energy developers to reduce prices substantially.
6 Solar developers such as myself could continue to
7 market systems only if we could achieve levelized
8 costs equal to conventional sources of electricity.

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

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

23 This brings me to my second topic. Why were
24 Chinese producers able to increase the volume of
25 modules sold in the United States? A critical reason

1 is technological innovation in terms of both better
2 conversion efficiency and better production efficiency
3 as compared with the U.S. and other producers. The
4 Chinese have been at the forefront of deploying
5 technological innovation in this industry. For
6 example, they have been leaders in installing new
7 solar equipment that allowed for thinner silicon
8 wafers, and new solar coatings capable of converting
9 more sunlight to electricity in the same amount of
10 surface area.

11 They have also been able to introduce large
12 72-cell, 300-watt modules that are in strong demand by
13 the utility sector in the United States. In short,
14 the Chinese manufacturers were the first to implement
15 innovations from American firms like Dupont's
16 Innovalight silicon ink, to reduce the cost of solar
17 cell manufacturing, which in turn helped U.S. solar
18 energy systems achieve the requisite grid parity.

19 The Chinese have also been able to improve
20 their production efficiency through the use of the
21 latest production equipment. Technological advances
22 are so rapid in this industry that production
23 equipment becomes uncompetitive within two to three
24 years. More importantly, the Chinese chose to build
25 their plants around lower-cost multi-crystalline

1 versus SolarWorld's higher cost mono-crystalline
2 technology. As a result, the silicon costs for the
3 Chinese are substantially lower than for SolarWorld.

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

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

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

24 MS. SHAW: Good afternoon. I'm Polly Shaw,
25 senior director of -- the variety of incentive --

1 excuse me. I appreciate this opportunity to review
2 the variety of incentive programs that have affected
3 the solar energy industry throughout the period of
4 investigation. I'm going to discuss the programs
5 offered by the federal government as well as the state
6 governments.

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

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

20 There have been two major federal tax
21 incentives encouraging the adoption of solar energy:
22 the investment tax credit, or ITC, and the grant in
23 lieu of tax credit, better known as the section 1603
24 Treasury program. There are other federal incentives,
25 but I will focus on these two.

1 The ITC was first enacted in 2006 as a 30
2 percent tax credit for commercial and residential
3 solar energy systems. It was initially in effect for
4 just two years, but was later extended, and is now
5 available through 2016, when the credit drops off to
6 10 percent. Significantly, when the credit was
7 extended in 2008, it was changed to include utility-
8 scale and utility-owned systems.

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

15 Section 1603 allowed renewable energy
16 project developers to receive a direct 30 percent cash
17 grant. To qualify, solar facilities had to have begun
18 construction by December 31st, 2010. In December
19 2010, lawmakers extended the 1603 program for one more
20 year, enabling projects that commenced construction by
21 December 2011.

22 Both the ITC and the cash grant drove major
23 growth in utility-scale solar energy systems, and the
24 cash grant greatly enabled developers to lower their
25 cost of financing transactions. The impact of the

1 cash grant is unmistakable when you look at the data
2 demonstrating the surge in awards in the months
3 approaching and following the ultimate expiration of
4 the program at the end of 2011.

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

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

23 No state programs are exactly alike, but
24 there are elements that inevitably appear in all of
25 them. One of those key features is a reduction in

1 rooftop incentive levels and wholesale contract prices
2 over time. That's a function of both capped annual
3 incentive budgets and an assumption that solar energy
4 can and must decline to achieve grid parity on its
5 own. There is zero tolerance among state regulators
6 for solar prices to price.

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

19 To give you a sense of how this has worked,
20 California's residential solar rebate was \$2.80 a watt
21 in December 2006. Today, based on the volume
22 installed, the rebate has dropped by 90 percent in six
23 years. Other states also have predesigned rooftop
24 incentive declines, which aid the industry in its own
25 planning to find cost efficiencies at a known pace.

1 For wholesale or utility-scale PPA
2 contracts, the contract price that have been accepted
3 by public utility commissions also have declined
4 significantly over the last few years. As gas and
5 solar prices have plummeted, PUCs are even forcing the
6 solar industry to reduce already-contracted PPA rates
7 from two to three years ago in order to obtain PUC
8 approval.

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

20 There is no overstating the role that
21 government has played and continues to play in forcing
22 down costs and pressuring down prices. But for these
23 programs and their pressure on prices, there would not
24 be the growth in demand and consumption of solar in
25 the U.S. energy market today. Thank you.

1 MR. ELLIS: Thank you, Polly. Our next
2 speaker is Kevin Lapidus of SunEdison. Kevin?

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

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

20 SunEdison's parent company is MEMC, a St.
21 Louis, Missouri-based company. MEMC is the only U.S.
22 solar manufacturer that is vertically integrated
23 through the entire solar supply chain, including
24 through project development and operations. We
25 manufacture polysilicon in Pasadena, Texas, and

1 produce solar ingots in Portland, Oregon. As such, we
2 are uniquely position to talk about the solar cell and
3 module market.

4 I'm here today to explain why this case
5 brought by the U.S. division of the German company
6 SolarWorld and any resulting duties on solar module
7 imports from China will not address the problems that
8 SolarWorld is experiencing.

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

16 First, federal and state incentives that
17 were meant as bridges to enable the solar market to
18 reach grid parity by creating economies of scale are
19 steadily declining, thereby reducing the overall
20 revenue potential for solar power plants. Federal and
21 state governments provide incentives to encourage the
22 installation of solar power plants. As these
23 incentives decline from year to year, the revenue
24 potential of solar power plants decline, and a
25 commensurate reduction in the cost of modules and

1 building the solar power plants must be found, or the
2 solar power plant will not be built.

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

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

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

23 Fourth, the steep decline in raw material
24 prices has deeply affected the U.S. solar industry
25 over the period of investigation. For instance, from

1 the beginning of 2008 to 2012, the price of
2 polysilicon and silver wafers fell 84 percent. While
3 on the subject of polysilicon, I will note that
4 SolarWorld made the ultimately unsuccessful decision
5 to focus on mono-crystalline modules as compared to
6 multi-crystalline modules, which became less expensive
7 when polysilicon prices fell.

8 Other components have also experienced
9 significant price reductions, such as invertors,
10 trackers, meters, and software monitoring systems, and
11 helped lower the overall cost of solar installations.
12 The factors accounting for the steady decline in the
13 cost of solar components over the period of
14 investigation demonstrate that the U.S. solar industry
15 is doing well. We are winning in the U.S.

16 The aggregate U.S. solar industry currently
17 has 100,000 employees, up 6.8 percent last year, and
18 is forecast to grow again this year. Fifty-two
19 percent of these solar workers are in the installation
20 segment. These are U.S. workers who wake up in the
21 morning, put on a toolbelt, and go and build
22 something, precisely the kinds of workers we need in
23 this economy.

24 Moreover, the quantity of installed solar in
25 the U.S. went from 1.8 gigawatts in 2011 to 3.2

1 gigawatts expected in 2012. Solar energy
2 infrastructure investment went from \$8-1/2 billion in
3 2011 to \$12 billion expected in 2012.

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

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

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

24 In summary, the timing of this case could
25 not be more ironic. After years in which the

1 criticism of solar energy in the United States was
2 that it is too expensive, the U.S. solar industry is
3 now delivering on its social compact to meaningfully
4 reduce the price of solar in exchange for the
5 government support it has received to date.

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

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

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

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

25 Over the past three years, solar energy

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

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

16 Things have changed radically since the end
17 of 2011, with the reduction of many major subsidies.
18 The only way to make a solar energy project
19 economically feasible today is to reduce its
20 underlying cost, and 50 percent of that is the solar
21 module. As a result of projects facing declining
22 incentives and declining electricity, if selling
23 prices are to survive, there is great pressure to cut
24 the module cost to make the project's economic returns
25 attractive and competitive with project proposals

1 based on non-renewable energy sources.

2 Moreover, this fundamental point is true
3 regardless of the presence or absence of Chinese
4 modules. With that basic understanding, I would like
5 to address two additional topics, the U.S. market
6 conditions that led to Yingli entering the market in
7 2009 and grow, particularly in the utility segment of
8 the market, and the competition between crystalline
9 silicon and thin-film products.

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

20 The United States was and still is a
21 relatively small market, particularly in comparison to
22 Europe. However, the U.S. has been expanding rapidly
23 and was the fourth largest market worldwide in 2011.
24 As you can see from the slide showing, the market has
25 been doubling year over year since 2009. As a result,

1 the total quantity of PV cell installations in the
2 United States in 2010 equal 900 megawatts. In 2011,
3 the figure rose to 1.9 gigawatts. And it is projected
4 to jump to 3.2 gigawatts in 2012.

5 One of the reasons for this radical growth
6 can be attributed to the spike in demand from the
7 large-scale utility project segment. As an example,
8 Yingli's sales in the utility segment were only a
9 minor percentage of its total sales of PV products in
10 2009, but by 2012 they had risen to nearly 50 percent.

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

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

25 Utilities give great consideration to panel

1 selection, and they are now requiring these higher
2 output modules. That's because they want more power
3 in a smaller footprint, which improves the project
4 economics. Given the long absence of such a product
5 in SolarWorld's portfolio, it has led to a lagging in
6 SolarWorld's participation in the utility segment of
7 the U.S. market.

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

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

23 It's important to understand that even
24 within thin film and crystalline silicon, there are
25 technology subtypes that form a continuum of module

1 efficiencies. Looking at the slide showing, you can
2 see some of the differences among these various
3 subtypes. Efficiencies have increased similarly over
4 time and across both technology types. From my
5 experience, developers consider these as like products
6 when they're designing solar energy.

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

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

22 SolarWorld's action is seeking to impose
23 irreparable damage on local jobs, innovation, and
24 America's clean energy future. That concludes my
25 remarks. Thank you.

1 MR. ELLIS: Thanks, Robert. We're now going
2 to hear from Alan King of Canadian Solar USA. Alan?

3 MR. KING: Thanks, Neil. Good afternoon.
4 My name is Alan King, and I'm general manager and vice
5 president of sales for Canadian Solar. I'm pleased to
6 have the opportunity to address the Commission
7 concerning what is in my view the single most
8 important determinant of a module manufacturer's
9 success: innovation.

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

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

24 The continuing importance of innovation to
25 the solar industry cannot be overstated. It consists

1 of many individual components all working together to
2 increase performance and lower costs. These include
3 the implementation of new supply-chain and
4 manufacturing techniques that increase factory yield
5 and lower raw material costs, improvements in wafer
6 and cell processing to increase efficiency, and the
7 introduction of new products that incorporate all of
8 these innovations as well as ancillary technologies
9 such as power electronics.

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

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

22 We've also achieved efficiency gains with
23 our Intelligrated power line of products, so-called AC
24 modules that integrate power electronics into the
25 modules to significantly reduce labor, installation

1 time, and system design.

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

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

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

22 As Robert previously mentioned, SolarWorld
23 launched its 270-watt peak sun module solar panel just
24 last month, well behind its competitors and delivering
25 lower overall performance. Not only is their utility

1 module late to market, but the business decisions
2 SolarWorld made to focus on higher cost mono-
3 crystalline cells and modules has put them in a
4 position where their lower conversion efficiency and
5 higher-priced raw materials have produced a product
6 that is not competitive for the utility market.

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

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

25 Solyndra's much-publicized demise is

1 similarly attributable to a technology bet that just
2 didn't pan out. Their technology and IP was unique,
3 but unfortunately even with its lightweight platform
4 and ability to capture light across a 360 degree
5 surface, Solyndra was not able to translate these
6 features into a cost-effective solution.

7 As we have said many times, our goal has to
8 be to reach grid parity, an accomplishment that will
9 enable the solar industry to be free of government
10 largess and the political ramifications there attached
11 to it. The impact of a strong solar industry to our
12 country, the environment, its economy, and employment
13 should not be underestimated.

14 To achieve this, innovation must continue to
15 be our primary goal, especially for those
16 manufacturers that hope to survive and thrive in the
17 future. A module manufacturer that does not innovate
18 quickly and effectively will find its products
19 rendered obsolete. This is not the way to thrive in
20 the solar industry, a lesson that SolarWorld has been
21 slow to learn. Thank you.

22 MR. ELLIS: Thank you, Alan. Our next
23 witness is Thomas Young of Trina Solar. Thomas?

24 MR. YOUNG: Good afternoon. My name is
25 Thomas Young, and I am the vice president of investor

1 relations at Trina Solar. Trina Solar is a tier one,
2 vertically integrated module supplier, and has a long
3 history as a solar PV pioneer in markets around the
4 world. I joined Trina Solar in 2007 after nine years
5 in China's corporate M&A sector. Since then, I have
6 divided my time at Trina between China and the United
7 States. This has given me significant insight into
8 Trina's global marketing efforts and global demand for
9 solar modules.

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

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

24 This also includes technological advances
25 that have greatly improved module efficiency.

1 The reduction in the cost of solar is a key
2 factor spurring demand for this alternative energy
3 source in markets around the world. We at Trina, like
4 our competitors, evaluate demand globally to prepare
5 our multiyear projections and plan our business. The
6 United States is just one of many markets we see
7 growing.

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

16 These efforts are further encouraged by the
17 fact that China, unlike Europe and the U.S., actually
18 is increasing its cumulative solar installation
19 target. With its latest five-year plan, the Chinese
20 government has made domestic solar installations a
21 clear priority, targeting over 20 gigawatts by 2015,
22 representing a tenfold increase over their original
23 2005 announced target of less than 2 gigawatts over
24 the same period.

25 In turn, Trina and other module producers

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

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

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

25 The situation is different in these markets,

1 as solar as already been proven viable as a source of
2 large-scale energy production, and because prices of
3 utility solar installations are low enough to be
4 attractive from the get-go.

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

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

24 This exercise is particularly important for
25 us whereby we've long favored a diversified customer

1 base spanning multiple regions, and thus our goal
2 remains to serve a portfolio of markets. Industry
3 analyst reports indicate that our industry peer group
4 are generally maintaining current production capacity
5 levels in 2013.

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

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

22 Thank you, and this concludes my testimony.

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

25 MS. JACOBS: Thank you. Good afternoon. If

1 the Commission were to find material injury by reason
2 of the subject imports, it would also face the issue
3 of whether critical circumstances exist, that is,
4 whether the absence of duties on the subject imports
5 entered during the period following the filing of the
6 petition would undermine the efficacy of the order.
7 The answer in this case is clearly no.

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

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

24 In fact, in its petition on October 19,
25 Petitioner described this phenomenon almost as well as

1 you heard it explained here today by Respondents.
2 Petitioner forewarned, although in an understated way,
3 that because the investment tax credit, which remains
4 in force, is less favorable than the cash grant,
5 Petitioner fully anticipated that the expiration of
6 the cash grant, quote, "likely will explain some
7 growth in U.S. demand in the latter portion of 2011 as
8 applicants attempt to lock down 5 percent of their
9 project costs by the end of the year to ensure
10 eligibility for the grant," closed quote.

11 Their prediction was right. The Solar
12 Energy Industry Association reported that the solar
13 industry grew by 85 percent in the first quarter of
14 2012 over the first quarter of 2011, due in large part
15 to the cash grant incentive, which created a project
16 application boom in mid-2011 followed by an
17 installation boom in early 2012.

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

25 These imports are dedicated to projects

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

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

20 The Commission has also received letters
21 from small importers who purchased subject imports for
22 their own projects and are now devastated by the
23 imposition of retroactive and provisional duties as a
24 result of the Commerce Department's preliminary
25 determination. Those companies have not sought to

1 circumvent a potential order, but they now face
2 financial ruin.

3 The increase in subject imports is clearly
4 unrelated to the filing of the petition. For all of
5 these reasons, there is no basis for the Commission to
6 find critical circumstances here. Thank you.

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

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

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

21 As many smaller privately-held importers in
22 the United States, Upsolar America is now facing a
23 massive multimillion dollar liability due to the
24 critical circumstances determination associated with
25 the importation of products contained Chinese cells

1 during the 90-day period prior to the Department of
2 Commerce's preliminary antidumping determination.

3 As indicated in the prior testimony, the
4 surge of Upsolar America's imports during the six
5 months after the petition was filed was due to the
6 U.S. Government programs coming to a close at the end
7 of 2011 and the sharply declining costs of polysilicon
8 over the period of investigation.

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

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

25 Although relatively small, Upsolar America

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

7 Almost all of these companies have
8 experienced very aggressive growth since 2010,
9 primarily spawned by the fact that they are now able
10 to offer solutions which are finally becoming cost
11 competitive with other sources of power generation.
12 It is important that the Commission understand that
13 your decision could have a ripple effect that will
14 impact over 100 small, privately held importers like
15 Upsolar America. Combined, these importers supply
16 affordable solar power products to over 1,000
17 downstream companies, which employ tens of thousands
18 of U.S. workers whose jobs may be at stake if the
19 critical circumstances decision is affirmative.

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

24 MR. ELLIS: Thank you. Our next witness is
25 Kenneth Button of Economic Consulting Services. Ken?

1 MR. BUTTON: Good afternoon. I'm Kenneth
2 Button of Economic Consulting Services. There are a
3 number of conditions of competition that make the U.S.
4 CSPV module industry different from other industries
5 examined by the Commission.

6 First, U.S. demand for solar modules has
7 increased extraordinarily during the POI. Slide one
8 shows the large increase in total U.S. PV
9 installations from 2005 to the first half of 2012.

10 The next slide similarly presents the large
11 increase in U.S. apparent consumption of CSPV modules
12 as presented in the prehearing report. The Commission
13 data show that consumption in the United States
14 increased by a remarkable 594 percent from 2009 to
15 2011, and by 66 percent during the first half of 2012.
16 Demand growth has been particularly impressive in the
17 utility sector, which constituted a relatively small
18 portion of consumption at the beginning of the POI.

19 The SEIA data show that installations of the
20 utility sector increased by 984 percent just from 2009
21 to 2011, and by 548 percent during the first half of
22 2012. Residential and commercial rooftop
23 installations increased greatly, but at a somewhat
24 lesser rate of 210 percent from 2009 to 2011, and 28
25 percent in the first half of 2012.

1 Why has U.S. demand increased so much? The
2 answer is the declining cost of solar electricity
3 generation that was itself the combined result of the
4 falling solar system prices and the extensive programs
5 of federal and state government incentives.

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

13 As a general matter, any given solar
14 project's total system cost must be sufficiently low
15 to make it competitive with conventional energy
16 alternatives, and must also be financially attractive
17 to private-sector investors whose financial backing is
18 necessary for the project actually to be implemented.

19 Government incentives have been key in
20 lowering net costs so that projects achieve these
21 goals. Demand for solar electricity is highly price
22 elasticity, that is, it is very sensitive to changes
23 in solar electricity prices relative to those of the
24 alternative energy sources. A decline in solar
25 electricity prices tends to cause a shift in demand

1 away from other generation sources toward solar
2 electricity.

3 Likewise, a decline in the price of
4 conventional energy such as falling natural gas prices
5 creates downward pressure on solar electricity prices.
6 If solar prices do not decline accordingly, demand
7 will shift toward the lower cost energy sector. The
8 demand for solar modules is a derived demand arising
9 from the demand for solar electricity.

10 Because solar modules constitute roughly
11 half of the total cost of a solar electricity system,
12 a change in the price of the solar modules has a
13 substantial direct impact on total cost of solar
14 electricity system, and hence the quantity of modules
15 demanded in the market. As a result, the elasticity
16 of demand for solar modules is itself very high.

17 As to injury, the record evidence does not
18 indicate that the domestic industry has suffered any
19 material injury to its shipment volume. The
20 extraordinary increase in U.S. demand during the POI
21 has been a rising tide that has greatly lifted all
22 boats in the U.S. market.

23 Indeed, the prehearing report data show that
24 the domestic CSPV module industry increased its U.S.
25 shipments by 288 percent from 2009 to 2011, and by 17

1 percent in the first half of 2012. This growth is
2 consistent with the growth in the residential
3 commercial rooftop segment, where U.S. producer
4 shipments are concentrated.

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

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

19 In a market where everyone's shipments more
20 than tripled during the POI, it is not surprising that
21 there were relative changes in market share. I'm
22 unaware of any investigation in which the Commission
23 saw apparent consumption volume increases of this
24 magnitude. Although the Commission generally
25 considers a loss of aggregate market share by the

1 domestic industry to be an indicator of injury, we
2 suggest that the unprecedented economic conditions
3 that you confront in this investigation warrant
4 especially careful consideration of market share
5 changes within the utility segment and within the
6 residential commercial rooftop segment as presented in
7 Respondent's prehearing brief Exhibits 19 and 20.

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

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

21 First, the POI module decline was
22 accompanied by a sharp decline in polysilicon prices,
23 as shown in slide nine. The fall in the cost of
24 polysilicon represents a supply-side factor pulling
25 down the prices of CSPV modules made from it. The

1 linkage between these polysilicon and module price
2 data is even more compelling when expressed in an
3 index form, where the declines in polysilicon, wafer,
4 cell, and module values are virtually identical.

5 Because information about polysilicon prices
6 is widely published, the U.S. purchasers of CSPV
7 modules are well aware of each incremental drop in the
8 market prices for polysilicon, and expect that the
9 prices of CSPV modules offered by their suppliers will
10 reflect these declines. As a result, purchasers place
11 great pressure on the CSPV module suppliers to lower
12 module prices in step with falling polysilicon prices.

13 An additional important factor underlying
14 the decline in CSPV module prices has been the head-
15 to-head competition from thin film modules, primarily
16 those sold by First Solar, which is the largest and
17 lowest cost U.S. producer of any type of PV module.
18 First Solar states that, quote, "Our advanced
19 technology has allowed us to reduce our average module
20 manufacturing cost to the lowest in the world," closed
21 quote, and that in 2011, its total average
22 manufacturing costs of 75 cents per watt were, quote,
23 "less than those of traditional crystalline silicon
24 solar module manufacturers," closed quote.

25 Public data support the accuracy of this

1 First Solar statement. As you have heard, the all-in
2 costs for a thin film module is significantly lower
3 than the all-in cost for a CSPV module expressed on a
4 comparable per watt basis. The low-priced position of
5 thin film also exists on an installed system basis,
6 and is expected to continue into the future.

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

15 As a result, throughout the POI an important
16 demand-side factor depressing U.S. CSPV module prices
17 has been the competitive impact of the falling prices
18 of natural gas, which is the key competitive
19 alternative to solar-based electricity. Large
20 increases in U.S. natural gas supplies associated with
21 fracking technology developments and the Marcellus
22 shale field is viewed by many in the industry as an
23 energy supply game changer, which has had dramatic
24 implications for the grid parity target that solar
25 industry developers must meet.

1 In particular, as natural gas prices fall,
2 the demand for solar-based electricity declines unless
3 the solar system costs are correspondingly reduced.
4 Because CSPV modules constitute roughly one-half of
5 the cost of the solar system, the price pressure
6 imposed by dropping natural gas prices tends to be
7 focused on price reductions demanded of the CSPV
8 modules.

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

21 Moreover, the extreme drop in the market
22 value of solar renewable energy credits nearly
23 eliminated what had been a material additional revenue
24 source for solar project developers. Therefore, solar
25 project developers confronting these costs and revenue

1 constraints have had to achieve progressively more
2 severe reductions for their solar energy systems,
3 which has meant demanding increasingly severe cost
4 concessions from CSPV module suppliers.

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

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

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

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

23 I have been working in the solar energy
24 field for 34 years in the U.S. and abroad. I also
25 have a doctorate in political science from the

1 University of California and have taught a course on
2 the politics of energy at the University of Hawaii.

3 I am here today to tell you my story, a
4 story which I believe is representative of a number of
5 American solar businesses that have been innocently
6 caught up in and harmed by the decisions taken by the
7 Commerce Department in this trade dispute.

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

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

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

23 Yes, pricing matters, but does not trump
24 higher efficiencies, quality, innovation or creative
25 financing.

1 Since 2005 I have been a Sun Power
2 Corporation dealer, the California based modular
3 manufacturer. I had also been purchasing lower cost,
4 U.S. made Shot solar modules as well, but at times was
5 unable to be adequately supplied by Shot. Therefore
6 last January in order to provide an affordable quality
7 option to my customers, I made a purchase of Chinese-
8 made solar modules from a company known as Ori Solar.
9 The value of that order was \$54,432. The order
10 arrived in the United States in early March before the
11 Commerce Department's initial announcement levying
12 countervailing duties of three to four percent. In
13 early June I was contacted by U.S. Customs in Honolulu
14 and was told that I had ten days to pay a bond of
15 \$138,023.33 to cover the combined countervailing and
16 antidumping duties of over 253 percent, and unless I
17 paid that by the due date I risked falling into the
18 black hole of liquidated damages.

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

24 The news that I had to pay a duty of over
25 \$138,000 was crushing for me and my business. In fact

1 paying this amount was close to 100 percent of my
2 profit for the year and caused me to look hard at
3 reducing my work force.

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

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

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

21 In sum, I'm a small business owner who has
22 been doing my best to reliably provide a quality
23 product to my customers and stable jobs to my
24 employees in what has become a hyper-competitive
25 market. I have not done anything wrong or underhanded

1 by making that single purchase from Ori in January and
2 yet I and many of my solar colleagues have effectively
3 become what I see as collateral damage in a much wider
4 economic and political dispute between countries and
5 the titans of the solar electric industry.

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

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

12 Thank you.

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

15 CHAIRMAN WILLIAMSON: Thank you very much.
16 I want to extend a welcome to all the panelists today
17 and express our appreciation for them coming, taking
18 time from their business to present their testimony.

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

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

24 I'd like to start off with where I started
25 off this morning, just a few hours ago. That is the

1 presence of the domestic industry in the utility
2 sector.

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

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

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

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

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

24 There was indeed a slide by Dr. Kaplan this
25 morning that showed the participation of the domestic

1 industry and the utility sector being very small and
2 then growing, but still being relatively small.

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

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

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

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

24 Thank you.

25 MR. BEEBE: Commissioner, my name is Andrew

1 Beebe with Suntech Power. I would say just to echo
2 the comments from Yingli, we have for four years been
3 building some of the largest solar power plants in the
4 country and in Arizona near our factory. We are with
5 Sempra Generation also building the first or second
6 largest field. It's a 235 megawatt facility.

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

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

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

23 MR. KING: I'd just like to add, this is
24 Allen King from Canadian Solar, that unless my numbers
25 are wrong, SolarWorld has about 825 megawatts of

1 global production. What was said by the Petitioners
2 earlier this morning is approximately 15 percent of
3 their business is in the utility marketplace.

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

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

15 Thank you.

16 COMMISSIONER JOHANSON: Thank you.

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

19 (Pause.)

20 Thank you for your patience there.

21 SolarWorld has emphasized, among other
22 things, that the number of U.S. cell and modular
23 makers that have ceased, that there have been a number
24 of cellular modular makers which have ceased
25 operations, declared bankruptcy or otherwise scaled

1 down their operations. The staff report has
2 information along those lines as well.

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

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

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

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

22 As I said in my testimony, Evergreen Solar
23 had a very unique wafering technology that used about
24 50 percent as much silicon as traditional cast ingot
25 and sawn cell manufacturers use. That was an

1 advantage to them when silicone prices were 90, 100,
2 250, 350, 400 dollars a kilo. However, as silicon
3 prices dropped and as you started looking across the
4 broad expanse of manufacturing a module, they gave
5 away much of their advantage when they got past the
6 wafering process.

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

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

21 MR. SHAH: Commissioner, just to add to
22 that. My name is Jigar Shah. I think Allen gave a
23 good summary of the technology side of it. the other
24 side of it today is when you look at the winners in
25 the marketplace from First Solar to Sun Power is that

1 both of those companies are vertically integrated.
2 They actually actively go out and win projects
3 directly with utility scale RFPs. And that the
4 companies that did not do that, which included BP
5 Solar which is who I worked for, found themselves in a
6 difficult place because the developers, like
7 SunEdison, the company I founded, who did win those
8 projects, didn't have to declare who the modules were
9 that they were using until the moment before they
10 started construction.

11 What you found was that those manufacturers
12 who were not involved with the early stages of
13 producing these contracts were absolutely placed in a
14 commodity situation where the lowest price as well as
15 other features like bankability, where banks for
16 instance only have approved ten companies in the world
17 right now to be bankable by Tier 1 manufacturers.

18 So you have these constraints that are
19 placed on you if you're not in the position of
20 developing the projects yourself.

21 MR. LAPIDUS: Can I make a comment?

22 COMMISSIONER JOHANSON: Yes.

23 MR. LAPIDUS: Kevin Lapidus, SunEdison.

24 It's not just about price. Technology
25 really matters here. Performance really matters here.

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

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

16 CHAIRMAN WILLIAMSON: Commissioner
17 Broadbent?

18 COMMISSIONER BROADBENT: Thank you.

19 I'd like to talk a little bit about what's
20 going on in China if you guys could give us your
21 perspective. I notice the Petitioners had a quote from
22 the founder of Suntech saying that, I guess this was a
23 2009 interview in the New York Times, where he says
24 that Suntech's goal is to build market share by
25 selling solar panels in the American market for less

1 than cost of the materials assembly and shipping.

2 What's your sense on that quote? Is that
3 accurate, or --

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

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

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

23 MR. SHAH: I'll just start with a piece of
24 the answer and then I'll let my colleagues talk about
25 the rest of it.

1 When I referred to bankable companies, I
2 think that really matters. In the U.S. market what
3 you have is the largest growth segment in residential
4 is through residential leased systems. In the utility
5 scale market you have major banks who have to approve
6 the products that you can actually invest in.

7 So when you look at Bloomberg New Energy
8 Finances' analysis, they have only approved about ten
9 manufacturers within this bankable category, of which
10 five are Chinese. Those five manufacturers represent
11 at most 14 gigawatts of capacity, not the full 42
12 gigawatts.

13 So when you look at the companies in the
14 United States that want to buy these modules, they're
15 restricted only to those companies if they're going to
16 get outside bank financing. So I think it's important
17 to note that only a subset of the Chinese market is
18 actually approved for use in these projects.

19 MR. PETRINA: Robert Petrina with Yingli.

20 I think one other important aspect to
21 highlight from this morning's presentation was that
22 the growth in China is actually very significant. If
23 you look at the growth in the market from 2011 or
24 2010, it's actually a 400 plus percent growth and the
25 projections for this year are also quite significant

1 in terms of domestic consumption.

2 Specifically for Yingli in 2011, more than
3 22 percent of our sales were to the domestic Chinese
4 market and about 18 percent of our sales were to the
5 U.S. market, the rest being Europe and the rest of the
6 world. We have similar projections for 2012.

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

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

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

22 MR. SHAH: Just to briefly answer that from
23 a specific point of view, the global market for solar
24 this year is expected to be somewhere in the 30,000
25 megawatt range globally. The tier one Chinese

1 manufacturers who actually can sustain third party
2 financing in Europe and the U.S. is only 14 gigawatts.
3 That's less than half of that 30 gigawatts. So the
4 rest of that tier one capacity is coming from
5 companies such as SolarWorld and others around the
6 world.

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

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

13 MR. LAPIDUS: Sure. Kevin Lapidus,
14 SunEdison.

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

23 So this is a finance-driven aspect of the
24 technology chain, and we have those dialogues with
25 banks. We will actually go to a bank. If we put this

1 module provider in the system will you finance our
2 project? That is the dialogue.

3 COMMISSIONER BROADBENT: Got it. Thanks.

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

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

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

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

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

25 So all of it comes back to the capital

1 markets and they will look at each system provider,
2 look at the different components that they're using,
3 panels and elsewhere, and then come up with a discount
4 rate that they're going to apply. That's the
5 quantitative value of how bankable that product is.

6 So some products will have a higher rate
7 than others and that will have an impact on that long
8 term cost of electricity.

9 DR. BUTTON: Commissioner, Kenneth Button.

10 To make sure the link was clear, the reason
11 that the residential installations get tied to the
12 financial sector is because of the lessor, a third
13 party that owns the equipment and then leases it to
14 the residential homeowner. That lessor has the
15 interest and the links into the financial system.

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

20 MR. BEEBE: This is Andrew Beebe.

21 I think that the photos that were shown were
22 instructive early this morning from this company that
23 I had not heard of that had one price at one show and
24 then at a subsequent show had a lower price. That
25 company is not competing with anyone here. That

1 company, as far as I can tell, is not surviving. So
2 what you're really looking at is a group that Jigar
3 was referring to who are in that top tier who are, who
4 have done the work globally to work with all the banks
5 to make sure that they are bankable. That is the only
6 portion of the production in China or anywhere that is
7 applicable to these markets in the U.S..

8 COMMISSIONER BROADBENT: That's all I have.
9 Thank you.

10 CHAIRMAN WILLIAMSON: Thank you.

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

16 Do you agree with any of these statements?

17 MR. BEEBE: This is Andrew Beebe with
18 Suntech. I'll just respond to the Suntech piece.

19 We had non-cash writeoffs last year that
20 increased the number of loss on paper.

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

25 I guess you would say, are these non-cash,

1 one-time things or --

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

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

10 MR. BEEBE: Correct.

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

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

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

24 I might start the answer and allow my
25 colleagues to jump in as well.

1 The entire design of these programs was to
2 build economies of scale that in turn brought down the
3 whole solar system cost so that they would achieve
4 grid parity, whether it was grid parity on the
5 wholesale side, utility scale, or grid parity with
6 residential or commercial electricity rates.

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

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

25 MR. LAPIDUS: Kevin Lapidus, SunEdison.

1 This is an important point so if you don't
2 mind I really want to focus on this.

3 The incentives are part of the revenue
4 stream when we build a solar project. So as a
5 developer we basically build a financial model. The
6 financial model is like a three-legged stool. This is
7 what undergirds solar energy in the U.S.

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

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

20 So specifically to your question, incentives
21 in the U.S. are designed to reduce over time. What
22 that means for a developer is the revenue model for
23 our solar power plant is declining over time. The
24 only way the financial model works, and we can build
25 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. LAPIDUS: 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.

1 Nobody wants to be an incentive-driven world
2 forever. These incentives from elected officials or
3 regulators of the public utility commission in certain
4 states are to enable solar to be financially viable
5 now, but they're going down over time. That's
6 expected in the industry. That's the agreement. And
7 we'll move to grid parity, we'll reduce the cost.

8 So the focus is not on the manufacturers.
9 The focus is on public interest. How do we have more
10 solar energy while reducing the price and while
11 reducing the incentive. We don't want to be on the
12 incentives forever.

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

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

20 CHAIRMAN WILLIAMSON: Yes.

21 MR. DALBEY: I think --

22 CHAIRMAN WILLIAMSON: Could you identify
23 yourself?

24 MR. DALBEY: Troy Dalbey from Upsolar. I
25 apologize.

1 I think that you're focusing on the
2 profitability and forward-looking viability of solar
3 companies around the world and trying to gain an
4 understanding of why it is there are so many that are
5 going through a difficult time. And you have to
6 understand that the U.S. is a very small segment of
7 the global market. There have been rapidly declining
8 incentive schemes in multiple countries throughout
9 Europe, and I think that it's caught everyone by
10 surprise.

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

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

25 Mr. Button?

1 DR. BUTTON: Thank you, Mr. Chairman.

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

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

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

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

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

25 Ms. Shaw, you seem to have been in there

1 from the beginning.

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

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

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

23 Again, it's not because of subject imports.
24 It's because the grid parity number is lower than
25 perhaps they anticipated when they started building

1 capacity a couple of years ago.

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

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

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

16 Thank you.

17 Commissioner Pearson?

18 COMMISSIONER PEARSON: Thank you, Mr.
19 Chairman.

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

24 A special word for Mr. Mangelsdorf who may
25 win the prize for having come the farthest. I'm not

1 completely sure. But let me start with a question for
2 you.

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

5 COMMISSIONER PEARSON: Okay.

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

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

13 MR. MANGELSDORF: Yes, it would.

14 COMMISSIONER PEARSON: My question is a step
15 beyond that.

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

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

24 COMMISSIONER PEARSON: Right, but not the
25 critical circumstances side of it. Just the rest of

1 it going forward for five years.

2 MR. MANGELSDORF: I can't speak to the whole
3 of the Hawaii PV industry, but speaking for myself and
4 one who has been doing it for longer than almost
5 anybody else has in the State of Hawaii, is that my
6 preference has been two-fold over the years.

7 One is to offer the very best quality,
8 highest efficiency modules on the planet, which I'm
9 not trying to toot the Sunpower horn too loudly
10 because even though I'm a dealer of theirs, I don't
11 have an exclusive with them nor vice versa.

12 But the reality is they are the highest
13 efficiency modules on the planet. They come at a
14 premium price. I am still amazed that there is a
15 substantial clientele that is willing to pay a
16 substantial premium for the highest quality, highest
17 efficiency modules on the planet.

18 So one of my strategies or part of my sales
19 strategy and marketing strategy is to offer the best
20 for those people who are willing to pay for it.

21 Secondly, it's clear that not everybody
22 either has that type of financial assets to afford the
23 best. Therefore, I would be somewhat foolish if I
24 didn't offer another alternative that was lower in
25 cost. And I have done that by using a number of

1 different modules from different manufacturers
2 including Shot Solar which I had a longstanding direct
3 relationship with. But the reality was that sometimes
4 I could get Schott solar modules when I needed them
5 and sometimes they were not as readily available so
6 I'd look for alternatives. Ori Solar is one of the
7 alternatives.

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

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

22 MR. MANGELSDORF: U.S. made modules,
23 especially in the current shall I say political
24 climate, U.S. manufactured goods have a, for a lot of
25 people, a degree of desirability. Understandably so.

1 After learning that Schott Solar was no
2 longer going to be manufacturing out of their plant in
3 Albuquerque, and exiting the crystalline solar market,
4 I in fact looked to U.S. manufacturers and interviewed
5 Mr. Ostrenga from Helios who is on the Petitioner's
6 side, and had a very good conversation with him and
7 his marketing manager and another couple of American-
8 made module manufacturers as well, and have decided to
9 start a relationship with one of them.

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

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

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

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

25 MR. MANGELSDORF: I have. To a limited

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

6 Now that delta has shrunk so much that for
7 my applications which are kind of a mix, 50/50 of
8 residential and small to medium commercial, the thin
9 films just don't have a compelling rationale given how
10 much the price of crystalline silicon has been driven
11 down over the years. It's been compared to thin film.

12 Plus, nothing can beat crystalline silicon
13 in terms of reliability and efficiency. It goes back
14 to the 1950s in Bell Labs when the first order cells
15 started cranking out power, and many of those cells
16 are still cranking out power.

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

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

25 For the panel then, what would be the broad

1 effects on prices for solar modules in the U.S. market
2 if an order does go into effect for the next five
3 years? Would prices rise? Or are the competitive
4 pressures such and the technological change such that
5 we would see a continued downtrend in prices? Or a
6 leveling off? How would you characterize the market
7 after an order goes into effect, assuming one does?

8 Dr. Button?

9 DR. BUTTON: Thank you. Let me take a first
10 answer and let the other members of the panel.

11 Starting with what I would state is the key
12 condition in competition in the market, that the
13 prices is set basically by grid parity. That tells
14 the developer what kind of technology he's going to
15 use.

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

24 COMMISSIONER PEARSON: But my question was
25 really before that. I'm curious, will the prices rise

1 in the United States if an order goes into effect?

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

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

10 MR. LAPIDUS: Kevin Lapidus, SunEdison.

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

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

21 Hawaii is a little bit of a different
22 situation in which it doesn't have as tight a
23 performance demand on incentives as the rest of the
24 continental United States. Its electricity is mostly
25 fed by diesel so its incentive structure is a little

1 bit more generous than the rest of the U.S.

2 In the rest of the U.S. the 30 renewable
3 portfolio standards, two-thirds of them have cost caps
4 associated with them whereby if the cost of procuring
5 those renewables forces up retail electricity rates
6 more than one, two, three percent, the utility can
7 petition the regulator to opt out of the renewable
8 portfolio standard. In fact First Energy in Ohio is
9 going through that deliberation right now.

10 That effectively sets the direction. All of
11 the solar energy, whether it's wholesale or rooftop,
12 has to achieve grid parity because these incentive
13 prices and wholesale contracts are expected to
14 decline.

15 If prices ever go up, you lose all political
16 will for the renewable portfolio standards and you
17 cannot go back to the regulators and ask for increased
18 prices in your contracts.

19 COMMISSIONER PEARSON: My time has expired
20 but what I'm hearing I think is that yes, there may be
21 some increase in prices of panels in the U.S. market,
22 and that that would have first a deleterious effect on
23 their use in utility projects and then backing up into
24 commercial and residential projects. Okay.

25 Thank you, Mr. Chairman.

1 CHAIRMAN WILLIAMSON: Thank you.

2 Commissioner Pinkert?

3 COMMISSIONER PINKERT: Thank you, Mr.

4 Chairman, and I join my colleagues in thanking all of
5 you for being here today and being willing to answer
6 all our questions.

7 I've heard a lot today about the era of
8 declining incentives. I'm wondering when exactly did
9 that era begin? We're looking at lots of graphs here
10 about falling module prices and so forth. I'm trying
11 to get a fix on when that era began.

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

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

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

1 utilities and industry participants.

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

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

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

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

25 What we've seen noticeably in the last

1 couple of years as the cost of natural gases decline,
2 is the reference price or the alternative of natural
3 gas electricity is coming down. That acts as pressure
4 forcing down the cost of our solar contract to sell
5 electricity because the utility commissioners are
6 looking at two alternatives.

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

15 COMMISSIONER PINKERT: Thank you.

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

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

25 If you reduce the incentives, that means to

1 get to the same original system cost you have to
2 reduce the base costs in it. For example the cost of
3 modules. So as incentives start out large, you can
4 afford more expensive modules. As incentives shrink,
5 for example, the premium electricity rate which a
6 utility will pay to a developer. Polly mentioned
7 \$2.80. That permits a module price to be relatively
8 high.

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

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

19 DR. BUTLER: No. What I'm saying is the
20 position of the developer is that he's trying to -- If
21 all the costs going into it, the cost of the module,
22 the cost of the land, the frame, everything else
23 stayed the same, and the incentives went down, that
24 would raise the system cost and that would be a shift
25 in the demand schedule in the sense that it would be,

1 now you're offering electricity to the grid at a
2 higher price and you're going to have a lower quantity
3 of that being sought out.

4 MR. LAPIDUS: Kevin Lapidus, SunEdison.

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

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

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

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

1 developer I can tell you we're not seeing that.

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

6 MR. DALBEY: This is Troy Dalbey from
7 UpSolar.

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

23 COMMISSIONER PINKERT: Thank you.

24 I'm looking at an exhibit supplied by the
25 Petitioners this morning and an exhibit supplied by

1 this panel this afternoon.

2 The one this afternoon is called Module
3 Pricing Trends. The exhibit this morning is called
4 Supply Glut an Price Collapse.

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

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

16 My question is, which sort of fitted line or
17 set of fitted line should one have confidence in?

18 Is this just a question of sort of
19 subjectively drawing fitted lines on a chart? Or is
20 There something more fundamental that we can pin this
21 analysis to?

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

1 some variables which did change that are important.

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

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

24 Additionally you have going on at the same
25 time the gradual decline of various forms of

1 incentives.

2 There are incentives started big, but as
3 they come down they put additional pressure on the
4 prices that developers are willing to pay for the
5 modules themselves and the combined effect of these
6 things have the result of getting a curve that you saw
7 in the Petitioner's chart this morning.

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

13 MR. SHAH: Commissioner if I might.

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

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

21 I think as Dr. Button talked about, we did
22 have a deviation from that line when there was a
23 silicon shortage in 2007, 2008, but we quickly
24 returned back to that line once that silicon shortage
25 abated. But this has been a long term trend that we

1 can actually send you scientific papers that have been
2 written since 2003.

3 COMMISSIONER PINKERT: That would be
4 helpful.

5 Thank you very much.

6 Thank you, Mr. Chairman.

7 CHAIRMAN WILLIAMSON: Commissioner Johanson?

8 COMMISSIONER JOHANSON: Thank you, Mr.
9 Chairman.

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

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

20 Can one of you all please discuss the global
21 situation?

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

24 It's a very good question and one that you
25 will need generally to pool different sources.

1 Typically the one that I quoted as representing a part
2 of a forecast for 2014 was from Bloomberg New Energy
3 Finance.

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

8 COMMISSIONER JOHANSON: How does that
9 compare to today?

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

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

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

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

25 I think your insight is correct. There is a

1 rotation of the global market for solar with somewhat
2 of a rotation out of the traditional European markets
3 into new markets.

4 Here's some of the data points.

5 Saudi Arabia announces \$109 billion program
6 for solar.

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

11 Active in Brazil and Chile.

12 There is a rotation that is more Middle East
13 focus, South America focused and Asia focused out of
14 some of the historically larger markets in Europe.
15 All of that is growth, but it's rotating in that
16 growth. It's absolutely a good insight.

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

21 MR. LAPIDUS: The aggregate --

22 COMMISSIONER JOHANSON: Talking worldwide.

23 MR. LAPIDUS: Is increasing.

24 COMMISSIONER JOHANSON: So it's increasing.

25 MR. LAPIDUS: But it's changing in terms of

1 where those markets are as I've described. Japan,
2 huge market. We're active in Thailand, in Malaysia,
3 these are relatively new markets. We're looking at
4 South America. Really brand new markets in terms of
5 where they could go.

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

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

14 MR. LAPIDUS: For example, this year the
15 U.S. market is forecast to be 3.2 gigawatts. A
16 significant growth over the prior year, 1.8 gigawatts.

17 The answer is yes. It's growth that's
18 coming with a significantly increased demand on
19 reducing the price. So it's growth with a tradeoff.
20 As you grow --

21 (Static.)

22 MR. LAPIDUS: The U.S. market does have
23 growth opportunities, absolutely. We're very bullish
24 on the U.S. market. That growth will come with a
25 seemingly increased demand for reducing the price of

1 solar. The public utility commissions are driving
2 down the costs. The incentives are being reduced.

3 So as you make that kind of economic model
4 work, driving down the price of the components. Yes,
5 you'll see growth in the U.S..

6 COMMISSIONER JOHANSON: Anyone else?

7 No? Okay.

8 As a follow-up to that I'd like to discuss
9 or speak on capacity, Chinese capacity.

10 According to Chinese producers, and this is
11 at page 7-5 of the staff report, cell capacity is
12 increased by 237 percent between 2009 and 2011.
13 That's very high growth. That is occurring at a time
14 of declining prices.

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

18 MR. YOUNG: This is Thomas Young again.

19 I think to quote a round figure,
20 approximately 20 percent only of the global demand is
21 for China and the U.S., so again it's natural that
22 we're talking the most about these two markets,
23 particularly the U.S., but the opportunities and the
24 expectation for growth in the newer markets is taking
25 up the bulk of what we see in the next two years.

1 Keep in mind as our peers may have not
2 detailed, that it takes a year to two years to plan
3 these projects. That's why I quoted 2014.

4 Another aspect as highlighted in my
5 testimony, is that the type of growth we expect in
6 this other 80 percent does not come on through more
7 and more smaller residential projects like we see in
8 the U.S. and Germany. We're now at the point, an
9 exciting point economically, where large-scale utility
10 projects can be launched into.

11 The issue there, it's exciting and it's very
12 chunk business. But there are ramps. So there are
13 preparations.

14 Of course you need the economics to work,
15 but along with that it has to be in, as Kevin
16 mentioned, it's in concert with other factors
17 including network planning and other.

18 The numbers for the new markets are quite
19 extraordinary and in on way do they represent the type
20 of growth that was seen say in the U.S. if you pulled
21 back three to five years as now suggested.

22 The numbers are quite large as you go
23 forward.

24 COMMISSIONER JOHANSON: Mr. Petrina?

25 MR. PETRINA: Thanks, Robert Petrina with

1 Yingli.

2 I think if the question is companies
3 expanded between 2009, 2011, why did they do that?
4 That's the question?

5 COMMISSIONER JOHANSON: Capacity in general
6 in China has grown very rapidly in recent years. It
7 looks like it will continue to grow fairly rapidly.
8 That's a projection --

9 (Static.)

10 CHAIRMAN WILLIAMSON: Do you want to --
11 (Pause.)

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

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

18 MR. PETRINA: We'll try again.

19 (Pause.)

20 MR. PETRINA: So just to answer that
21 question, Commissioner Johanson -- it is on, but -- I
22 think it's working now, very good. So in that period
23 in time, I think companies looked out to the global
24 demand as growing significantly. That happened and
25 companies expanded in a period of significant

1 shortages to meet that demand. And I think we've seen
2 that demand growth in lots of different places like
3 China where it's grown by over 400 percent year over
4 year, 2011 over 2010. Thank you.

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

8 CHAIRMAN WILLIAMSON: Okay. Commissioner
9 Broadbent?

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

22 MR. BUTTON: Commissioner, I would like the
23 first crack at that. That answer is that in short,
24 yes. In an unusual situation of this where you have
25 an extraordinary rapid expansion of apparent

1 consumption and an extraordinary rapid expansion in
2 U.S. shipments, yes, I think there's less weight on
3 apparent -- on market shares. And we've offered an
4 alternative view that we think deals with issues of
5 causation as to the market share shifts in Exhibits 19
6 and 20 of Respondent's pre-hearing brief.

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

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

20 COMMISSIONER BROADBENT: Dr. Button, I --
21 yeah?

22 MR. ELLIS: Commissioner, I'd also like to
23 jump in. One of Petitioner's own handouts, this one,
24 the page, "the industry is materially injured," if you
25 take a look, there's some non-injured factors listed

1 there in the time period 2009 to 2011 when the imports
2 were -- subject imports were increasing. So even they
3 are acknowledging there's an increase in capacity
4 utilization despite a gigantic increase in capacity in
5 the United States as well, and improvements in the
6 inventory quantity -- and the inventory quantity and
7 PRWs, hours, wages, et cetera. So even they are
8 reflecting non-injurious criteria. And our focus has
9 not even been on that, but rather on the causal
10 connection. Thank you.

11 COMMISSIONER BROADBENT: Just kind of making
12 sure I understand the charts here. I'm looking at
13 your handout on page nine, Dr. Button, and here you're
14 talking about the factors that are affecting the CSPV
15 pricing. On page nine, you point out that there's
16 some correlation between polysilicon pricing. And so
17 --

18 MR. BUTTON: Is it our handout or theirs?

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

21 MR. BUTTON: Thank you.

22 COMMISSIONER BROADBENT: Yeah, this one.
23 That's it. Page nine.

24 MR. BUTTON: Yes, Commissioner.

25 COMMISSIONER BROADBENT: You point out that

1 there's a correlation between polysilicon pricing and
2 cell and module pricing between 2008 and 2012 there.
3 But it looks to me like polysilicon falls about 90
4 cents per watt, while the price of the cells falls by
5 275 per watt and the price of the modules falls by 343
6 per watt. So it seems to be a much bigger price
7 decrease that we need to account for just sort of
8 notionally. It's not all polysilicon, some of these
9 other factors that we've talked about. How would you
10 flush that out?

11 MR. BUTTON: My answer is, absolutely right.

12 COMMISSIONER BROADBENT: Right.

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

25 COMMISSIONER BROADBENT: Can you talk a

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

12 MR. BUTTON: We cite Thin film for two
13 reasons in your analysis in this case. One of them
14 has to do with the like product analysis. And a point
15 we're trying to make is that Thin film and crystalline
16 silicon compete in the market. And as you have heard
17 in the panel, there has been direct competition in
18 projects between those. So that's simply one point.

19 Even if you decide that this is not a
20 situation of single like product, Thin film still
21 competes with crystalline silicon on the market as an
22 independent factor and has lower prices within this
23 slide and the slide before it I believe. So these
24 slides are in essence averages and we're not saying
25 that there's a specific amount by which there's a gap

1 here, which is scientifically precise in all
2 locations. What we're saying is the fact of being
3 lower, having lower costs is one other thing on the
4 purchasers' minds because they have this lower cost
5 alternative to which they can turn as well. So all of
6 these effects have the impact of reducing the prices
7 the purchasers are willing to pay for the crystalline
8 silicon product.

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

21 MR. BUTTON: Well, the fundamental point,
22 and I think this is what Chairman Williamson raised,
23 is what we described as the fundamental economic
24 reality that the solar photovoltaic industry has to
25 face. It's the price of the alternative product and

1 the grid, which is electricity generated from natural
2 gas. And that sets the price that they have to start
3 with because if you don't meet -- if the developers
4 don't have a system that meets that price, it's not
5 going to be the project.

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

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

1 to negotiate.

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

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

20 MS. SHAW: Thank you, Mr. Chairman. This is
21 Polly Shaw. In the United States, roughly 45 percent
22 of electricity generation is from coal and it's
23 dwindling over the next five years. Twenty percent is
24 from nuclear. Twenty-four percent is natural gas.
25 Only one percent is oil. So nuclear and coal both

1 provide base load power and in the last 20 years, the
2 U.S. has overbuilt actually natural gas plants, mostly
3 for peaking power.

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

18 CHAIRMAN WILLIAMSON: Okay, thank you for
19 that clarification. But are you saying that we should
20 just ignore what's happening to the price of nuclear
21 or coal given the percentages that you just mentioned?

22 MS. SHAW: Sir, I'm not saying that at all.
23 Coal and nuclear mostly supply base load power. And
24 so when utilities need new power, it's usually during
25 the afternoon when they have a choice of turning,

1 asking a gas generator to turn on by a peaker plant
2 versus asking for energy efficiency or demand
3 response, which means usually asking people to turn
4 off --

5 CHAIRMAN WILLIAMSON: No, I understand that.
6 But are you saying only the parity basis is the price
7 of natural gas?

8 MS. SHAW: It is.

9 CHAIRMAN WILLIAMSON: Okay.

10 MS. SHAW: Thank you.

11 CHAIRMAN WILLIAMSON: Okay. That's what I
12 wanted to find. I might ask why, but I won't. This
13 morning, Dr. Kaplan presented an exhibit on pages 12
14 and 13 showing a cost price squeeze. Oh, this is of
15 their handout. And I was wondering, do you agree that
16 there is a cost price squeeze in this investigation
17 and why or why not?

18 MR. BUTTON: This is Ken Button. What we
19 would say is that the costs are what they are for all
20 the producers. The price is set by what you describe
21 as an exogenous force, you know, the grid --

22 CHAIRMAN WILLIAMSON: No, you all said that.
23 Okay, I'm sorry.

24 MR. BUTTON: Thank you. We said that, that
25 the price is set in essence by grid parity of natural

1 gas. So if there is a squeeze, it's the squeezes from
2 this exogenous force and that's what I'd say.

3 CHAIRMAN WILLIAMSON: Okay. Because this
4 chart talks about raw material costs versus the sales
5 of modules. This is on page 12 of this handout. So
6 are you saying you disagree with that?

7 MR. BUTTON: What I'm saying is that to the
8 extent that they in fact have increases in the raw
9 materials that he's describing, that, yeah, I'm not
10 disputing that they went up. I think if you look at
11 the overall P&L data that they've provided for the
12 cost structure, you can see the trends of that over
13 time. And so you're not dealing in that sense with a
14 generally rising cost and rising COGS. But the
15 squeeze part, which is what the Commission
16 traditionally looks at, that's a causation, why
17 they've got a squeeze going on, a cost price squeeze.

18 Commonly, the allegation is, well the
19 subject imports, whatever they might be, are
20 preventing the domestic industry from raising the
21 price to a point where they can cover their costs.
22 Well what's preventing the domestic industry from
23 raising the module price in this particular
24 investigation? This is unusual in this investigation.
25 It's not like steel. It's not like any of the other

1 products. Here you've got something that is very
2 powerful, very exogenous, the grid parity price of
3 natural gas, which is setting the price at which they
4 can charge for the electricity, the system, and the
5 module.

6 CHAIRMAN WILLIAMSON: Okay. Thank you. Out
7 of curiosity, is the bid parity price, that ratio
8 relationships apply in Europe, too? Do we have a
9 similar system there or is it different?

10 MS. SHAW: I would say that in parts -- I'm
11 sorry, Polly Shaw, Suntech. In parts of Europe for
12 certain market segments, solar is nearing grid parity
13 because they also have a tension between rising
14 electricity rates, for example, for retail solar
15 versus the dropping solar costs. But in Europe, the
16 incentive remuneration philosophy is a little bit
17 different than in the U.S. and I would say there is a
18 great deal of political will to give very generous
19 subsidies for decades compared to here.

20 CHAIRMAN WILLIAMSON: Okay. Anyone else?

21 MR. BEEBE: Yes. This is Andrew Beebe with
22 Suntech. I'll just add that in Europe, we're
23 absolutely seeing a significant reduction in the total
24 amount of government-supported subsidies and it is
25 having the same effect as the United States.

1 CHAIRMAN WILLIAMSON: Okay. I was raising
2 the question because there's -- you know, they have a
3 case now, too, and I was wondering if imports are
4 playing a different role there. Any other comments on
5 that question? Mr. Shah?

6 MR. SHAH: Sorry, Jigar Shah, Inerjys. I
7 think it's important to note that in Germany, there is
8 a number of people pushing back now. I mean the cost
9 of the solar subsidies in Germany have exceeded now
10 100 billion Euros. And so people are suggesting that
11 solar absolutely has to achieve grid parity or will
12 face the axe because people don't want to keep
13 spending more and more money on their electricity bill
14 to pay for these types of incentive programs.

15 CHAIRMAN WILLIAMSON: Okay. Thank you.
16 Let's see, you've mentioned sort of a number of
17 factors today. We've talking, you know, the declining
18 price in natural gas, declining cost of the price of
19 the polysilicon, and of course the Petitioners have
20 talked about the imports. And I was just wondering
21 how much do we allocate to each of these different
22 factors and other factors as to why the industry is
23 losing money?

24 MR. BUTTON: Mr. Chairman, I would respond
25 in terms of you would allocate to them some level of

1 importance to degree which they actually are going to
2 affect the price. And what I think you have heard is
3 the things -- the variables that you're considering
4 that would affect the price that a solar electricity
5 system developer is going to be willing to pay for a
6 module begins with the opportunity costs in natural
7 gas.

8 Second, well, what other products can they
9 get besides CSPV modules? Thin film. That's another
10 alternative that affects them. And then those are
11 kind of direct things. The environment is very much
12 affected. The price is affected directly by the fact
13 of the decline in the incentives systems. And lastly,
14 it is admitted that the cost to make a module goes
15 down to some degree by the reduction of the
16 polysilicon prices.

17 Now if the subject imports weren't there,
18 would the grid parity price change? Would natural gas
19 change? I believe the answer is no. So that's the
20 first price you've got to begin with and that's the
21 one that really sets the amount, the price of the
22 product.

23 CHAIRMAN WILLIAMSON: Okay. I'll leave it
24 to Petitioner's to maybe offer a different view on
25 that, but thank you for that. Let's see, okay, why

1 don't I stop there for right now. Let's see, who is
2 next? Commissioner Pearson?

3 MR. MCCLURE: Mr. Chairman, sorry to
4 interrupt, one bit of housekeeping. For all the
5 parties in the APO, there is an APO release ready in
6 the Secretary's office now and since they lock the
7 doors at 5:15, you may want to send the appropriate
8 people down there to get it. And if Bill Perry is in
9 the room, I assume you don't want your UPS? You will
10 pick it up? Okay. I'll let them know. Thank you,
11 Mr. Chairman.

12 CHAIRMAN WILLIAMSON: Commissioner Pearson?

13 COMMISSIONER PEARSON: Thank you, Mr.
14 Chairman. Dr. Button, we've talked a little bit about
15 the price elasticity of demand. Could you perhaps in
16 the post-hearing provide your estimate of how much of
17 the increase in apparent consumption over the POI has
18 been due to the decline in price? Again, we had the
19 staff estimate of the price elasticity of demand being
20 somewhere between minus 0.75 and minus 1.0 and I'm
21 just curious about it.

22 MR. BUTTON: I'll be happy to take a look at
23 the numbers and see what calculations we might make.

24 COMMISSIONER PEARSON: Okay, because I think
25 this case is a little bit unusual in that the price

1 decline has been significant enough and we see demand
2 expanding and so is this simple economics?

3 MR. BUTTON: I would simply note that, no
4 criticism of staff, but our estimates of elasticities
5 of demand tend to be somewhat impressionistic.

6 COMMISSIONER PEARSON: Well, then that's why
7 I asked for your impression, right?

8 (Laughter.)

9 MR. BUTTON: Mr. Commissioner, I'd be
10 delighted to provide my impression. Thank you.

11 COMMISSIONER PEARSON: Thank you. Another
12 topic that's come up a number of times, should we
13 expand the domestic like product to include Thin film
14 modules? And my thinking on this is going around and
15 around in part because there's been some discussion of
16 the changing price relationship between solar cell
17 modules and Thin film modules, because Mr. Mangelsdorf
18 talked about the delta coming down with solar cells
19 approaching in price the Thin film cells. And in that
20 case, the Thin film is less competitive and less
21 likely to substitute for the silicon cell modules,
22 okay. And if indeed the marketplace is working in
23 such a way so that Thin film is a less good
24 substitute, then the argument for including it in the
25 domestic like product weakens, okay. So I'm wrestling

1 with this and any thoughts you have on it, I'd be
2 happy to hear, either now or in the post-hearing.

3 MR. LAPIDUS: Sure. Kevin Lapidus, Sun
4 Edison. Thin film is an alternative. When we build a
5 power plant, particularly now we're talking about the
6 utility space. We have a choice of modules, and in
7 some applications Thin film might be better and some
8 applications other technology might be better. So
9 cost is one component, but it's also how that module
10 function at different latitudes. How it will function
11 in hot versus cold environments. How much snow
12 there's going to be in the location.

13 So there are other non-priced factors.
14 They're based on the technology. And sometimes Thin
15 film will win out on these other consideration even
16 putting aside price. So when we build a power plan,
17 Thin film, polycrystalline, they're both something we
18 can look at, yes.

19 COMMISSIONER PEARSON: Okay. So you see
20 them as -- in your business, they are quite active
21 competitors depending on each individual situation?

22 MR. LAPIDUS: Yes. These are substitutes
23 and depending on the mix -- technology, price,
24 location -- we can pick one or the other.

25 COMMISSIONER PEARSON: Okay, thank you.

1 MR. BEEBE: This is Andrew Beebe with
2 Suntech. I'll just add that our customers, the
3 developers, and the utility scale customers look at
4 their business as selling electrons. They sell
5 electrons. How they get there, as long as it meets
6 the renewable criteria that they're chasing after -- I
7 mean, these are -- I can't imagine how they wouldn't
8 be considered substitutes. The pricing -- we've
9 become more competitive over time with them, but the
10 pricing is still very competitive from our Thin film
11 peers in the industry and we see it on a regular
12 basis. And they are still winning business that we go
13 after and occasionally we win business that they go
14 after. And so from our customer's perspective, as
15 Kevin said, and we've seen it again and again, day in
16 and day out, they look at these products as
17 substitutes.

18 COMMISSIONER PEARSON: Okay. And perhaps no
19 one here is -- oh, did you have something?

20 MR. KING: I was just going to say, Mr.
21 Commissioner, that --

22 COMMISSIONER PEARSON: This is Mr. King
23 incidently.

24 MR. KING: I'm sorry. Alan King, Canadian
25 Solar. Thank you. First Solar sells 100 percent of

1 its product into the utility marketplace. Canadian
2 Solar does about 40 percent of its business in the
3 utility marketplace. It is inevitable and unavoidable
4 that we will compete against them. We don't chase
5 different projects. We don't engage in different
6 bidding processes. We engage in the same kind of
7 competition that all manufacturers do, and that
8 includes competing against Thin film product.

9 COMMISSIONER PEARSON: Okay. And earlier in
10 the day, the point was made that the technological
11 advances in solar cell technology are getting smaller
12 and it's a little harder to achieve them because we're
13 getting closer to the theoretical productivity of
14 silicon I guess. Is the same thing true in Thin film
15 or are there technologies in Thin film that might
16 shift the cost paradigm of that product?

17 MR. BEEBE: This is Andrew Beebe again.
18 Before I ran worldwide sales, I for two years ran
19 product management at Suntech. And I guess if I
20 could, I would first take exception with the concept
21 that the incrementalism is sort of leveling out. We
22 are consistently over the last 10 years or maybe I can
23 say over the last six years that I know of, we have
24 consistently been able to increase the output of any
25 given panel, without increasing the price, by about

1 five to 10 percent, usually seven to 10 percent per
2 year. And that rate of increase has not changed and
3 it's due to significant technology advancements. And
4 we could enumerate them if necessary afterward.

5 But I don't think it's the case that
6 crystalline is somehow topped out. And we can see
7 through companies like Sun Power, who have fantastic
8 leadership in some of their cell, and we at Suntech
9 have had some leadership cells. You see that
10 innovation continues.

11 On the Thin film side, certainly First Solar
12 more than anybody I think has been transparent -- has
13 been the most transparent in their public filings,
14 explaining their roadmap and explaining the technology
15 innovations that lead to that cost reduction roadmap.
16 It's a very aggressive roadmap and I think, as far as
17 I know, they've consistently hit their targets. It's
18 a very impressive downward trend.

19 MR. SHAH: I mean, just to add --

20 COMMISSIONER PEARSON: Mr. Shah?

21 MR. SHAH: Jigar Shah from Inerjys. Just to
22 add some flavor, Sun Power is the market share leader
23 in residential in California based on its technology
24 prowess and the fact that it continues to improve its
25 technology, as Mr. Mangelsdorf talked about as his

1 preferred module. And the same thing is true with
2 First Solar. So First Solar's impressive improvement
3 in its Thin film technology has allowed it to get the
4 number one market share lead on the utility scale side
5 in the U.S. And so I think to suggest that both
6 products are irrelevant to this case I think is
7 overstating.

8 COMMISSIONER PEARSON: Okay, good. Well, I
9 think my last question has to deal with basic issue of
10 causation. In this record -- for those of you who are
11 always in front of us, you know this. But for those
12 who aren't here so terribly often, our job is to try
13 to determine whether what we see happening in this
14 industry amounts to material injury. And the
15 threshold for material injury is fairly low because
16 it's basically any injury that's not immaterial,
17 inconsequential, more than tangential -- you know the
18 standard, okay.

19 So on this record, we look at the data. I'm
20 going to get a direct quote from Mr. Ellis, I can see
21 that. We look at the information that we have and we
22 see a meaningful increase in subject imports, really
23 no question about that. We see quite a bit of
24 underselling and an expectation that if there was an
25 order put in place, that prices might rise. And we

1 see relatively weak financial performance of the
2 domestic industry. So your challenge either now or in
3 the post-hearing is help me to integrate all that data
4 and come in with a conclusion that's below the
5 material injury threshold that gets us to a negative
6 in this vote, in this case.

7 MR. BUTTON: Mr. Commissioner, my comment
8 would simply be that you, of course, as you well know,
9 have to deal with the issue of causation. And if you
10 come to a determination that they are materially
11 injured as a kind of a steady state, like the old
12 bifurcation views of the analysis, what caused them to
13 get there, and if that cause wasn't there, would
14 things be any different. And the short version of
15 what we're saying is what caused them to get there is
16 the impact of pricing from grid parity, which is not
17 related to the subject imports.

18 COMMISSIONER PEARSON: Okay.

19 MR. ELLIS: I can't resist. The statutory
20 definition is -- this is Neil Ellis by the way --

21 COMMISSIONER PEARSON: Right.

22 MR. ELLIS: -- harm which is not
23 inconsequential, immaterial, or unimportant. And the
24 point though, the statutory point that Dr. Button just
25 addressed, is the fact that obviously the material

1 injury has to be "by reason of imports" of the subject
2 merchandise. And there's some questions about how
3 injured this industry is in any event, the basic
4 question you asked about. But in addition, obviously,
5 we've been dwelling heavily on the point of causation
6 under the "by reason of" standard.

7 COMMISSIONER PEARSON: Okay. Well, that
8 concludes my questioning. I thank all of you, very
9 much. It's been a most interesting day. This is for
10 me a more interesting than usual case. And when I
11 figure out, well you'll know when I vote. Thank you.
12 Thank you, Mr. Chairman.

13 CHAIRMAN WILLIAMSON: Thank you.
14 Commissioner Pinkert?

15 COMMISSIONER PINKERT: Thank you, Mr.
16 Chairman. I just have one or two additional
17 questions. I want to begin with a hypothetical, so
18 please understand that I'm not really assuming
19 anything. I just want to get a hypothetical answer.
20 If the Petitioners's theory of the case were correct,
21 would one expect to see more impact beneficial to the
22 domestic industry from the petition going forward?

23 MR. ELLIS: This sounds like a Lewis Carroll
24 mathematical thing.

25 COMMISSIONER PINKERT: Well, let me make the

1 question simpler. Often we hear that there was a
2 petition effect in a case, that the industry began to
3 benefit from the filing of the petition. Now I'm
4 asking you, look at it from your point of view, is it
5 a problem for the Petitioner's case that we don't see
6 more of a beneficial impact on the domestic industry
7 from the petition going forward?

8 MR. BUTTON: Let me take -- Ken Button. Let
9 me make the following comment that just makes this --
10 that I would suggest makes this case fundamentally
11 different from the typical case that you get to
12 because one of the effects of the petition effect, one
13 of the results of a petition is that it closes off the
14 alternative product. And if you take a steel case,
15 that means that the imports, some portion of the
16 imports, subject imports of the steel product, which
17 would be the opportunity -- the alternative to a
18 buyer, it's cut off and there's really no choice. You
19 get one or the other.

20 Typically, you don't have in that situation
21 that they don't buy any steel at all. And that's what
22 you're facing here is if you try -- if the subject
23 imports are cut off, if the domestic industry seeks to
24 raise the price, then the developers, you've heard,
25 basically will stop buying the product because they'll

1 be buying natural gas systems. So that sets the --
2 makes this case significantly different from one that
3 you typically run into.

4 MR. ELLIS: This is Neil Ellis. I would
5 agree with that and point out that you're not having
6 the normal trends post-petition or even post-prelim,
7 in the short period in the half year 2012 that was
8 post-prelim, that you would expect in a typical case,
9 that is imports continue to rise and prices continue
10 to fall. It's not following the normal trends, which
11 suggests that there's something else -- there are
12 exogenous factors that are affecting the marketplace
13 here, which has been what we've been talking about
14 this afternoon. So I agree with what you're saying.
15 Thank you.

16 COMMISSIONER PINKERT: Perhaps both sides
17 for the post-hearing could look at the most current
18 data they can get their hands on and address this
19 question of the petition effect.

20 MR. ELLIS: Sure. We'll be glad to do that.

21 COMMISSIONER PINKERT: Thank you. And I
22 thank both sides and I appreciate the effort and the
23 willingness to answer the questions today. And I look
24 forward to the post-hearing submissions.

25 CHAIRMAN WILLIAMSON: Thank you.

1 Commissioner Johanson?

2 COMMISSIONER JOHANSON: Yes. I just have
3 one or two more questions. The U.S. industry can be
4 broken down into three sectors: the commercial,
5 residential, and utility. Do you all have a breakdown
6 for those three sectors percentage-wise of the U.S.
7 industry?

8 MR. BUTTON: We have been relying -- excuse
9 me, this is Ken Button. We've been relying on the
10 staff report data with respect to that. Though I must
11 admit for some purposes in the economic analysis, I
12 would think it makes more sense to deal with what
13 amounts to the utility on the one side and then the
14 commercial, residential rooftop on the other because
15 the economics seem to split more easily there. But
16 we've been relying on the pre-hearing report data for
17 that.

18 COMMISSIONER JOHANSON: I of course have
19 that and I apologize it's not in my head, but there's
20 a lot of information we've been going through here.
21 Just one more issue. Dr. Button, at your chart at
22 page seven, you break down products one to three and
23 products four and five. And your chart indicates that
24 there's not much overlap in competition in products
25 four and five between the U.S. and China's industries.

1 But there's still quite a bit of overlap in products
2 one to three, is that safe to say?

3 MR. BUTTON: Ken Button. Yes, there is some
4 overlap indeed and this is why we suggest that you pay
5 particular attention to the pre-hearing brief Exhibits
6 19 and 20, when we then look at what we see as the
7 market share developments within the commercial,
8 residential rooftop segment where these products, the
9 one to three, tend to be sold.

10 COMMISSIONER JOHANSON: Okay. All right.
11 That concludes my questions. Thank you.

12 CHAIRMAN WILLIAMSON: Okay. I have just a
13 few questions. This morning Petitioners stated that
14 they had not been harmed by long-term supply contracts
15 with polysilicon suppliers because they were able to
16 renegotiate prices. Do you agree with that or do you
17 disagree and if so, why?

18 MR. KING: I'm sorry, can you repeat the
19 question?

20 CHAIRMAN WILLIAMSON: This morning the
21 Petitioners indicated that they had not been harmed by
22 their long-term supply contracts with polysilicon
23 suppliers. I think you all had suggested that that
24 was a problem for them. And they said that's because
25 they were able to renegotiate the prices in those

1 contracts. And I was just wondering whether or not
2 you all agree with that and if you don't, why?

3 MR. BEEBE: This is Andrew Beebe with
4 Suntech. I guess what I would say is that it's my
5 understanding and I'm not privy to their internal
6 negotiations or confidential negotiations, but it is
7 an industry standard and it certainly happens to all
8 of us that we enter into a percentage of short-term
9 negotiations, which allow us to buy on the spot
10 market, and long-term negotiations or long-term
11 contracts, which usually force us to some sort of
12 binding relationship. The type of those long-term
13 contracts can result in either the right to
14 renegotiate or a more binding commitment to a fixed
15 price. And when those are negotiated at higher
16 prices, it's very common that the polysilicon
17 providers will not allow for significant renegotiation
18 and thus you see a blended average of high long-term
19 pricing and short -- and low short-term pricing.

20 And additionally, if anyone produces their
21 own silicon, it is extremely common that if they have
22 any history to that technology, they're usually making
23 that silicon at a price higher than the spot market
24 and, therefore, they have to buy from themselves, and
25 that's not a renegotiation they can enter into at a

1 higher price, and then buy a smaller amount on the
2 short-term market or on the spot market.

3 CHAIRMAN WILLIAMSON: Okay. That's when the
4 price goes up, is that what --

5 MR. BEEBE: I'm saying that when the price
6 is down in the spot market --

7 CHAIRMAN WILLIAMSON: Okay.

8 MR. BEEBE: -- they can buy low, but they
9 still have to buy from themselves --

10 CHAIRMAN WILLIAMSON: I got it, okay.

11 MR. BEEBE: -- whatever that price is and
12 it's usually higher.

13 CHAIRMAN WILLIAMSON: Okay, thank you. And
14 this applies both to domestic producers and foreign
15 producers?

16 MR. BEEBE: It does, except to say that some
17 of us, Suntech, for example, does not make a
18 significant amount of polysilicon itself and,
19 therefore, we have a stronger ability to just buy a
20 greater percentage in the short-term or spot market,
21 which allow us to take advantage of lower costs in the
22 moment.

23 CHAIRMAN WILLIAMSON: Okay, thank you.

24 MR. ELLIS: I'm sorry, Commissioner
25 Williamson?

1 CHAIRMAN WILLIAMSON: Yes.

2 MR. ELLIS: I would just point out also that
3 the statement that was said this morning and I think
4 in Petitioner's brief, that the same conditions for
5 the purchase of polysilicon apply to both the domestic
6 industry and the Chinese producers is not necessarily
7 correct and we'll have to address that in the post-
8 hearing brief. But I don't want to the sense to leave
9 this room that polysilicon doesn't matter because
10 everybody is in the same condition because that isn't
11 correct.

12 CHAIRMAN WILLIAMSON: Okay, thank you. This
13 morning we have some discussion about utility
14 products, the role I guess of finance, had to finance
15 the company and doing a purchasing, of making the
16 decision in the importance of price there. And I was
17 wondering whether or not you all agree with that
18 description. And what I'm getting at is really the
19 process about which utilities go about purchasing
20 modules.

21 MR. KING: This is Alan King, Canadian
22 Solar. I actually completely agree with what Mr.
23 Kilkelly said this morning and I think it all circles
24 around finance and as he put it, the Treasury. I
25 think that at the end of the day, the determination is

1 return on investment. Cost of building the system
2 determines what prices that the project developer will
3 pay for all of his product, balance of system, as well
4 as modules. So in my opinion and what we've seen more
5 and more over recent years is that pricing is
6 determined by the financing or financial group, not
7 necessarily by simply market prices.

8 CHAIRMAN WILLIAMSON: Okay. One thing we
9 didn't discuss this morning is this usually kind of a
10 bidding process or is it more of a negotiated process?

11 MR. KING: Yes. It starts out bidding and
12 it goes negotiation.

13 CHAIRMAN WILLIAMSON: Okay. So it's
14 iterative --

15 MR. KING: Yeah, many iterations.

16 CHAIRMAN WILLIAMSON: Okay.

17 MR. SHAH: Mr. Chairman?

18 CHAIRMAN WILLIAMSON: Yes.

19 MS. SHAW: Jigar Shah from Inerjys, probably
20 the somebody who is responsible for some of those
21 finance conversations. What I would say, but it's not
22 about price. The challenge in the financing realm if
23 you're in the Treasury Department is you have to
24 convince a third-party financing company to actually
25 finance the project, right. And so there's a short

1 list of technologies which is not based on price, but
2 more based on the reliability and quality of their
3 products that get them on that list. And so you're
4 restricted to those products, in terms of the ones you
5 want to buy.

6 And then for the company I started, Sun
7 Edison, what we did was we actually created a
8 systematic database of how well those technologies
9 operated in our projects and we found stark
10 differences. There were some crystalline products
11 which looked exactly the same that produced five
12 percent more energy per rated watt that we were paying
13 for than other technologies. And so people were not
14 selling us the same exact watts. And so once we
15 determined that information, we used that information
16 to choose which panels to buy.

17 So while the Treasury does care, as Alan
18 said, about rate of return, rate of return doesn't
19 just come from price. It also comes from quality,
20 from production, from other factors.

21 CHAIRMAN WILLIAMSON: But for the finance
22 guys, I assume it still gets down to how much it's
23 going to cost, it's just what factors he's taking into
24 account.

25 MS. SHAW: No. You would be surprised.

1 What they care about is the internal rate of return.
2 So they want to know that if they're putting 50
3 million of their own money into the project, what rate
4 of return will they get on that money. And that
5 absolutely is impacted by the cost and the price that
6 they pay for those panels, but it's more often than
7 not also influenced by how much production they get.
8 So as Kevin said, if it was in a high heat
9 environment, you want a panel with a low temperature
10 coefficient. If it's in a cold climate, you want to
11 make sure that it has certain characteristics.

12 And also the reputation of the manufacturer,
13 some manufactures have a reputation for selling lower
14 watts, you know. So their 280 watt panel produces
15 less power than somebody else's 280 watt panel. And
16 so it really comes down to the rate of return that we
17 expect for that money invested, not just the price.

18 CHAIRMAN WILLIAMSON: Okay. I invite
19 Petitioners to comment on that if they have a
20 different view of that description. But thank you for
21 that clarification. It almost sounds like you're
22 dealing with a finance company buying a house and they
23 keep talking about who they're going to pass the loan
24 off to. That's the standards.

25 Okay. I think with that, I have no further

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

1 mind, with the post-hearing brief. Is that okay?

2 MS. ALVES: Sure, that's fine.

3 MR. ELLIS: Okay, thank you.

4 MS. ALVES: Thank you.

5 MR. DALBEY: I have a copy of the list on my
6 iPad, if you'd like me to recite it, I mean, according
7 to BNEF. Okay.

8 MS. ALVES: Sure, go ahead.

9 MR. DALBEY: Okay. There are some that have
10 recently exited the business, as you've heard, so I'm
11 going to omit them. But you have Suntech; Trina;
12 Yingli; J.A. Hanwack, Canadian; R.E.C., which is a
13 European company; Sharp; Solar World; Panasonic;
14 Kyocera; you have Siliken; Mitsubishi; Aleo, which is
15 Bosch; and then Bosch itself, so those two are the
16 same company effectively; Isofoton; Sun Power; AU;
17 CMPV; ET; and UpSolar.

18 MR. ELLIS: We'll still submit the list in
19 writing.

20 DR. KAPLAN: Could he add to the list the
21 companies that were bankable and are now bankrupt? He
22 said he didn't --

23 MR. DALBEY: Oh, I can recite them if --
24 that have exited the business, you have Schott; you
25 have BP, which may still have modules out in

1 distribution; and that's it, Schott and BP off of the
2 list.

3 MS. ALVES: Okay, thank you. And just
4 checking with the court reporter, did we have the
5 question from the audience reflected? But did you
6 hear the question that he was responding to, the
7 second question?

8 THE COURT REPORTER: Yes.

9 MS. ALVES: Okay, thank you.

10 MR. DAVID: Okay, thank you. Andrew David.

11 So my question which you can answer now or in your
12 post-hearing briefs is so you stated that subject
13 producers have done well in the utility scale market
14 because of the ability to supply 72 cell modules of
15 275 to 300 blocks that are best suited for the utility
16 scale sector. At the same time, you've indicated that
17 you frequently compete with First Solar's Thin film
18 modules in the utility scale market. Yet, First
19 Solar's modules are less than 100 watts. This seems
20 inconsistent with your statement that you need to have
21 large high wattage modules to compete in the utility
22 scale sector. How do you account for that seeming
23 inconsistency?

24 MR. BEEBE: This is Andrew Beebe with
25 Suntech. The simple answer is that we compete with

1 total system cost and with the cost per kilowatt hour
2 of an output plant. And our customers evaluate the
3 comparisons of Thin film, which are very small frame
4 modules, combined with First Solar's very proprietary
5 racking system, essentially a very different way of
6 installing the product, and then compare that with 60
7 cell crystalline modules and 72 cell crystal modules.

8 And to be clear, we sell -- at Suntech, we
9 sell 60 cell and 72 cell modules side by side at very
10 similar pricing per watt. And repeatedly our
11 customers have selected the 72 because when combined,
12 that total system cost or total install cost is more
13 competitive than both Thin film and a 60 watt
14 crystalline module.

15 MR. MCCLURE: Jim McClure, Office of
16 Investigations. We have no further questions. And
17 thanks to this panel for your testimony and to Suntech
18 and Sempra for our visits.

19 CHAIRMAN WILLIAMSON: Thank you. Does
20 Petitioners have any questions for this panel?

21 MR. BRIGHTBILL: No questions.

22 CHAIRMAN WILLIAMSON: Okay, thank you.
23 Okay. Then it's come time for closing statements.
24 And you all agree on this, both supporters and those
25 in opposition have three minutes of direct and five

1 minutes for closing for a total of eight minutes each.
2 And we usually like to combine the time. So if it's
3 okay with you, we'll do that. And so then I'll
4 dismiss this panel and thank you, very much, for your
5 testimony and the time you've taken and then we'll
6 have closing statements after everybody gets settled
7 down. Thank you.

8 (Panel dismissed.)

9 CHAIRMAN WILLIAMSON: Okay. You may
10 proceed.

11 MR. KAPLAN: It would seem inevitable the
12 way our economy is moving that instead of the auto
13 people coming in and saying I need dumped steel or a
14 chemical producer saying I need a dumped input, the
15 project finance guys would show up and say I need a
16 dumped component as well. All of these have the same
17 thing in common, is that if they lower their cost,
18 they think they'll -- their prices, they think they'll
19 sell more. And if demand is downward sloping, they're
20 right. But none of the purchasers and users of
21 components have a right to access of dumped imports
22 just so they can sell more.

23 They sold in 2011 close to two gigawatts in
24 terms of imports. Prices have fallen 30 percent since
25 then. If we have the orders go into place, they'll

1 have lower prices than they had in 2011 when they sold
2 those quantities.

3 The notion that the shipments turn off and
4 off at some parity level is just wrong. First of all,
5 we've seen changes without major changes in parity.
6 Second of all, we've heard testimony from both
7 Petitioners and Respondents that states are required
8 to purchase shares of renewable for their utilities
9 regardless of price.

10 So both of these specs show that the
11 Petitioners are demonstrably wrong. Some of the
12 questions that weren't answered should be particularly
13 -- I mean, sorry, Respondents -- which side of the
14 aisle I'm on and, ah -- you've got petitioners,
15 complainants, and respondents in this building and
16 they're jumbled up.

17 I think some of the questions that were
18 asked by Commissioner Broadbent were extremely telling
19 and the lack of answers. At one point, she asked
20 three questions in a row about what was going on in
21 China and what she got was finance -- project finance
22 gobbledygook about how I need lower prices to sell
23 more projects. I'm not arguing that it can sell more
24 projects, so you get a lower price. What I'm saying
25 is at prices that are lower than those to be sold

1 those projects at, he'd still be able to sell projects
2 because prices have fallen so severely.

3 I have more points I'll make in the post-
4 hearing brief. Tim?

5 MR. BRIGHTBILL: Thank you. Several other
6 points, there was a lot of talk about grid parity
7 today. Dumping is not acceptable because it gets us
8 to grid parity faster. Subsidies are not acceptable
9 because they get us to grid parity faster. And in
10 fact, the problem is we are going to get to grid
11 parity. You heard this industry is getting better all
12 the time and more efficient. It's particularly bad
13 because by the time we get there, there won't be a
14 domestic industry left because of the unfair trade.

15 There was also talk about Chinese
16 technological innovation and how that is a real
17 difference maker in this market. Look at the staff
18 report. There's no evidence that the Chinese product
19 is a better product. If you look at the quality
20 ratings, the quality assessments from purchasers and
21 importers, there's nothing there. No one thinks of
22 China as the technological innovator. And if that was
23 true, how come they're losing so much money and why
24 are they underselling the market? That's another
25 contradiction. It just does not make any sense.

1 There were a lot points about the incentives
2 programs declining. I don't believe that that's so
3 and I will expound in our post-hearing brief. If it's
4 true, it's another sign of vulnerability and threat to
5 the domestic industry. But certainly, the incentives
6 were not declining during the period of investigation
7 2009, 2010, 2011, when so much of the harm occurred.
8 So it doesn't explain the import surge and the injury
9 except those incentives, which were open to Chinese
10 producers, helped to bring those imports in as well.

11 Mono-crystalline versus multi-crystalline,
12 that is a completely irrelevant issue. Multi-
13 crystalline is not substantially lower in price. The
14 staff report efficiencies are more accurate than
15 Respondent's exhibits and we'll comment on that.

16 Critical circumstances, I would note that
17 Respondent's conceded growth in imports and
18 inventories. They only say it happened for different
19 reasons. So they concede the fundamental things that
20 you need to find.

21 Thin film technology, I would encourage you
22 to look at the questionnaire responses of the Thin
23 film producers, who you went out and got. They gave
24 you very interesting comments about the role of China
25 in this marketplace. So I would urge you to look at

1 those.

2 With respect to the utility sector, we heard
3 a lot about the utility sector today. And some of the
4 Respondents said they don't see Solar World at the
5 table on these utility projects. They don't see Solar
6 World because Solar World sells to its customers,
7 installers who on their own compete for those jobs.
8 Solar World and the domestic industry are very active
9 in the utility sector. Solar World has whole product
10 lines, like access trackers to follow the sun, that
11 are only useful in the utility sector. So they are
12 active there. The domestic industry is all three
13 segments of this market and all three have been
14 crushed by the Chinese imports.

15 Bankability, I thought the staff question on
16 bankability was very good. Solar World is on that
17 list, so are three producers that have gone out of
18 business. I thought that highlighted the fundamental
19 contradiction very well, as did Mr. David's question.

20 Commissioner Broadbent asked about China,
21 did not get those answers three times. And I believe
22 Respondents asked you to ignore two-thirds of China's
23 capacity. I don't think the statute allows you to
24 ignore all that capacity. It is something that we are
25 forced to compete with and it is massive and it has

1 overrun this market.

2 Similarly, Chairman Williamson asked about
3 U.S. injury and were the companies expecting to lose
4 that much money. And I think the answers or lack of
5 answers there were very telling as well.

6 The supplier from the Respondent's panel on
7 critical circumstances basically underscored that U.S.
8 product would be price competitive with the dumping
9 duties in place, that he would take sales to the U.S.
10 product, confirming our theory of the case.

11 So just to conclude, we heard a lot of
12 alternative causes in the last few hours. The
13 evidence -- I'd like to take you back to your
14 investigation that you and the staff spent months on
15 and the evidence here is overwhelming according to
16 each of the statutory factors. Respondents would have
17 you believe that a 1,000 percent volume increase in
18 Chinese imports is unimportant or immaterial. That's
19 not the case, almost three billion dollars worth of
20 products that came in. A 50 percent price drop, that
21 is important. That is material. Underselling in
22 three quarters of the comparisons, more than a dozen
23 companies that have shut down in the last two years,
24 that is material and important. And the causal link
25 is clear, between that surge in unfairly-traded

1 Chinese imports and the injury being experienced by
2 domestic producers, it's clear from the analysts in
3 this case, it's clear from the statements of the
4 Chinese producers themselves, it's clear from what the
5 importers and purchasers said in their questionnaire
6 responses.

7 So there's really only one question left to
8 consider here, in a growing market with such a bright
9 future, why is the U.S. solar cell and module industry
10 fighting for its very survival? The answer is clear.
11 Your evidence is clear. That's why we ask for
12 affirmative determinations in these cases. Thank you,
13 very much.

14 CHAIRMAN WILLIAMSON: Thank you. Okay. You
15 may begin.

16 MR. ELLIS: Good afternoon. I appreciate
17 this final opportunity to talk with you for a few
18 moments. I want to start by thanking the staff for
19 their extraordinary efforts and also for the
20 Commissioners, for your attention and interest in this
21 long and complicated conversation.

22 During this afternoon's session, we explored
23 Solar World's erroneous description of the marketplace
24 for solar energy and CSPV cells. The industry covered
25 by this investigation is more complex and dynamic than

1 that portrayed by Solar World. And to the extent that
2 Solar World has been suffering material injury at all,
3 the causes of that injury are unrelated to the imports
4 of subject merchandise.

5 Most importantly, we have discussed the
6 fundamental goal of the solar industry to attain grid
7 parity in order to be competitive with conventional
8 energy sources. We've also highlighted the express
9 government policies to promote solar energy and
10 accelerate the pace of solar installations in the
11 United States in order to Wean America off its
12 dependence on non-renewable energy sources. Toward
13 this goal, governments at all levels have provided
14 financial incentives and adopted performance mandates
15 aimed at driving down prices for the provision of
16 solar energy.

17 However, pursuant to the social compact
18 we've heard about between industry and government,
19 those financial incentives have declined recently and
20 as they have declined, so must the prices of solar
21 installations in order to remain competitive. As
22 you've heard, cost reductions must be made along the
23 entire solar energy value chain, including hardware
24 inputs such as modules. In this environment, only
25 those solar module manufacturers that have invested,

1 innovated, and cut costs are equipped to survive. The
2 Respondents have done so. Solar World less so.

3 This is reflected in the data before the
4 Commission, showing that Respondents have targeted the
5 utility sector with its explosive growth during the
6 POI by focusing on better conversion efficiencies and
7 higher wattage modules. The comparisons permitted by
8 the pricing product data graphically demonstrate the
9 lack of competition offered by Solar World. That was
10 in the chart with the 97 percent versus three percent
11 we had earlier.

12 Our panel discussed in detail why the
13 statutory factors to be considered by the Commission
14 do not support an affirmative determination. First,
15 the volume of subject imports has increased because
16 U.S. demand has skyrocketed, and Petitioners, too,
17 have enjoyed stunning increases in U.S. shipments of
18 their modules, particularly in the residential and
19 commercial rooftop segment of the market that they
20 serve. This shows the enormous growth in U.S. demand.
21 And the explosion of demand in the utility segment of
22 the market for which Solar World was less prepared has
23 driven the growth and the volume of subject imports.

24 Second, the trend in CSPV module prices has
25 been compelled by the need to remain competitive with

1 conventional non-renewable sources of energy,
2 particularly natural gas, combined with a decline in
3 government incentives that supported artificially high
4 solar energy prices. At the same time, the decline in
5 prices was encouraged by the collapse in costs or
6 prices of the polysilicon during the POI.

7 And third, key economic and financial
8 indicators of the domestic industry point to what
9 should be a healthy and robust domestic industry.
10 These factors are detailed in our pre-hearing brief at
11 pages 60 to 75 and our exhibits. But here are a
12 couple of examples. In the non-utility segment of the
13 market on which Solar World focused, U.S. producers'
14 shipments increased faster than consumption over the
15 years 2009 to 2011, so U.S. producers gained market
16 share.

17 The industry invested to expand capacity
18 over those years, despite which its capacity
19 utilization rate increased more rapidly. This in
20 itself is unusual in an investigation before the
21 Commission, that is an industry is complaining about
22 being injured despite the fact that it was able to
23 increase both capacity and capacity utilization over
24 the very period in which subject imports were
25 increasing. But this trend is not surprising here in

1 which U.S. apparent consumption has exploded.

2 Moreover, the lost sale and lost revenue
3 allegations, which have not been discussed today, had
4 been exposed as all but empty. Despite the lengthy
5 list of such allegations presented by Petitioner, a
6 thorough review by the staff has resulted in the
7 verification of a trivial number of those allegations
8 and in some instances demonstrated that the purchasers
9 obtained the merchandise from other U.S. suppliers,
10 not the subject imports. There's no causation here.

11 Even if the Commissioner were to make an
12 affirmative material injury determination, there's no
13 basis for you to find critical circumstances. The
14 evidence is overwhelming that subject imports and
15 inventories during the post-petitioned period were
16 responding to and are consistent with a growing market
17 and are unrelated to the filing of the petitioner. In
18 particular as you have heard during our presentation,
19 the growth of imports during the last quarter of 2011
20 and the first quarter of 2012 were the direct result
21 of the impending expiration of Treasury's section 1603
22 cash grant program, and Exhibit 40 of our pre-hearing
23 brief shows a very nice time trend showing the
24 correlation.

25 Subject imports responding to the programs

1 and pending expiration were largely sold, not simply
2 placed in warehouses to flood the U.S. market
3 following the issuance of an order if there is one.
4 In other words, in the statutory parlance, the imports
5 are not "likely to undermine seriously the remedial
6 effect of the antidumping order."

7 Turning to the bigger picture for a moment,
8 this actually is an exciting time for the U.S. solar
9 industry. We have seen staggering growth, vast
10 opportunities, rapid technological developments, tens
11 of thousands of U.S. workers up and down the value
12 chain placed in good jobs, in an industry favored by
13 government policies looking to the future of American
14 society.

15 But with growth comes change. Some market
16 participants succeed and some don't. Some bet
17 correctly on technology and foresee the right vector
18 of growth, some don't. This is fundamental part of
19 the American market and capitalist process. It is a
20 trend we've witnessed time and again in other
21 industries at the times of their initial appearance
22 and transformation, whether it be automobiles 100
23 years ago, which I was not around for, VCRs,
24 computers, or cell phones. In any such instance, in
25 any such industry, it is possible to identify a niche

1 that is not doing well and to blame imports for the
2 harm that is actually nothing more than manifestation
3 of the natural and exciting ferment inherent in a
4 rapidly changing industry.

5 We submit that the Commission should not
6 permit itself to be drawn into such an easy and false
7 causal connection. To the contrary, when you review
8 the record and the achievements of the solar industry
9 in America, the evidence in the record can lead to
10 only one conclusion, that the subject imports are not
11 causing or threatening to cause material injury to
12 that industry. Thank you.

13 CHAIRMAN WILLIAMSON: Okay, thank you. I
14 thank all of our witnesses today and closing
15 statement. Post-hearing briefs, statements responsive
16 to questions and request of the Commission and
17 corrections to the transcript must be filed by October
18 11, 2012. Closing of the record and final release of
19 data to parties is October 30, 2012. Final comments
20 are due November 1, 2012. And with that, this hearing
21 is adjourned.

22 (Whereupon, at 5:35 p.m., the hearing in the
23 above-entitled matter was concluded.)

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25 //

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