

# UNITED STATES INTERNATIONAL TRADE COMMISSION

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In the Matter of: ) Investigation No.:  
CRYSTALLINE SILICON PHOTOVOLTAIC CELLS, ) TA-201-75 (Monitoring)  
WHETHER OR NOT PARTIALLY OR FULLY )  
ASSEMBLED INTO OTHER PRODUCTS: MONITORING)  
DEVELOPMENTS IN THE DOMESTIC INDUSTRY )

Pages: 1 - 339  
Place: Washington, D.C.  
Date: Thursday, December 5, 2019



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1 THE UNITED STATES INTERNATIONAL TRADE COMMISSION

2 In the Matter of: ) Investigation No.:

3 CRYSTALLINE SILICON PHOTOVOLTAIC) TA-201-75

4 CELLS, WHETHER OR NOT PARTIALLY ) (Monitoring)

5 OR FULLY ASSEMBLED INTO OTHER )

6 PRODUCTS: MONITORING )

7 DEVELOPMENTS IN THE DOMESTIC )

8 INDUSTRY )

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Thursday, December 5, 2019

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Main Hearing Room (Room 101)

16

U.S. International

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Trade Commission

18

500 E Street, S.W.

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Washington, D.C.

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The meeting commenced, pursuant to notice, at

21

9:30 a.m., before the Commissioners of the United States

22

International Trade Commission, Chairman David S. Johanson

23

presiding.

24

25

1 Commissioners Present:

2 Chairman David S. Johanson (presiding)

3 Commissioner Rhonda K. Schmidtlein

4 Commissioner Jason E. Kearns

5 Commissioner Randolph J. Stayin

6 Commissioner Amy A. Karpel

7

8 APPEARANCES:

9 On behalf of the International Trade Commission:

10 STAFF:

11 WILLIAM R. BISHOP, SUPERVISORY HEARINGS AND INFORMATION  
12 OFFICER

13 TYRELL T. BURCH, MANAGEMENT ANALYST

14 MARY MESSER, INVESTIGATOR

15 ANDREW DAVID, INTERNATIONAL TRADE ANALYST

16 ANDREW KNIPE, INTERNATIONAL ECONOMIST

17 JOANNA LO, ACCOUNTANT/AUDITOR

18 JANE C. DEMPSEY, ATTORNEY/ADVISOR

19 NATHANAEL E. COMLY, SUPERVISORY INVESTIGATOR

20

21 STATE GOVERNMENT APPEARANCES:

22 The Honorable Dennis Mock, Mayor of Dalton, Georgia

23 The Honorable R. Lynette Laughter, Chairwoman, Whitfield

24 County Board of Commissioners

25

-- continued --

1 STATE GOVERNMENT APPEARANCES (continued):

2 Carl Campbell, Executive Director, Dalton-Whitfield County

3 Joint Development Authority

4

5 EMBASSY APPEARANCES:

6 Embassy of the Republic of Indonesia

7 Washington, DC

8 Mr. Wijayanto, Commercial Attache

9

10 Embassy of the Republic of Korea

11 Washington, DC

12 Jungsoo Hur, Commercial Counsellor

13

14 Embassy of Canada

15 Washington, DC

16 Carrie Goodge O'Brien, Acting Minister-Counsellor

17

18 Taipei Economic and Cultural Representative Office

19 Washington, DC

20 Oscar Yang, Senior Trade Specialist, Bureau of

21 Foreign Trade, Ministry of Economic Affairs

22

23

24

25

1 OPENING REMARKS:

2 Panel 1 (Matthew J. McConkey, Mayer Brown LLP; and John M.

3 Gurley, Arent Fox LLP)

4 Panel 2 (Matthew R. Nicely, Hughes Hubbard & Reed LLP)

5

6 Panel 1:

7 Mayer Brown LLP

8 Washington, DC

9 on behalf of

10 Suniva, Inc. ("Suniva")

11 Matt Card, President and Chief Operating Officer,

12 Suniva, Inc.

13 Jeffrey Klenk, Director, Berkeley Research Group, LLC

14 Robert Rogowsky, Special Advisor and Professor,

15 Berkeley Research Group, LLC

16 Warren Payne, Senior International Trade Advisor,

17 Mayer Brown LLP

18 Matthew J. McConkey, Timothy Keeler - Of Counsel

19

20

21

22

23

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25

-- continued --

1 Panel 1 (continued):

2 Arent Fox LLP

3 Washington, DC

4 on behalf of

5 Hanwha Q CELLS USA, Inc.

6 Jinhong (Martin) Park, Head of Strategy, Marketing &

7 HR, Hanwha Q CELLS USA, Inc.

8 Scott Moskowitz, Director of Strategy and Market

9 Intelligence, Hanwha Q CELLS USA, Inc.

10 Lisa Nash, Human Resources Manager, Hanwha Q CELLS

11 USA, Inc.

12 Andrew Munro, General Counsel, Hanwha Q CELLS

13 USA, Inc.

14 Paul Mutchler, Director of Commercial Operations,

15 Mission Solar Energy LLC

16 Mamun Rashid, Chief Executive Officer, Auxin Solar

17 Inc.

18 W. Bradley Hudgens, Senior Economist, Georgetown

19 Economic Services, LLC

20 Michael T. Kerwin, Director, Georgetown Economic

21 Services, LLC

22

23 John M. Gurley, Diana Dimitriuc-Quaia - Of Counsel

24

25

-- continued --

1 Panel 1 (continued):

2 TradeWins, LLC

3 Washington, DC

4 on behalf of

5 SunPower Manufacturing Oregon (SPMOR)

6 Thomas Werner, Chief Executive Officer, SunPower Corp.

7 Thomas Starrs, Vice President Market Strategy & Policy,

8 SunPower Corp.

9

10 John R. Magnus - Of Counsel

11

12 Panel 1 (continued):

13 Curtis, Mallet-Prevost, Colt & Mosle LLP

14 Washington, DC

15 on behalf of

16 LG Electronics USA, Inc.

17 LG Electronics, Inc.

18 Brian Lynch, Director of Solar and ESS Sales, LGEUS

19

20 Daniel L. Porter, Gina M. Colarusso, Kimberly A.

21 Reynolds - Of Counsel

22

23

24

25

-- continued --

1 Panel 1 (continued):

2 Sidley Austin LLP

3 Washington, DC

4 on behalf of

5 Mission Solar Energy ("Mission")

6 Paul Mutchler, Director of Commercial Operations,

7 Mission Solar Energy LLC

8

9 Neil R. Ellis, Carys Golesworthy - Of Counsel

10

11 Panel 2:

12 Hughes Hubbard & Reed LLP

13 Washington, DC

14 on behalf of

15 Solar Energy Industries Association ("SEIA")

16 REC Americas LLC

17 Ryan Creamer, Chief Executive Officer, sPower; Acting

18 Chair, SEIA

19 Abigail Ross Hopper, President and Chief Executive

20 Officer, SEIA

21 Justin Baca, Vice President, Markets & Research, SEIA

22 Craig Cornelius, Chief Executive Officer, Clearway

23 Energy Group

24 George Hershman, President, Swinerton Renewable Energy

25

-- continued --

1 Panel 2 (continued):

2 Cary Hayes, Chief Executive Officer, REC Americas LLC

3 James Resor, Chief Executive Officer, EDF Renewables

4 Distributed Solutions, Inc.

5 Arthur Fletcher, Senior Vice President, Invenergy LLC

6 Thomas J. Prusa, PhD, Professor, Department of

7 Economics, Rutgers University

8 James P. Dougan, Vice President, Economic Consulting

9 Services, LLC

10 Gillian Priddy, Staff Economist, Economic Consulting

11 Services, LLC

12 Matthew R. Nicely, Dean A. Pinkert, Julia K. Eppard -

13 Of Counsel

14

15 Hogan Lovells US LLP

16 Washington, DC

17 on behalf of

18 Canadian Solar Inc.

19 Silfab Solar WA, Inc.

20 Silfab Solar, Inc

21 Heliene USA Inc.

22 Heliene Inc.

23 Recurrent Energy, LLC

24

25

-- continued --

1 Panel 2 (continued):

2 Martin Pochtaruk, President, Heliene Inc. and Heliene  
3 USA Inc.

4 Paolo Maccario, President and Chief Executive Officer,  
5 Silfab Solar, Inc. and Silfab Solar WA, Inc.

6 Vincent Ambrose, General Manager for North America,  
7 Canadian Solar Inc.

8 Michael Arndt, Managing Director of Development,  
9 Recurrent Energy, LLC

10 Jonathan T. Stoel, Michael G. Jacobson, Nicholas W.  
11 Laneville - Of Counsel

12

13 Curtis, Mallet-Prevost, Colt & Mosle LLP

14 Washington, DC

15 on behalf of

16 Government of Canada

17 Christopher Dunn, Tung Nguyen - Of Counsel

18

19 Holland & Knight LLP

20 Washington, DC

21 on behalf of

22 REC Americas LLC

23 Cary Hayes, President, REC Americas LLC

24 Ronald A. Oleynik, Andrew K. McAllister - Of Counsel

25

-- continued --

1 Panel 2 (continued):

2 NextEra Energy, Inc.

3 NextEra Energy Resources, LLC

4 Florida Power & Light Company

5 Juno Beach, FL

6

7 Michael O'Sullivan, Senior Vice President-Development,

8 NextEra Energy Resources, LLC

9 H. Deen Kaplan, of Counsel, Hogan Lovells US LLP

10 Warren Maruyama, of Counsel, Hogan Lovells US LLP

11

12 Utility Scale Solar Coalition

13 Charleston, SC

14 Steffanie Dohn, Director of Government Relations,

15 Southern Current LLC

16 Hamilton Davis, Director of Regulatory Affairs,

17 Southern Current LLC

18

19 REBUTTAL/CLOSING REMARKS:

20 Panel 1 (Matthew J. McConkey, Mayer Brown LLP; and John R.

21 Magnus, TradeWins LLC)

22 Panel 2 (Dean A. Pinkert, Hughes Hubbard & Reed LLP)

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## P R O C E E D I N G S

(9:34 a.m.)

MR. BURCH: Will the room please come to order.

CHAIRMAN JOHANSON: Good morning. On behalf of the U.S. International Trade Commission, I welcome to you this hearing in the Monitoring Phase of Investigation No. TA-201-75 involving Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled into Other Products: Monitoring Developments in the Domestic Industry.

On January 23rd, 2018, the President, pursuant to Section 203 of the Trade Act of 1974, issued Proclamation 9693 imposing a safeguard measure on imports of TSPV products in the form of a tariff rate quota on imports of solar cells not partially or fully assembled into other products, and an increase in duties on imports of modules.

This measure took effect on February 7th, 2018, for a period of four years, or through February 7th, 2022. The President imposed the measure following receipt of a report from the Commission in November 2017 under Section 202 of the Trade Act that contained an affirmative determination, remedy recommendations, and certain additional findings. See Crystalline Silicon Photovoltaic Cells Whether or Not Partially or Fully Assembled into Other Products, Investigation No. TA-201-75 USITC Publication 4739 of November 2017.

1           Section 204(a)(1) of the Trade Act requires the  
2 Commission to monitor developments with respect to the  
3 domestic industry, including the progress and specific  
4 efforts made by workers and firms in the domestic industry  
5 to make a positive adjustment to import competition as long  
6 as any action under Section 203 of the Trade Act remains in  
7 effect.

8           Whenever the initial period of such an action  
9 exceeds three years, Section 204(a)(2) requires the  
10 Commission to submit a report on the results of the  
11 monitoring to the President and the Congress no later than  
12 the midpoint of the initial period of the relief. In this  
13 case, by February 7th, 2020. Section 204(a)(3) requires the  
14 Commission to hold a hearing in the course of preparing such  
15 a report.

16           Schedules setting for the presentation of this  
17 hearing, notices of investigation, and transcript order  
18 forms are available at the public distribution table. All  
19 prepared testimony should be given to the Secretary. Please  
20 do not place testimony directly on the public distribution  
21 table.

22           All witnesses must be sworn in by the Secretary  
23 before presenting testimony. I understand that parties are  
24 aware of the time allocations. Any questions regarding the  
25 time allocations should be directed to the Secretary.

1           Speakers are reminded not to refer in their  
2 remarks or answers to questions with business proprietary  
3 information. Please speak clearly into the microphones and  
4 state your name for the record for the benefit of the Court  
5 Reporter and for those sitting in the back of the room.

6           Finally, if you will be submitting documents that  
7 contain information you wish classified as business  
8 confidential, your request should comply with Commission  
9 Rule 201.6.

10           Mr. Secretary, are there any preliminary matters?

11           MR. BISHOP: Mr. Chairman, with your permission  
12 we will add Justin Baca, Vice President of Markets and  
13 Research with SEIA, to page 4 of the witness list. There  
14 are no other preliminary matters.

15           CHAIRMAN JOHANSON: Alright, permission granted.  
16 And will you please announce our first state government  
17 witness.

18           MR. BISHOP: Would our state government witnesses  
19 please come forward and be seated. Our first state  
20 government appearance is by The Honorable Dennis Mock, Mayor  
21 of Dalton, Georgia.

22                           STATEMENT OF MAYOR DENNIS MOCK

23           MAYOR MOCK: Good morning, Chairman Johanson and  
24 Commissioners, and Commission staff. It is a pleasure to be  
25 here in D.C. all the way from Dalton, Georgia.

1           My name is Dennis Mock, and since 2014 I have  
2    been the Mayor of the City of Dalton. I have also enjoyed a  
3    long career in real estate and the wholesale produce  
4    business. I am here to testify to the positive industry  
5    response made to the Section 201 solar safeguard.

6           Dalton is a manufacturing hub of the Southeast,  
7    affectionately known as the carpet capital of the world.  
8    More a misnomer, now. I think we are the floor covering  
9    capital of the world. However, due to the trade policy that  
10   produced the 201 safeguard, we are also known now for having  
11   the largest solar module factory in the Western Hemisphere,  
12   which is a big deal in Dalton, Georgia.

13           Shortly after the 201 safeguards were announced,  
14   our local Joint Development Authority began negotiations  
15   with Q CELLS to bring a state-of-the-art factory to our part  
16   of Georgia. Q CELLS reacted very quickly. They put their  
17   money where their mouth was and built the largest solar  
18   factory in the Western Hemisphere. And ultimately invested  
19   millions of dollars and now have hired 650 people. In a  
20   community our size, that is very significant.

21           This investment by Q CELLS has done what we have  
22   waived for years to realize. It has diversified our  
23   economy, given us a buffer against another recession, lifted  
24   our wages, and brought interest to the city. And that's not  
25   just the mayor talking. You may have heard the same points

1 being made in national news coverage that the factory  
2 received from National Public Radio back in June.

3           However, Dalton knows it is never easy. The 201  
4 safeguard came about after antidumping and countervailing  
5 duties on Chinese solar imports were deemed ineffective. In  
6 Dalton, we have seen unfair trade practices by China for  
7 decades -- first in the carpet industry, and now in solar.  
8 This safeguard is critical to ensuring domestic  
9 manufacturers can compete on somewhat of a level playing  
10 field. It must be maintained.

11           From what I have seen, little has changed in that  
12 respect. Solar imports are increasing, prices are falling,  
13 and loopholes like the new bifacial module exclusion are  
14 being exploited.

15           At the same time, the Q CELLS factory faces  
16 higher costs than foreign factories due to Section 301 and  
17 the antidumping and CVD duties. This is being exacerbated  
18 if the tariff rate quota on cells is not increased. Thus,  
19 in order to ensure the continued success of the Q CELLS  
20 factory and other U.S. factories that have sprung up as part  
21 of the renaissance in the solar manufacturing, it is crucial  
22 that the tariff rate quotas on cells be increased.

23           In short, without maintenance of a strong  
24 safeguard and adjustment on the tariff rate quotas,  
25 factories like the one in Dalton will be in period. And

1 communities like Dalton will pay the price. And of course  
2 as Mayor I do not want to see that happen.

3 I am one who agrees with the current policy aimed  
4 at resuscitating U.S. manufacturing in key sectors. And I  
5 assure you that the hard-working people of Dalton can  
6 compete on any -- with any manufacturing workers in the  
7 world -- again, if the playing field is level.

8 That safeguard provides that level playing field.  
9 I thank you for your time, energy, and wisdom in reviewing  
10 this vital issue.

11 CHAIRMAN JOHANSON: Thank you, Mayor Mock.

12 MR. BISHOP: Our next state witness is The  
13 Honorable Lynn Laughter, Chairwoman with the Whitfield  
14 County Board of Commissioners.

15 STATEMENT OF CHAIRWOMAN LYNN LAUGHTER

16 CHAIRWOMAN LAUGHTER: Good morning,  
17 Commissioners. It is good to be back in D.C. I lived here  
18 in the '70s, and it is good to be back even if it is just  
19 for a day. So thank you for allowing me to speak.

20 I am currently serving as the Chairman of the  
21 Whitfield County Board of Commissioners. And as Mayor Mock  
22 said, our County is located in Northwest Georgia, and our  
23 County and the City of Dalton are considered to be the hub  
24 of business in our area.

25 The Northwest Georgia area has been, and still

1 is, dominated by the flooring industry. Most people refer  
2 to Dalton and Whitfield County as the carpet capital of the  
3 world. We are very grateful for this industry and we do  
4 support it.

5 As you might infer, the flooring industry is  
6 heavily dependent on housing. During the Great Recession of  
7 '08 and '09, housing was particularly hard hit. At one  
8 point, our Dalton Metropolitan Statistical Area, which  
9 includes Whitfield and Murray Counties, actually had the  
10 highest unemployment rate in the whole country.

11 Commissioners before my time saw the wisdom in  
12 trying to diversity our economy. In 2010, land was  
13 purchased in order to develop an industrial park for  
14 diversified industry only. This park is dedicated to  
15 diversifying our manufacturing base so as not to be so  
16 reliant on one industry.

17 After many years of marketing the park, we  
18 finally got our first major tenant from outside of Whitfield  
19 County in 2018. This tenant is Hanwha Q CELLS, one of the  
20 world's leading solar manufacturers. The primary reason for  
21 building in the United States was the tariffs enacted under  
22 Section 201 of the Trade Act of '74. This created a  
23 financial and economic incentive for Q CELLS to locate its  
24 solar panel manufacturing plant in the U.S. rather than  
25 importing product. We do not want to see that incentive

1 reduced or taken away.

2 I am a Certified Financial Planner and I have my  
3 own business in Dalton. My partner and I manage our  
4 clients' financial assets and help them plan for retirement,  
5 college, and other needs. As a general rule, I believe in  
6 free trade and a tariff-free world. However, this only when  
7 all the players play nice, as we say in the South, and  
8 compete fairly.

9 China does not do this. In Dalton and elsewhere  
10 in the United States, we have seen their unfair trade  
11 practices for years.

12 Chinese unfair trade practices greatly harm our  
13 domestic industries and American workers. When I graduated  
14 from Northwestern University's Kellogg Graduate School of  
15 Management in 1983, I went to work for a steel company. I  
16 know how that industry has been hurt by unfair trade  
17 practices. The steel industry in our country is a small  
18 percentage of the robust industry it once was. Here in  
19 Dalton, we have a company called Manly Steel, a family  
20 owned steel fabrication business for 131 years. They have  
21 been in business since 1888.

22 Such unfair trade practices surely exist in the  
23 solar industry, as pricing is at record lows here even with  
24 the safeguard in place. Q CELLS has exceeded all of their  
25 commitment to Whitfield County, but the grand opening of

1 this factory was just two months ago, and this safeguard is  
2 surely still required to that they can scale profitably to  
3 ensure long-term success.

4 We desperately need this company to help us  
5 toward our goal of continuing to diversify our industry so  
6 when, not if, but when the next recession comes along, our  
7 region will be more insulated than it was in 2008 and 2009.

8 What is a surprise to me today is hearing the  
9 solar industry trade association in this country is siding  
10 with China and undermining the Administration's efforts to  
11 breathe new life into American manufacturing.

12 We need to maintain this safeguard to continue  
13 our renaissance in manufacturing and to combat unfair  
14 Chinese practices. This safeguard is critical to ensuring  
15 that those companies that invest in America can compete  
16 fairly. I can tell you that Whitfield County needs to keep  
17 Q CELLS in our County to diversify our industry.

18 The Mission Statement of the International Trade  
19 Commission states, in part, that its job is to "provide  
20 independent, quality analysis, information and support on  
21 matters of ... international trade and U.S.  
22 competitiveness." That is all I am asking of you.

23 Take a look at the facts. Analyze the facts.  
24 Listen closely to all the evidence, a I know you will.  
25 Determine to support U.S. competitiveness generally, and our

1 County's economic viability particularly.

2 Eliminating the tariff in this case will harm Q  
3 CELLS. It would also harm 650 gainfully employed people in  
4 Whitfield County, Georgia, my constituents.

5 I ask that you find that the current tariff  
6 structure should be maintained. Thank you.

7 MR. BISHOP: Thank you, Chairwoman Laughter.  
8 Our final witness on State Government panel is Carl  
9 Campbell, Executive Director with the Dalton-Whitfield  
10 County Joint Development Authority.

11 STATEMENT OF CARL CAMPBELL

12 MR. CAMPBELL: Good morning. It's an honor to  
13 be here with you. I'm also representing the Georgia  
14 Department of Economic Development, Commissioner Patrick  
15 Wilson, and I'd like to read a letter from him, if you don't  
16 mind.

17 "Dear Chairman Johanson, as Commissioner for the  
18 Georgia Department of Economic Development, the State's lead  
19 agency charged with overseeing investments and job creation  
20 across, I have seen an increase in manufacturing-related  
21 investments over the past few years. The strength of the  
22 State's manufacturing sector is driven by the State's  
23 pro-business policies and further supported by federal  
24 policy actions, including regulatory and tax reforms, which  
25 bolster business-friendly policies at the state level.

1            "I am writing in support of continuation of the  
2            current Section 201 safeguards for solar manufacturing  
3            established in February of 2018. Thanks in large part of  
4            this policy action Georgia is now home to the largest solar  
5            modular solar production facility in North America, Hanwha Q  
6            Cells. The Section 201 safeguard has leveled the playing  
7            field for domestic solar manufacturers; particularly, those  
8            in Georgia who had been severely impacted by unfair import  
9            competition.

10           "While previous anti-dumping and countervailing  
11           duties were shown to be insufficient to address the harm  
12           caused to U.S. manufacturers, the 201 measures have resulted  
13           in job growth and increased investment in solar  
14           technologies. To date, the relief granted by the 201  
15           safeguards has resulted in over two hundred million dollars  
16           of investment in Georgia and more than 650 jobs.

17           "Q Cells new factory in Dalton, Georgia is an  
18           unmistakable manufacturing success story. The team at the  
19           Department of Economic Development in partnership with local  
20           partners in Dalton and Whitfield County were tirelessly to  
21           demonstrate that Georgia was the ideal location for Q Cells'  
22           U.S. operations. Their investment puts a spotlight on  
23           northwest Georgia's attractiveness as a location for  
24           international advanced manufacturing projects.

25           "After announcing its investment in Dalton, the

1 company worked on an aggressive timetable, getting up and  
2 running within just seven months. The facility is now  
3 operating at 90 percent capacity, producing 10,000 modules  
4 per month. Thanks in large part to Q Cells investment,  
5 Georgia is now the fourth largest seller market in the  
6 United States for installations and the number one state for  
7 solar modular manufacturing based on capacity and  
8 production.

9 "Governor Brian Kemp joined local leaders to  
10 celebrate the company's rapid success during their grand  
11 opening event in September of this past year. From his  
12 first day in office, Governor Kemp has prioritized economic  
13 development opportunities in every region of Georgia;  
14 particularly, in the manufacturing sector. The U.S.  
15 Administration's effort to enact policies that level the  
16 playing field for domestic manufacturing has bolstered a  
17 strong investment pipeline in Georgia and we continue to  
18 celebrate new investment announcements in every corner of  
19 the state. These announcements deliver good-paying jobs for  
20 Georgia citizens and revitalized communities across the  
21 state.

22 "Georgia has invested significant resources in  
23 the success of Q Cells' operations, including tax credits  
24 and workforce training investments that have allowed the  
25 company to scale up in record time. This commitment is

1 paying off with Q Cells' involvement in a number of  
2 statewide solar projects since the first modules have come  
3 off the line. One notable example is the \$150 million  
4 investment by Silicon Ranch Corporation in three solar  
5 farms in rural Early County, Georgia. One of these 102 1/2  
6 megawatt farms will use Georgia-made modules to generate  
7 power for a FaceBook data center in Newton County, Georgia.

8 "Products like these will create hundreds of  
9 jobs in rural communities, using locally-manufactured  
10 products to support diversification of the State's energy  
11 mix. Governor Kemp's number one priority is to maintain and  
12 promote the State's pro-business policies. He continues to  
13 champion manufacturing investment and expansion in Georgia,  
14 especially in rural areas and he understands the importance  
15 of protecting manufacturers that have chosen to invest in  
16 the United States.

17 "The 201 policy was enacted specifically to spur  
18 investment and job creation in renewable technology  
19 manufacturing and the policy has clearly delivered.  
20 Although sustainable progress has been made in Georgia and  
21 around the country, the safeguard measures remain necessary  
22 to protect solar manufacturers. We support the Section 201  
23 safeguards, as designed, and respectfully request that they  
24 be continued for the remaining two years in order to fully  
25 support domestic manufacturing of renewable technologies.

1 Sincerely, Commissioner Pat Wilson, Georgia Department of  
2 Economic Development."

3 I have just a few more comments, if I may. The  
4 Section 201 tariffs created the opportunity for new jobs and  
5 investment in the United States to domestically produce  
6 competitively-priced solar modules. Without the tariffs, I  
7 don't believe that this would be a true statement. My  
8 community, Dalton, Georgia, with the help from our state  
9 partners was able to bring diversified jobs to a community  
10 that was still in recovery mode from over 13 percent  
11 unemployment and the loss of over 10,000 jobs during the  
12 recession beginning in approximately 2007.

13 Dalton is proud to be the floor covering capital  
14 of the world, but we have seen hard times since the  
15 recession hit our community. This win brings much needed  
16 diversity to our community to better insulate us from the  
17 next housing recession. Q Cells has completed their project  
18 in an extremely fast pace and has fulfilled all of their  
19 three-year goals for job creation and investment in the  
20 first year. Since they have only been in production for  
21 less than one year at this time, I believe that the  
22 continuation of the Section 21 tariffs will allow them to  
23 stabilize their efforts for a sustainable future in our  
24 community.

25 Having this high-tech, diverse manufacturer in

1 our community has opened doors for us to get other  
2 opportunities from other advanced manufacturing operations.  
3 We are now able to show that our citizens have the skills  
4 necessary for these jobs and that these opportunities are  
5 highly valued in our community. The Section 201 tariffs has  
6 helped us to create the narrative that our community needs  
7 to prosper in an ever-changing economic climate.

8 As we prepare to continue our relationship with  
9 Q Cells, we hope that they can expand their operations in  
10 our community. Continuation of the Section 201 tariffs  
11 helps make that possible. As a community, we have skin in  
12 the game, property available for their expansion, and many  
13 local incentives ready to make sure that we have the best  
14 place for their next investment. Locating a company like Q  
15 Cells in a community is a long and difficult process that  
16 took years to come to fruition.

17 As an economic development professional, I live  
18 and die with projects like these daily. Your efforts in  
19 2017 helped us land what is now our fourth largest employer  
20 in the private sector. We simply ask that you continue to  
21 look out for our collective interests going forward as you  
22 evaluate this tariff. We are grateful for the effects the  
23 tariffs have had thus far and believe that continuing the  
24 Section 201 tariffs is the right thing to do to keep our  
25 country moving forward. Thank you.

1                   CHAIRMAN JOHANSON: Thank you all for appearing  
2 here today. Do any of the Commissioners have questions for  
3 this panel? No, Commissioners.

4                   Mayor Mock, Chairman Laughter, and Commissioner  
5 Campbell, thank you for being here today; we greatly  
6 appreciate it.

7                   MR. BISHOP: Would our Embassy witnesses please  
8 come forward and be seated. Mr. Chairman, our first witness  
9 on this Embassy Panel is Mr. Wijayanto, Commercial Attach  
10 with the Embassy of the Republic of Indonesia.

11                   STATEMENT OF MR. WIJAYANTO

12                   MR. WIJAYANTO: Good morning Chairman Johanson  
13 and ITC Commissioners. My name is Wijayanto, Commercial  
14 Attache at Indonesia Embassy in Washington, D.C. I would  
15 like to thank the U.S. ITC for allowing us to be represented  
16 at this hearing today.

17                   At this hearing, I wish to raise some pertinent  
18 points for your consideration. The first point I wish to  
19 make is on the strategic importance of Indonesia and U.S.  
20 relation. The U.S. and Indonesia have already established a  
21 long-term partnership based on the framework of the  
22 U.S./Indonesian Strategy Partnership established in 2015.

23                   The Partnership is based on the shared strategic  
24 interests which includes strong economic relationship  
25 between the two countries. The economic relationship

1 between the U.S. and Indonesia has been positively  
2 developing in the past few years. The two-way thread and  
3 the investment flows between the U.S. and Indonesia is  
4 healthy and beneficial for both countries' economics,  
5 manufacturers, and customers.

6 The products which are traded between the U.S.  
7 and Indonesia are complementary and does not compete each  
8 other. It's -- growth correspondingly contributes to the  
9 job growth in both countries. In fact, Indonesia is, by  
10 design, one of the very few U.S. largest trading partners  
11 with diminishing surplus shrinking by 5.5 percent  
12 year-to-date.

13 With regard to the solar panel industry,  
14 Indonesia also sells a few of the United States in the  
15 utilization offering affordable NFG. As tropical country,  
16 we are blessed with abundance of solar energy and we are  
17 currently developing the industry to increase our capacity  
18 in harnessing clean power. Indonesia also acknowledge the  
19 importance of solar panel industry in the United States and  
20 support that -- practices is one of the utmost importance to  
21 balance import with domestic production capacity.

22 Looking at the trade we believe that Indonesia  
23 export of solar panel to the United States is negligible in  
24 comparison with export from other producing countries.  
25 During the last five years, Indonesia's export share of

1 solar cell, alternator, generator and batteries to the U.S.  
2 are less than 0.1 percent of total U.S. import. Until  
3 September 2019, U.S. import from Indonesia was merely seven  
4 million U.S. dollars or 5.3 billion total of U.S. import of  
5 CSPV products or -- fallen to 0.1 percent market share.

6 We believe this small percentage still qualifies  
7 Indonesia for exclusion under de minimis clause as  
8 stimulated on under Article 9.1 of the Article WTO agreement  
9 on safeguard -- that mandate that safeguard not to be  
10 applied to imports from developing countries accounting for  
11 not more than 3 percent of total imports.

12 On additional note, we would also rise the  
13 notion that Indonesia's status of developing country is  
14 still widely acknowledged by international government  
15 bodies. Woodbin classifies and specifies Indonesia as  
16 lower/middle income country, while the world economic  
17 situation and prospectus 2019 published by the United  
18 Nations' acknowledges Indonesia as a developing economy.  
19 This confirmation of Indonesia's status as developing  
20 country further encourage the notion to exclude Indonesia,  
21 as stated earlier, from the safeguard midterm review of this  
22 investigation.

23 With regards to the matter at hand, the  
24 Government of Indonesia respectfully requests to be excluded  
25 from this investigation. We believe that the Commission

1 will remain fair, transparent, and objective in considering  
2 Indonesia's request for exclusion. Thank you for your kind  
3 attention and consideration.

4 MR. BISHOP: Thank you, Mr. Wijayanto. Our next  
5 Embassy witness is Jungsoo Hur, Commercial Counselor with  
6 the Embassy of the Republic of Korea.

7 STATEMENT OF JUNGSOO HUR

8 MR. HUR: Good morning. I'm Jungsoo Hur, the  
9 Embassy of the Republic of Korea in the United States of  
10 America. On behalf of Korean Government, I would like to  
11 express my deepest gratitude to the Commission for holding  
12 today's hearing and for the opportunity to present our  
13 position on the current safeguard midterm on imports of  
14 crystalline silicone photovoltaic product.

15 Today I would like to share with you the Korean  
16 Government view on this matter. The Korean Government has  
17 always been a stance supporter of free trade. During the  
18 original investigation, we steadily voiced our opinion at  
19 the hearing that safeguard measure may lead to market  
20 distortion and inefficient allocation of resources.  
21 Accordingly, we've stressed that safeguard measure should  
22 only be applied to the extent necessary to prevent or limit  
23 the serious injury and to facilitate the adjustment of the  
24 domestic industry pursuant to Article 5.1 and 7.1 of the WTO  
25 Safeguard Agreement and Article 19 of the GATT.

1           In particular, the Korean Government believes  
2     that the current measure imposed on imports of the solar  
3     cell should be -- consideration of the changing market  
4     situation and the spirit of Article 7.4 of the WTO Safeguard  
5     Agreement. Specifically, the Korean Government would like  
6     to request an increase in the quota volume for import of  
7     solar cells. Following the imposition of the measure in  
8     February 2018, the total U.S. module manufacturing capacity  
9     during the first quarter of the 2019 has more than doubled  
10    from 2.5 gigawatt to 6 gigawatt when compared to the last  
11    quarter of 2017, which is the period right before the  
12    measure went into the effect.

13           The increased number of module manufacturing  
14    facilities in the U.S. has lead to a growing demand of  
15    import cell from other countries, including Korea.  
16    Statistics shows that U.S. import of the cell amount to 301  
17    million U.S. dollar in 2018, a stiff increase of 172 percent  
18    from 2017. Needless to say, the current volume of 2.5  
19    gigawatt for cells cannot possibly meet U.S. demand, given  
20    that the U.S. module manufacturing capacity has already  
21    leached to 6 gigawatt. The Korean Government is of the  
22    opinion that, at least 5 gigawatt should be allocate as a  
23    duty-free -- volume for solar cell.

24           Finally, the Korean Government would like to  
25    remind the Commission that during the original investigation

1 the Commission recommended that the import of CSPV product  
2 from Korean was the substantial cause of threat or serious  
3 injury to the U.S. solar industry; whereas, those from a  
4 certain country were excluded from the proposed measures.  
5 Now that two major CSPV producers has relocated their module  
6 manufacturing bases after the safeguard measure in 2018.  
7 There are much doubt as to where the import of the CSPV  
8 product from Korea still represent a threat of serious  
9 injury to the U.S. solar industry.

10           If the Commission recommended for the particular  
11 country to be excluded during the midterm review, the Korean  
12 Government request that those products originating from  
13 Korea should also be excluded in accordance with Article  
14 10.5 of the Korean/U.S. FTA and Section 341 of the  
15 U.S./Korea FTA Implementation Act. In light of longstanding  
16 and strong partnership between our two countries, the Korean  
17 Government respectfully request that the Commission duly  
18 take into account the aforementioned points during its --  
19 process.

20           The Korean Government also looks forward to  
21 working closely with the Commission to reach an outcome  
22 satisfactory to both sides. Thank you.

23           STATEMENT OF MINISTER-COUNSELLOR CARRIE GOODGE O'BRIEN

24           MS. O'BRIEN: -- here with you this morning. At  
25 the outset, I should note that I am appearing here today on

1    behalf of Canada voluntarily to provide the Commission with  
2    my government's views on this matter. My appearance does  
3    not constitute an express or implied waiver by the  
4    government of any applicable diplomatic immunities or  
5    privileges.

6                Canada shares the concerns of industry and  
7    stakeholders on both sides of our border with the negative  
8    impact of these safeguard measures. Cross-border  
9    integration between Canada and the United States allows for  
10   industry collaboration that supports a competitive and  
11   innovative North American economy.

12               The imposition of safeguard restrictions has  
13   significantly undermined this important relationship, and  
14   has led to job losses and cancelled or delayed projects in  
15   both Canada and the United States. Importantly, investments  
16   in new facilities and new product lines in the United States  
17   some by Canadian investors have been put at risk as a result  
18   of these safeguard measures.

19               In the Commission's original investigation, a  
20   majority of the Commission has determined that imports from  
21   Canada were not a substantial share of total imports and did  
22   not contribute import and lead to injury. As a result, the  
23   Commission recommended that Canada be excluded from any  
24   safeguard action. As we know, this recommendation was not  
25   followed and safeguard measures were imposed on Canada.

1           This midterm review provides an opportunity to  
2   revisit this issue and for the Commission to reaffirm its  
3   original recommendation bolstered by further evidence. I  
4   would like to focus on two specific points for the  
5   Commission's consideration.

6           First, under both NAFTA and U.S. law, the  
7   Commission must determine whether imports from a NAFTA  
8   country account for both a substantial share of total  
9   imports and contribute importantly to any injury. Just as a  
10   majority of the Commission correctly found in the original  
11   proceedings, the record in this midterm review confirms that  
12   imports from Canada continue to account for a relatively  
13   small share of total U.S. imports. Moreover, Canada's  
14   market share has declined. During the 2016 to 2018 period,  
15   imports from Canada never ranked within the top five  
16   suppliers, which is the NAFTA threshold for determining  
17   substantial share of total imports.

18           Second, the safeguard duties have significantly  
19   reduced imports from Canada. A reduction in imports from  
20   Canada constitutes a violation of both the U.S.'s NAFTA  
21   commitment and U.S. law. Article 802.5B of the NAFTA  
22   requires the United States to ensure that any restrictions  
23   imposed do not impermissibly reduce imports from Canada from  
24   historic levels. This obligation is also reflected in U.S.  
25   law, requiring that measures restricting the quantity of

1 NAFTA imports must permit importation at historic levels  
2 with allowance for reasonable growth. Contrary to these  
3 requirements, the tariffs on solar modules have caused  
4 imports from Canada to decline sharply in absolute terms,  
5 both in quantity and in value.

6 As I noted earlier, the safeguard action and  
7 resulting declining Canadian exports to the United States  
8 has had a devastating impact on Canada's industry. But the  
9 impact is not limited to Canada.

10 At least two Canadian solar companies have  
11 invested in manufacturing facilities in the United States.  
12 However, these investments are put at risk as their U.S.  
13 operations are dependent on the financial health of their  
14 Canadian parent.

15 The record in this midterm review confirms the  
16 factual basis to exclude imports from Canada still exist.  
17 And it confirms that imports from Canada have declined,  
18 contrary to U.S. law and U.S. international obligations. As  
19 a result, we urge the Commission to reaffirm its  
20 recommendation that imports from Canada be excluded from the  
21 safeguard measures.

22 At a minimum, the Commission should recommend a  
23 Canada-specific remedy should these restrictions continue,  
24 one that would restore the level of imports from Canada to  
25 historic levels and allow for reasonable growth. I thank

1 the Commission for the opportunity to testify today on  
2 behalf of the government of Canada.

3 MR. BISHOP: Thank you, Ms. O'Brien. Our final  
4 witness on this panel is Oscar Yang, Senior Trade Specialist  
5 with the Bureau of Foreign Trade in the Ministry of Economic  
6 Affairs at the Taipei Economic and Cultural Representative  
7 Office.

8 STATEMENT OF OSCAR YANG

9 MR. YANG: Good morning. My name is Oscar Yang.  
10 I am the senior trade specialist to the Bureau of Foreign  
11 Trade, representing the government of Taiwan. On behalf of  
12 my government, I would like to thank the Commission for the  
13 opportunity to make this brief statement regarding the  
14 safeguard measures on CSPV cells and modules.

15 Our government and the solar industry are deeply  
16 concerned about its safeguard measure. It is our position  
17 that a tariff rate quote, TRQ, for solar cells will  
18 negatively impact the U.S. downstream solar module  
19 producers, and should therefore be gradually increased with  
20 the support of Taiwan Photovoltaic Industry Association.

21 I would like to make the following points:  
22 First, solar cells or commercial cells are not currently  
23 produced in the United States. Since before the imposition  
24 of safeguard measures, there has been only two domestic  
25 solar cell producers, Suniva and Solar World. However,

1 there is no indication that these two companies produce  
2 solar cells for domestic cells. Before the safeguard  
3 measures, the production of solar cells by these two  
4 companies are mostly consumed internally for production of  
5 modules with only a very small volume available for  
6 commercial cell.

7 In addition, although the peer hearing report of  
8 the Commission say that there were two firms, Panasonic and  
9 the Solaria, which the domestic solar cell production as of  
10 September, 2019, their productions are highly unlikely to  
11 meet the huge demand of downstream module facilities. Those  
12 are reasons for U.S. module factories to use imported solar  
13 cells for installation in solar modules.

14 The safeguard measures on solar cells will  
15 prevent module producers from being able to purchase highly  
16 efficient imported solar cells at a reasonable price when a  
17 solar cell TRQ is exhausted. Thus, the TRQ on solar cells  
18 is, in fact, hurt the U.S. solar module industry, which the  
19 petitioners are part of. It is our belief that the current  
20 TRQ protects a nonactive industry at the expense of the  
21 vibrant downstream industry.

22 Second, the new module factories in the U.S. are  
23 expected to increase module manufacturing and the demand of  
24 solar cells in 2020. The demand for solar cells is expected  
25 to grow significantly in the next two years. Because the

1 foreign module producers such as Hanwha Q Cells, Jinko  
2 Solar, LG Electronics, Heliene and American PV Manufacturer  
3 for solar, spending their investment or reopening their  
4 solar module facilities in the United States, to avoid the  
5 safeguard tariffs on solar modules. Those new module  
6 factories are expected to produce modules of total of 5  
7 gigawatt capacity in 2020, which will significantly increase  
8 the demand of imported solar cells.

9 Third, domestic solar module installations are  
10 expected to grow significantly in the next five years,  
11 according to the Solar Energy Industry Association, SEIA.  
12 Solar module installation are expected to exist 12 gigawatts  
13 in 2019, and the total solar capacity will be expected to  
14 reach 100 gigawatt by 2021. Since imported solar modules  
15 will be subject to 20% safeguard tariffs in 2020, the demand  
16 for domestic solar modules is stored with imported solar  
17 cells, will significantly increase in the next few years.

18 Four, the demand of the imported solar cells by  
19 U.S. module producers will easily cost it the 2.5 gigawatt  
20 TRQ in the next two safeguard periods. Because all of  
21 domestic module producers rely on imported solar cells. And  
22 the domestic module producers will have to pay extra costs  
23 in purchasing imported cells.

24 According to data released by U.S. Customs and  
25 Border Protection, 28% of the solar cell TRQ was used in the

1 first year. But in the second year, so far, 73.32% of the  
2 TRQ had been used as of December 2nd, 2019. According to  
3 this growth rate, imported solar cells will easily exhausted  
4 the 2.5 gigawatt TRQ in the next two safeguard periods.

5           According to this growth trend, 20% of the rate  
6 will likely to impose more than half of the importers' cells  
7 in 2020. The module producers will have to pay extra costs  
8 in purchasing foreign solar cells. The costs will in return  
9 pass onto consumers and business users. Thus, we urge the  
10 Commission to gradually increase the TRQ for solar cells in  
11 the remaining safeguard period to meet the increased demand  
12 of U.S. solar module producers and the expected growth in  
13 module installations.

14           Finally, the U.S. authorities could consider  
15 reinforcing the mechanism to monitor illegal transshipment  
16 of solar cells and modules and inspection of countries of  
17 origin of such products. And abnormal increase in the  
18 import volume from countries that are excluded from the  
19 safeguard measures may indicate illegal transshipment and  
20 the circumvention of safeguard measures. In this regard,  
21 Taiwan government and the industry associations have been  
22 diligent in their efforts to eliminate any illegal  
23 transshipments and urge our exporters not to use forged  
24 certificate of origin or become involved in invasion of  
25 custom fraud.

1           For the reason presented above, the Taiwan  
2 government respectively urge the Commission to gradually  
3 increase the TRQ of the solar cells to meet the demand of  
4 the U.S. downstream module producers. This would allow U.S.  
5 module producers to purchase more efficient solar cells,  
6 which would, in return, increase their productivity, create  
7 more jobs in the U.S. module factories, and meet the demand  
8 of solar module installations in the United States. Thank  
9 you for your consideration.

10           MR. BISHOP: Thank you, Mr. Yang. Mr. Chairman,  
11 that concludes direct testimony from our Embassy panel.

12           CHAIRMAN JOHANSON: I would like to thank all of  
13 you for appearing here today.

14           MR. BISHOP: We release this panel with our many  
15 thanks, and we will move to opening remarks. Opening  
16 remarks on behalf of Panel 1 will be split between Matthew  
17 J. McConkey of Mayer Brown and John M. Gurley of Arent Fox.  
18 Gentlemen, you each have two and a half minutes, which will  
19 be timed out separately.

20           OPENING STATEMENT OF MATTHEW MCCONKEY

21           MR. MCCONKEY: So, good morning. Matthew  
22 McConkey of Mayer Brown, and I'm here on behalf of Suniva,  
23 the original petitioner in this 201 action. Yeah, we're  
24 still here. While there's lots of new companies that are  
25 here today with us, one of the other returning participants

1 is SEIA. However, their tactics, their message remains the  
2 same.

3           Indeed, in each case, Solar 1, Solar 2, and in  
4 the original 201, SEIA has told the Commission that any  
5 tariffs would kill U.S. solar installations and result in  
6 massive job losses. That didn't happen in 2013. That did  
7 not happen in 2015. It didn't happen in 2018, and it ain't  
8 happening now.

9           So regardless of what SEIA claims in this  
10 proceeding, their statements from outside of this midterm,  
11 analysis by independent third parties, and most importantly,  
12 the Commission staff report, demonstrates that the solar  
13 market in the United States, in SEIA's own words, is  
14 booming.

15           How many times is SEIA gonna reset the alarm on  
16 their doomsday clock? As part of this boom, on Panel 1 with  
17 Suniva today, are numerous companies who weren't with us  
18 before. And we agree on a lot. Including the fact that the  
19 remedies in this case have done wonders towards  
20 reinvigorating the domestic module industry. And we agree  
21 that there are still threats and headwinds facing the  
22 domestic industry, including global overcapacity and the  
23 bi-facial exclusion.

24           We agree that the 201 remedies need to stay in  
25 place for the remaining two years. And we also agree that

1 the 201 remedies have not yet resulted in a resurgent  
2 domestic cell industry. For a whole host of reasons, and as  
3 recognized by the Commission in the original 201, it's  
4 important for the United States to have a cell  
5 manufacturing industry, in ensure a complete domestic supply  
6 chain.

7 Suniva is sympathetic to the fate of our siblings  
8 in the module assembly industry. We want them--actually, we  
9 need them--to succeed. So, to be clear, we're not asking  
10 for the removal or reduction of the TRQ. But a 2.5 gigawatt  
11 TRQ was imposed for a reason, first, to rapidly restore  
12 domestic module industry and then to restore the domestic  
13 cell industry.

14 If the quota is increased, the goal of restoring  
15 the domestic cell industry will not happen. This TRQ still  
16 provides tariff resales for over 80% of projected domestic  
17 needs, as indicated in the staff report. A restored  
18 domestic cell industry will be more than capable of filling  
19 remaining need. Thanks.

20 OPENING STATEMENT OF JOHN GURLEY

21 MR. GURLEY: Good morning, my name is John  
22 Gurley. I'm counsel for Hanwha Q Cells USA. I'm speaking  
23 on behalf of a coalition of U.S. producers of solar modules.  
24 In this review, the Commission is charged with assessing  
25 whether firms in the domestic industry have made adjustments

1 to import competition.

2           The answer to that question is emphatically yes.  
3 The positive adjustments to import competition made by the  
4 domestic industry are impressive and are made obvious in the  
5 staff report. To date, this 201 case has been a rousing  
6 success, but with some caveats which I will address later in  
7 my remarks.

8           There are a lot of parties in this room and many  
9 impressive companies. In the Washers' 201, the Commission  
10 had a laser-like focus on the domestic industry and its  
11 efforts to adjust to import competition and not on the  
12 impact of 201 relief on third parties. We hope the  
13 Commission maintains this focus.

14           We also ask the Commission to understand that the  
15 module producers, most of which are in this room today, are  
16 effectively the entire CSPB industry. We are not a business  
17 plan in search of relief. We are real companies that have  
18 made real investments and we are the future of U.S. solar  
19 manufacturing industry.

20           Our opponents seek to relitigate the original and  
21 unanimous 201 determination. Our opponents are wrong to  
22 assume the same arguments apply today. Dead wrong. U.S.  
23 solar market is not on solid footing with demand increasing  
24 at record levels. Section 201 relief has exceeded  
25 expectations. In fact, four new companies, including Q

1 Cells and LG Electronics, have built very significant U.S.  
2 factories. SunPower, Mission and Auxin are also working  
3 every day to transform the U.S. module industry.

4           While there has been a dramatic expansion of  
5 module production, this industry faces headwinds. Prices  
6 have now dropped below the prices before the Section 201  
7 relief was imposed. Imports are also increasing. The  
8 industry faces 301 duties on important components. We are  
9 also feeling the enormous impact of the bi-facial exclusion.

10           Finally, we face another huge obstacle. The TRQ  
11 on cells will soon be surpassed. Due to the dramatic  
12 expansion of module production, we urge the Commission to  
13 note in its report the huge gap between the current quota of  
14 2.5 gigawatts and the expected need of 5 gigawatts in the  
15 next one to two years.

16           20% duties on cells could cripple this industry  
17 and American success story. 201 relief has been effective,  
18 it has been dramatic. We just need the module tariff to  
19 continue for the full four years without easing of rates and  
20 an increase in the cell quota to 5 gigawatts to truly  
21 prosper. Thank you very much for your time and attention.

22           MR. BISHOP: Thank you, gentleman. Opening  
23 remarks on behalf of Panel 2 will be given by Matthew R.  
24 Nicely of Hughes, Hubbard and Reed. Mr. Nicely, you have  
25 six minutes.

1                   OPENING STATEMENT OF MATTHEW R. NICELY

2                   MR. NICELY: Good morning. Good to see you  
3 all again, good to be before the two new Commissioners. I'm  
4 Matt Nicely of Hughes, Hubbard and Reed, appearing for the  
5 Solar Energy Industry Association and REC Americas. SEIA  
6 represents the entire solar industry, including those that  
7 come before and after the cells and modules in the solar  
8 supply chain.

9                   Our nearly 1,000 members, including many  
10 manufacturers of solar installation inputs, are committed to  
11 ensuring that solar energy flourishes in the United States.  
12 The data are clear. When solar flourishes, tens of  
13 thousands of good quality manufacturing, engineering,  
14 installation, operations and sales jobs are created, while  
15 the global climate change effects of traditional sources of  
16 energy are dramatically reduced.

17                   The problem is this case, which presumptively  
18 concerns fair trade, not unfair trade, is limiting solar's  
19 growth because the added duty costs are having adverse  
20 effects in two ways. The first is that lower or zero  
21 profits are made on the projects that are still being built,  
22 capping or eliminating reinvestment opportunities, and  
23 second is that solar projects in certain parts of the  
24 country are not even being built, because it's not  
25 economical to use solar when other sources of energy are

1 cheaper.

2           The opportunities lost as a result of this  
3 case are significant. Over \$19 billion in lost investments,  
4 over 10 gigawatts in uncompleted solar installations, and as  
5 many 62,000 good-paying quality jobs eliminated. Even with  
6 prices down as a result of technological advances and  
7 reduced demand in China, the world's largest market, and  
8 even with the resulting increases in forecast deployment, so  
9 many more solar projects and solar jobs would have been  
10 created had the duties never been imposed.

11           The old and some new members of the cell and  
12 module industry will tell you today that everything is going  
13 great. New investment in U.S. module assembly, improving  
14 financial performance at the new plants as the new plants  
15 ramp up, and a forecast for increases in solar deployment.  
16 But the costs from the solar safeguard tariffs far exceed  
17 any benefits.

18           The new investments in module assembly, which  
19 have become increasingly automated, have created less than  
20 2,000 jobs, while the job losses downstream are more than 30  
21 times that figure. Meanwhile, the industry, even with its  
22 new investments, can supply only a fraction of demand. SEIA  
23 might have approached this mid-term review differently if  
24 the new module producers who support the tariffs were  
25 willing to work with our members to help alleviate the

1 effects of the tariffs on those portions of the market that  
2 their new plants are unable or unwilling to supply.

3           After all, most of the new production is  
4 devoted to serving the residential and commercial segments,  
5 leaving utility sector developers with only a very limited  
6 supply available from U.S. suppliers. Yet when presented  
7 with the possibility of excluding bifacial models for the  
8 utility sector, which U.S. producers don't make, those  
9 producers stood in the way and convinced the administration  
10 to withdraw the exclusion.

11           They did this, by the way, with the help of  
12 First Solar, a non-subject thin-filmed module company that  
13 produces the vast majority of its modules in Malaysia and  
14 Vietnam, from which it has massively increased imports that  
15 of course escape the safeguard tariffs. While the status of  
16 the bifacial exclusion remains the subject of litigation,  
17 the message from the U.S. CSPV module producers to our  
18 members is clear.

19           They come to you today asking for your help to  
20 increase their quota limits for solar cells, due to an  
21 expected shortage in supply of domestic cells. They also  
22 ask for our help, which we gave, to seek exclusion from  
23 Section 301 duties due to a shortage in domestic solar glass  
24 and injunction boxes.

25           But regarding the dramatic shortage in

1 domestically produced utility-scale modules for which we  
2 seek their help, they have turned a blind eye. Their  
3 hypocrisy is astounding. The agency's expertise is put to  
4 its highest and best use when you provide the President with  
5 conclusions that will help him make a decision. One of the  
6 key factors laid out in the statute for the President to  
7 consider is whether the effectiveness of the action taken  
8 under Section 203 has been impaired by changed economic  
9 circumstances.

10           The economic circumstances that SEIA forecast  
11 would occur back two years ago have in fact occurred. The  
12 costs associated with imposing safeguard relief far outweigh  
13 the benefits. Meanwhile, although investments in the U.S.  
14 module production have occurred, the industry has made  
15 inadequate adjustments to supply utility-scale developers,  
16 the largest segment of the market.

17           Inadequate adjustment to import competition is  
18 of course a key statutory factor for the Commission and the  
19 President to consider. Supplying utility-scale developers  
20 was a critical issue that we raised during the  
21 investigation, yet both old and new module producers have  
22 done precious little to address that shortage.

23           The Commission should recommend that the  
24 relief be terminated or calibrated, recalibrated  
25 accordingly. Thank you.

1                   MR. BISHOP: Thank you, Mr. Nicely. Would the  
2 members of Panel 1 please come forward and be seated? Mr.  
3 Chairman, all witnesses on this panel have been sworn in.  
4 This panel has a total of 60 minutes for their direct  
5 testimony. We will begin with all law firms and witnesses,  
6 with the exception of Suniva, who will have 48 minutes. The  
7 Suniva Group will have 12 minutes. We will time them out  
8 separately.

9                   CHAIRMAN JOHANSON: You may begin whenever  
10 you'd like.

11                   MR. GURLEY: Good morning again. This is John  
12 Gurley for the members of the coalition. We've heard a lot  
13 of talking so we thought we'd provide some relief by giving  
14 you a chance to look at a video.

15                   [VIDEO PLAYED.]

16                   STATEMENT OF ANDREW MUNRO

17                   MR. MUNRO: Good morning. My name is Andy  
18 Munro and I'm the general counsel of Hanwha Q CELLS USA. I  
19 oversee legal and trade matters and have been with the  
20 company for four and a half years. The 201 safeguard has  
21 made possible Q CELLS' brand new factory in Dalton, Georgia  
22 that you just saw in the video. Our state of the art \$200  
23 million 1.7 gigawatt factory produces modules for the  
24 utility, residential and commercial sectors, and is the  
25 largest in the Western Hemisphere.

1           It provides 650 high-paying jobs in a region  
2 that has been hit hard by the loss of manufacturing jobs. Q  
3 CELLS is, however, only one part of the burgeoning  
4 renaissance in a solar manufacturing created by the 201.  
5 Several other manufacturers have entered into or expanded  
6 operations in the U.S., resulting in hundreds of millions of  
7 investment and thousands of jobs.

8           The International Energy Agency now predicts  
9 that solar will be the world's leading source of energy by  
10 2035, and it is therefore critical for economic and  
11 strategic reasons that a healthy solar manufacturing  
12 industry exists in the United States. Thankfully, the 201  
13 has jump-started a renaissance in U.S. solar manufacturing,  
14 one that is surely worth preserving.

15           Opponents of the 201 have claimed that the 201  
16 would harm the downstream solar market, but this has not  
17 happened. The solar industry has recently experienced  
18 record numbers of installation. Demand is up and prices are  
19 down. There is no shortage of modules; in fact, there is  
20 global over-supply.

21           Those that oppose the 201 do so for one simple  
22 reason: Their own narrow self-interest and desire for  
23 injurious low-cost imports. In contrast, solar module  
24 manufacturers are facing difficult circumstances that  
25 require a robust 201. Module prices are actually lower now

1 than prior to the initiation of the 201, and imports  
2 continue to undersell U.S. products.

3           Because of the attractiveness of the U.S.  
4 market, imports are high and increasing at an accelerated  
5 rate, with importers effectively absorbing the tariffs. At  
6 the same time, U.S. manufacturers are facing very high costs  
7 of production, including duties on key components via  
8 Section 301 AD/CVD that are not faced by foreign  
9 manufactures. Additional tariffs will hit U.S. module  
10 manufacturers beginning next year if the tariff rate quota  
11 on cells is not increased.

12           Global over-supply is being exacerbated by  
13 recent shifts in Chinese policy, which have shrunk their  
14 domestic market and flooded the global market with low-cost  
15 modules. This hangs like a cloud over the U.S. solar  
16 manufacturing industry. On top of all of that, the bifacial  
17 exclusion has created a giant loophole into the 201.

18           The combination of all these difficult  
19 circumstances means that the 201 module tariffs should  
20 remain in place for the full four years, with no easing of  
21 rates so that U.S. manufacturing is not jeopardized, and we  
22 have adequate time to benefit from an effective 201.  
23 Otherwise, the renaissance is at serious risk of being  
24 snuffed out.

25           Loopholes that undermine the 201 pose a grave

1 threat to U.S. solar manufacturing. The exclusion for  
2 bifacial modules is causing a flood of tariff-free imports  
3 that directly compete with U.S. modules, dramatically  
4 lowering prices and seriously eroding the protections of the  
5 201. Since introduction of the bifacial exclusion, 2020  
6 module price forecasts by Wood McKenzie, the leading solar  
7 industry market intelligence source, have dropped by 16  
8 percent.

9 Foreign capacity to produce bifacial modules  
10 is enormous. Bifacial modules have been produced at scale  
11 in  
12 China for several years due to their Top Runner program, and  
13 Chinese manufacturers can quickly and inexpensively import  
14 this supply chain to factories in Southeast Asia. The cost  
15 of production of bifacial is only slightly higher than for  
16 monofacial, and it is greatly outweighed by the tariff  
17 savings created by this loophole.

18 Perversely, the bifacial exclusion actually  
19 disincentivizes the development of bifacial technology in  
20 the U.S., because manufacturers are incentivized to invest  
21 in established bifacial manufacturing outside of the U.S.  
22 Similarly, the requested country exclusions pose a serious  
23 threat to U.S. manufacturing.

24 Q CELLS was able to construct the largest  
25 factory in the Western Hemisphere within eight months.

1 Surely foreign manufacturers, including Chinese-owned firms,  
2 can quickly build new and additional manufacturing capacity  
3 in excluded country that take advantage of such gaping  
4 loopholes. As a result of the renaissance in module  
5 manufacturing, the tariff rate quota on cells will be  
6 exceeded beginning next year, and U.S. module manufacturers  
7 will be hit with tariffs on their primary component.

8           After U.S. manufacturers have completed  
9 wrapping up, the gap between cell and module capacity will  
10 be roughly five gigawatts. Thus, a simple increase of the  
11 TRQ from 2.5 gigawatts to 5 gigawatts would ensure domestic  
12 module manufacturers are not seriously harmed by the very  
13 policy that incentivized them to build and expand factories  
14 in the first place.

15           There are currently no domestic cells  
16 available to supply U.S. manufacturers and if there were,  
17 the natural market for U.S. cells is the export market.  
18 Foreign module manufacturers would pay a premium for U.S.  
19 cells because they could import modules that are made with  
20 U.S. cells tariff-free. An increase in the TRQ for cells  
21 will have no effect on this export market, and actually will  
22 create more favorable conditions for cell manufacturing in  
23 the U.S.

24           That is because a healthy module manufacturing  
25 sector is necessary for there to be meaningful cell

1 manufacturing in the long run, and an increase in the TRQ  
2 will be necessary to avoid crippling high production costs  
3 for U.S. module manufacturers.

4 In conclusion, due to the critical importance  
5 of solar energy, a strong U.S. solar manufacturing industry  
6 is crucial. Thankfully, the 201 has created a renaissance  
7 in U.S. solar manufacturing. However, given the difficult  
8 circumstances facing the industry, continued effective 201  
9 relief is absolutely necessary.

10 Keeping the module tariffs in place for the  
11 full four years without easing rates or additional  
12 exclusions, coupled with increasing the TRQ on cells to 5  
13 gigawatts, will secure the renaissance in U.S. module  
14 manufacturing and create the most favorable conditions for  
15 growing a domestic solar supply chain. Thank you for your  
16 consideration of this important matter.

17 STATEMENT OF THOMAS WERNER

18 MR. WERNER: Chairman Johanson, Commissioners,  
19 I'm Tom Werner, the CEO, Chairman of the Board at SunPower  
20 Corporation. SunPower is a U.S.-based solar manufacturer  
21 founded in Silicon Valley in 1985. I've been CEO for 16  
22 years. I'm here on behalf of our U.S. manufacturing  
23 company, SunPower Manufacturing Oregon, which I'll refer to  
24 as SunPower Oregon.

25 I appreciate this opportunity to testify

1 today. I've been in this hearing room before for the  
2 original proceeding in this safeguard case, but  
3 circumstances have changed over the past two years. Changes  
4 have occurred right here in this building. To the new  
5 Commissioners congratulations, and thanks for your public  
6 service.

7           Much has changed in our industry, by which I  
8 mean that the domestic crystalline silicon photovoltaic or  
9 CSPV manufacturing industry. That is the industry in focus  
10 today, the industry where adjustments to import competition  
11 you are examining. I say "our industry" because SunPower is  
12 proud to be part of the domestic CSPV manufacturing sector.

13           SunPower Oregon produces modules in Hillsboro  
14 at the facility we purchased from Solar World Americas in  
15 late 2018. These products are shipped to commercial  
16 customers throughout the U.S., including various Fortune 500  
17 companies. In the original safeguard investigation, Solar  
18 World Americas was the larger of the two petitioning U.S.  
19 producers, whose cell and module output totaled roughly 300  
20 megawatts per year when their petition was filed.

21           Today, our Oregon facility is a medium-sized  
22 player in a domestic module industry whose capacity will be  
23 about five gigawatts next year. I understand it is  
24 customary at this stage of a safeguard proceeding to check  
25 domestic producers progress under their agreement/adjustment

1 plans. While the plan submitted for the Oregon plant was  
2 prepared by the former owners, what's actually happening  
3 reflects SunPower's vision and priorities.

4           It's a compelling story and one I'm eager to  
5 share with you. As the Commissioners' investigation is  
6 documented, we've taken significant steps at the Oregon  
7 plant to improve competitiveness and to help SunPower  
8 facilitate additional investment. These steps include  
9 upgrading module assembly lines to produce performance or P  
10 series solar panels, training a workforce of more than 200,  
11 adding a tolling business, closing an uncompetitive cell  
12 line, and rationalizing usage of the overall space on the  
13 Hillsboro campus.

14           At the time of our acquisition, Solar World  
15 Americas only utilized about 25 percent of their total  
16 facility. The rationalization is part of this agenda, by  
17 which I mean closing the cell line and finding new purposes  
18 for the buildings we weren't using as a central part of the  
19 positive adjustment at our Oregon plant. These changes  
20 began immediately following our acquisition of the  
21 facilities. We're proud of our adjustment steps, which by  
22 definition means figuring out what you can do well and  
23 sustainably, and focusing on that.

24           In summary, safeguard relief created market  
25 conditions that allowed SunPower to acquire Solar World

1 Americas' assets, decommission operations that were not  
2 economically viable and reorient production towards higher  
3 end CSPV products that can market demands and values. This  
4 isn't Solar World Americas' plan; it is better than Solar  
5 World Americas' plan. That's my first key message today.

6 My second key message is that the safeguard  
7 measures working more broadly outside of Oregon. The  
8 domestic CSPV manufacturing industry is making a positive  
9 adjustment to import competition, experiencing a renaissance  
10 in fact as a direct result of the Section 201 relief. Our  
11 Oregon plan is an example of the legacy producers. The  
12 remaining members of the industry found to be experiencing  
13 serious injury, import injury, for whom the remedy is  
14 working.

15 Our witness panel has also representatives of  
16 the industry's new producers, with nearly 3 gigawatts of  
17 entirely new production. Each of those new producers is  
18 ramping their capacity as we speak. Before long, domestic  
19 production should reach over 40 percent of the CSPV market.  
20 This is a context of a market that is growing overall in  
21 every segment. For domestic production to supply nearly  
22 half of CSPV modules deployed in U.S. solar projects  
23 amounts to a success unprecedented in the history of  
24 domestic safeguard actions.

25 That in a nutshell is what we think your

1 report should say. If you keep your focus on us, the  
2 domestic industry and our positive adjustment, as the law  
3 directs you to do, I believe that the conclusions are  
4 inescapable. You're going to hear later today from other  
5 industry members situated downstream from the manufacturing  
6 industry you are studying.

7           They will argue that tariffs are crippling  
8 developers and suppressing solar deployment. But the  
9 evidence demonstrates that equipment prices have fallen  
10 continuously throughout the remedy period and are now lower  
11 than the pre-safeguard levels. Meanwhile, solar deployment  
12 is growing quickly and will likely hit record levels in both  
13 2020 and 2021.

14           In closing, we have something today that could  
15 scarcely have been imagined two years ago. Large CSPV  
16 manufacturing industry making the state of art equipment at  
17 scale. That industry is a module assembly industry. Its  
18 health and ongoing positive adjustment require continued  
19 safeguard tariffs for the full four year period originally  
20 proclaimed, and with a larger allowance for duty-free cells.  
21 Safeguard success stories are rare. Let's ensure this one  
22 remains on track. Thank you for your attention. I look  
23 forward to your questions.

24           STATEMENT OF MICHAEL KERWIN

25           MR. KERWIN: Good morning. I am Michael Kerwin

1 of Georgetown Economic Services, and I am appearing on  
2 behalf of the Coalition of Domestic Producers of Solar  
3 Modules.

4 This morning I will discuss developments in the  
5 U.S. industry producing CSPV cells and modules, and the  
6 positive impact that the Section 201 remedies have had on  
7 the module industry.

8 We have distributed to you a PowerPoint  
9 presentation that summarizes the most salient proprietary  
10 information from the monitoring review, and I will publicly  
11 summarize that information in my testimony.

12 As specified under the statute, the focus of a  
13 safeguards monitoring review is to assess, quote, "the  
14 progress and specific efforts made by workers and firms in  
15 the domestic industry to make positive adjustment to import  
16 competition." End quote.

17 The data of the prehearing report make clear that  
18 the U.S. CSPV industry has benefitted from the imposition of  
19 the Section 201 remedies, and has made substantial and  
20 meaningful efforts to make positive adjustments to import  
21 competition.

22 At the time of the underlying investigation, the  
23 Commission staff modeled the likely effects of proposed  
24 remedies in the years following their imposition. The  
25 impact of the remedies imposed, which generally reflected

1 those recommended by Commissioners Johanson and Williamson,  
2 has largely been followed and even exceeded those projected  
3 results.

4 Slide 2 in your package shows a key area in which  
5 the remedies have exceeded their projected impact. Revenue  
6 generated via sales of modules produced from imported cells  
7 have exceeded the Commission's projections, as have the  
8 industry's operating returns.

9 Other examples of actual industry performance  
10 exceeding the model results are shown in our prehearing  
11 brief.

12 The imposition of the Section 201 remedies has  
13 helped resuscitate existing module producers and attracted  
14 new module manufacturers. But it has also seen the  
15 contraction of U.S. production of solar cells. As shown in  
16 slide 3, by the first half of 2019 the vast majority of U.S.  
17 shipments of CSPV products were modules with cells  
18 accounting for a minor element of overall output.

19 The imposition of the safeguard measures has had  
20 a number of beneficial effects on the U.S. industry  
21 producing solar modules. As reflected in slide 4, imports  
22 of modules showed a significant decline in the first year of  
23 the safeguard measure.

24 The remedies also encouraged a very substantial  
25 expansion of the U.S. solar module industry. Slide 5

1 provides information on the expansion of U.S. capacity to  
2 produce solar modules, with a particularly dramatic impact  
3 in the first half of 2019 as annualized here for purposes of  
4 comparison.

5           The safeguard measures were meant to help  
6 already-established producers of solar modules in the United  
7 States increase their competitiveness and, more notably,  
8 provided the incentive for new producers to establish  
9 greenfield production facilities.

10           As shown in slide 6, these included very  
11 substantial capital investments by producers, including Q  
12 CELLS, LG Electronics, and Jinko Solar. These three  
13 facilities alone entailed investments well in excess of \$200  
14 million.

15           Figure 7 shows the beneficial impact of the  
16 safeguard measures on investment in the solar module  
17 industry. As you can see, 2018 capital investment greatly  
18 exceeded that in 2016 or '17. Annualized capital  
19 expenditures for 2019 were lower than those in 2018, as new  
20 module production facilities began to come onstream, but  
21 even those expenditures greatly exceeded those in earlier  
22 years.

23           Not surprisingly, as capacity to produce modules  
24 increased in the period after the imposition of the  
25 remedies, production expanded as well. Slide 8 shows that

1 production of solar modules increased in 2018 in relation to  
2 2017, and then exploded in 2019.

3           The new facilities also made major investments in  
4 human capital, as new hires led to large increases in  
5 employment in the industry. Slide 9 shows that as the new  
6 module production facilities ramped up, annualized  
7 employment of production and related workers in 2019 was  
8 dramatically higher than in any of the three previous years.

9           The safeguard measures also were beneficial in  
10 relation to the financial performance of the U.S. solar  
11 module industry. As shown in slide 10, the losses of the  
12 module industry narrowed significantly in the years after  
13 the imposition of the Section 201 remedies.

14           The share of the market held by U.S. producers of  
15 solar modules also improved in response to the imposition of  
16 the remedies in February of 2018, as summarized in slide 11.  
17 As you can see, the market share of the domestic industry in  
18 2018 exceeded that in either of the previous years, and  
19 showed another healthy increase in the first half of 2019.

20           The imposition of the remedies has not held down  
21 U.S. market demand for solar modules. Despite the doom and  
22 gloom scenarios laid out by opponents of the safeguard  
23 measures, U.S. demand has remained healthy. The data of the  
24 prehearing report show that after a dip in 2018 consumption  
25 of solar modules rebounded substantially in 2019, as shown

1 in slide 12.

2           Indeed, annualized apparent consumption of solar  
3 modules for 2019 is expected to be near that shown in 2017,  
4 and domestic producers have expanded their share of the  
5 market.

6           While the safeguard measures have had many of the  
7 beneficial effects that were anticipated at the time of  
8 their imposition, the U.S. CSPV industry is not yet out of  
9 the woods. As shown in slide 13, while operating losses for  
10 producers of solar modules have narrowed, the industry is  
11 still far from profitable.

12           Imports continue to pose serious challenges to  
13 the domestic industry, as well. Slide 14 shows that imports  
14 undersold domestic producer sales of solar modules in the  
15 vast majority of comparisons, accounting for the bulk of  
16 volume in the 2016 to '19 review period.

17           Underselling continued to occur even after the  
18 imposition of duties on modules in February of 2018. Given  
19 this underselling, it is not surprising that U.S. producer  
20 prices for solar modules declined in the period that you are  
21 examining. As shown in slide 15, prices for pricing  
22 products 2 and 5, which accounted for a sizeable share of  
23 overall sales of solar modules, declined dramatically from  
24 the first quarter of 2016 through the second quarter of  
25 2019.

1           These declines in prices have occurred as costs  
2 for many key input materials for U.S. module producers have  
3 been increasing. As summarized in slide 16, Section 301  
4 duties of 25 percent are now in effect on numerous key input  
5 materials from China. Because China is the only meaningful  
6 source for some of these materials, the duties have  
7 significantly increased costs for U.S. module producers,  
8 placing them at a competitive disadvantage in relation to  
9 imports from producers in the rest of the world.

10           U.S. producers of solar modules also face the  
11 very real risk that they will not be able to source  
12 sufficient supplies of their most important input, solar  
13 cells, at reasonable prices. As shown in slide 17, there's  
14 a large gap between U.S. production of solar cells and solar  
15 modules. This means that in order for solar module  
16 production to continue in the United States, substantial  
17 imports of solar cells are required.

18           As new U.S. producers of solar modules come fully  
19 onstream, output will continue to expand, and the need for  
20 imported cells will accelerate. As shown in slide 18, when  
21 the domestic module industry reaches capacity in 2020,  
22 required cells imports are likely to substantially exceed  
23 the quota, meaning that domestic producers will be required  
24 to pay tariffs of 20 percent on their most important input.

25           This will place the domestic industry at a

1 substantial cost disadvantage in relation to overseas  
2 producers, and will be of no benefit to the remnants of the  
3 U.S. solar cells industry that no longer serves the needs of  
4 domestic module manufacturers.

5           Finally, the recent exemption of the safeguard  
6 remedy granted on imports of bifacial solar modules has  
7 substantially undermined the beneficial impact of the  
8 remedy. As shown at slide 19, imports of bifacial modules  
9 grew dramatically even before the exemption was granted.

10           More importantly, foreign producer output of  
11 bifacial modules has exploded in recent years and will  
12 continue to grow as is shown in slide 20. Indeed, by next  
13 year global production of bifacial modules will likely  
14 exceed total U.S. consumption of all solar modules.

15           Because bifacial modules compete with other types  
16 of modules, increased imports will take sales from domestic  
17 producers and drive down prices across the U.S. market.

18           In summary, the safeguard measures imposed by the  
19 President have had a number of beneficial effects and  
20 allowed U.S. CSPV producers to retool and restructure, but  
21 the industry continues to suffer financial losses and faces  
22 a number of serious challenges, including increasing costs  
23 and declining prices.

24           Given these challenges, it is critical that the  
25 tariffs on imports of solar modules remain in place for the

1 remaining two years of the remedy.

2 Further, the quota on imports of solar cells  
3 should be increased above the current level of 2.5 gigawatts  
4 so that U.S. module producers will be able to source the inputs  
5 they need at competitive prices.

6 That concludes my testimony. Thank you for your  
7 attention.

8 MR. GURLEY: Before we move to the next witness,  
9 I ask the Commission keep these slides handy, especially,  
10 Slides 19 and 20, which reflect the imports of Bifacial  
11 Modules as well as projected capacity for 2020 and '21. I  
12 think the issue of Bifacial Modules is going to take on an  
13 oversized and outsized importance in this hearing today and  
14 in the post-hearing briefs and I think it's really important  
15 for the Commission to focus on these two slides in making  
16 their analysis. Thank you. Now, we'll move on to our  
17 witness from Auxin.

18 STATEMENT OF MAMUN RASHID

19 MR. RASHID: Good morning. My name is Mamun  
20 Rashid. I'm Co-Founder of Auxin Solar. Auxin Solar is a  
21 producer of solar modules since 2008. We're headquartered  
22 in Silicon Valley, where we also have our solar module  
23 factory. We manufacture standard, monofacial and bifacial  
24 solar panels, building integrated affordable products such as  
25 solar tiles and highly customized solar panels used in

1 terrestrial and non-terrestrial applications.

2 Government policies are essential in leveling  
3 the playing field against unfair Chinese practices. Without  
4 ADCVD and the protection of 201, Auxin Solar would not be in  
5 business today. 201 has expanded our existing sales  
6 channels and opened new ones. As a result, we've increased  
7 our production output by 80 percent and increased our  
8 manufacturing jobs by 50 percent. We've also upgraded  
9 equipment to new technologies and continued to do so.

10 201 has provided all of us U.S. manufacturers a  
11 four-year window of opportunity to scale up our productions  
12 and adjust our business models to negate the injury caused  
13 by excessive imports. 201 has attracted foreign investments  
14 in U.S. manufacturing jobs, all the while the U.S. solar  
15 market is stronger and healthier than ever.

16 As a privately-held company, Auxin is limited in  
17 its access to capital and has a lag in its expansion plans.  
18 We needed the first two years of the 201 protection to  
19 demonstrate the market potential. Now, we have substantive  
20 results to raise capital necessary to scale up production.  
21 While we're taking the steps to make the best of the 201  
22 opportunity, we're treading on thin ice. The bifacial  
23 loophole, the increased cost of our bond due to the Section  
24 301 tariffs and a potential tariff on our most expensive  
25 component, the solar cell, loom over us, eroding our

1    newfound confidence.

2                   The bifacial loophole and the potential of solar  
3    cell tariff pose the biggest threats to our competitiveness  
4    and survival. 201 has neither harmed nor slowed down the  
5    U.S. solar industry. Instead, it has provided an  
6    opportunity to U.S. manufacturers to scale up production and  
7    upgrade equipment to the latest technologies and be more  
8    competitive.

9                   The bifacial loophole is a poster child example  
10   of short-term thinking and misrepresentation of reality.  
11   The business model for projects deploying bifacial modules  
12   worked without the exclusion, as evidenced by the large  
13   pipeline of projects prior to the exclusion. Moreover,  
14   bifacial technology is neither new or niche, as was claimed.

15                   Auxin Solar has been producing bifacial modules  
16   for several years and has delivered bifacial modules to  
17   numerous high-profile projects. We did our R&D and  
18   equipment upgrades on our own without the help of any  
19   government programs, such as the Top Runner Program in  
20   China. All this effort is now at the risk of being lost.  
21   Going forward, we must scale up or become irrelevant. We  
22   must continue to upgrade our equipment to latest  
23   technologies. We're already undergoing a major equipment  
24   refresh at Auxin and we have plans to add another 250  
25   megawatts of capacity in two phases of 125 megawatts each.

1           Seeing the 201 protection continue to its full  
2 four-year term with no easing of the tariff rates will give  
3 us the confidence in making these investment decisions.  
4 However, scaling up will not be enough to negate the added  
5 cost of a cell tariff or compete against low-cost panels  
6 being imported via the bifacial loophole. The outcome will  
7 be even more severe. We're grateful for your time and  
8 consideration and this opportunity to voice our concerns. I  
9 urge you to close the bifacial loophole and increase the  
10 cell quota. Thank you.

11                         STATEMENT OF PAUL MUTCHLER

12           MR. MUTCHLER: Good morning. My name is Paul  
13 Mutchler. I've worked in the solar industry for six years.  
14 I'm currently the Director of Commercial Operations at  
15 Mission Solar Energy, a 200-megawatt production facility  
16 based in San Antonio, Texas. In the course of this work, I  
17 visit module and material factories, both foreign and  
18 domestic. I oversee the material imports into the United  
19 States and oversee the commercial sales teams for all  
20 products produced by Mission.

21           Mission Solar Energy was established in 2012 to  
22 supply panels to utility projects in Texas. We were the  
23 first in-type solar cell and modular production facility in  
24 the United States. Production started spring of 2014. In  
25 October 2016, Mission Solar shutdown its cell production,

1 but continued its modular assembly and production. By the  
2 end of 2016, Mission Solar had successfully finished  
3 supplying around 400 megawatts of panel to Texas utility  
4 projects.

5 In 2017, we began to sell our solar modules to  
6 the residential and commercial markets. We went from  
7 running at near capacity in 2016 to only 67-megawatts of  
8 production and sales in 2017. The implementation of the  
9 Section 201 safeguard has helped Mission Solar to return to  
10 near full production capacity for our solar modules. In  
11 2018, sales grew to 148 megawatts. In 2019, sales are just  
12 under 200 megawatts and we anticipate in 2020 sales will  
13 continue to increase.

14 Mission Solar now runs three full-time  
15 production shifts and has 180 full-time employees. The  
16 safeguard has also allowed Mission Solar to enjoy some level  
17 of profitability, so we are reinvesting in our factory in  
18 order to expand our production capacity. Mission Solar just  
19 purchased equipment to expand production from 200 to 400  
20 megawatts by late summer of 2020. We expect to hire an  
21 additional 50 employees to help operate this new line.

22 If Section 201 safeguards on solar modules  
23 remain in place, we expect the investment in U.S. production  
24 of solar modules to continue as cost efficiencies and  
25 economies in scales increase. However, Mission Solar is of

1 the view that the current cell quota of 2.5 gigawatts is too  
2 low to allow us and other U.S. module producers to fully  
3 ramp up new module assembly facilities. The U.S. demand for  
4 cells will easily exceed the 2.5-gigawatt cell quota by  
5 mid-2020. When the quota is exhausted, domestic module  
6 producers will have to begin paying 20 percent higher  
7 material costs to obtain cells necessary to continue modular  
8 assembly.

9                   Meanwhile, the step down on the tariff rate on  
10 module imports in February 2020 from 25 percent to 20  
11 percent will increase the pricing pressure from imported  
12 modules. With this in mind, we hope that you'll consider  
13 increasing the cell quota from 2.5 gigawatts to at least 5  
14 gigawatts. Other than the adjusted modification to the cell  
15 quota, Mission Solar supports the imposition of the  
16 safeguard measure through February 7, 2022. Thank you for  
17 your time and allowing me this opportunity to address our  
18 concerns.

19                   STATEMENT OF BRIAN LYNCH

20                   MR. LYNCH: Good morning, Commissioners. My name  
21 is Brian Lynch and I am the Director of Solar sales for LG  
22 Electronics, USA.

23                   I've worked in the solar industry for over a  
24 decade, and in addition to my experience with solar module  
25 sales I've also lead development and construction teams in

1 the commercial and utility scale solar sector.

2 For background, LG's an integrated cell and  
3 module manufacturer with approximately 2.5 gigawatts of  
4 module production in South Korea and the United States.

5 Today I would like to provide an overview of LG  
6 Electronics' Huntsville, Alabama factory so that you have a  
7 clear understanding about one of the newest producers of  
8 solar panels in the United States. Using LG as an example,  
9 I'd also like to highlight the need to increase the quota of  
10 imported cells to support the new U.S. solar factories.

11 Before diving into this discussion, I want to  
12 begin by expressing LG's deep appreciation to the  
13 Commission's staff for visiting our Huntsville factory in  
14 October. We were truly honored to host the delegation and  
15 to share our state-of-the-art factory with you. For those  
16 that were unable to make it to Huntsville to tour the  
17 factory, I have brought the factory to you through a short  
18 video.

19 [VIDEO PLAYED.]

20 As can be seen from the video, LG has invested  
21 over \$30 million in Huntsville, Alabama to open a solar  
22 module production facility capable of producing over one  
23 million solar panels a year, or 500 megawatts annually.  
24 LG's new production lines have created over 170 new jobs in  
25 the State of Alabama thus far, with additional employment

1 growth expected in the coming year thanks to a strong  
2 market environment. By the end of 2020, we anticipate that  
3 LG's Huntsville production factory will be producing 550  
4 megawatts annually with 400-plus employees on the LG campus  
5 in Huntsville.

6 As evidenced by the companies on this panel, LG  
7 is just one of several new U.S. module producers that have  
8 come online or expanded production since the safeguard took  
9 effect nearly two years ago. Since early 2018, the  
10 combination of new production facilities, expanded existing  
11 facilities, and increased efficiencies has led to a dramatic  
12 increase in the domestic industry's capacity and production  
13 of U.S.-produced solar modules.

14 While this has occurred, there has been no  
15 domestic cell capacity brought online to support the U.S.  
16 solar module manufacturers. This lack of cell manufacturing  
17 capacity has meant that new U.S. solar module producers have  
18 no choice but to look to imports for their supply of needed  
19 solar cells. In order for U.S. module producers to maintain  
20 production, increase capacity utilization and continue to  
21 make positive adjustments, we must rely on imported solar  
22 cells.

23 This fact is why I have come to Washington.  
24 While the imposed safeguard quota on solar cells has thus  
25 far not been an issue for us or other domestic module

1 producers, there is no question that the quota will cause  
2 real harm in the very near term.

3           In the coming months, the new producers are  
4 expected to be running at full capacity, at which point the  
5 domestic industry will have more than 4 gigawatts of  
6 production capacity. We believe that this is a somewhat  
7 conservative estimate and that the actual production  
8 capacity by the end of 2020 is likely to be much greater.  
9 The 2.5 gigawatt quota on cells will therefore severely  
10 restrict the domestic industry's ability to efficiently  
11 utilize its full production capacity. If the quota is not  
12 increased, domestic solar producers will be faced with the  
13 Hobson's choice of incurring extra costs by advancing solar  
14 purchases of imported cells in order to get under the quota,  
15 and consigning their U.S. production to last year's  
16 technology, or incurring extra costs by paying the steep  
17 safeguard duties. Under both scenarios the increased costs  
18 will limit the ability of U.S. producers to fully maximize  
19 production capacity because it will be nearly impossible to  
20 pass on these costs to our customers.

21           Commissioners, U.S. solar producers need an  
22 increase in the quota.

23           So why haven't manufacturers, who have committed  
24 to the U.S. market and U.S. manufacturing like LG, also  
25 invested in cell production? It's simple. The cost of

1 establishing a module production facility is roughly 10 to  
2 15% that of a cell line. An investment in a module line,  
3 given the current business environment, can generate  
4 acceptable returns rather quickly.

5           That simple and relatively fast payback is  
6 important to rationalize the investment, given the  
7 volatility that exists in the global solar market and here  
8 in the U.S. with policy changes like the anticipated sunset  
9 of the Investment Tax Credit and the expiration of tariffs  
10 in 2022.

11           Unfortunately, it's difficult to achieve similar  
12 returns with cell manufacturing due to the required high  
13 capital expenditure, rapidly changing technology, unstable  
14 market dynamics, and a supply chain that exists almost  
15 exclusively in Asia. And it is critical to understand that  
16 this economic reality would have existed even if the imposed  
17 safeguard measures had not allowed duty-free imports of  
18 cells. The business math still would not have worked. Four  
19 years is just too short and the solar industry is just too  
20 volatile.

21           However, the business math very much works for  
22 investment in solar module production with duty-free imports  
23 of cells. By expanding the duty-free imports of cells, it  
24 stands to reason additional investment will be made in  
25 domestic solar module factories. Module manufacturing

1 creates durable jobs, unlike the transient and temporary  
2 nature of downstream construction jobs, and these are jobs  
3 that exist in all corners of the country, from Buffalo, New  
4 York, to Hillsboro, Oregon and Riverside, California down in  
5 the Southeast in Jacksonville, Florida, Dalton, Georgia,  
6 San Antonio, Texas and, of course, Huntsville, Alabama. If  
7 the economic viability of those factories is put into  
8 question, continued investment and job growth would be at  
9 risk.

10           Finally, I want to make a quick comment on the  
11 issue of bi-facial modules. The bi-facial exclusion has led  
12 to a significant increase in planned imports, and broad  
13 disruption in the market, which in turn has placed increased  
14 pressure on pricing and sales. Although LG is a  
15 manufacturer of bi-facial modules in South Korea, LG  
16 supports the other domestic module manufacturers, and  
17 there's reason to advocate for overturning USTR's  
18 elimination of the exclusion for bi-facial modules. There  
19 are no technical merits behind the exclusion; it's simply a  
20 loophole and that shouldn't be allowed.

21           I'd like to thank the Commission for their time  
22 and thoughtfulness on this matter. The solar industry  
23 continues to be an economic engine and a driver of job  
24 creation and investment in the United States. What we've  
25 seen over the last two years is those jobs are being created

1 throughout the value-chain from manufacturing through  
2 installation.

3 Thank you. That concludes my testimony.

4 MR. GURLEY: Chairman Johanson, that concludes  
5 the testimony of the U.S. solar manufacturing industry.

6 CHAIRMAN JOHANSON: I would like to thank all of  
7 you for appearing here today. I know this is not the first  
8 time for some of you, so welcome back to those of you who  
9 are here again. And I'll begin the Commissioner questions  
10 today.

11 First Solar notes in its brief that the -- oh, I  
12 apologize. I apologize. That was pretty quick, I thought.

13 MR. BISHOP: We will now begin the twelve minutes  
14 of Suniva testimony. Thank you.

15 MR. CARD: Commissioner Johanson, I accept your  
16 apologies. I know you're not used to seeing this many  
17 people now in support of U.S. solar manufacturing, so it's  
18 great.

19 CHAIRMAN JOHANSON: Well, to have so many out  
20 there and shutting down fifteen minutes early, took my by  
21 surprise. I should've known something was going on, right?

22 STATEMENT OF MATT CARD

23 MR. CARD: No worries. Good morning. It's my  
24 honor to appear before you again for this critical midterm,  
25 as several of you recall, my name is Matt Card. I'm the

1 president and chief operating office for Suniva, the  
2 Georgia-based manufacturer of solar cells and modules, and  
3 based in Georgia, one of the two original co-petitioners in  
4 this investigation. So what a difference two years makes.  
5 I remember this hearing two years ago and Panel 1 was a  
6 lonely, lonely panel. We took up about a table and a half  
7 and it actually warms my heart to see now five-plus tables  
8 of U.S. manufacturers advocating for the continued growth of  
9 this segment.

10           It's been just over two years since this body  
11 unanimously found that the U.S. solar module industry had  
12 suffered serious injury from imports. Your decision was a  
13 catalyst for a remedy designed to give this industry a  
14 chance to rebuild and establish critical mass to allow to  
15 sustain long-term.

16           When I appeared before this body two years ago, I  
17 said it was not an understatement to say that the actions of  
18 this Commission would determine whether or not the U.S.  
19 solar manufacturing industry became extinct, and with it the  
20 important R&D that has for so long made the United States  
21 the world's leader in emerging technologies. And that was  
22 not an understatement. Your actions have allowed for a  
23 renaissance to begin.

24           Today, Suniva's out of bankruptcy and is working  
25 hard at restarting our manufacturing. We're now 100%

1 American-owned and have invested over \$25 million to date in  
2 the journey to restart the country's largest cell  
3 manufacturer. And a restart is an important cog in the goal  
4 of ensuring that America is not wholly dependent on foreign  
5 manufacturers.

6           You now see before you multiple companies who  
7 have taken advantage of the 201 remedies and are building  
8 growing module assembly businesses and creating hundreds of  
9 new manufacturing jobs. I note with some degree of pride  
10 that the industry is making progress. New entrants have  
11 emerged. Our original quest for action has been successful  
12 and the industry is rebuilding.

13           Suniva applauds our peers here today that have  
14 invested in U.S. manufacturing. We're proud that we set the  
15 wheels in motion that started a revival in U.S. solar  
16 manufacturing. We're pleased that a portion of our industry  
17 has regained its footing. Like our peers, we believe the  
18 safeguard is still needed and must remain in place for the  
19 full term, allowing the industry to continue to grow.

20           However, the safeguard has not been able to  
21 achieve its full goal because of negative headwinds, such as  
22 the exclusion for bi-facial modules. This exclusion, as  
23 you've heard, has had severe impacts on all of us, but it's  
24 having particularly severe impact on Suniva, as it occurred  
25 just weeks after we exited our Chapter 11 bankruptcy

1 process. And the immediate impact of the exclusion was to  
2 halt or dramatically slow our ongoing investor discussions.  
3 These and other headwinds have prevented the existing remedy  
4 from fully meeting its goal of restoring the entire U.S.  
5 solar manufacturing industry. As such, it is vital that the  
6 remedy be fully enforced for its full four-year term.

7           The negative effect of these headwinds can be  
8 countered by a smaller reduction in the tariff stepdown.  
9 This simple fix addresses the needs of both cell  
10 manufacturers and module assemblers, giving the domestic  
11 industry the chance to fully realize the goal of the remedy.  
12 However, the remedies have not yet benefited the American  
13 solar manufacturing industry, as has been noted today. Only  
14 when production of domestic modules exceeds the level of the  
15 2.5 gigawatt TRQ will the remedies benefit the restoration  
16 of the cell manufacturing sector.

17           Others on this panel have argued that the TRQ  
18 must be increased to ensure the continued growth of domestic  
19 module assembly. However, it should be noted that the  
20 module assembly sector has grown directly as a result of  
21 tariffs being applied on every single module imported into  
22 the United States. The American solar cell sector now needs  
23 the same opportunity afforded to our siblings through the  
24 application of tariffs on imports in excess of the 2.5  
25 gigawatts.

1           The TRQ, as is, still provides tariff-free cells  
2 for over 80% of domestic needs, as indicated in the staff  
3 report. Let me say that again. We are not advocating  
4 removal of the TRQ. We acknowledge the TRQ has a very  
5 beneficial effect to module assemblers, and the TRQ as  
6 specified with reason, still provides tariff-free cells to  
7 over 80% of the needs as the staff has identified it.

8           A restored domestic cell industry will be more  
9 than capable of filling the remaining need and beyond.  
10 Without question, the United States needs a thriving cell  
11 manufacturing industry. It is the cell manufacturing sector  
12 that drives the R&D innovation in the solar industry. It is  
13 the solar cell that contains the vast majority of the  
14 intellectual property and technology. Without an American  
15 cell manufacturing industry, that R&D and technological  
16 innovation will be ceded to foreign producers.

17           Given that the solar cell is what converts  
18 sunlight to electricity, ceding the technological advantage  
19 to foreign companies means ceding the ability to generate  
20 electricity from the sun to foreign producers. It's  
21 important to note, as you as the Commission have already  
22 found, failing to restore the American solar cell  
23 manufacturing industry will negatively impact the national  
24 security and energy security of the United States. That's  
25 already in the record.

1           The full success of the remedies can only be  
2 achieved with the restoration of the American cell industry  
3 and all the American research and development and  
4 technological innovations that come with it. For the cell  
5 industry to experience a resurgence, the current TRQ cannot  
6 be increased. The sector should have the same opportunity  
7 to grow as the domestic module industry.

8           The remedies must ensure that at some point  
9 domestic demand for cells outstrips the supply of  
10 tariff-free imports. This is exactly the rationale that was  
11 applied to the domestic module industry and led to so many  
12 companies now arguing for the continuance of your safeguards  
13 at the outset of the safeguard process. To argue any  
14 differently for cells is simply inconsistent.

15           Please don't take me wrong. Much progress has  
16 been made. Much. I'm exceptionally grateful now, that  
17 rather than two ailing companies on this side of the table,  
18 there are many and they are growing. But the work is not  
19 done. When we sat in front of you two years ago, we laid  
20 out a vision for the rebirth of a supply chain, and the  
21 Commission acknowledged the necessity of such a rebirth.

22           We told you then this was not about two  
23 companies, but about a full value-chain. We said at that  
24 time that if all that came out of this was a few companies  
25 assembling modules, then all we would've collectively done

1 is kick the can down the road, delaying the inevitable death  
2 of another American industry.

3 I sit here today and echo those words from two  
4 years ago. This is not about a few companies. It's about  
5 an entire industry, a rich and robust value-chain. The  
6 first steps have absolutely been taken. We absolutely are  
7 celebrating the rebirth and growth of the module assembly  
8 segment and we must continue to live in an environment that  
9 protects that segment. The tariffs must stay in place and  
10 the reduction should be slowed down.

11 But we must take steps. We must allow the  
12 value-chain to grow. Now, finally, as we entire Year 3 of  
13 the safeguards, we will begin to see an environment that  
14 supports the rebirth of our nation's solar cell  
15 manufacturing capacity. We must allow that to happen.

16 As I prepared for this midterm review, it  
17 resurfaced--as you can imagine--many memories of what was a  
18 dark and trying time two years ago. Solar World and Suniva  
19 had very few allies in this process, and those objecting  
20 were very loud, as loud as marching bands, and powerful.  
21 But during the week of Christmas, 2017, I received a  
22 wonderful gift. A founder of an office furniture  
23 manufacturer in Michigan sent me a personal letter, and I'd  
24 like to share with you a couple of thoughts from that  
25 letter, and what he said.

1           He started it out, "Dear, Mr. Card, your letter  
2 to the Washington Post was reprinted in our local newspaper,  
3 the Grand Rapids Press. It brought back strong emotional  
4 feelings for me." And this gentleman went on to detail out  
5 his own industry, office furniture, had suffered ravages  
6 from some of the same exact tactics that we've seen here in  
7 the American solar industry, how they'd struggled for years  
8 to fight off many of the same threats, and how they  
9 ultimately had achieved their successes.

10           He closed his letter with the following, and  
11 again, I'm quoting from his letter, "Getting to the point of  
12 your letter to the editor, it really made me sick to my  
13 stomach. I see from reading, you have declared bankruptcy.  
14 I am so sorry, and I pray that you will survive. My only  
15 advice is to never give up. Ask for help. Band together,  
16 get the tariff done."

17           I've read this letter repeatedly and each time it  
18 lifts me. Suniva's not giving up. We have exited  
19 bankruptcy. We will still keep fighting. We have banded  
20 together, and in many ways we agree and in some ways we  
21 don't. But we fight and we fight as an industry to continue  
22 to grow.

23           We will continue to invest in American  
24 manufacturing and American jobs, and once again, I ask of  
25 this Commission and ultimately of this administration, stay

1 the course and work with us to shape the face of, not only  
2 U.S. manufacturing, but of our nation's energy security for  
3 years to come.

4 I thank you guys for the seriousness with which  
5 you conducted this investigation, and the diligence with  
6 which you continue this process. Thank you.

7 MR. GURLEY: I think it's officially over now.

8 CHAIRMAN JOHANSON: Okay, thank you all. And my  
9 apologies for cutting you off a while ago, Mr. Card. I know  
10 there was some efforts to put together this panel to make it  
11 work and so I understand why you all changed into two  
12 sections.

13 Given that I cut you off a while ago, I'm going  
14 to start off questions with Suniva.

15 MR. CARD: Thank you.

16 CHAIRMAN JOHANSON: Oh, certainly. So, this is a  
17 pretty basic question. What are Suniva's plans to start  
18 solar production operations?

19 MR. CARD: Well, to date as I've said, we've  
20 actually had a bankruptcy in April this year. We're under  
21 new ownership that's 100 percent American backed ownership.  
22 And to date we've invested 25 million dollars in the restart  
23 process. The exit of bankruptcy and the restart process.  
24 We are under very significant negotiation, very, very close  
25 to completion with some final additional investment capital

1 and partnership, but shortly six weeks after our exit of  
2 bankruptcy, the USTR issued the bifacial exclusion.

3 That had an incredibly numbing effect.

4 Certainly, as you've heard from others, not just on us, but  
5 this entire segment of the industry. For us specifically,  
6 it put every conversation on pause. People waited to see,  
7 well let's see how this comes out. Let's see what the U.S.  
8 government is really serious about, what they believe in the  
9 manufacturing coming back.

10 At this point, we have done a complete analysis.  
11 We have a complete restart plan in place. We've already  
12 begun working with contractors to develop actual work plans.  
13 We know the length of time to start and we're now continuing  
14 to work in spite of the fact that this bifacial exemption  
15 still hangs over our head because of the litigation that's  
16 involved to secure that funding.

17 We expect much reduced headwinds, hopefully, once  
18 the bifacial exclusion gets resolved with the court ruling,  
19 but we will continue, and the headwinds are still slowing us  
20 down on security the initial funding to restart. We do have  
21 the ability to restart our line. We can do it, and as we've  
22 told you before, in approximately 100 days, and for well  
23 under 10 million dollars.

24 And that includes, by the way, inside that  
25 number, our own expansion of what was a 450 megawatt cell

1 facility, to bifacial capabilities. All the things you may  
2 have heard about bifacial are, in fact, true. And as a cell  
3 manufacturer, we are the ones that are uniquely qualified on  
4 this panel to talk about it.

5           The additional upgrades from a mono-facial park  
6 facility. And, you will recall in 2017, Suniva and Solar  
7 World were actually the first wide scale implementers of  
8 mono-perk technology in the world, that's since been coopted  
9 around the world, but we certainly looked at the ability in  
10 our design to upgrade our facility to bifacial.

11           It's a matter of a few weeks, and it's a matter  
12 of a very small single digit millions of dollars beyond --  
13 included in the numbers that I talked about. So, we have  
14 the ability to come back online within about 100 days.  
15 Quite clearly, we thought we would be operational by now.  
16 We thought our biggest, or at least on the restart path by  
17 now, our biggest hurdle in our mind was actually  
18 negotiating appropriately with the bankruptcy, all the  
19 creditors and constituents in that process and getting out.

20           We got out only to be hit with a broad side by  
21 the massive loophole created by the bifacial exemption. But  
22 we'll work through that and it will come back.

23           CHAIRMAN JOHANSON: Mr. Card, is your current  
24 production equipment capable of producing competitive  
25 products, or do you need to further invest?

1           MR. CARD: It's absolutely capable. When the  
2 facility was idled in 2017, it was a state of the art, 450  
3 megawatt mono-perk facility which was at the time and is  
4 continuing today to be state of the art technology. You've  
5 heard all these words and I know staff background has  
6 tremendous research on this about bifacial. Bifacial is an  
7 evolutionary change.

8           The reason world adoption is happening so fast is  
9 it's not a hard upgrade. Included in our capabilities, we  
10 have optionality. We have the ability to come back as a  
11 state of the art mono-perk facility it was, or we have the  
12 ability to bring the facility back as a bifacial facility,  
13 which will add about another 25 percent ultimately to our  
14 capacity.

15           CHAIRMAN JOHANSON: And I believe you said it  
16 would take about 100 days to restart production?

17           MR. CARD: We can be at first article production  
18 in about 100 days from when we kick off.

19           CHAIRMAN JOHANSON: Do you have any idea what  
20 your annual production capacity would be?

21           MR. CARD: If we bring it back as the mono-perk  
22 facility it is right now, it's a nameplate 450 megawatts.  
23 If we bring it back as a bifacial facility, that's about 20  
24 percent greater to call it a nameplate, 540-ish megawatt  
25 facility.

1           CHAIRMAN JOHANSON: Okay. And do you all plan to  
2 market sales to modular producers for use in their own  
3 modules, or would you contract with another firm to produce  
4 Suniva modules?

5           MR. CARD: No, that's a fair question, and I  
6 appreciate you actually bringing that question up, because  
7 some references were made, certainly in some of the Embassy  
8 reports that simply were not accurate. Recall that when  
9 Suniva exited, or entered bankruptcy, we had a 450 megawatt  
10 facility.

11           We had approximately, as well, a 200 megawatt  
12 module facility. That's roughly 250 megawatts of cells that  
13 were available to sell to domestic or foreign assemblers of  
14 modules. There are people in this room that we've had  
15 conversations with about procuring cells.

16           And so, as part of the bankruptcy process,  
17 Suniva's decision has been we want to come back as a cell  
18 manufacturer. It is our core technology. It was our core  
19 expertise from day one. It's where we've made the most  
20 investment. So, every cell Suniva makes will be available  
21 to domestic -- I said domestic, to commercial module  
22 manufacturers, whether they're domestic or foreign, to buy  
23 those cells for their modules.

24           CHAIRMAN JOHANSON: So, just to clarify. You  
25 would not be producing modules?

1           MR. CARD: That's correct. That's not in our  
2 current business plan.

3           CHAIRMAN JOHANSON: Okay. And to get at what's  
4 really at the heart of what we're here today, could you  
5 please explain what, if any, remedies or potential  
6 modifications of relief would help to increase domestic cell  
7 production?

8           MR. CARD: Well, the biggest remedy is simply  
9 stay the course. And I'll use the analogy, and I alluded to  
10 in my opening words. We have seen, unequivocally, growth in  
11 the module manufacturing segment, and we've seen growth in  
12 the module manufacturing segment for one key reason, as my  
13 peers here have noted. They were dealing from unit 1 with  
14 tariffed competition.

15           The imported modules from unit 1 was a tariff  
16 module. We argued, as you recall early on for a very  
17 different outcome with regards to solar cells. We wanted  
18 equal treatment between solar cells and solar modules, and  
19 we predicted what would happen should no tariffs be granted.  
20 The simple reality, again, whether I agree with it or don't  
21 agree with it, the reality is what the reality is. A 2.5  
22 gigawatt exclusion was put in place. The de facto reality  
23 of that behavior is there was no 201 remedy put in place for  
24 solar cell manufacturers, as all the data, including your  
25 staff report says, consumption in year one was roughly

1 25-ish percent, of that 2.5 gigawatts.

2 Consumption here in year two is somewhere around  
3 projected 80-ish percent, now that most of this new  
4 capacity, this first wave of new capacity is ramped up.  
5 Cell manufacturers did not have the economic advantage of a  
6 tariff from any unit, because domestic consumption of those  
7 cells never grew.

8 The other side of that is that sends messages  
9 globally to foreign manufacturers. They're not sure whether  
10 or not the U.S. is really committed to the full value chain.  
11 Certainly, the U.S. showed us very strong commitment to  
12 module assembly, but as rightfully questioned, was the  
13 commitment there by the U.S. government to solar cell  
14 manufacturing?

15 We've argued from day one that this has to be an  
16 entire value chain proposition. And so, the top thing that  
17 can be done is simply stay the course. We're not asking for  
18 modification. We're asking to take the wisdom of the  
19 original decision, agreed with or not agreed with, the very  
20 decision that everyone in this room who's now sitting in  
21 this panel, came to the U.S. around, and let that decision  
22 play itself out.

23 Continue the tariffs on solar modules as they are  
24 today. Continue the TRQ of 2.5 gigawatts on solar cells, so  
25 that the excess of that -- and again, depending on the

1 timing in the year, it's a very small percentage of the  
2 overall cost, since there will still be a very large  
3 exemption. Allow that to put place.

4 I did make reference to, obviously, one other  
5 point that we think helps the entire industry, and because  
6 of the headwinds that have happened, particularly the  
7 significant bifacial exclusion that more or less obviated  
8 most of year two of the remedies, we've suggested that the  
9 Commission investigate a slowing of the rate reduction.

10 We have no comment on what that rate reduction  
11 should be. But we think given that year two was largely  
12 interrupted by the massive loophole of bifacial exclusion,  
13 we think a change in that rate reduction would certainly  
14 benefit, not only cell manufacturers, but module  
15 manufacturers alike.

16 CHAIRMAN JOHANSON: If you could provide for the  
17 post-hearing what type of rate reduction you think would be  
18 appropriate. I think that would be useful.

19 MR. CARD: We'll certainly look into that, but  
20 our general belief is any latitude, any grace that the  
21 Commission views, is better than none, but we can certainly  
22 look at providing more structured guidance.

23 CHAIRMAN JOHANSON: Okay. Thank you, Mr. Card.  
24 My time is expiring, so I'll conclude. Commissioner  
25 Schmidtlein?

1           COMMISSIONER SCHMIDTLEIN: Okay, thank you. I'd  
2 like to welcome you all back and thank you for being here  
3 again. So, I just want to follow-up, Mr. Card, on the  
4 conversation you just had with Chairman Johanson. And I  
5 took this from Suniva's brief as well, but you've repeated  
6 it several times here today, that Suniva's not advocating  
7 for removal of the TRQ on cells, even though there hasn't  
8 been any relief for cell producers from the current remedy  
9 that was put in place.

10           And your business plan is only to produce cells,  
11 when you restart production.

12           MR. CARD: Yes, ma'am.

13           COMMISSIONER SCHMIDTLEIN: So, my question is why  
14 aren't you advocating for the removal of the TRQ?

15           MR. CARD: Well, we understand -- that's a fair  
16 question. And what I've mentioned multiple times going back  
17 two years, as you guys -- some of you will recall. We  
18 talked very much about the importance of a value chain, not  
19 about two companies. Not of just one company or two  
20 companies succeeded.

21           But what this ultimately has to become is the  
22 evolutionary reconstruction of a value chain that was  
23 decimated. The U.S. used to have modular manufacturing. It  
24 used to have cell manufacturing. It has a very robust  
25 polysilicon industry. It had other suppliers who testified

1 that their businesses died when the cell and modular  
2 manufacturing industries died.

3 And you heard testimony of that two years ago.  
4 Well, certainly from a myopic view of Suniva, the removal of  
5 the TRQ certainly benefits Suniva, and it certainly benefits  
6 the cell industry -- cell manufacturers. The removal of the  
7 TRQ altogether, does not benefit the solar manufacturing  
8 industry at large.

9 The majority opinion, and both yourself and  
10 Commissioner Johanson, recognized that before. And you did  
11 recognize the necessity in your recommendations of some  
12 level of TRQ. I understand the broader impacts of a TRQ,  
13 and I'm willing to adjust our business and make our business  
14 successful around that, because we understand the importance  
15 of having domestic module manufacturing.

16 We understand the importance of a full domestic  
17 supply chain. The reality here is if the cell industry does  
18 not return, we are still dependent on foreign producers for  
19 solar energy. The cell is the electrical generating device  
20 in the solar module. The fact that a solar module does not  
21 exist without a solar cell, at least in the crystal and  
22 silicon world.

23 So, we need and want modular manufacturers to be  
24 successful. We want a vibrant off-take market. I don't  
25 want to sell products overseas. I'm an American

1 manufacturer, and I like to sell first to American  
2 companies. But certainly, a global market is important, but  
3 that's why I don't advocate removing the TRQ.

4 COMMISSIONER SCHMIDTLEIN: So, I assume that your  
5 business plan then must be that you'll be profitable just  
6 supplying the additional demand above the TRQ that  
7 apparently everyone agrees is going to be filled soon with  
8 imports, is that -- basically that the portion of the market  
9 you're looking at.

10 MR. CARD: And we can certainly be profitable and  
11 successful beyond that. The market, as everyone had  
12 testified is huge. We're having record success and growth,  
13 even with the 201 safeguards in place. The market is there.  
14 And the U.S. manufacturers collectively, still only supply a  
15 portion of that market, not the full market.

16 And so, the opportunity here is for a rising tide  
17 to float all boats, not just a lack of success at the  
18 margin. But I remain committed to the notion that I spoke  
19 to you guys so passionately about two years ago. This is  
20 about an entire value chain.

21 It's not about can Suniva come back. It's not  
22 about what happened to Solar World. It's not about whether  
23 my very successful colleagues here, grow just their  
24 business. And I think they would agree with you that they  
25 are all stronger when we have a strong industry, not just

1 one independent company on an island.

2 COMMISSIONER SCHMIDTLEIN: I'm just curious. I  
3 think it was Mr. Lynch in his testimony about cells who said  
4 that the industry would not have benefitted -- the cell  
5 industry, cell production would not have benefitted because  
6 four years is just not long enough, and the solar market is  
7 too volatile.

8 So if there hadn't been a TRQ, I'm just curious,  
9 do you agree with that?

10 MR. CARD: I respect Mr. Lynch's opinion, but Mr.  
11 Lynch's business is different than our business. Clearly I  
12 can speak only for myself and now that projects into my  
13 opinion broader. Clearly four years of advantage remedies  
14 for sales would be better than two years of advantage  
15 remedies for sales.

16 The point of the matter is two. One is we need  
17 an economic environment in which cell manufacturing can  
18 succeed. Having some level of tariff helps that. But look  
19 at what happened broader. And let's use our very successful  
20 peers here at the table.

21 Look at what happened when the U.S. Government  
22 made a strong statement that we are going to create an  
23 environment where American module manufacturing can succeed.  
24 Within days of that announcement, companies were announcing  
25 new module manufacturing capacity here because it was now

1 going to be more expensive.

2 Cell manufacturing can succeed here, just like  
3 module manufacturing can succeed here. I can't speak to the  
4 economics of what it costs LG and whether or not they can be  
5 successful manufacturing cells here. I know what my  
6 business model can do. Others will make their own decision.

7 COMMISSIONER SCHMIDTLEIN: And so if the  
8 President did change the TRQ to 5 gigawatts, what would the  
9 impact on Suniva be?

10 MR. CARD: It would be an incredible continued  
11 challenge. The impact to Suniva and to cell manufacturing  
12 would have been as if this 201 process did not ever occur.  
13 Will we continue to exhaust every option to make sure that  
14 we achieve financing that allows us to come back? We are in  
15 a position now where we believe we can be profitable with  
16 launch, but clearly it is harder for us to secure the rest  
17 of the partnership we need to come back without that is,  
18 having advantage where a TRQ allows some relief for domestic  
19 manufacturing helps. But there are markets that are  
20 available to us beyond the U.S. market.

21 It is a correct statement that foreign market is  
22 certainly a market that is available. But we have seen the  
23 vagaries and the challenges that come with depending on  
24 being solely an exporter. I don't think it's the right  
25 proposition for our government to say you're welcome to

1 succeed here as a manufacturer, but there's no home for your  
2 product here. Sell it all overseas.

3 I think we need to have the ability to supply  
4 domestic customers and global customers.

5 COMMISSIONER SCHMIDTLEIN: So you think you could  
6 still survive?

7 MR. CARD: I do.

8 COMMISSIONER SCHMIDTLEIN: Okay. So the concern  
9 about there not being a U.S. domestic producer of cells  
10 wouldn't really come to fruition? I mean, part of the  
11 argument in the brief is national security, energy security,  
12 if we don't have a U.S. producer we become dependent on  
13 foreign producers of cells. That could be potentially  
14 uncertain. So does that argument really apply, if you're  
15 saying you could survive even if the TRQ was increased?

16 MR. CARD: I certainly hear the argument. With  
17 respect to everyone here, that is the exact same argument  
18 that was being made two years ago about why you should not  
19 grant any relief.

20 They were saying that about modules. You can't  
21 make a module here competitively. You can't make a module  
22 economically. The opponents of this broader in the  
23 afternoon will say yet again that supply chains should die,  
24 you know, it can't be successful, it's not going to do this,  
25 the world is going to collapse.

1           You heard those same arguments two years ago.  
2   And as a Commission you ruled, and ultimately the  
3   Administration ruled, that you did not believe that simply  
4   to be true. You put in fact actions in place that allowed  
5   module manufacturing to come back.

6           And so the argument that, oh, it's too late, it's  
7   all going to die, you can't make it done, you didn't believe  
8   before and I don't think you should necessarily believe  
9   again. I do believe this industry can resurge, and I  
10   actually think exhibit A of that is what has happened in the  
11   module space when they got relief.

12           COMMISSIONER SCHMIDTLEIN: Yes, maybe, Mr.  
13   McConkey, you want to address this? Because it was an  
14   argument in your brief, that we would be facing potentially  
15   a national security risk.

16           MR. McCONKEY: Correct. The arguments in our  
17   brief are to support this is why--those arguments about  
18   national security and the R&D is a reason we want to have  
19   cell manufacturing. So it is the policy reason to give  
20   cells a chance. And we think, as Mr. Card just said, and my  
21   client just mentioned, giving cells a chance he thinks he  
22   can do it, and we're here. We're here. We came out of  
23   bankruptcy for a purpose. We don't do this for fun. With  
24   the TRQ that stays put at 2.5 --

25           COMMISSIONER SCHMIDTLEIN: But my question was,

1 what was the impact going to be if the President did change  
2 the TRQ in response to what is being advocated by the other  
3 party on this panel to 5 gigawatts. And I thought I heard  
4 you say we could still survive, it would be fine. And my  
5 question to you is:

6           How does that then implicate your argument that  
7 without a domestic producer we have a national security  
8 risk? Because it sounds like we would have a U.S. producer.

9           MR. CARD: So I'll be more clear in your  
10 question. I apologize.

11           COMMISSIONER SCHMIDTLEIN: Okay, alright.

12           MR. CARD: I'll apologize. An increase in the  
13 TRQ certainly makes the environment significantly more  
14 challenging. To say we'll survive or not survive, it's  
15 premature to understand that. We have to understand that  
16 dynamic. Are we more secure today than we were two years  
17 ago? We are more secure today because we now at least  
18 assemble modules.

19           The fact remains, if we're going to have a solar  
20 energy manufacturing industry in this country and we do not  
21 make solar cells here, we are dependent on foreign sources.  
22 That still creates a risk.

23           So I think you have to create an environment that  
24 allows solar cells the brains, the heart, the blood pump, or  
25 whatever you want to call it, of a solar module to come

1 back. We are not in an environment today with the existing  
2 environment -- the existing set of remedies, because the TRQ  
3 has not been reached, where solar cell manufacturing has had  
4 the opportunity to come back.

5 We are stronger as a country if solar cell  
6 manufacturing comes back than if it lives more limit or not.

7 COMMISSIONER SCHMIDTLEIN: Okay. Thank you. My  
8 time has expired.

9 CHAIRMAN JOHANSON: Commissioner Kearns?

10 COMMISSIONER KEARNS: Thank you all for appearing  
11 today. I have some more questions for you, Mr. Card, but I  
12 am going to give you a little break. I think you have had a  
13 lot there.

14 MR. CARD: Thank you.

15 COMMISSIONER KEARNS: I guess my question for the  
16 others on this panel is, we were supposed to look at the  
17 adjustment plan. It's kind of hard to do that here in terms  
18 of, you know, how relevant they are, or how relevant they  
19 remain. But I guess my question then for all of you is: So  
20 what is the plan? What is --and I shouldn't talk about the  
21 Harley Davidson 201 case because I don't know it that well,  
22 but my understanding was basically before the remedy they  
23 were producing run-of-the-mill sort of bicycles, and then  
24 their strategy was let's go high end and really take over  
25 that segment.

1           So I mean what's the plan here? I mean, yes, I  
2 know there's a lot of new investment but that's not really a  
3 plan. Why should I think that when the safeguard ends, this  
4 industry will be sustainable? What's the plan? Is the  
5 plan, I guess in part, you all have made a decision that you  
6 can't be viable if you're producing both cells and modules?  
7 And that the only way to remain viable in the U.S. is to  
8 produce only modules? Is that the plan?

9           And obviously anyone can speak to that. But,  
10 maybe Mr. Werner, first.

11           MR. WERNER: Sure. The plan is, what we're  
12 implementing, have personally implemented, is to upgrade our  
13 capacity in Oregon to make a higher efficiency panel that is  
14 worth more in the end market. So it is to move to higher  
15 technology. In our case, you take a conventional cell, you  
16 laser scribe it, break it into pieces, and then you epoxy  
17 them end-to-end and you make it a long solar cell.

18           You can get higher efficiency, because you have  
19 the higher fill factor in the module. We make a 19 percent  
20 module today, whereas before that facility was more like 16  
21 percent. And we're working on a 20 percent module that we  
22 would introduce perhaps in the back half of next year.

23           So, yes, it is to make modules and to move to a  
24 higher efficiency, which is a premium product because it  
25 requires less to be installed for the same capacity.

1           COMMISSIONER KEARNS:  Anyone else want to comment  
2  on the plan?

3           MR. LYNCH:  Bryan from LG.  I'd like to add a  
4  comment.  LG evaluated that before we made the decision to  
5  invest in Huntsville, Alabama.  LG is probably unique,  
6  although there are other vertically integrated manufacturers  
7  that have set up manufacturing in the U.S. such s Panasonic  
8  and Q CELLS, who has businesses outside of solar.

9           So for LG we look at the whole energy ecosystem.  
10  And solar production is the future of technology that will  
11  be an integral part of how we as a society consume energy.  
12  And so think about a broader network of how all of our home  
13  appliances and consumer electronics will interact with the  
14  solar rays, our energy storage systems, and our AC monitor  
15  moving more downstream on the product side as well as kind  
16  of the solution side of the business.

17           I'd like to also make a note on the cell  
18  discussion, as I looked around this room, as Mr. Card was  
19  answering the thoughtful questions, we all use different  
20  cell technologies in our modules.  So I don't want to speak  
21  for the other manufacturers, but Q CELLS uses a half-cut  
22  cell.  Some power uses an IBC.  LG uses a smart wire N-type  
23  cell, as well as an IBC.  Mission Solar uses I believe a  
24  perk cell.

25           So as you think about remedies for the TRQ,

1 understand that if you make -- if there's an environment  
2 that's created where it is not advantageous to import cells,  
3 you are consigning the U.S. production to make a commodity  
4 standardized module based on a perk technology. And that  
5 would require investment from LG's side to downgrade our  
6 efficiency and downgrade our product. And to us, that is  
7 illogical.

8 COMMISSIONER KEARNS: But I guess I just thought,  
9 Mr. Lynch, so but why produce here in the U.S. after the  
10 remedy expires?

11 MR. LYNCH: So the U.S. is a critically important  
12 market for LG globally. It's our largest market outside of  
13 South Korea, and we truly believe --

14 COMMISSIONER KEARNS: Was it before the safeguard  
15 started?

16 MR. LYNCH: Well, so I'm speaking broadly for LG  
17 Electronics beyond solar. That answer is true before the  
18 safeguards, specifically for solar. I mean it kind of ebbs  
19 and flows based on market demands and requirements. But we  
20 believe in being close to customers and investing in  
21 communities that support our products and our businesses.

22 COMMISSIONER KEARNS: I'm sorry if I missed it,  
23 but you didn't invest here before -- even though your  
24 customers were here, for the relief, and you say that you  
25 invested here because of the relief. And so I'm trying to

1 figure out, okay, so after the relief goes away, why will  
2 you continue to produce here?

3 MR. LYNCH: Yeah, so because we've made the  
4 investment, the significant capital expenditure, that hurdle  
5 is behind us. And so it makes sense for us, as long as the  
6 market is favorable, to manufacture in the U.S. because we  
7 have differentiated route to market. We have an allowable  
8 premium for our product that we would continue to invest and  
9 grow that facility.

10 What happened with the original tariff is that  
11 created favorable economics in that window of time for us to  
12 rationalize that investment.

13 COMMISSIONER KEARNS: And just to kind of fill  
14 out the question, I guess I'm trying to understand why does  
15 it -- it looks to me like basically the U.S. module industry  
16 is doing relatively well. The cell segment of the industry  
17 not so well. Now why is that?

18 Is there some natural advantage that the United  
19 States has in module production versus cell production? Or  
20 is it, I think what Mr. Card was sort of suggesting, or is  
21 it maybe because there are import restrains on modules,  
22 right now, and there effectively aren't for cells right now.  
23 Any thoughts on that?

24 MR. LYNCH: Yeah, it's a great question and one  
25 that from LG's perspective we looked at it purely on a

1 business plan basis. And we were able to rationalize a \$30  
2 million investment for a module fabrication facility in  
3 Huntsville easily. The business plan proved that out and we  
4 think that the business plan will ultimately be correct.

5           However, that's -- the same business plan, there  
6 was one generated for cell manufacturing, we simply couldn't  
7 make it work. And that's due to a variety of reasons. One  
8 is the significant capital expenditure that's required.  
9 It's the constantly evolving technology. So if you invest  
10 \$100 million today, that might be wrong in two or three  
11 years based on the prevalence of things like heterojunction  
12 and perovskite and other technologies that are coming out.

13           And then we also were looking at kind of the  
14 broader landscape of what our competitors were doing and  
15 ensuring that, while we need to drive our own success, we  
16 want to look at the broader market landscape and how we can  
17 compete. And our analysis determined that a module factory  
18 would be successful; a cell factory would not. And I  
19 believe that, based on what the other folks, with the  
20 exception of Mr. Card, in this group came to the same  
21 analysis. SunPower closed their cell manufacturing line.  
22 So that proves it out.

23           COMMISSIONER KEARNS: That is helpful. Thank  
24 you. And especially the part about the capital expenditure.  
25 But I guess what I am wondering, though, nevertheless, is,

1 correct me if I'm wrong, but there have been massive  
2 expenditures in capital throughout the rest of the world in  
3 cell production in the last decade, let's say. And  
4 certainly since AD/CVD orders were put in place with respect  
5 to those products. My understanding is a lot of that  
6 production then moved to other countries.

7           So investments were made in cell production in  
8 the rest of the world, even though it is very expensive.  
9 Why are they being made in the rest of the world and not in  
10 the United States?

11           MR. LYNCH: I can only speak from the perspective  
12 of LG who manufactures well in excess of 1 gigawatt of cells  
13 in South Korea. The reason why we're able to rationalize  
14 those investments and continue to invest in those lines,  
15 simply that's where our R&D is. That's where the  
16 infrastructure of the supply chain exists, to buy the  
17 wafers, which is the step in between the silicon and the  
18 solar cell almost exclusively comes from China at this  
19 point.

20           And so we're kind of -- it makes sense to  
21 centralize that in Asia on logistics. Cells are very small,  
22 easy to ship. Modules are large and more cumbersome.

23           MR. WERNER: There's another factor. It's cost  
24 of capital in the Western world. The return on cell  
25 manufacturing -- the internal rate of return on cell

1 manufacturing is actually negative. So over the last 10  
2 years to attract Western capital to build cell  
3 manufacturing is incredibly difficult. And therefore the  
4 cost of capital is quite high. Whereas, in other parts of  
5 the world the return has been sufficient, and the cost of  
6 capital is quite a bit lower.

7 In rough terms, as well on your cost of the  
8 capacity, it's about three to five times cell manufacturing  
9 compared to module manufacturing. So it is a lot higher.  
10 So the cost of capital makes the payback period move out  
11 beyond even four years.

12 COMMISSIONER KEARNS: And why is the rate of  
13 return higher in Asia?

14 MR. WERNER: Well what I said was the cost of  
15 capital is lower in Asia.

16 COMMISSIONER KEARNS: Okay, and why is that?

17 MR. WERNER: You probably know better than me. I  
18 think lower input, variable cost, willingness to accept  
19 lower returns, other macro geopolitical factors of employing  
20 people. But the fact of the matter is, there's more and  
21 lower cost capital in those parts of the world. It is more  
22 willing to invest in that part of the supply chain. And a  
23 four-year, now two-year tariff is not going to be, I don't  
24 believe will be sufficient to incent that to change.

25 COMMISSIONER KEARNS: Am I hearing you right

1 that in terms of geopolitics and so forth, that basically  
2 that other governments may just be incentivizing production  
3 of cells more than the U.S. does.

4 MR. WERNER: Sure. I mean, in short, a source  
5 of capital. The capital markets work differently in the  
6 Western world. The fact that there's been a negative return  
7 on cell manufacturing means that the cost of capital moves  
8 up. I think that's also the case in other parts of the  
9 world.

10 COMMISSIONER KEARNS: Okay. And so, then just a  
11 quick follow on, I've been wondering this for a while, I  
12 mean my sense is -- and tell me if anyone agrees or  
13 disagrees with this -- in the U.S. we tend to incentivize  
14 the consumption of solar power and in other parts of the  
15 world they tend to incentivize the production of solar  
16 power. Does anyone agree or disagree strongly with that  
17 statement?

18 MR. WERNER: I'll answer really quickly.

19 COMMISSIONER KEARNS: I know it's not that  
20 simple.

21 MR. WERNER: Yes. Yes, I would say that the  
22 incentives around the world to consume solar energy vary,  
23 but in other parts of the world, particularly Europe, have  
24 been more than America. And even in, China, feeding tariff  
25 it's been quite high. In terms of incentives, you'd be

1 right, they're quite a bit different incentives for  
2 manufacturing would be tax credits, R&D credits, low cost of  
3 capital to build the facility -- those sorts of things that  
4 they're different and that brings up a whole different  
5 topic. Can you get better incentives from manufacturing  
6 elsewhere and I think in many cases the answer is yes.

7 COMMISSIONER KEARNS: Okay, thank you. My time  
8 has expired.

9 CHAIRMAN JOHANSON: Commissioner Stayin.

10 COMMISSIONER STAYIN: Thank you. I would like  
11 to talk to Suniva a bit. This is obviously very important.  
12 You will be the only cell producer in the United States once  
13 you get up full production and ready to go.

14 MR. CARD: No, sir. We won't be the only, but  
15 we will be, by a significant factor, the largest. There are  
16 facilities that are in the -- I don't know how to legally  
17 describe it -- the joint venture between Tesler and  
18 Panasonic in Buffalo, New York that produces a limited  
19 quantity of cells. There're also a couple other smaller  
20 solar cell manufacturers that are still available today. I  
21 don't have the specific numbers, but Suniva, at 500  
22 megawatts, represents a significant portion of the U.S.  
23 industry.

24 COMMISSIONER STAYIN: Will the U.S. industry  
25 producing cells -- we're talking about you and the others --

1 be able to fill the demand, the need of all these others who  
2 are into the production of modules?

3 MR. CARD: So, the question of being able to  
4 fill demand I can answer this way. The cell industry cannot  
5 fill the demand of the cell industry, cannot start to fill  
6 the demand. This is the same arguments that were made as to  
7 why there should not be tariffs on modules two years ago.  
8 And it's, indeed, the arguments you here, even in the  
9 opening statements of the opposition counsel this morning is  
10 that the market's simply too big. Domestic manufacturers  
11 can't provide for it. I can't get to all until I can get to  
12 one, right? And so I have to be able to start before I can  
13 address whether or not we can address all. But just because  
14 the road to all is significant doesn't mean we should not  
15 undertake the start of that journey -- the reestablishment.

16 I shouldn't say the start, the reestablishment  
17 of that journey. We certainly had a robust industry here  
18 for years, then over 30 plus companies died over the last  
19 decade of while these investigations have gone on, so this  
20 is a period of ongoing decline.

21 COMMISSIONER STAYIN: Is your current production  
22 equipment to market cells to modular producers is it  
23 sufficient to be able to be competitive to begin production?

24 MR. CARD: Yes, sir, it is.

25 COMMISSIONER STAYIN: When do you expect to

1 start?

2 MR. CARD: Well, again, as previously mentioned,  
3 we are working through additional funding to finish our  
4 restart operations. Once we secure and kick that off in a  
5 period of about 100 days we can be back to first article  
6 production.

7 COMMISSIONER STAYIN: If the decision is made by  
8 the President to increase the quota, how will this impact  
9 your ability to get financing and to be able to startup --  
10 start production and start filling demand?

11 MR. CARD: It will certainly not make it easier.  
12 If the quota increased, it will be hard for cell  
13 manufacturers to continue to justify the economics to work.  
14 We continue conversations, even in an environment we're in  
15 right now where things like the bifacial exclusion or the  
16 tariff -- the TRQ have not yet been hit and there are  
17 certainly interested parties, but nothing's certain and they  
18 all create headwinds.

19 COMMISSIONER STAYIN: Will you be able to  
20 produce cells at a competitive price vis- -vis the imported  
21 cells?

22 MR. CARD: Our model certainly indicates that we  
23 can.

24 COMMISSIONER STAYIN: Have you been able to do  
25 that in the past?

1           MR. CARD: Well, that's part of the reason that  
2 this, plus two other ADCV actions have occurred over the  
3 last 12 years. There've been externalities that have  
4 influenced the prices of the markets here. So, certainly,  
5 the geopolitical forces, as Mr. Werner refers to it, which I  
6 think is an excellent way to refer to it, have an impact on  
7 what U.S. manufacturers can charge for their products. And  
8 that's true, not only for cell manufacturers, but that true  
9 for module manufacturers as well.

10           COMMISSIONER STAYIN: Are there any other  
11 conditions in the competitive arena that you face in terms  
12 of being able to compete, other conditions beyond the  
13 safeguard and the TRQ?

14           MR. CARD: Yes. That's a fair question.  
15 Certainly, at a macro level, the largest condition to  
16 competition is the quality of the product and the R&D  
17 associated with it. Cell R&D used to be a significant  
18 activity in the United States. In fact, people on this  
19 panel, including SunPower, have robust R&D capabilities here  
20 in the United States. One of the top two or three  
21 photovoltaic cell research facilities on the planet is  
22 located in Georgia, through Georgia Tech, the University of  
23 Delaware, MIT.

24           There's significant R&D capabilities here. The  
25 problem is most of that is at the cell level because as each

1 of these people -- each of my peers here will acknowledge  
2 the bulk of innovation occurs and the bulk of advancement  
3 occurs at the cell level. The problem we have when we rely  
4 on both the private sector and academia to do research is  
5 that if there's not an off take for that research sooner or  
6 later that research dies.

7           Georgia Tech, which had a funded program that  
8 started with the Department of Energy, and they were funded  
9 for quite a few years largely from the Department of Energy,  
10 and in the current Administration's view of focusing more  
11 away from applied research to theoretical research with  
12 government dollars they look for private sponsorship for  
13 R&D. Our collaboration when we were started out of Georgia  
14 Tech. Our original technology came from Georgia Tech.  
15 Suniva evolved to where about 30 to 40 percent of what they  
16 call the University Center of Excellence in Photovoltaics  
17 about 30 to 40 percent of their budget for research came for  
18 Suniva and similarly some other percentages from other  
19 manufacturers of products.

20           As we ran into trouble, their research budgets  
21 then reduced accordingly. So, what we've seen is this  
22 negative cycle of entropy. As commercial entities face  
23 challenges, Research & Development takes a hit. As the  
24 manufacturing dies, so does R&D and that's fairly proven  
25 out. So, if this truly is a value chain equation, as

1 manufacturing comes back, Research & Development comes back  
2 with it.

3 COMMISSIONER STAYIN: How competitive are we in  
4 terms of our research with the technology being developed in  
5 -- your competitors, China and elsewhere?

6 MR. CARD: Well, certainly at the academic  
7 level, the research is second to none. At the commercial  
8 level, to the extent that there're still commercial  
9 companies available, the research is second to none. It's  
10 worth noting, going back to the original hearing, and there  
11 may be others that comment on this, but one of the pieces  
12 that was entered into testimony was testimony from Solar  
13 World. Solar World, which was doing research on monoperk  
14 technology, which was the leading technology in the world,  
15 the U.S. Government indicted China for hacking and stealing  
16 those secrets. And not long after that, as they testified  
17 then and as testified in previous other court records, that  
18 technology started showing up in Chinese companies. So, it  
19 was enough -- the leadership of the United States R&D was  
20 enough that the countries that have aspired to take that  
21 leadership looked to take that knowledge from U.S.

22 COMMISSIONER STAYIN: Did Solar World did they  
23 produce cells?

24 MR. CARD: They did at one point and I'm not  
25 here to speak about Solar World. I'll let Mr. Werner speak

1 to their history, but yes, they did.

2 COMMISSIONER STAYIN: I think I will. With  
3 respect to Auxin, are you producing cells at this point in  
4 time or any plans to do so?

5 MR. RASHID: Auxin Solar is a module  
6 manufacturer. We purchase our cells from other sources.

7 COMMISSIONER STAYIN: Do you produce the  
8 bifacial modules at this point?

9 MR. RASHID: Yes, absolutely. We've been  
10 producing bifacial modules for several years and we've  
11 supplied bifacial modules to very high-profile projects.

12 COMMISSIONER STAYIN: Do you have technological  
13 development going on? Do you do research to make yourself  
14 competitive with the technology and the research that is  
15 taking place elsewhere?

16 MR. RASHID: At the module level, certainly, for  
17 bifacial module assembly.

18 COMMISSIONER STAYIN: The question is are you at  
19 the cutting edge in this or do you have competition overseas  
20 that is ahead of us in terms of the technology?

21 MR. RASHID: At the module level, we're as  
22 competitive as anybody else. Our technology is the same as  
23 anybody overseas. What we can't do is sell below costs, so  
24 that's where we are at a very big disadvantage without some  
25 level of protection.

1                   COMMISSIONER STAYIN: Say that again, the last  
2 part about the cost.

3                   MR. RASHID: So, the issue that we have is our  
4 competitors are not necessarily providing a better  
5 technology with a bifacial module. What they're doing is  
6 they're essentially selling below costs or they're  
7 subsidized by their governments, which makes it difficult  
8 for us to compete. But as far as the technology of the  
9 module itself, as far as the quality of the module itself,  
10 we're just the same as anybody else or we're not any worse.

11                   COMMISSIONER STAYIN: I've run out of time. I  
12 look forward to talking to you in a little bit.

13                   CHAIRMAN JOHANSON: Commissioner Karpel.

14                   COMMISSIONER KARPEL: Thank you all for being  
15 here. I wanted to go back to some questions that had  
16 previously been asked to seek some clarification.

17                   Mr. Card, I wanted to make sure I fully  
18 understood that from your perspective Suniva is ready to  
19 start production or could be in a hundred days so long as it  
20 secures the funding it needs. As in, all your production  
21 facilities are in place, things are ready to go, except for  
22 your lacking of funding to start.

23                   MR. CARD: Yes, ma'am. We went through -- when  
24 we went through bankruptcy went through a very intentional  
25 shutdown process so that the equipment could, in fact, be

1 turned on. The facility in Norcross, Georgia, which is --  
2 with state-of-the-art facility was completed actually in  
3 January of 2017. This trade action started in -- it seems  
4 like a million years ago -- March, April of 2017. And so  
5 that facility was a state-of-the-art monoperk facility at  
6 that time.

7 We were very deliberate in our shutdown process.  
8 We have about a hundred days of revitalizing the facility --  
9 environmental things, tool things up and potentially within  
10 that period also very minor evolutionary upgrades to a  
11 bifacial cell technology. Because we were at a  
12 state-of-the-art design and we had contemplated the next  
13 evolution of technology, which was bifacial, the facility  
14 was designed to eventually incorporate that upgrade within  
15 minimal disruption. So, it may well be the appropriate time  
16 to do that as we bring it back on now, but we have  
17 optionality. So, we can decide based on where our primary  
18 off take is going to be as to whether we bring that back as  
19 a standard monofacial cell or as a bifacial cell or some  
20 combination thereof. But yes, the facility is completely in  
21 place.

22 COMMISSIONER KARPEL: So if you chose to move to  
23 more of a bi-facial production, could you make that switch  
24 you indicated would be necessary within those 100 days, or  
25 would that tack on additional time?

1           MR. CARD: Yes, ma'am, within the 100 days. It  
2 is a relatively minor change, which is the argument of many  
3 in this group, as we opposed the bi-facial exemption is, it  
4 simply was not a niche product, it was a simple evolution  
5 that was portrayed as being something very different to the  
6 USTR. But it is a simple evolution and done at  
7 comparatively minor expense and comparatively short time  
8 frame, literally meaning weeks.

9           COMMISSIONER KARPEL: All right, thank you. And  
10 also a question, Mr. Card, for you again. I wondered if you  
11 had any reaction to a question I believe Commissioner Kearns  
12 asked. And the response that was given to that. And it  
13 was, I don't have the exact question phrased as Commissioner  
14 Kearns did, but it's whether the choice for the U.S.  
15 industry to have invested more in module production versus  
16 cell production, is based on the difference in the safeguard  
17 measures, treatment of cell versus modules?

18           Or is it more related to some of the things Mr.  
19 Werner and Mr. Lynch were saying in terms of the heavy  
20 capital expenditures that are required for cell production  
21 versus module, the cost of capital, etcetera, other factors  
22 that were being cited that really drove their decision to  
23 chose to invest in module production versus cell production.  
24 Do you agree with some of those comments? Or do you have a  
25 different perspective?

1           MR. CARD: My personal opinion is, obviously,  
2 it's a multi-faceted longer answer, and I won't give you  
3 that, but I think the disparity in the safeguards had, in my  
4 opinion, a significant impact on what industry redeveloped  
5 here, and which part of the industry's redeveloped. All  
6 those other considerations are, in fact, true, but it does  
7 ultimately come down to, as well, to economics in the  
8 situation.

9           But we know you could be successful. We've seen  
10 the models with cell manufacturing. Others may come to  
11 other decisions, so I'm not going to fault anyone's decision  
12 or call into question their rationale. My opinion is that,  
13 effectively having safeguards for modules and the de facto  
14 result of not having a safeguard, at least for the first two  
15 years, on cells had an impact in the decision.

16           COMMISSIONER KARPEL: And you know, we're  
17 basically at the midpoint of the remedy, and there's two  
18 years left. I'm sort of looking to see how you think your  
19 portion of the industry would do in the absence of any  
20 remedy. Given those factors that were cited in terms of the  
21 heavy investment in capital, the need to constantly reinvest  
22 in new technologies, the cost of raw materials, their  
23 location relative to production of cells, how do you think  
24 those will impact you? Sort of in a beyond, you know,  
25 post-remedy world?

1           MR. CARD: And this answer probably varies by  
2 every manufacturer. I can speak for us and I can speak  
3 generally for other cell manufacturers, but we're not the  
4 only ones, right? Panasonic is producing cells, others are  
5 producing cells in small quantities, and they have what they  
6 believe to be valid commercial reasons for doing so. We  
7 believe, in our particular circumstances and our particular  
8 economics and our particular business model, which is  
9 different from everyone else's, that we can be successful.

10           This is a long journey for an industry and I  
11 found long ago not to try to control things that are beyond  
12 my control, and focus on what I can control, I can try to  
13 control, creating the best environment for Suniva, and by  
14 extension, cell manufacturing to come back, and that's where  
15 our focus has been.

16           COMMISSIONER KARPEL: Do any of those  
17 representing the module industry in the U.S. have any  
18 further reactions to that question of, you know, what's  
19 really driving the choices to invest more in the module  
20 industry in the U.S., versus the cell industry? Portion of  
21 the industry, I should say.

22           MR. LYNCH: This is Brian Lynch from LG. I'll  
23 respond from our perspective. From a greenfield investment,  
24 which is really what we would need to support our  
25 manufacturing capacity in Huntsville, Alabama, let alone the

1 rest of the module assembly that's been established would be  
2 on a very aggressive schedule, twelve to eighteen months of  
3 time, which puts us basically at the end of the safeguard  
4 period, and therefore, just from a pure timing perspective,  
5 to implement technology that is successful in 2019 and  
6 2020, would take twelve to eighteen months. So it's a  
7 timing issue.

8 MR. MAGNUS: Quick comment. John Magnus for  
9 SunPower. It shouldn't be treated as a premise in all of  
10 this that the safeguard as proclaimed had nothing in it for  
11 U.S. cell making. That's just not true. That's not an  
12 accurate description of what the measure was. Every cell  
13 made in the United States had the potential to turn a module  
14 assembled outside of the United States into a duty-free  
15 module.

16 And so it did have a very significant advantage,  
17 and yet you see what happened during the two years that cell  
18 making declined rather -- and so the implication of  
19 that--and I think the implication is the testimony you're  
20 hearing--is that what's needed is something considerably  
21 other than and more than tariffs.

22 COMMISSIONER KARPEL: Any people wanna volunteer  
23 to tackle this question? All right, I'll move on. But any  
24 of you do wanna share more thoughts on that after the  
25 hearing in your submissions, that would be -- Mr. Werner, do

1 you have -- No? Okay. All right, thank you.

2 I wanted to move on to some questions about  
3 prices. Maybe I'll ask it more generally at first. You  
4 know, what has been the effect on U.S. prices as a result of  
5 the safeguard measure? And have domestic producers been  
6 able to increase their prices as a result? And related to  
7 that, I noticed the AUVs of imports were at their highest  
8 levels in 2016 and at their lowest levels in the first six  
9 months of 2019. So anyone wanna take that on?

10 MR. WERNER: The answer is for  
11 domestically-produced modules, yes, we can get a higher  
12 price than we could pre-tariff. And I would say that, on  
13 average, prices went up in the industry, maybe in the first,  
14 approximately, six months, but have subsequently via market  
15 forces have come back down below where they were prior to  
16 the tariffs. But yes, the tariffs have provided a way to  
17 get a premium for product produced in America.

18 COMMISSIONER KARPEL: And you say market forces,  
19 what -- are you referring to something in particular? Or  
20 would you say those prices would've been even lower without  
21 the safeguards in place?

22 MR. WERNER: The other market forces are the size  
23 of the industry in the rest of the world markets.  
24 Developments in terms of technology. Those are a couple of  
25 the other factors.

1           COMMISSIONER KARPEL: Other participants in the  
2 industry wanna weigh in?

3           MR. MOSKOWITZ: This is Scott Moskowitz, I'm the  
4 director of strategy and market intelligence for Q Cells.  
5 We saw market prices fall after the imposition of the  
6 safeguard to below pre-safeguard levels, before the end of  
7 the first year. So by the end of 2018, prices in the U.S.  
8 for imported modules were below what they were in early  
9 2018, and even below what they were prior to the filing of  
10 the petition in early 2017.

11           So module prices now are lower than they were  
12 even before then. Because, of course, when the petition was  
13 filed, there were many imports to account for that, and that  
14 pushed market pricing up a little bit. But market prices  
15 are now below even those levels. And of course, domestic  
16 products are directly competing with those foreign imports,  
17 and therefore, that has had dramatic effect on the market  
18 prices in the U.S.

19           MR. RASHID: If I can add to that. From Auxin  
20 Solar's perspective, we feel that we're still under heavy  
21 pressure on pricing, even with the 201 tariffs on top of the  
22 imported products. So through this whole period of the last  
23 two years, we've never felt that, "Oh, we can make a lot  
24 more margin," we can get sales now, which we couldn't get  
25 before, but as far as profitability, we still feel that it's

1 not that easy.

2 COMMISSIONER KARPEL: My time is expired, but  
3 I'll probably return to this next round. Thanks.

4 CHAIRMAN JOHANSON: All right. I have a question  
5 for LG and Hanwha, but before I move on, Mayor Mock,  
6 Commissioner Laughter, and Mr. Campbell, you asked if I had  
7 been to Dalton. I have not been, but I did go onto Google  
8 Maps and see that I've been to Springer Mountain and  
9 Chattahoochee National Forest, which is probably about a  
10 half hour or so from where you are. And it is indeed a very  
11 pretty part of the world. I like the mountains. Although  
12 it's awfully cold. I was there in April. I do remember  
13 it.

14 Okay. Moving onto a question for LG and Hanwha,  
15 you advocate for an increase in the TRQ to protect the  
16 growth of the module producers, but a purpose of the  
17 original safeguard was for the domestic industry, which  
18 included cell producers, to make positive adjustments to  
19 import competition. How would increasing the TRQ achieve  
20 that purpose?

21 MR. MUNRO: Well, in the long-term, for there to  
22 be a successful, a meaningful cell production, we do have to  
23 preserve this renaissance. If we don't and the module  
24 manufacturers go away, you're never gonna end up with cells.  
25 And as I said in my statement, the primary market at this

1 time would probably be an export market and that would not  
2 be affected by an increase in the TRQ for the reason that  
3 was stated by Mr. Werner, I believe, or his counsel, that  
4 foreign modules incorporating U.S. cells could take  
5 advantage of that tariff savings. So an increase in the TRQ  
6 actually will not be harmful to cell manufacturing in the  
7 U.S. and would actually positively affect it.

8 CHAIRMAN JOHANSON: Okay, thanks for your  
9 response there. I'm gonna move off of a question involving  
10 cells onto something else. First Solar notes in its brief  
11 that the domestic CSPB module industry's gross margins are  
12 still mostly negative, although to a lesser degree than  
13 prior to the safeguard remedy. And this is First Solar's  
14 brief at Page 7. What benefits does the safeguard remedy  
15 produce in terms of the industry's financial condition,  
16 given that you all are still not making profits?

17 MR. WERNER: So the safeguard measures have  
18 allowed a higher price than we would've gotten previously,  
19 which has allowed us to make the investments to higher  
20 performance product. In our case, we made that investment a  
21 year ago, so we're still early and we're still implementing  
22 what the higher pricing allowed us to do, and our results  
23 are improving. So our thought is, we need more time.

24 MR. KERWIN: Chairman Johanson, if I could add,  
25 Slide 13 of the presentation that I presented shows the

1 progress that has been made over the period of review under  
2 this midterm review. The industry has obviously not yet, as  
3 a whole, in a position of profitability, but it is making  
4 great strides over this period. And also Slide 2 in the  
5 presentation shows that the profitability of the modules  
6 industry exceeded what was forecast, and the modeling that  
7 was done by the Commission at the time of the remedy phase  
8 in the investigation. So there's progress being made.  
9 They're not in a position where they'd like to be, but  
10 there's huge progress that's been made in terms of the  
11 profitability of the industry.

12 MR. GURLEY: Chairman Johanson, this is John  
13 Gurley. Just as a reminder that Q Cells opened up their  
14 factory in February of this year. The Commission report's  
15 gonna reflect profitability, I think, just through June or  
16 July And, you know, start-up companies, greenfield  
17 operations, are not famous for producing massive profits in  
18 their first year, as you might imagine. But the trajectory  
19 is clearly there and the plan is profitability soon,  
20 assuming there's no externalities that hurt Q Cells.

21 MR. ELLIS: This is Neil Ellis for Mission.

22 CHAIRMAN JOHANSON: Right.

23 MR. ELLIS: I just wanna mention that, as Paul  
24 testified earlier, they have started to turn a profit and  
25 they are reinvesting monies to expand production on the

1 basis of those profits. So we're just one player, but there  
2 has been definitely a turn-around, at least for Mission.

3 MR. LYNCH: From LG's perspective, echoing the  
4 comments from Q Cell's counsel, we anticipate to be  
5 profitable in 2020 now that our factory is fully ramped,  
6 barring outside, you know, specifically the bi-facial  
7 exemption, if that's allowed to remain, it does change our  
8 business plan, because we do see a collapse in pricing if  
9 that maintains.

10 CHAIRMAN JOHANSON: Okay, thanks for your  
11 responses. It is just notable, I know that y'all are coming  
12 back up, but you've been under water for a long time, so  
13 it's just something that was very apparent to me, looking  
14 through the materials to prepare for the hearing.

15 MR. GURLEY: If I could just make one comment,  
16 Chairman. When you say, "you all have been under water," I  
17 mean the underwater part was old Suniva, old Solar World,  
18 right? And so what you have before us today is a new  
19 generation of solar producers. And the biggest ones are  
20 Hanwha and LG and there's others which were never part of  
21 the old industry. So I think it's, a more fair comment was  
22 that the old industry was under water, but it's now being  
23 revitalized with SunPower coming in, and now you have a  
24 bunch of new entrants, so some red ink is gonna be a little  
25 bit expected when you have several new entrants into an

1 industry.

2 CHAIRMAN JOHANSON: Certainly, I understand that,  
3 and I appreciate the clarification there. Our staff data  
4 show that apparent U.S. consumption declined from 2016 to  
5 2018 and has increased during the first six months of 2019.  
6 What is driving current demand conditions? And what is the  
7 forecast for demand for solar products going forward?

8 MR. WERNER: I'll say something super quickly.  
9 That 2016 had the uncertainty of the ITC, in fact, it was  
10 supposed to lapse, so 2016 had the stimulus of the potential  
11 lapse of the ITC. And then, otherwise I would say to you  
12 that we expect 2020 and 2021 to be record years and demand  
13 is good across all segments.

14 MR. MOSKOWITZ: Yeah, just to clarify, the  
15 investment tax credit was expected to expire at the end of  
16 2016. At the end of 2015 it was extended, but there was a  
17 large rush of projects that was well underway at the time of  
18 that extension, meaning the 2016 was a record year in the  
19 solar industry. 2017 was in fact larger than it was  
20 expected to be, because once that extension occurred, many  
21 of the projects in 2016 fell into 2017, which is why 2018  
22 was actually smaller than 2017. It wasn't due to the  
23 safeguard. So after that hangover effect from the extension  
24 of the investment tax credit occurred, we've seen nothing  
25 but growth from 2018 to 2019 into the next several years.

1                   CHAIRMAN JOHANSON: Okay, thanks for your  
2 responses there. And I'm curious as to -- I'd appreciate it  
3 if you could expand upon one issue, and that is, what impact  
4 have the solar safeguard measures had on the demand for  
5 solar cells and modules in the United States? If you could  
6 discuss that a bit further? Because this is something which  
7 will be discussed, I think, at some length by the panel this  
8 afternoon. And I'd just like to hear a bit more about what  
9 you have to say about it.

10                   MR. MOSKOWITZ: Sure. There's two ways to look  
11 at it. There's one is that you can easily see that there  
12 has been record quarter for installations during this year  
13 for solar in the U.S. and the utility scale pipeline which  
14 is -- the utility scale sector, of course, is the sector  
15 that, you know, claims to be most sensitive to these  
16 tariffs. It's reached record highs within Q2 and Q3, it is  
17 continuing to do extremely well.

18                   The easiest way to look at it is that currently,  
19 right at the moment, the forecast from Wood Mackenzie Power  
20 & Renewables, which is the research partner of SEIA, and is  
21 one of the most respected research firms in the solar  
22 industry--I also used to work there for five years prior to  
23 working for Q Cells--their current forecast for  
24 installations of solar in the United States during the  
25 safeguard period of 2018 to the beginning of 2022, is 58

1 gigawatts.

2           If you were to go back two years to March 2017,  
3 which was a month prior to the filing of the 201 petition,  
4 their forecast for the U.S. market for the exact same period  
5 of what became the safeguard period was 55 gigawatts. So  
6 the forecast for how large the market is over the safeguard  
7 period is 5% higher than it was previously expected to be  
8 without a safeguard at all. So the fact is that the market  
9 is larger than it was expected to be and jobs have been  
10 created, not lost.

11           MR. KERWIN: Chairman Johansen, if I could  
12 comment on the information that's been placed on the record  
13 in the SEIA brief and the attached appendices, the economic  
14 analysis -- first of all, the modeling that was done was not  
15 actually put on the record. The results of the modeling  
16 were put on the record in their Appendix A of the SEIA  
17 document. So it's very difficult to really grasp what  
18 exactly went into the model when we don't know what the  
19 inputs or the assumptions were.

20           But what we can see from their discussion of the  
21 model and what they presented, both in the brief and the  
22 appendices, is that, first of all, they're assuming there's  
23 an impact in 2017 from the case. Well, the fact of the  
24 matter is, these remedies were not put into place until  
25 2018, so whatever happened in 2017 and you just heard from

1 Mr. Moskowitz what happened in the marketplace was there was  
2 an unusual effect from the overpurchasing and  
3 overinstallation in 2016 because of the tax credit issue  
4 that 2017 consumption went down.

5 But they're pointing to that as evidence that the  
6 filing of this case and the remedy here had an impact.  
7 Well, that's absurd for 2017. Yes, there may have been some  
8 effects in the market of 2017 via the filing of the  
9 petition, but the remedies are what are at issue here. And  
10 the remedies in this midterm review are what need to be  
11 considered. And those were not put into place until 2018,  
12 so there's that aspect of it.

13 Another aspect of it is, their model seems to  
14 assume that pricing inherently would've gone up because of  
15 the imposition of these remedies. Well, we've seen that  
16 from -- many people have testified that's not true, that's  
17 also shown in your staff report. It's even shown in the  
18 pricing data that SEIA puts into their own Appendix A, that  
19 since the time of the imposition of these remedies, U.S.  
20 prices have gone down on modules.

21 The last point I wanna make is that their same  
22 data also show they claim that the imposition of these  
23 remedies has pushed U.S. prices up in relation to prices for  
24 the rest of the world, and that feeds into their model, and  
25 the results that come out of it. But that's not true.

1           Their own data, again, show that on a  
2   dollar-per-kilowatt basis, the prices in the United States  
3   went down more from the imposition of the remedies to the  
4   first quarter of 2019 than the rest of the world. So, to my  
5   eyes, their assumptions in terms of what would've happened  
6   in the U.S. market, that prices pushed down demand for the  
7   product and consumption of the product, that's based on a  
8   false premise.

9           MR. MAGNUS: Quick in, if I may, John Magnus for  
10   SunPower. On this issue of forecasting. The folks you're  
11   gonna hear from this afternoon, obviously, they can't say  
12   that the market's shrinking, because it isn't shrinking so  
13   they're instead gonna say, "Well, it's growing more slowly  
14   than it would," and we know that, because we're not a normal  
15   industry, we have x-ray vision into the future. And so the  
16   projects that otherwise look like they were gonna happen and  
17   then don't, those are real losses.

18           I would just say, I think everybody agrees that,  
19   in the big picture, that solar deployment is pretty  
20   policy-dependent, it's heavily influenced by policy at the  
21   federal and the state level, and so if you make a prediction  
22   about deployment in the future, you are necessarily making a  
23   prediction about public policy and law in the future at the  
24   federal level and in the state level. And the  
25   organizations who do that may be good at predicting public

1 policy, but it's a hazardous business. And for purposes of  
2 a monitoring report like this, it should be perfectly  
3 adequate for you all to observe that the market is growing,  
4 even though there are safeguard tariffs. And it's growing  
5 handsomely.

6 CHAIRMAN JOHANSON: All right. Thanks for your  
7 responses. My time has well expired. Commissioner  
8 Schmidtlein?

9 COMMISSIONER SCHMIDTLEIN: Okay, thank you. I  
10 just had a couple more questions on this argument about  
11 national security and energy security before I move on. I'm  
12 just curious to hear from some of the other industry  
13 witnesses on this panel, as to whether or not they agree  
14 that it's important to have a cell manufacturer in the  
15 United States, due to the fact that R&D is usually connected  
16 to having a robust private sector manufacturing as  
17 manufacturers, as Mr. Card explained. Do you all agree with  
18 that notion?

19 MR. WERNER: I think that there's other  
20 industries like semi-conductors where there's massive  
21 amounts of R&D in America and there's very little product  
22 produced in America--there's some, but majority is produced  
23 elsewhere. There are examples contrary to that as well, so  
24 it's mixed. I think in our case, we have a substantial R&D  
25 presence in America, and we'll continue to do so. The cells

1 that we do produce are in our lightest C facilities  
2 elsewhere. And with the internet and video capabilities and  
3 other capabilities, we don't see that as an issue, so, oh,  
4 and I should mention that we also have a lab in Silicon  
5 Valley where we can do some -- so I think you can accomplish  
6 it in different ways.

7 COMMISSIONER SCHMIDTLEIN: And do you all have  
8 relationships with universities?

9 MR. WERNER: We do. I would say our primary,  
10 yes, and our primary work is with DOE as well.

11 COMMISSIONER SCHMIDTLEIN: With DOE? Okay.  
12 Anyone else? Q Cells? LG?

13 MR. MOSKOWITZ: The one thing that I would add is  
14 that there are many tables here today, but we all root for a  
15 robust diverse growing U.S. solar industry, from every  
16 perspective. The module manufacturers certainly support a  
17 robust healthy cell manufacturing industry. We have  
18 different perspectives on how we think that can be  
19 accomplished, but you know, if you look at the big picture,  
20 the IEA, the International Energy Administration, says that  
21 in 2035, solar energy will be the world's leading source of  
22 energy, electricity.

23 And I think, for us, you know, this is gonna be a  
24 market that our goals as an industry are to be 20% of the  
25 market within the next ten years. And you know, we're

1 talking about one of the largest industries in the country  
2 at this point. And we certainly don't need to make  
3 everything here. But I think it's absolutely in our  
4 economic interest, our national interest, to make a  
5 significant share, or a large share of those products here.

6 Because currently, the entire supply chain is  
7 controlled, or at least the vast majority of it, is outside  
8 of the United States. And anything that we can do to help  
9 jumpstart a manufacturing sector that's been decimated and  
10 get the pieces in place for us all to grow healthily, that's  
11 where we're all focused.

12 COMMISSIONER SCHMIDTLEIN: So you sort of  
13 anticipated my next question. Do you have a concern about  
14 wholly dependent on foreign cells? Given the trade tensions  
15 that are going on between United States and various other  
16 countries?

17 MR. MOSKOWITZ: Well, not Q Cells in particular,  
18 given that we, you know, we are a manufacturer of cells  
19 around the world, and we're wholly using our own cells in  
20 our modules in Georgia. They're Q Cells' cells, of course,  
21 that's our proprietary technology that is our value  
22 proposition.

23 And in the near term, in the terms of this  
24 safeguard, you know, there are only two years left in that,  
25 and we don't view it as possible that we're going to have an

1 extreme run up in new investments that are going to enable  
2 us to get supply domestically. We believe that the best  
3 opportunity for domestic cell manufacturers is just to keep  
4 the module tariff strong and enable them to export so that  
5 they can get their business started. But for now --

6 COMMISSIONER SCHMIDTLEIN: I mean I think -- so  
7 let me just interrupt for just a second -- I think  
8 technically, if the president wanted to, he could extend the  
9 safeguard beyond those two years. So I know we keep talking  
10 about a four-year, but technically, if he wanted to, he  
11 could do that.

12 MR. MUNRO: And Q Cells would support that.

13 COMMISSIONER SCHMIDTLEIN: But I mean I know that  
14 we've put this limit on how to obtain a return on  
15 investment, and part of what's been discussed is the fact  
16 that there's only two years left on the safeguard. But I  
17 think, in actuality, that's not exactly right. So, anyway,  
18 go ahead.

19 MR. MOSKOWITZ: Sorry, can you rephrase that,  
20 please?

21 COMMISSIONER SCHMIDTLEIN: Well, I guess my  
22 original question was, do you have any concern about being  
23 wholly depend on foreign cells. And I thought I heard you  
24 say, "Well, we manufacture in a lot of different countries.  
25 And we use our own cells." Which, of course, I guess my

1 reaction to that would be, well, the government in those  
2 countries could put limits on your exports, like that's the  
3 -- or there could be tariffs put on, you know, in other  
4 words, there could be a disruption in that supply chain if  
5 it's not inside the United States. Does that concern you?  
6 Like, that's really the question.

7 MR. MUNRO: So, can I take that for Q Cells?

8 COMMISSIONER SCHMIDTLEIN: Sure, yeah.

9 MR. MUNRO: Yes, because all of the cells we use  
10 are made in Korea, where we're headquartered, so we're not  
11 too concerned about that ourselves. And the time period of  
12 two years, you know, it is too short given the comments that  
13 have been made. We would do the same analysis. In the long  
14 term, for us to make further investments, we need this  
15 renaissance to consider. We need this initial investment to  
16 be successful, and so that's what we're asking for, the  
17 things that'll make this initial investment successful, and  
18 we will be open to further investment. There's no  
19 promises, but we do need to make this first investment  
20 successful.

21 COMMISSIONER SCHMIDTLEIN: So you said that  
22 your cells are produced in Korea, so you're not concerned.  
23 And is that because you're owned by a Korean company?

24 MR. MUNRO: Yes. Hanwha Q CELLS, our  
25 headquarters is in Korea. Q CELLS was originally a German

1 company that Hanwha acquired, and we used our proprietary  
2 cells with R&D that goes on in Germany, manufactured cells  
3 in Korea, and we have set up a lab in Silicon Valley and are  
4 engaging in some R&D in the U.S. as well. As I said, this  
5 is a large investment for us, one that we want to make a big  
6 success and we're very committed to this market.

7           It is our number one market. It was our  
8 number one market before the 201 and it's growing. But we  
9 do need to make this first investment successful.

10           COMMISSIONER SCHMIDTLEIN: Mr. Warner.

11           MR. WERNER: I just want to mention things a  
12 little bit. The U.S. market is 15 to 20 gigawatts. The  
13 capacity of some manufacturing in the world is approximately  
14 eight or nine times that, 120/130 gigawatts across many  
15 countries. So that diversification and scale helps. I  
16 can't say that there's no impact by the tariffs or AD/CVD,  
17 but the sheer scale of the cell capacity overwhelms that at  
18 some point.

19           MR. LYNCH: It's a fascinating -- yeah. This  
20 is Brian from LG. It's a fascinating question. I was  
21 listening intently to the other respondents' answers. From  
22 LG's perspective we have a similar supply chain to Q CELLS,  
23 in that we are manufacturing cells in Korea as a  
24 Korean-owned company. LG Electronics USA is obviously an  
25 American company. It's wholly owned by a Korean parent.

1           I think as we look at this, I told you about  
2 the global overcapacity of cell manufacturing and that it  
3 constantly puts pressure on us as a global manufacturer. We  
4 have to truly take a global view of this. So what we -- in  
5 the U.S., we care about the U.S. market. We have look at  
6 potential investment and return on that investment as it  
7 relates to potential global over-supply, because at the end  
8 of the day we're all interconnected, whether or not we put  
9 tariffs up or not.

10           From a security standpoint, which was a prior  
11 question, I think today as the landscape exists LG does not  
12 a security concern by not manufacturing cells in the U.S.,  
13 because we have reliable access to cells that we know and  
14 trust. If the global environment becomes as such that we  
15 can no longer consume cells to a quality or level that we  
16 approve of, that materially changes the answer to the  
17 question, and we have to think about it from that  
18 perspective.

19           COMMISSIONER SCHMIDTLEIN: Yeah. I think the  
20 national security/energy security question is more from the  
21 perspective of the government, if you will, and less from an  
22 individual company. So as U.S. producers, I guess, that's  
23 why I was posing the question to you, do you have a concern  
24 about that? So I take your point that, you know, you're  
25 able to get your own cells and you trust them. But the

1 question I think was really a larger policy question.

2 MR. LYNCH: Yeah sure. You know, solar  
3 modules are a relatively dumb pieces of equipment. When the  
4 sun is out, they work; when the sun is not out they don't  
5 work. So there's not a lot of grid reactivity. There's  
6 really nothing that interacts with the grid itself from a  
7 security standpoint as opposed to inverters or other  
8 transmission distribution equipment.

9 So from a module and an even further down or  
10 upstream the cells, from a security standpoint and a  
11 government kind of view of whether or not it's okay to cede  
12 this technology to foreign countries, I think you have to  
13 keep that in perspective. At the end of the day, you don't  
14 want to lose all of the domestic manufacturing capacity. As  
15 long as you have companies that are intending to do it with  
16 their R&D efforts like Suniva potentially, as well as  
17 Panasonic, you do retain that knowledge base here in the  
18 U.S., so you aren't truly giving it away.

19 COMMISSIONER SCHMIDTLEIN: Okay, all right.  
20 My time is expired. Thank you.

21 CHAIRMAN JOHANSON: Commissioner Kearns.

22 COMMISSIONER KEARNS: Thank you. Mr. Card, I  
23 wanted to ask you, we do see that there is increase in  
24 production of cells at the very end of our Period of  
25 Investigation, basically in this year. What shall we make

1 of that given that, as you pointed out earlier, there is  
2 effectively no restraint on imports right now of cells? So  
3 what should we make of that right now?

4 MR. CARD: I'm working a bit with one hand  
5 blind, because you have accessed the confidential data that  
6 I don't. I have some fairly good assumptions about where  
7 that's investment's occurred, and I think it's the residual  
8 effect of broader investments, of factory creations that  
9 were in place starting even before the 201 action from  
10 another integrated supplier would be where most of that has  
11 been on.

12 I think though if you look at the ratio, at  
13 the delta of the ratio between the increase in module  
14 manufacturing capacity, and the increase of cell  
15 manufacturing capacity, there is a massive disparity.

16 COMMISSIONER KEARNS: Right. Okay, thank you.  
17 Do any of you all have plans to invest in cell production  
18 facilities in the future? This is, I guess Mr. Card, I  
19 think you've answered that.

20 MR. CARD: Yes.

21 COMMISSIONER KEARNS: But for others, do you  
22 have plans to invest or do you know of others in the  
23 industry who plan to invest in cell production in the United  
24 States?

25 Mr. MOSKOWITZ: From Q CELL's perspective,

1 there have not been announcement of new cell manufacturing  
2 investments that will be made during at least the period of  
3 the safeguard. We in particular are very much focused on  
4 ramping up our module production facility in Dalton and  
5 doing so profitably. You know, in the long term of course  
6 we had hoped to make as much of our products in the United  
7 States as possible. But that is dependent on being able to  
8 successfully and healthily ramp up that facility.

9 COMMISSIONER KEARNS: Anyone else?

10 MR. ELLIS: I'm sorry. Leo Ellis for Mission.  
11 Mission abandoned its cell production facilities a few years  
12 ago before the safeguard, and does not intend to try to go  
13 back into that segment of the industry, and are focusing on  
14 expanding their module production as Paul testified earlier.

15 COMMISSIONER KEARNS: Okay, thank you. And  
16 Mr. Werner, I think you said no as well?

17 MR. WERNER: No. I'm not aware of any  
18 domestic cell manufacturing that would start back up, or up.

19 COMMISSIONER KEARNS: Okay. How sustainable  
20 is an industry based on module production only? Are there  
21 efficiencies in making cells and modules close to one  
22 another? I guess related to this too, does this happen in  
23 the rest of the world, where module and cell production are  
24 not co-located, or is this really a function of the U.S.  
25 market and maybe the 201 relief?

1                   MR. WERNER: No. I think there's many markets  
2 where you don't have both. In my opinion, where the  
3 differentiation is is increasingly post-module. There was  
4 comments made about inverters. I would add to that storage  
5 and integration of storage and inverters and the module and  
6 the integration with the grid. That's the next innovation  
7 horizon. It's also where the security concerns would be  
8 greater in terms of grid security.

9                   So as the company SunPower is heavily  
10 investing in America in exactly that, integrating those  
11 technologies and integrating with the grid.

12                   COMMISSIONER KEARNS: Okay, thank you. Anyone  
13 else?

14                   MR. LYNCH: As a data point, this is Brian  
15 from LG. Through my history in this whole industry, the  
16 only factory I've ever been in that did both cells and  
17 modules co-located on the same campus is the former Solar  
18 World factory. I've seen gigawatts manufactured under one  
19 roof in Europe, Asia, pretty much everywhere, and they're  
20 all kind of separate.

21                   Actually no. The exception ironically is LG.  
22 I completely forgot that, in South Korea. We do have those  
23 both on the same campus. But it is very common to not have  
24 them together.

25                   COMMISSIONER KEARNS: Okay, anyone else? Mr.

1 Card, did you --

2 MR. CARD: I think the magic is how that  
3 question is interpreted. If the definition is literally  
4 co-located is under the same factory roof as opposed  
5 potentially to two factory buildings on the same campus, I  
6 would disagree significantly. There is, particularly in  
7 China, particularly in other places where factories are  
8 developing, there is significant geographic co-location.

9 COMMISSIONER KEARNS: Okay, thank you. And if  
10 you all can tell us either now or post-hearing, we have data  
11 on cell imports through June. But anything you all can tell  
12 us about your knowledge of imports of cells after June would  
13 be helpful, what the trends look like. If you can speak  
14 that now or post-hearing, I'd appreciate it.

15 MR. MOSKOWITZ: Sure. We can speak to it a  
16 little bit now, which is that, you know, in 2018 I think  
17 there was 718 megawatts of cells imported. At the moment,  
18 the imports total 1.83 gigawatts for this year, and there's  
19 still a couple of months left. So our analysis would expect  
20 that we'll get somewhere close to about 2.1 gigawatts this  
21 year, about 85 percent of that cell quota.

22 However, I think it's worth recalling that our  
23 1.7 gigawatts factory, you know, began production in  
24 February and has been ramping up throughout the course of  
25 this year. So it's pretty evident, and that's true of most

1 of the other manufacturers in the room at the moment. So  
2 you know, our estimates are that next year, there will  
3 likely be around four gigawatts but potentially higher than  
4 that. The capacity is easily around five gigawatts, which  
5 is where our figures come from, and those are in our -- and  
6 those are in our briefs.

7 COMMISSIONER KEARNS: Okay, thank you. Anyone  
8 else comment on that, or post-hearing? I'd appreciate any  
9 thoughts on that as well. Thank you. Are you all aware of  
10 any additional plans for projects by other entities to  
11 commence U.S. module production in the United States?

12 MR. MOSKOWITZ: I'm not hearing -- I'm seeing  
13 shaking heads no, but there are many, you know, there have  
14 been many, many announcements. The companies that are at  
15 the table now are not the only U.S. module manufacturers,  
16 and they're not the only ones that have made announcements,  
17 you know. You can go down the list and see many companies.  
18 Sarafin, Solar Tech Universal, Solar Brilliance. There have  
19 been many announcements, and there are certainly other  
20 companies ramping up, in particular Solar Tech Universal  
21 and, you know.

22 So yes, there are others in the market that  
23 are hoping, that are trying to restart or to grow, and we're  
24 not the only ones.

25 MR. WERNER: We manufacture modules for two

1 other companies. They provide the cell and we make the  
2 module, and we hope to do -- we're working on doing more of  
3 that, probably back in the back half of 2020.

4 COMMISSIONER KEARNS: Okay, thank you.  
5 Turning -- you all discussed earlier with some of the other  
6 Commissioners price developments, and I wanted to ask you to  
7 what extent were declines due to falling input costs such as  
8 for polysilicon, as shown in our Figure Roman VI-1? Is  
9 input cost part of the reason why we're seeing prices fall?

10 MR. WERNER: Polysilicon is a meaningful part  
11 of the cost of a cell. So yes, that would be a factor, and  
12 I think supply and demand is the more dominant factor.

13 COMMISSIONER KEARNS: Okay, thank you. I want  
14 to ask you about the effectiveness of the remedy on the  
15 issue of stockpiling. Do you all agree with Suniva that  
16 stockpiling in 2017 and duty absorption by foreign producers  
17 have limited the effectiveness of the safeguard remedy?

18 MR. MUNRO: Yes.

19 COMMISSIONER KEARNS: Anyone disagree with  
20 that? Okay. Thank you. I want to talk to you real quickly  
21 about product types for utility-scale projects. SEIA in its  
22 brief, pages 39 through 45, cites purchaser statements  
23 indicating that U.S. production of module types needed for  
24 utility-scale projects is limited, including bifacial as  
25 we've talked to, 72 cell and 1,500 volt modules. Do you

1 agree, and if so do you have plans for producing these  
2 products?

3 MR. MUNRO: Yes. Q CELLS produces for the  
4 utility-scale market, and we have one line dedicated to  
5 that.

6 COMMISSIONER KEARNS: So does that mean that  
7 you disagree that there's, that there are limits now, or you  
8 agree there's limits but you all are quickly ramping up  
9 production?

10 MR. MUNRO: Well, I believe that we are  
11 quickly ramping up production, and that the domestic  
12 industry will have, soon have five gigawatts of capacity,  
13 which will be a high percentage of the market's needs, and  
14 will there in the short term be a need for imported modules?  
15 Yes, there will. But there is no shortage, because there's  
16 a global over-supply, and really what this is about it's not  
17 a shortage; it's about a desire for inexpensive modules.

18 MR. MOSKOWITZ: I'll add that -- I'll add  
19 that, you know, for exclusions. So you'll hear this  
20 afternoon that there is not enough availability of product  
21 to meet the utility scale's demand. There is, you know,  
22 we're looking at the 30 percent of the U.S. market next year  
23 that will be supplied by domestic product. That is  
24 magnitudes higher than it was during the original 201.

25 You know, that wasn't -- it's not true that we

1 can supply the entire U.S. market now, but it's certainly  
2 more true than it was two years ago. The other key point  
3 that I would make is that exclusions to the 201 or country  
4 exclusions or product exclusions, they don't do anything to  
5 change the availability of supply. They only make it such  
6 that supply is tariff-free, and what that does is it allows  
7 tariff-free imports that of course lower the market price  
8 and harm domestic manufacturers. That is exactly what has  
9 happened with the bifacial module exclusion.

10 COMMISSIONER KEARNS: Okay, thank you.

11 MR. LYNCH: Brian from LG. To put our input  
12 in, we have two lines that can both manufacture 60 or 72  
13 cell modules. The 72 cell modules are 1,500 volt and are  
14 completely technically compatible with utility-scale  
15 projects, and we can change those lines around based on  
16 market demand. Currently, a significant majority of our  
17 product is supplied to, in the 72 cell applications, utility  
18 and commercial scale. So it is false to say that our  
19 production cannot support that side of the industry.

20 MR. GURLEY: If I could just make one last  
21 comment Commissioner. I mean this is a 201 case. The  
22 Commission found serious injury to the U.S. industry. They  
23 found that the U.S. industry had been decimated. It's a bit  
24 rich now for SEIA to say boy, these guys can't, you know,  
25 fulfill all the orders for all of the U.S. market.

1                   Of course we can't. We were seriously injured  
2 and we're decimated. That's why you put into place  
3 safeguard relief, and the safeguard relief has worked.  
4 We're starting to produce more and more and the line is  
5 going up fast. But there will always be a shortage in the  
6 next -- of course there will be a shortage in the next two  
7 years, but you've faced that in every Title 7 case you've  
8 ever faced. There's always going to be imports to  
9 compliment the U.S. market, and that's nothing abnormal.

10                   COMMISSIONER KEARNS: Okay. Thank you all for  
11 your testimony.

12                   CHAIRMAN JOHANSON: Commissioner Stayin.

13                   COMMISSIONER STAYIN: Yes, thank you. The  
14 removal of the European Union's minimum import price for  
15 CSPV products in September of 2018, led to a significant  
16 increase to Chinese exports of CSPV to Europe. Would the  
17 removal of the 201 safeguard lead to a surge in imports into  
18 the United States, and what countries pose the most  
19 significant threat to the U.S. industry?

20                   MR. CARD: Yes would --

21                   COMMISSIONER STAYIN: Cell producer and then  
22 modules can talk about this.

23                   MR. CARD: Well I'll answer first, and while  
24 we've certainly focused a lot on where we have differences,  
25 there are also many, many areas where we have tremendous

1 similarities and have worked together. I don't think you  
2 have to conjecture as to what would happen if you did that.  
3 All you have to do is to look at the actual reality of the  
4 bifacial exemption.

5                   When it was exemption for a class of product,  
6 it was effectively that the 201 was removed. SEIA reports,  
7 they're saying -- this is not my quote, but SEIA's own  
8 general counsel went on record saying that in the first 100  
9 days that the bifacial exemption was in place, \$1 billion of  
10 projects using bifacial modules were sold. 100 days, \$1  
11 billion. So your question I think we have with very high  
12 degree of certainty, what will happen if the 201 safeguards  
13 get removed. It will be the bifacial exemption on a  
14 hallucinogenic steroid.

15                   MR. MUNRO: Yeah. I'm not sure. I couldn't  
16 state it any better than that. I concur. You did ask what  
17 countries, and probably a lot of that would occur in  
18 Southeast Asia, where the Chinese, you know, export their  
19 supply chain, get around AV/CVD, and if there was no 201,  
20 there would be an absolute flood and, you know, many of the  
21 people sitting at these tables would not be operating  
22 anymore.

23                   MR. GURLEY: I point again to my favorite two  
24 slides again, Slide 19 and 20 of the report of Georgetown  
25 Economic Service. That just shows you what happened in

1 bifacial. Both imports and then the incredible increase in  
2 capacity. We know it's going to happen with bifacial if it  
3 stays in place and it would be, as you said, on steroids if  
4 the 201 were somehow eliminated.

5 MR. LYNCH: Brian from LG. We concur that  
6 there would be a flood of imports from countries where  
7 Chinese-owned companies have set up tolling operations, and  
8 they would be let into the country via that marching band  
9 that was outside this morning.

10 COMMISSIONER STAYIN: Are there other  
11 companies that produce their own cells for their own use or  
12 export? I'm not talking about Suniva; I'm talking really  
13 about I think LG did you say, and --

14 MR. MOSKOWITZ: The only company other than  
15 Suniva that is known in the U.S. to do so is  
16 Tesla-Panasonic.

17 COMMISSIONER STAYIN: Is what?

18 MR. MOSKOWITZ: Is Tesla-Panasonic, and they  
19 are also known to be exporting those products. There's a  
20 Reuters article from earlier this year that elaborates on  
21 that.

22 COMMISSIONER STAYIN: But you do?

23 MR. MOSKOWITZ: Q CELLS does not manufacture  
24 cells in the United States.

25 COMMISSIONER STAYIN: Don't you -- you get it

1 from your parent; correct?

2 MR. MOSKOWITZ: Yes. We get cells from Korea.

3 COMMISSIONER STAYIN: Same thing with LG?

4 MR. LYNCH: That's correct, but we don't  
5 merchant sell those cells. We consume them internally.

6 COMMISSIONER STAYIN: A question was asked, we  
7 asked a question about the domestic industry's R&D  
8 expenditures, whether they have changed since they had  
9 safeguard, had safeguard relief. I think we got 4 of 14  
10 respondents that indicated that their R&D expenditures had  
11 continued or increased. Other than Mister -- Suniva over  
12 here, we've talked about that. But what about the rest of  
13 you? What about your R&D? Do you have a full and  
14 aggressive program going on within your company that will  
15 make you competitive vis-a-vis the foreign products coming  
16 in?

17 MR. WERNER: Yes, very much so. I would say  
18 on our -- our R&D spendings are the same or greater over  
19 that period. It's only a couple of years, and we invest  
20 heavily in storage, integration with the grid, digital  
21 software technologies. So other areas in addition to cell  
22 and module advancements.

23 COMMISSIONER STAYIN: Any others?

24 MR. MUNRO: Well, Q CELLS has a long history  
25 of cutting edge technology. Our R&D headquarters are in

1 Germany, but we have recently made multiple investments in  
2 some start-up companies in this area, and have opened up a  
3 lab in Silicon Valley.

4 COMMISSIONER STAYIN: Okay. Your competitive  
5 situation vis-a-vis imports, how are you doing in terms of  
6 price competition in the marketplace?

7 MR. WERNER: Sure SunPower invests heavily and  
8 R&D makes a differentiated product. It's a high efficiency  
9 product, highest efficiency product, and therefore we have a  
10 considerable premium over imported product.

11 COMMISSIONER STAYIN: Anybody else? Yes.

12 MR. MUTCHLER: Paul Mutchler from Mission  
13 Solar. We're a mainstream module manufacturer using proven  
14 materials in the market. Being a made in Texas module, our  
15 prices are 10 to 15 percent higher than imports. We have to  
16 put an emphasis on our quality, on our salesmanship in order  
17 to maintain our growth, and maintain our market position.

18 COMMISSIONER STAYIN: Are imports basically a  
19 lower price that you're dealing in terms of market  
20 competition?

21 MR. MUTCHLER: Basically a lower price and  
22 with the quota being hit next year, it would put us over 20  
23 percent, 23 percent higher than the imports.

24 COMMISSIONER STAYIN: Okay, thank you.

25 MR. KERWIN: Commissioner Stayin if I could

1 add, the evidence in the staff report on the pricing product  
2 shows pretty clearly that the vast majority of comparisons  
3 over this period, the import price has been lower than the  
4 U.S. price on directly comparable merchandise, and that  
5 accounted for a sizeable portion of the volume of that  
6 underselling.

7                   COMMISSIONER STAYIN: Let's talk about the  
8 quota, and what would happen if the quota were not increased  
9 as some of you have asked, and we've kept at it exactly  
10 where it is now. I guess maybe I should put it another way.  
11 If we did increase the quota to 5 from 2.5, how much of an  
12 advantage or a benefit would that be to you in the  
13 marketplace?

14                   MR. MUNRO: So I would say it would be a great  
15 advantage to us. We're already facing very high costs, so  
16 roughly -- our production costs are roughly 20 percent  
17 higher in the U.S. than they are in Korea. We're facing 301  
18 duties that we're having to pay on key components. There's  
19 AD/CVD on some of the components that could only be sourced  
20 in China, other issues.

21                   So all the number of the things that we talked  
22 about earlier, the difficult circumstances lead to high  
23 cost. So having a high percentage of our cells tariffed,  
24 our key component, would create even more difficult  
25 circumstances. So it would be a great benefit to us to

1 increase the TRQ to 5 gigawatts.

2 MR. LYNCH: From LG's perspective, we have  
3 similar economics to what Q CELLS has represented for our  
4 U.S. production versus our Korean production. I appreciated  
5 the rephrasing of the question on a more optimistic  
6 standpoint, if it was raised to 5 gigawatts. What that  
7 would allow us to do is maintain our market and technology  
8 competitiveness in Huntsville from planned technology  
9 innovations we'll be implementing in our cell technology in  
10 Q2 and then Q4.

11 If the quota is not increased, we'll be faced  
12 with a very difficult decision of either pre-importing as  
13 much as we can under the cap at basically current generation  
14 and technology levels and efficiency levels, paying a hefty  
15 duty, or paying a hefty duty to get the latest product in.  
16 It's a bad choice either way.

17 COMMISSIONER STAYIN: Have there been any  
18 conditions in the marketplace, the conditions of competition  
19 that have had an adverse impact on you, other than what  
20 we're talking about in terms of the price of cells? Are  
21 there any restraints in competition?

22 MR. GURLEY: Well, I think the obvious one --  
23 this is John Gurley. The obvious one of course is the  
24 bifacial exclusion, which is a massive issue.

25 COMMISSIONER STAYIN: Any other comments on

1 that? Okay. My time has run out. Thank you.

2 CHAIRMAN JOHANSON: Commissioner Karpel.

3 COMMISSIONER KARPEL: I want to go back to  
4 price. Overall, I'm trying to understand the impact of the  
5 safeguard measures on prices in the U.S. market, and start  
6 off my questioning noting that there's been a decline in  
7 prices in the U.S. market. Typically, you might expect if  
8 you put in a remedy, you might see prices increase.

9 But we didn't see that in this situation. But  
10 yet I think I've also heard you say that that -- that  
11 there's been a benefit of the measure in terms of some price  
12 effect. So if you could, you know, the different industry  
13 representatives here could talk about what the impact has  
14 been. You would think a 30 percent tariff would have a  
15 price effect in the market. But I'll let you speak.

16 MR. MOSKOWITZ: I'm sorry, could you repeat the  
17 first part of the question? I just want to get the context  
18 right.

19 COMMISSIONER KARPEL: What is the impact of the  
20 safeguard measure on prices in the U.S. market?

21 MR. MOSKOWITZ: Sure. So imports of course pay  
22 the tariff, which contributes to healthier market pricing  
23 than in the rest of the world. However, the prices fell so  
24 dramatically due to oversupply in 2018 that prior to the  
25 completion of any of the new factories, at least, the

1 protections that the safeguard provided were basically  
2 eroded, given what the market pricing was prior to the  
3 safeguard being introduced.

4 So, you know, of course market pricing here is  
5 healthier than in the rest of the world because the rest of  
6 the world generally remains unprotected from low-cost  
7 imports. But it is still a very difficult market to compete  
8 in.

9 MR. MUNRO: So he's the expert. I'll give you the  
10 simple answer, which is the Chinese industrial policy has  
11 led to global overcapacity, which has caused the price to  
12 collapse. And so even with the tariff, the price has come  
13 down here. And so that's what we're facing.

14 MR. CARD: Can I have one other comment to you?  
15 Having had the perspective of the original request, what was  
16 requested, when Suniva and Solar World approached  
17 originally, we had requested an absolute right tariff, not  
18 an ad valorem tariff. What got put in place was an ad  
19 valorem tariff.

20 That actually has the effect of incenting foreign  
21 producers to lower their prices. Because if you have a  
22 price of 40 cents, and it's a percentage tariff of 30  
23 percent, that's a 12 cent tariff. If I suddenly overnight  
24 through whatever magic happens outside these shores, that 40  
25 cent module becomes a 30 cent module, my ad valorem tariff

1 now becomes 9 cents.

2           So we had argued and cautioned against the advent  
3 of an ad valorem tariff for that very reason, that it  
4 actually incited players that had a history of price  
5 adjustments to adjust their prices again to minimize the  
6 effects of the tariff.

7           MR. MAGNUS: Coming back to China, there's a  
8 second step there that was very much reported in the press  
9 and I think shows up in the Commission's record that it has  
10 compiled, not just building overcapacity but then a major  
11 change in absorption within China of the results of all that  
12 production capacity where the public policy measures that  
13 led to very heavy deployment in China were changed and  
14 caused an enormous amount of material to move out into the  
15 world market.

16           So not just creating it, but then also stopping  
17 the public policy inducements to consume it at home. And so  
18 that, and the long-term historic decline as well, you know,  
19 with Moore's Law and everything else, there were a great  
20 many things pushing prices down perhaps more rapidly without  
21 safeguard tariffs having been in place. Safeguard tariff  
22 couldn't keep up with all of that.

23           COMMISSIONER KARPEL: But my question, how are we  
24 supposed to understand the price effect of the safeguard  
25 measure, given that you say there are market forces in terms

1 of supply, or maybe pushing down prices. Like how are we  
2 supposed to understand what the impact of the safeguard  
3 measure is on prices? How much lower did prices not fall  
4 because of the safeguard measure?

5 If you're saying that's a true point at all. Or  
6 are you saying because of these market forces we really  
7 haven't seen any price effect of the safeguard measure?  
8 I'm not sure I understand --

9 MR. GURLEY: As a non-economist, I will try to  
10 answer. I think it stands to be clear that were it not for  
11 the safeguard measures the prices would have been lower,  
12 right? This is not exactly like the steel case where if you  
13 impose 25 percent all the prices tend to go up 25 percent.

14 Here they did go up, but because of the way the  
15 industry operates they are going to decline generally over a  
16 long period of time. But prices did go down, but they would  
17 have gotten a lot lower had it not been for the safeguard  
18 duties. I think the analysis is not super complicated in  
19 that sense. They imposed 30 and 25 percent duties. That  
20 helped us. It incentivized us to build big factories.

21 MR. MAGNUS: It's not clear that in this context  
22 at least that you need to worry about quantifying that. Not  
23 that you couldn't, but I'm not sure that you need to.

24 MR. KERWIN: Commissioner, if I could add, I mean  
25 the bottom line is the bottom line. The industry's

1 financial performance did improve very significantly after  
2 the imposition of the remedies. So at the end of the day,  
3 whatever happened in relation to prices was certainly a  
4 beneficial impact on the industry to improve its  
5 profitability.

6 COMMISSIONER KARPEL: But the other way you can  
7 prove profitability is, right, if your costs go down, or you  
8 have more market share. So how should we make the  
9 assumption that it was a price effect?

10 And I guess that goes to my second question, which  
11 is: How was the domestic industry able to gain more market  
12 share if there wasn't a price effect?

13 MR. LYNCH: There's a couple of interesting  
14 dynamics at play at Solar. Specifically in the pricing, to  
15 answer your first question, I think probably the simplest  
16 thing to do, and it might be overly simplistic, because in  
17 the U.S. you've had a couple supply/demand surges related to  
18 the ITC expirations and then the extension.

19 But if you benchmark against the European market  
20 with the removal of the minimum price floor, and what  
21 happened to the price after that, ultimately the same  
22 factories that supply modules to the U.S. also supply  
23 modules to Europe, and there's a very clear proxy indicator  
24 of what happens to the price of the product in a  
25 post-tariff or price war environment.

1                   Specifically to your second question, which  
2 relates to how has the market grown despite the fact that we  
3 haven't dropped prices artificially 25 to 30 percent year  
4 over year, that is a simple explanation of economics. The  
5 economics for solar continue to improve because what's  
6 happened is, without the reliance on Chinese-owned  
7 companies, artificially decrease pricing year over year,  
8 it's forced the rest of the supply chain, including the  
9 development, the sales and marketing of this, to become more  
10 efficient. Because they could no longer rely on the  
11 manufacturers to bear that burden.

12                   We have seen dramatic cost reductions in racking  
13 and balance of system inverter prices have probably dropped  
14 by 50 percent in the last four of five years. I don't have  
15 a hard number. As well as the sales and marketing.

16                   On the residential side, I know this afternoon  
17 will be a lot about utility side. On the residential side,  
18 probably the single greatest cost component today is in  
19 customer acquisition. And as solar has become more  
20 mainstream, as the cost of retail power has increased, more  
21 and more consumers are voluntarily proactively moving  
22 towards solar because it represents a clearly better  
23 economic equation.

24                   On the utility side, you have development cycles  
25 that last three or four years and they build an economic

1 model at the onset to see if they can compete on a wholesale  
2 power basis with their cost for them to build the factory,  
3 service the things required to run it, and then any dramatic  
4 drop in price just degrades the profitability.

5           So what we have proved over the last two years is  
6 that you didn't need those 20, 25 percent drops in prices on  
7 the component side to make those project economically  
8 viable. I will not dispute that some projects couldn't move  
9 forward, but I would put a counterpoint to that to say that  
10 maybe those were -- the pricing of those projects were built  
11 on economics that were not true to the actual cost to build  
12 those projects. They were forward-based assumptions based  
13 on artificial price drops.

14           COMMISSIONER KARPEL: Again, so, Mr. Kerwin, I  
15 believe you also made a point in your presentation about if  
16 prices have fallen that really undercuts panel two's  
17 argument that we're likely to hear that these safeguard  
18 measures have had a negative impact on demand and uptake of  
19 solar in the United States. But if it's true that there has  
20 been some price impact of the safeguard measures in that  
21 prices would have been lower had they not been put in place,  
22 even though prices overall are already lower in the U.S.  
23 market, how would you respond to that? That there actually  
24 have been -- prices are different because of the safeguard  
25 measure, and that has impacted demand?

1           MR. KERWIN: Well, there's no -- it's been a  
2 factor before the petition was even filed in this case that  
3 U.S. prices were higher than global prices for modules.  
4 That's shown in SEIH's own diagram, their graph that shows  
5 pricing over the last six years or so. That before the  
6 imposition of the remedies, U.S. prices were already higher.

7           So the question is, what happened after the  
8 imposition of the remedies? Did the imposition of these  
9 remedies make the difference between the U.S. price and the  
10 global price wider? Did it make it worse? And their own  
11 data, as I mentioned before, don't show that. They show  
12 that they moved very much in tandem, the global price and  
13 the U.S. price, after these remedies were put into place.

14           So clearly there are factors that come into  
15 pricing that go beyond whether or not there are tariffs in  
16 the United States on modules. That has some impact, but  
17 there are broader global factors that affect price.

18           But what goes against their argument is that this  
19 disparity did not change. The imposition of these remedies  
20 did not make that disparity wider, and therefore it didn't  
21 have an impact of destroying U.S. demand for solar projects  
22 in the United States.

23           And as it was mentioned earlier, the forecasts are  
24 for record deployments in 2020 and '21. So to my mind, that  
25 very much works against their argument that whatever

1 happened with price, it's had a very detrimental impact on  
2 U.S. consumption.

3 COMMISSIONER KARPEL: My time's up.

4 COMMISSIONER STAYIN: Just to clarify something,  
5 to what extent do you supply the utilities in the United  
6 States? There seems to be some allegation on the other side  
7 that your products are not being supplied to utilities, and  
8 therefore will not have an impact on our overall electronic  
9 and power grid.

10 MR. MUNRO: Our new factor in Dalton, Georgia, has  
11 a dedicated line to supply utilities, and we also import  
12 modules from Korea to supply utilities.

13 COMMISSIONER STAYIN: So you are successfully  
14 doing that now?

15 MR. MUNRO: Yes, we are.

16 COMMISSIONER STAYIN: Anybody else?

17 MR. LYNCH: Yes. I can't get into specifics due  
18 to confidential business reasons, but I can point to an  
19 example that -- this is Bryan from LG, sorry -- that in the  
20 last two weeks we signed a deal that will go to a utility  
21 that will take about 10 percent of our capacity next year.

22 So we are very active in this space, and we are  
23 happy to support those projects.

24 MR. MOSKOWITZ: And I'll add on to my colleague.

25 And, Commissioner, I will clarify that when you talk about

1 utilities, we're talking about utility-scale solar projects  
2 rather than --

3 COMMISSIONER STAYIN: Right, right.

4 MR. MOSKOWITZ: You know, Q CELLS has a, as we've  
5 discussed, we have three production lines. One of them is  
6 dedicated -- and they're very -- those production lines can  
7 interchange between residential and utility scale products.  
8 It's a very quick thing to do.

9 We supply very large utility projects from that  
10 factory. We have a very well known project that was  
11 supplied for -- over a 100 megawatt project for Facebook in  
12 Georgia that's been well publicized. And we certainly do  
13 sell to that market from our Georgia factory.

14 COMMISSIONER STAYIN: So do you believe that the  
15 U.S. production of these products is sufficient to meet the  
16 demand that we have now, or that we may see coming down the  
17 road?

18 MR. MOSKOWITZ: We can meet -- you know, of course  
19 we can't meet all of the demand. We can meet much more than  
20 we did two years ago, but it's still, you know, a minority  
21 share, but it is growing very, very quickly.

22 COMMISSIONER STAYIN: Do the others feel the same  
23 way?

24 MR. LYNCH: LG does, yes.

25 COMMISSIONER STAYIN: Alright.

1           MR. GURLEY: Commissioner, could I just add one  
2 thing? So again, not to always compare things to steel  
3 cases, but in every steel case you ever had at this  
4 Commission the allegation is that the U.S. does not have the  
5 capacity to fill all the demands of the U.S. industry,  
6 right? And that's what happened in virtually every case  
7 that comes before you. Because the cases that come before  
8 you involve injurious behavior.

9           That is the fact pattern, right? And, or serious  
10 injury to the U.S. industry, like here in this 201. But  
11 that doesn't -- has never stopped this Commission from  
12 finding that there's injury to U.S. industry, even if there  
13 was the sufficient capacity to service the entire industry.  
14 It's like normal for there to be sometimes a lack of  
15 capacity because of the nature of the serious injury.

16           COMMISSIONER STAYIN: May have overstated  
17 myself. I did not means that you were all going to fill all  
18 the capacity. I just wanted to make sure that you are in  
19 that market and you are supplying it, you can supply it, and  
20 that's all I wanted to know. Thank you.

21           MR. MAGNUS: The progress toward being able to  
22 supply it in this case is really astonishing. I mean it's  
23 trending toward half of 40 percent if you do math that is  
24 CSPV specific and that's up from a very, very small single  
25 digit percentage at the time this whole thing got started.

1 That's an awful lot of progress toward being able to supply  
2 domestic demand that has occurred in very short time.

3 COMMISSIONER STAYIN: Very good. Thank you.

4 CHAIRMAN JOHANSON: No problem at all. So,  
5 we've heard about the potential expiration of the federal  
6 tax credit. What is happening at the state level? What has  
7 happened since 2017 regarding state policies and how have  
8 they impacted the market?

9 MR. MOSCOWITZ: State-level policy is vital to  
10 the U.S. solar market. There have been significant changes  
11 in every state. You know we are 50 states in which every --  
12 you know there are many different policies that are changing  
13 all the time. We've seen both very positive policy changes  
14 in the states, but also negative policy changes in the  
15 states, and also in municipalities and cities across the  
16 country.

17 On one hand, you've had state-level policies  
18 that have been eliminated or depleted, particularly, in  
19 California, which have contributed most distinctly to a  
20 decline in the commercial solar market. That's been a  
21 market that's been heavily impacted by changes in  
22 state-level policies over the last couple years. That  
23 market is still, overall, quite healthy and is looking to  
24 grow and will grow over the next couple of years. You know  
25 we've been very clear that the overall market -- all three

1 segments -- are continuing to grow.

2           At the same time, there have been numerous  
3 states that have enacted you know very advanced and  
4 aggressive long-term renewable policies; in particular, in  
5 New York, Massachusetts -- many, many others. And these are  
6 states that -- and many of these are completely -- you know  
7 both red and blue states in which we've seen very  
8 significant and aggressive solar policies. But at the  
9 moment, the federal investment tax credit is still probably  
10 the biggest driver, but the state-level policies are also  
11 important.

12           MR. LYNCH: I'd like to add to that point that I  
13 think you will find uniformity -- everyone in this room that  
14 support this whole industry would say that the federal  
15 investment tax credit and the extension of that a few years  
16 ago was the single largest policy driver to enable the broad  
17 deployment of solar. We universally stand behind that. We  
18 would like its extension, which I know is not your purview,  
19 but would like to reinforce that.

20           Specifically, on a state level, I think that  
21 everything that Scott just said is exactly LG's opinion and  
22 perception, but a very interesting artifact has come out  
23 with the new factories that have been established in the  
24 last couple years. If you look at the map of those  
25 factories, they're in odd places like Huntsville, Alabama.

1 Now, LG did that because we had an existing facility there,  
2 so it was easy for us to do it, but it's enabled us to work  
3 on a state level to enable Alabama to become not Number 50  
4 as it relates to solar installations.

5 I remember seeing, I think, the first utility  
6 scale project in Alabama will be built in the next year.  
7 Like I said, LG will take no credit for that, but it's  
8 created the socialization that solar is a real industry that  
9 creates real jobs in the United States beyond temporary  
10 construction labor, which is important, but now there's a  
11 complete value chain that there. It's created deeper  
12 dialogues with the different utilities that are involved  
13 that have made them more acceptable to the idea of  
14 supporting solar generation within their territories.

15 CHAIRMAN JOHANSON: Alright, thanks for your  
16 responses. Now, moving onto a very different subject, the  
17 evidence reflects a small and decreasing volume of CSPV  
18 imports from Canada and Singapore throughout the monitoring  
19 period. Canadian solar and RC submitted briefs and they  
20 argued that imports from Canada and Singapore should be  
21 excluded from the safeguard remedy under their respective  
22 trade agreements. How do you all respond and is this  
23 something the Commission can even address in its monitoring  
24 report in your opinions?

25 MR. GURLEY: Maybe I'll give a short, legal

1 answer. I don't really think you can make a specific  
2 recommendation to grant an exclusion for Canada or  
3 Singapore. I mean I'm not telling you what your business  
4 is. You're wiser than I am, but I think the law has  
5 traditionally frown upon this and I think you, in the  
6 washing machine case, sort of carved out what you thought  
7 the scope of monitoring report should be.

8 I think they basically argued that the first  
9 time you did it was right and you should do it again, but I  
10 don't really think a monitoring report is the time for you  
11 to revisit what's already been litigated. And I think my  
12 colleague, Andy, can probably talk about the possible  
13 negative impact of such exclusions.

14 MR. PORTER: I hate to break the love feast and  
15 harmony after the three something hours, but I'm going to  
16 respectfully disagree with my colleague, John Gurley. LG's  
17 position is the same here as it was in washers, in that the  
18 Commission has the legal authority and discretion to make  
19 recommendations to the President. And we believe -- you  
20 know whether it's sort of advantageous or it isn't  
21 advantageous, you have that legal authority and discretion.  
22 The question is how should you use it and then you know we  
23 could discuss that. But as a matter of law, LG's position  
24 is the same as it took in the washers case.

25 MR. MUNRO: And as to those exclusions, they

1 would result in you know major loopholes. We were able to  
2 build a 1.7-gigawatt factory in eight months, so you can  
3 imagine what Chinese-owned firm would be able to do in those  
4 countries and how quickly they could do it to exploit that  
5 loophole.

6 MR. PORTER: We specifically asked the question  
7 with LG and I'm authorized to say that LG does not oppose  
8 the Government of Canada's brief, arguing for a Canada  
9 exclusion.

10 CHAIRMAN JOHANSON: Okay, thanks for your  
11 responses. Alright, finally, I have just one more question.  
12 It's more of an arcane point. The Hanwha brief, at page 55,  
13 notes that the vast majority of domestic cells being  
14 produced now are exported overseas. The brief states that  
15 this is logical, given the benefit to the foreign exporters  
16 of modules who can utilize U.S. cells and export them back  
17 to the United States without incurring any safeguard duties  
18 on the modules. Could you please further elaborate on this  
19 process, given the Rules of Origin that apply here?

20 MR. MOSCOWITZ: Sure. First, you know the  
21 evidence is -- there's limited evidence because there are  
22 limited cell producers. You know I pointed to a Reuters'  
23 article that notes that Telsa Panasonic is exporting those  
24 cells rather than using them domestically for the modules  
25 that they produce in Buffalo, but the reason import is quite

1 simple which is because if you -- again, if you export that  
2 cell, you can then import that module as a U.S.-made  
3 product, tariff free. The value of that tariff you know at  
4 the moment is around eight cents. You know imagine if the  
5 TRQ -- the tariff rate quota is hit and we have to pay  
6 tariffs on cells you know the tariff on the cell that we  
7 would import is probably about three cents, but the module  
8 manufacturer -- the foreign module manufacturer would take  
9 eight cents on the module tariff. They will be willing to  
10 pay a much higher premium for that cell than we would for  
11 the domestic cell, which also would likely have a premium  
12 and therefore our savings of the three cent tariff that we  
13 would be paying on the cell import would be eroded.

14 So, I know that's a little bit -- there's a lot  
15 of numbers and it's a little bit complicated, but it's just  
16 the value of saving the module tariff to the foreign module  
17 manufacturer is so exceptionally high that there's no  
18 premium that we could pay that would overcome that.

19 MR. GURLEY: Just to clarify, I don't really  
20 think it's actually an issue of Rules of Origin. This  
21 exclusion was set forth in the original Presidential  
22 Proclamation that allowed modules with U.S. cells to come in  
23 duty-free.

24 CHAIRMAN JOHANSON: Okay, thanks. I remain a  
25 little confused, but I'll do a little bit more research on

1 it. This is popped out of page 35 of your brief and it  
2 makes sense. I had to ponder on it a bit. And I think I  
3 have just one more question. Had there been product  
4 innovations over the past two years in which the safeguard  
5 measure has been in effect? Have U.S. producers been able  
6 to respond to the market with investments towards such  
7 product innovations or developments as a result of the  
8 safeguard measure?

9 MR. WERNER: We've been able to move new  
10 equipment into the previous Solar World America's facility  
11 to convert it from lower efficiency, approximately 16, 17  
12 percent modules to 19 percent modules. We started that a  
13 year ago and we're full scale production now and looking to  
14 do that again in about a year to a point higher efficiency,  
15 which is a big deal in this industry.

16 MR. MOSCOWITZ: From Q Cells' perspective, our  
17 technologies improves all the time and I can give you a few  
18 examples of that. When we announced our factory, we  
19 announced a 1.6 gigawatt factory. That factory is now the  
20 nameplate capacity is 1.7 gigawatts. And that is not  
21 because we will produce more panels. It is because we will  
22 produce more efficient panels. And some of that is due to  
23 the cell efficiency, which we can't take much credit for in  
24 the U.S., but much of it is also due to some of the other  
25 technologies that we have. We are using half-cut cells

1 which increases the efficiency. And yes, we're continuing  
2 to take constant steps to improve the products here in the  
3 United States.

4 CHAIRMAN JOHANSON: Okay, thank you all. That  
5 concludes my questions. I appreciate you being here today.  
6 Commissioner Schmidtlein.

7 COMMISSIONER SCHMIDTLEIN: Okay, I just have a  
8 few questions to wrap up. Earlier there was a discussion  
9 about the anticipated increase in demand in 2020 and 2021  
10 and I'm not sure anyone asked what is driving that  
11 anticipated increase in demand in '20 and 2021?

12 MR. MOSCOWITZ: There's many drivers of it.  
13 First, solar is a cost-competitive form of electricity. It  
14 is a mainstream competitive source that competes with all  
15 forms of electricity generation. That is true now with the  
16 safeguard as much as it ever was. You know it's not always  
17 been true. This is an industry that's taken a long time to  
18 get here where we can be this large and you know we've shown  
19 that the safeguard has not impacted the ability to do that.

20 There are several drivers of current demand.  
21 One is the investment tax credit, which, of course, provides  
22 a good healthy footing for the industry. There are many  
23 state-level policies and municipal policies that help drive  
24 demand for solar. And then third is, again, just the fact  
25 that solar is competitive with other forms of energy and is

1 being built all over the country. In many places where  
2 there are no policies that are driving it, other than the  
3 investment tax credit. So, you know the environment to  
4 develop and build and install solar at the moment is very,  
5 very healthy and that is -- you know we've seen continued  
6 growth in the industry as a result.

7 MR. WERNER: Costs continue to come down and  
8 we've reached -- competitive with alternative with basically  
9 power from the grid in more and more markets and then there  
10 are reasons beyond that. Corporate America is going solar  
11 and wind, so there's a great deal of demand coming from  
12 corporate America and the improvements in storage allow  
13 other benefits beyond just economics -- grid stability,  
14 independence from the grid, backup flow from California and  
15 that happens to be really critical. You can imagine a solar  
16 system with batteries is incredibly popular in California  
17 now, so there's other factors -- and new states.

18 Illinois, Massachusetts, part of the Northeast  
19 have come on very strong in terms of support for either  
20 storage or solar or both.

21 COMMISSIONER SCHMIDTLEIN: So, is there one  
22 segment that is in particular driving that anticipated  
23 increase; commercial, for instance, or do you think it's  
24 generally across all the segments -- residential,  
25 commercial, and what we call utility.

1 MR. WERNER: All three segments are strong.

2 COMMISSIONER SCHMIDTLEIN: Are strong and  
3 anticipated to increase?

4 MR. WERNER: Yes.

5 COMMISSIONER SCHMIDTLEIN: Okay. Again, we've  
6 been here so long I'm not sure if anyone else has asked this  
7 question. Has the safeguard impacted those three segments  
8 differently in you all's view?

9 MR. WERNER: What I spoke to three years ago is  
10 certainly true today, which is the percentage that a module  
11 is at the end item in residential is the least high, so  
12 therefore least sensitive, commercial in the middle and  
13 utility scale the most sensitive. And certainly, when then  
14 the -- I don't have data to support this, just my  
15 observation being deep into the industry, the first year of  
16 the 201 safeguard I think it had -- if it had impact, it  
17 would've been in the utility scale because of the very fact  
18 of it's a higher percentage.

19 The other reason is is that for commercial and  
20 residential you go solar for sometimes other than just  
21 economics, for example, in residential backup of load.

22 COMMISSIONER SCHMIDTLEIN: Anyone else from the  
23 industry? Okay. And then the last question is you have  
24 been the manufacturers of modules as advocating for an  
25 increase in the TRQ for cells. If the President doesn't do

1 that have you thought about whether you would recommend an  
2 allocation? So, if the quota is -- Mr. Porter, you were  
3 involved in the washing machine case and for instance in  
4 that case we saw where the quota for washing machines was  
5 filled very quickly in the beginning of the year, so is  
6 there any concern about whether or not if there's not an  
7 increase in the quota that you would want an allocation so  
8 that it could be either spread out?

9 MR. MOSKOWITZ: What I will follow up to Mr.  
10 Werner's point from your previous question, which is that,  
11 yes, all three sectors -- his analysis of the safeguard  
12 affects each sector is accurate. But the utility sector,  
13 again, the one that purports to be the most sensitive, has  
14 reached record highs, and is growing faster than it was  
15 predicted to two years ago, prior to the petition being  
16 filed. So it's larger than it was expected to be even then.

17 Regarding this question, we can't speak  
18 specifically to our own plans or for importing cells, but --

19 MR. GURLEY: We'll address that in the  
20 post-conference.

21 COMMISSIONER SCHMIDTLEIN: Okay, that's a good  
22 idea. All right. Thank you very much. I don't have any  
23 further questions.

24 CHAIRMAN JOHANSON: Commissioner Kearns?

25 COMMISSIONER KEARNS: Yeah, just a couple of

1 quick ones, I think. One, I think earlier we talked a bit  
2 about cell production, and I think you all kind of agreed it  
3 would be a good thing for the U.S. to have a strong cell  
4 manufacturing base, but I think you said, Mr. Moskowitz that  
5 there's, that you may disagree on how to get there. So I  
6 guess, I'll start with you. I mean, how -- so how would you  
7 say we get there? If not through keeping in place that TRQ  
8 that we have, where it is right now?

9 MR. MOSKOWITZ: Thank you, Commissioner. That's  
10 a great question. You know, I think, you know, I don't  
11 think the 201 safeguard is enough for it to get cells to  
12 come back. So, you know, there would either, in my  
13 perspective, we would either need some industrial policy  
14 that helps to build and incentivize the domestic cell  
15 manufacturing. Or some other, you know, or we'd back in  
16 this room. And, you know, I think --

17 COMMISSIONER KEARNS: So industrial policies.  
18 For example, we've got all these tariffs that lead to  
19 revenues on modules, and if you took a portion of that and  
20 provided production subsidies maybe for the upstream sales,  
21 that could be something that the U.S. module industry would  
22 be supportive of?

23 MR. MOSKOWITZ: Sure, I mean, well, I can't speak  
24 specifically to that particular recommendation, but you  
25 know, policies that help and address both price and cost

1 would be -- or how you bring cell manufacturing back. But  
2 it's a longer-term discussion in my opinion.

3 COMMISSIONER KEARNS: Anybody else have any  
4 thoughts on that? I mean it seems like we are focus -- the  
5 remedy that is in place now is something that pits part of  
6 the industry against another part of the industry, and maybe  
7 there's more creative ways to address the problem that we're  
8 facing.

9 MR. LYNCH: From LG's perspective, I think, to  
10 piggy-back on what Scott just said, you need to lower the  
11 upfront cost and create long-term certainty for a company  
12 like LG to rationalize that investment. Which would -- the  
13 only way to do that is to create a policy that it's not -- I  
14 don't feel comfortable recommending that.

15 What I would suggest, however, is the only way to  
16 make that factory or that investment long-term competitive  
17 is that it's done on a different technology basis. It needs  
18 to be forward-thinking so it can survive whatever happens  
19 post-tariff, because we don't, as an industry, want to live  
20 in a constant renewal of tariff environment. It's not  
21 healthy for us as an industry. We have to move beyond that.

22 So is that a perk product for Suniva? I haven't  
23 read Matt's business plan, maybe it is, maybe it isn't.  
24 Maybe it's something more like heterojunction or perscovite  
25 or something that today the industry isn't doing it

1 broad-scale, and maybe there's a way to collaborate through  
2 our university system to incentivize that investment and  
3 prove it out from a scale perspective.

4 COMMISSIONER KEARNS: Thank you. Anyone else  
5 have any thoughts?

6 MR. MAGNUS: There was a sort of a notion of  
7 equivalence in your question that I would urge you to think  
8 hard about. You're writing a monitoring report about the  
9 positive adjustment that the industry is making and there's  
10 an awful lot to focus on. The difference between--with  
11 regard to cells--the before the after, whether you're  
12 looking at output or capacity, is the difference between one  
13 low number and another low number. The difference with  
14 regard to the module assembly industry is astonishing and  
15 fabulous. And so, that equivalence that seemed to be  
16 inherent in your question might not make a lot of sense.

17 COMMISSIONER KEARNS: Yeah, I'm not sure if I  
18 meant to suggest equivalence, but I will also say one other  
19 difference is that you all have in place import restraints  
20 and cells don't, and that might account for -- right? As we  
21 discussed before?

22 MR. MAGNUS: Again, to say that the import  
23 restraints on modules are of no benefit economically to  
24 onshore cell production isn't true. Very large benefits.  
25 Cells are light and easy to trade. And everyone of those

1 cells can make a module that's assembled overseas entirely  
2 duty-free, including the glass components and the frames and  
3 all the rest of it. A much larger product duty-free.  
4 There's a lot of value there. A lot of value for domestic  
5 cell production in the U.S. module tariff.

6 COMMISSIONER KEARNS: Anything else have any  
7 thoughts?

8 MR. CARD: Yes, I feel the need to compare. Your  
9 question was a valid question, because this is an analysis  
10 of there is one legitimate option that is on the table  
11 that's very, very clear. Leave the TRQ alone. And while  
12 everyone pays lip service to wanting to see cell developers  
13 come back, you asked the question and it was not a concrete  
14 idea in how to do that.

15 We are an American company. We started here with  
16 American money, we're now 100% American-owned. We believe  
17 that part of our market should be to American suppliers. I  
18 reject the notion this is about necessarily just Suniva  
19 coming back. There are broad technologies and broad  
20 application that can, in fact, be there.

21 But I remain, I remain of the same statement I  
22 made a bit earlier. You cannot get too all, if you first do  
23 not get to one. Something has to start this process. You  
24 have an immediate opportunity to start this process by doing  
25 absolutely nothing than what's already been prescribed.

1           COMMISSIONER KEARNS: Right, okay, thank you.

2     And I didn't mean to suggest equivalence. I'm not even sure  
3     what that necessarily means, but I mean I guess I did hear  
4     all of you suggest that maybe the TRQ should be increased,  
5     and so that's what makes it a relevant question, I think.  
6     But let me move on.

7           My last question, I think I've heard a number of  
8     you all suggest that, you know, we have a global excess  
9     capacity problem, I guess, both for cells and modules. I  
10    know that Commissioner Schmidlein recommended that part of  
11    the relief be starting international negotiations over to  
12    address that issue. So I guess my question is, are you all  
13    aware of any kind of negotiations like that, that may be  
14    going on? And if not, do you think that would be a good  
15    idea? Or any thoughts on that would be appreciated.

16           MR. WERNER: I know of none. And sort of, I mean  
17    the behavior in the market doesn't like there's an  
18    anticipation of something like that. And is that a cause?  
19    I think, unequivocally, yes. So if it's something like that  
20    and a negotiation could lead to a better balance, then yes,  
21    that would have an impact.

22           COMMISSIONER KEARNS: Anybody have a different  
23    view?

24           MR. CARD: I agree with Mr. Werner.

25           COMMISSIONER KEARNS: Okay, thank you. I have no

1 further questions.

2 CHAIRMAN JOHANSON: Commissioner Stayin?

3 COMMISSIONER STAYIN: Yes. I raise this because  
4 it was in the SEIA's brief and I think you should have the  
5 opportunity to respond to it. They claim a solar industry,  
6 industry's association claims that by 2022, the safeguard  
7 remedy will cost the United States 10.6 gigawatts of lost  
8 solar developed deployment, 19 billion in foreign  
9 investments and up to 62,000 fewer annual solar jobs.

10 MR. MOSKOWITZ: So, Commissioner, I'll repeat the  
11 general story that I mentioned earlier, which is that one,  
12 that analysis is based on an internal analysis for how large  
13 they believe the market could be without the safeguard.  
14 It's compared to the baseline forecast of the U.S. market  
15 that they currently are with the safeguard in place. Which,  
16 as I mentioned, the current Wood Mackenzie Power &  
17 Renewable's forecast for the four-year period of the  
18 safeguard is 58 gigawatts.

19 That -- you don't have to do that analysis to see  
20 what the market is versus what it would've been without the  
21 safeguard. There was -- the forecast that was made in March  
22 2017 before anyone knew that there would be a 201 petition,  
23 was 55 gigawatts over that same time. And so what -- it's  
24 clear from that that what actually happened is that the  
25 market was larger than what it was expected to be without a

1 safeguard.

2           So, you know, I would just emphasize that it's an  
3 internal study based on current market conditions, I assume,  
4 for what the market might be. But we know what the market  
5 is and we know what it was expected to be before, and it was  
6 large than what it was anticipated.

7           MR. GURLEY: Commissioner, this is John Gurley,  
8 if I could just add, try to add a legal point to that. In  
9 our view, all of these glossy analyses are really not all  
10 that relevant to your analysis as part of the MTR.

11           COMMISSIONER STAYIN: Understand. I just thought  
12 they oughta have the opportunity to respond to it. All  
13 right, thank y'all. That's all I had.

14           CHAIRMAN JOHANSON: Commissioner Karpel?

15           COMMISSIONER KARPEL: I don't think I have  
16 anything further at this time.

17           CHAIRMAN JOHANSON: All right. Do staff have any  
18 questions for this panel?

19           MR. DAVID: Andy David from the International  
20 Trade Commission. Just one question for all the parties  
21 here. We've heard a lot of discussion about 2020 and going  
22 over the cell quota in 2020. But we don't have great  
23 visibility on that, because our data is in first half 2019.  
24 Firms are ramping up production, things like that. So to  
25 the extent possible if you can provide us your internal

1 projection of your production capacity in 2020, as well as  
2 you projected 2020 production if you have that in  
3 megawatts, 2020 capacity and production. Thank you.

4 CHAIRMAN JOHANSON: All right. Do any of the  
5 parties on Panel 2 have questions for this panel? None do?  
6 Then let's recess for lunch and come back here at 2:30. And  
7 please be sure, if you have any confidential business  
8 information, to take it with you, as the room is not secure.

9 (Whereupon a lunch recess was taken to reconvene  
10 at 2:30 this same day.)

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AFTERNOON SESSION

CHAIRMAN JOHANSON: Mr. Secretary, are there any preliminary matters?

MR. BURCH: Mr. Chairman, I would like to note all witnesses on panel two are seated and have been sworn in, and they have 60 minutes for their direct testimony.

CHAIRMAN JOHANSON: You may proceed whenever you would like.

MR. NICELY. Thank you, Mr. Chairman. I am Matt Nicely with Hughes Hubbard & Reed for SEIA. I am going to pass the baton right away to SEIA's CEO, Abigail Hopper.

STATEMENT OF ABIGAIL HOPPER

MS. HOPPER: Thank you Good afternoon, Mr. Chairman and Commissioners. My name is Abigail Ross Hopper and I am the president and CEO of the Solar Energy Industries Association, or SEIA.

I appreciate the opportunity to be here today. As the national trade association for the U.S. solar energy industry which employs more than 242,000 Americans, unfortunately 18,000 less than two year ago, SEIA represents the entire U.S. solar supply chain, including manufacturers, construction companies, installers, and a multitude of industry service providers. Our mission is to build a strong solar industry to power America.

During the original investigation, SEIA led

1 industry opposition to the Petition and the existential  
2 threat posed by Suniva and Solar World's proposed remedy.  
3 We provided rigorous economic analysis and testimony to warn  
4 the Commission and the Administration of the disastrous  
5 effects of trade restrictions on an industry that must  
6 compete with other sources of electricity to continue to be  
7 viable.

8           At the time, we forecast that a tariff of  
9 approximately 30 percent would result in the loss of more  
10 than 2 gigawatts of solar deployment annually. Now, two  
11 years later, and with the benefit of hard data, our forecast  
12 has been validated.

13           Specifically, SEIA has prepared a market impact  
14 report to assess the actual impact of tariffs on the broader  
15 U.S. solar industry and American economy, the results of  
16 which were attached to SEIA's prehearing brief as Appendix  
17 A. I will summarize the report's key findings.

18           The fact that U.S. module prices have fallen over  
19 the past two years reflects a long-term trend of the  
20 relentless pace of technological advancement and cost  
21 reduction. Parties in support of the safeguard measures  
22 claim that falling prices are evidence that the safeguard  
23 measures are having no adverse impact on the U.S. solar  
24 industry.

25           We strongly disagree. The core issue in this

1 proceeding is the adverse impact safeguard measures have had  
2 on solar installations, also known as deployment, in the  
3 United States. And that impact has been significant.

4 In the United States, solar competes against  
5 other forms of power generation in highly regulated and  
6 localized markets. In this environment, it is essential  
7 that we continue to drive down solar's costs. And every  
8 time we do that, we open new markets for solar energy. Over  
9 the past few years, one of the biggest drivers of cost  
10 reductions has been advances in solar technology.

11 We have not, however, been able to take full  
12 advantage of this technological progress because of the  
13 tariffs that significantly undercut price gains from  
14 technology advances and slow the pace of solar adoption.

15 While some geographies remain resilient despite  
16 tariffs, other markets have been pushed out of reach for  
17 consumers. Across all market segments, we estimate that the  
18 safeguard tariffs will cost \$19 billion in lost investments,  
19 which is the equivalent of \$10.5 million per day, 10.5  
20 gigawatts in lost deployments, and 62,000 lost jobs.

21 This is what the safeguard measures are costing  
22 the U.S. solar industry and the American economy. In  
23 fairness, we also recognize that the tariffs have resulted  
24 in new module assembly investments and related domestic  
25 manufacturing jobs. But we have to ask ourselves, at what

1 cost?

2           We estimate that each new module assembly job has  
3 cost the United States 31 other solar jobs, 5.3 megawatts of  
4 deployment, and nearly \$9.5 million in investments. And  
5 that is simply a bad deal for America.

6           In addition, even with these new facilities the  
7 U.S. solar module capacity remains far too small to meet the  
8 needs of U.S. consumers, particularly given the large  
9 volumes required by the utility-scale segment.

10           We estimate that less than one gigawatt of  
11 domestic production is servicing the utility segment, but  
12 annual demand exceeds 10 gigawatts. Given the supply  
13 shortfall, there is an urgent need to eliminate the tariffs  
14 or, at a minimum, moderate the tariffs to help address the  
15 supply shortfall.

16           Indeed, this was the intent behind the bi-facial  
17 module exclusion request. But most certainly the tariffs  
18 should not be made worse.

19           So what are we asking you to do this afternoon?  
20 We respectfully request that you inform the Administration  
21 about the severe economic and employment costs of the  
22 safeguard measures which far outweigh the benefits, and  
23 recommend that the tariffs be terminated or, at a minimum,  
24 moderated to address the severe domestic supply shortfall.

25           Barring complete termination, we support these

1 arguments as reasonable alternatives for providing a  
2 necessary relaxation of the trade restrictions. Thank you.

3 MR. NICELY: Dean?

4 STATEMENT OF DEAN PINKERT

5 MR. PINKERT: Good afternoon. I am Dean Pinkert  
6 with the law firm of Hughes Hubbard & Reed, and it is good  
7 to be back here again.

8 This agency plays a critical role in the Section  
9 201 process, and that role is just as critical now as it was  
10 during the original investigation.

11 In both instances, under Section 201(a)(1)A in  
12 regard to investigations, and under Section 204(b)(1)A I in  
13 regard to midterm reviews, the President takes into account  
14 the full range of economic and social factors in performing  
15 a cost/benefit analysis. And in both instances, the  
16 Commission's analytical expertise should be brought to bear  
17 on those factors.

18 In addition, Section 204(b)(1) A I raises the  
19 question for the President of whether the domestic industry  
20 has made, quote, "adequate efforts to make a positive  
21 adjustment to import competition." Unquote. And the  
22 Commission should provide insight on that issue as well.

23 Regarding cost versus benefits, the Commission  
24 should take into account both the real-world experience of  
25 market participants and sophisticated modeling that reflects

1 the distinctive conditions of the energy market.

2 This will help you to measure the impact of the  
3 tariffs on the cost, as well as the number of solar  
4 installations. I note that a proper analysis of impact on  
5 the number of installations must have a counter-factual  
6 element. In other words, you should compare the number of  
7 installations you would expect absent the tariffs with the  
8 number you actually observe.

9 This is very much in line with the way the  
10 Commission determines the impact of a trade agreement. When  
11 you perform that kind of analysis here, you can see the very  
12 substantial suppressive effect of the tariffs.

13 Turning to adjustment efforts, it has long been  
14 the case that the domestic industry lacks the ability to  
15 meet the needs of the largest segment of the market, the  
16 utility scale segment.

17 It is unfathomable that domestic producers of  
18 modules could maintain that there has been a positive  
19 adjustment to import competition while the needs of the  
20 utility-scale segment remain almost completely unaddressed  
21 by domestic sources of supply. And we will be talking more  
22 about that as we go on.

23 Thank you, very much.

24 STATEMENT OF TOM PRUSA

25 MR. PRUSA: Good afternoon. My name is Tom

1 Prusa. I am a Professor of Economics at Rutgers University.  
2 I provided economic analysis two years ago during the  
3 original investigation. Today I will discuss some of the  
4 economic issues that are vital for an understanding of how  
5 the solar market works, and why tariffs are so costly.

6 First, it cannot be stressed enough that the  
7 demand for solar is a derived demand based on the underlying  
8 demand for electricity. As such, solar must compete with  
9 other sources of electricity generation. And from the  
10 perspective of electricity generation, these other sources  
11 are perfect substitutes for solar.

12 For the homeowner, that means solar must compete  
13 with the price of electricity provided from the grid. For  
14 utility-scale projects, solar has to compete with the  
15 levelized cost of fossil fuel power plants. If the price of  
16 solar increases, it does not mean people will go without  
17 electricity, but it does mean other methods of electricity  
18 generation will be chosen. And, importantly, the pricing  
19 data confirms that the safeguard tariff has been passed  
20 through to U.S. buyers. The tariffs have not been absorbed  
21 by foreign producers.

22 The safeguard tariffs have made U.S. solar prices  
23 the highest of any major market in the world. This crucial  
24 concept is not given sufficient attention in the staff  
25 report. The viability of solar varies dramatically from

1 location to location across the United States. This  
2 variation is due in part to the fact that some locations are  
3 sunnier than others. It also is due to the large  
4 differences in the prices of alternative sources of  
5 electricity across the United States.

6 Unlike many other products the Commission  
7 investigates, a single elasticity of demand profoundly  
8 mischaracterizes how tariffs impact consumers. I note that  
9 the slide illustrates these concepts for residential solar,  
10 but the same economic concepts apply to other market  
11 segments, and perhaps even more so because module costs  
12 account for a larger share of the total costs for commercial  
13 and utility-scale applications.

14 The deployment model used by Wood McKinsey digs  
15 deep into the weeds of the solar market. It separately  
16 models the competitiveness for each market segment in  
17 hundreds of distinct markets in the United States.

18 The safeguard tariff makes solar entirely  
19 uneconomical in one location, but only partially in others.  
20 And more subtly, the same size tariff can wipe out the  
21 competitiveness of utility-scale solar in one location, but  
22 have a smaller effect on residential solar in the same  
23 location.

24 Moreover, competitive conditions are constantly  
25 changing over time and location, often due to changes in

1 regulatory policies but also due to the relentless cost in  
2 efficiency improvements that have characterized solar for  
3 more than four decades, a phenomenon referred to as  
4 "Swanson's Law," which we explained at length during the  
5 investigation.

6           Module prices have fallen by about 10 percent on  
7 average for many years. The safeguard tariff has not caused  
8 Swanson's Law to cease being relevant. The only way to  
9 characterize the impact of the tariff is to ask what would  
10 demand be if prices were undistorted by the safeguard  
11 tariff?

12           That is what SEIA's analysis does. Importantly,  
13 SEIA's analysis shows the impact of the safeguard increases  
14 over time despite the step down in tariff rates. A simple  
15 way of thinking about this is that over time Swanson's Law  
16 price reductions put more and more solar installations  
17 within range of grid parity. The tariffs, therefore,  
18 threaten to extinguish a greater and greater amount of solar  
19 demand.

20           As a result, the largest impact on employment is  
21 ahead of us, not behind us. The correct policy response,  
22 therefore, is to accelerate the reduction in the tariffs, if  
23 not completely remove them. As Ms. Hopper has noted, the  
24 cost far exceeds the benefits, and leaving the policy  
25 unchanged will only increase the burden on U.S. consumers.

1 MR. NICELY: Mike?

2 STATEMENT OF MICHAEL O'SULLIVAN

3 MR. O'SULLIVAN: Good afternoon, Mr. Chairman.

4 My name is Michael O'Sullivan. I am a senior vice president  
5 and head of renewable development and storage development at  
6 NextEra Energy Resources. I have had this role for the last  
7 18-and-a-half years.

8 Resource is the competitive generation arm of  
9 NextEra Energy. NextEra Energy is the largest utility  
10 company in the world with a market cap of over \$110 billion.  
11 We are also the world's largest wind and solar company, and  
12 we have deployed over \$30 billion to date in wind and solar  
13 and storage.

14 NextEra also owns two of the largest utilities in  
15 Florida, Florida Power & Light, and Gulf Power. At NextEra  
16 we employ, actually today, not projected or forecasted,  
17 14,000 Americans, 10,000 of whom lived in Florida, and 2,000  
18 of whom are Veterans.

19 We deploy electricity to over 13-and-a-half  
20 million -- excuse me, 13-and-a-half million homes, and we  
21 paid over \$660 million last year in 36 different states in  
22 property taxes alone.

23 We provide wholesale solar and wind energy to  
24 over 50 of the utilities in this country in over 30 states.  
25 We actually invest the capital and actually own such large

1 solar projects that we've been discussing all day today and  
2 two years ago when I was here in front of you then.

3           These facilities provide that electricity that  
4 other utilities then sell to such retail customers. We  
5 have, as I mentioned earlier, we have invested over \$30  
6 billion in such renewables over the last 10 or 20 years.

7           In the next 3 to 5 years, we are hoping to invest  
8 another \$10- to \$20 billion, if not more, in wind, solar,  
9 and storage. However, one thing that is not getting talked  
10 about at all this morning, or not very little two years ago,  
11 was the cost of such to the customer -- i.e., the voter.

12           This has now become a dominant factor in how  
13 utilities decide whether to approve or acquire the  
14 electricity from such wholesale solar projects. Unless such  
15 new wholesale solar projects are cost competitive against  
16 wind, natural gas, and other forms of electricity, they will  
17 have a harder time moving forward in most states.

18           Currently our providers of such CSPV panels are  
19 multinational producers from all over the world that many  
20 Americans wouldn't recognize the name of any such companies.  
21 They can meet some of our requirements on quality, scale,  
22 time, and specifications, but almost entirely these  
23 manufacturers are not credit-worthy counterparties for a  
24 sophisticated electric industry.

25           Unfortunately, we do not see today or in the near

1 future such domestic manufacturers alone as being able to  
2 meet our supply needs or the industry's supply needs as we  
3 grow and move in the foreseeable future. While we applaud  
4 the decision of certain foreign companies to set up new  
5 module manufacturing here in the U.S., these investments to  
6 date, I remind you, have been marginal at best and are tiny  
7 on the development of major utility projects in the United  
8 States.

9 In our company's original, and in my original  
10 testimony in 2017 before this very same Commission, we  
11 provided some predictions that we think have come true.

12 First, U.S. demand for solar energy continues to  
13 grow. There is no doubt about that. But this growth has  
14 been hampered and dampened by the dark result of the  
15 safeguard tariff.

16 Demand for solar energy is driven primarily by  
17 cost, and its relative competitiveness to other choices,  
18 primarily natural gas, wind, and sometimes existing fossil  
19 and existing nuclear generation.

20 Panel prices at the wholesale level are a major  
21 driver of such costs on a solar project. At NextEra we have  
22 significantly reduced our purchases in '18 and '19 because  
23 the safeguard tariff made solar panels uncompetitive on a  
24 relative basis.

25 Second, the safeguard tariff is now priced into

1 the purchase of global panel prices and there is a  
2 significant risk premium being added by the vendors around  
3 the world, including those here in the U.S. because of the  
4 uncertainty in the market, not knowing whether the U.S. may  
5 add further tariffs or there may be other costs added on to  
6 such panel purchases.

7 This uncertainty has led to increased project  
8 costs, which has increased the prices our customers may be  
9 willing to be paid. And as a result, dampening demand and  
10 giving them a choice to go to other choices for wholesale  
11 electricity.

12 Incrementally, not as many projects are getting  
13 added, and thousands of jobs are not getting created when  
14 solar development is placed at such a competitive  
15 disadvantage to wind, natural gas, and other forms of  
16 electricity. That is something that is eerily quiet and not  
17 being discussed earlier this morning as I listened to other  
18 members of the other panel.

19 The forgotten, and yet most important stakeholder  
20 in this whole process, is the average American consumer who  
21 pays the bills for electricity every day in the other 50  
22 states. Beyond Florida, where we serve over 5 million  
23 meters in those 13 million customers, our solar electricity  
24 is largely sold wholesale to those 50 other utilities I  
25 mentioned across in over 30 states across the country

1 through long-term power purchase agreements.

2           The price those utilities pay us is then passed  
3 through in the retail rate to the customers. The slowing of  
4 solar energy deployment at the wholesale level due to these  
5 safeguard tariffs is resulting in higher electricity costs  
6 for these voters and customers in all of the states.

7           Finally, it is telling that the two companies  
8 that asked for the safeguards, Suniva and Solar World, are  
9 no longer even making the sales. And Solar World sold out  
10 to our friends at Sun Power and Suniva remains shuttered.

11           The safeguard measure did not help these two  
12 companies, and instead others are now here with their hat in  
13 hand this morning asking for your commercial help to help  
14 their business models. It amazes me they have the audacity  
15 to do that.

16           Unsurprisingly, neither is an economic force in  
17 the wholesale market after the safeguard measure has been  
18 active for two years, and we don't expect them to be able to  
19 meet our needs as an industry or as the largest installer of  
20 such projects.

21           Continuing these tariffs sacrifices good-paying,  
22 skilled U.S. solar construction jobs, along with  
23 unbelievably high property taxes that get dispersed in  
24 dozens if not hundreds of counties in the United States when  
25 such projects as not built.

1           Economic activity from the billions in solar  
2 investment will not occur due to its less competitiveness  
3 against wind, natural gas, and other forms of electricity  
4 that builds wholesale utilities are mandated to choose by  
5 for low-cost prudent electricity purchases.

6           On behalf of our wholesale and retail customers  
7 in Florida and in those 36 states I spoke of, and our 14,000  
8 employees including 10,000 of which live in the State of  
9 Florida, we urge this Commission not to destroy such  
10 projects or hamper the U.S. solar development program that  
11 is going on in the United States today.

12                         STATEMENT OF CRAIG CORNELIUS

13           MR. CORNELIUS: Good afternoon. My name is  
14 Craig Cornelius and I'm the Chief Executive Officer of  
15 Clearway Energy Group. Clearway is a developer, owner, and  
16 operator of renewable energy projects in the United States,  
17 which deploys billions of dollars in capital every year.

18           As you undertake your deliberations, I hope you  
19 will be able to arrive at a recommendation that balances our  
20 country's strategic need to remedy global trade inequities  
21 while also ensuring that productive businesses like ours are  
22 able to source products from overseas if they are not  
23 available here in the United States where the inability to  
24 do so would lead to lost economic opportunity in our  
25 country.

1           The data presented here today and in our  
2 pre-hearing brief, substantiates the existence of a major  
3 imbalance in the U.S. between domestic production of solar  
4 modules and robust demand for these modules for all  
5 applications and, most notably, utility scale applications.  
6 This imbalance existed at the time the Section 201 tariffs  
7 were initially imposed. It persists today in virtually the  
8 same measure and it will continue to persist through the  
9 currently scheduled sunset of the Section 201 tariffs.  
10 These facts should be recognizable in the Commission's  
11 ultimate reporting and we hope that you will recommend that  
12 this imbalance be addressed across a range of potential  
13 solutions.

14           Most comprehensively, this would be addressed by  
15 providing a tariff rate quota on a combination of modules  
16 and imported cells that closes the 8 gigawatt domestic  
17 supply gap we observe today, providing some room for growth  
18 for domestic module assemblers while avoiding project  
19 terminations on demand they're unable to service.  
20 Minimally, it would be partially addressed by continuing the  
21 bifacial module exclusion which would enable adoption of  
22 that technology of the future, partially moderating the  
23 slowdowns that a lack of domestic supply are introducing to  
24 utility scale development today.

25           As has been demonstrated to the Commission,

1 domestic demand for utility scale modules has greatly  
2 exceeded domestic supply since before the original 201  
3 proceedings in 2017. On average, domestically-manufactured  
4 CSPV modules have accounted for less than 10 percent of  
5 total U.S. installations. Similarly, domestic production of  
6 thin-filmed solar modules used principally for utility scale  
7 applications has accounted for less than 10 percent of  
8 domestic utility scale demand.

9           Though functionally equivalent to CSPV for  
10 utility scale applications, thin-film product was exempt  
11 from the scope of the original 201 proceedings and any  
12 additional thin-film supply used in the utility scale  
13 industry is imported tariff free from substantially the same  
14 countries of origin that are today subject to 201 duties.

15           Taking all of this into account, along with  
16 other limitations on bankability, only about 10 percent of  
17 the current addressable utility scale market is serviceable  
18 from domestic solar module manufacturing capacity. Indeed,  
19 this is a best case analysis of that serviceability, as many  
20 owner/operators of utility scale projects have concluded  
21 that our options for thin-film supply cannot be prudently  
22 relied upon as a basis for project development in the future.  
23 This supply shortfall should be recognized within the policy  
24 recommendations of the Commission and the safeguard measure  
25 imposed two years ago should be adjusted accordingly.

1                   With respect to the levels of tariffs imposed on  
2 subject product, I suggest that the tariff digression  
3 established by the Administration, based on the Commission's  
4 recommendations, be preserved at the levels initially  
5 established to the extent that it is applicable, on any  
6 given product definition or on volumes exceeding any  
7 applicable quota levels. There was sound reason behind the  
8 digression initially established; namely, that the domestic  
9 industry needed to scale and become economically viable  
10 with the benefit of time-limited safeguard protections.  
11 That very logical policy signal should be preserved.

12                   I have a genuine respect for the work of this  
13 Commission, which is asked to balance a complex set of  
14 objectives and constraints amidst the substantial  
15 uncertainties around forecasting market responses to policy  
16 signals. My hope is that you will lead us towards a middle  
17 road that provides a continuing corridor for development of  
18 a domestic solar module industry while allowing companies  
19 like mine to advance the projects we're here to build with  
20 the multitude benefits they provide for economies and  
21 customers across the United States and for the environment  
22 we're all hoping to preserve for future generations. Thank  
23 you for your consideration of these requests and  
24 recommendations.

25                   STATEMENT OF GEORGE HERSHMAN

1                   MR. HERSHMAN: I'm George Hershman, President of  
2 Swinerton Renewable Energy, a division of Swinerton, Inc., a  
3 general construction firm founded in 1888. SRE is an  
4 American company, 100 percent employee owned with over 2,000  
5 employees in offices across the United States.

6                   As the president of one of the country's largest  
7 EPCs, Engineering, Procurement, and Construction firm, I can  
8 provide perspective on the negative effects of the safeguard  
9 measure on the broader solar industry. More specifically,  
10 the largest employers and job creators in the solar industry  
11 -- installers like ours. SRE offers turnkey utility scale  
12 solar power solutions that feed the wholesale electricity  
13 market. We built close to 3.3 gigawatts of utility scale  
14 solar projects between 2016 and 2018. Altogether, these  
15 projects created close to 11,000 well-paid, rural  
16 construction jobs in 19 states.

17                   In 2019 and into 2020, we continue to see the  
18 impact of tariffs on our project pipeline. The 201 tariff  
19 caused a slowdown in solar projects. In 2018 alone, our  
20 business was impacted by over 50 percent. Without the  
21 tariffs, projects that would have been constructed in  
22 2018/2019 are now being forecasted for 2020 and 2021 due to  
23 costs. The continued delay of these projects impact our  
24 ability to create more jobs and train and retain employees.  
25 This is critical to mostly rural economies where we operate.

1           As an example, for a 50-megawatt project we make  
2 about 130 local hires. And for a 300-megawatt project  
3 roughly 500 local hires. The income that could be  
4 generated, coupled with the money spent in the local  
5 communities on goods and services, rental equipment, and  
6 local suppliers is also lost or postponed because of these  
7 tariffs.

8           Our projects also rely on many downstream  
9 manufacturers and supplies, like American Steel and  
10 electrical equipment manufacturers. Without the tariff, we  
11 would buy more product if deployment were permitted to  
12 flourish. In 2019 alone, we purchased almost thirty-one  
13 million dollars in American made steel piles and almost \$200  
14 million in racking from American-owned companies. These are  
15 dollars being spent in the U.S. supporting American  
16 companies and employees.

17           The utility projects we build must compete on  
18 cost with other forms of energy generation. Cost increases  
19 makes solar less competitive, eliminating or delaying  
20 procurement of solar as a renewable energy source. Jobs are  
21 lost both in short-term during development and construction  
22 as well as long-term during operations. Our country's  
23 national security is also being threatened. Our Military  
24 uses solar to reduce electricity costs and improve  
25 operational resilience. The Department of Defense set a

1 mandate to procure 25 percent of its energy from renewables  
2 by 2025 and is a national leader in micro grid development,  
3 accounting for a third of the U.S. capacity through 2020.

4 In 2017, we built 150 megawatts of solar  
5 projects around Pensacola, Florida to power local Air Force  
6 and Navy bases. These solar installations provide an energy  
7 source with zero dependence on global field supply. It's  
8 free and exhaustible and increases grid reliability for the  
9 bases in the case of natural disaster or attack. Tariffs  
10 only makes solar less economical for the U.S. taxpayer and  
11 damage national security for years to come.

12 My company and I remain frustrated by the fact  
13 that tariffs brought the solar market, not only significant  
14 job losses, but also lack of job creation. The tariffs are  
15 harmful to an important sector of our economy. I testified  
16 before this Commission and Trade Policy Staff Committee  
17 during the 201 investigation. I warned that new tariffs  
18 would unfairly increase the cost of large solar projects,  
19 placing many American jobs at risk. Unfortunately, that  
20 prediction came true. I urge the Commission and the  
21 President to remove the 201 tariffs on imported modules.  
22 Thank you.

23 STATEMENT OF ARTHUR FLETCHER

24 MR. FLETCHER: I'm Art Fletcher, Senior Vice  
25 President of Invenergy, LLC. Invenergy is the world's

1 leading independent and privately-held renewable energy  
2 company. Our home office is located in Chicago and we have  
3 regional development offices throughout the United States,  
4 Mexico, Canada, Europe, and Japan.

5           Invenergy develops, owns, and operates  
6 large-scale renewable and other clean energy generation  
7 facilities worldwide and is committed to clean power  
8 alternatives and continued innovation in electricity  
9 generation. We've developed more than 23 gigawatts of clean  
10 energy products that are in operation, construction, or  
11 under contract to be constructed. Our operations have  
12 reduced CO2 emissions by 25.7 million tons annually or the  
13 equivalent of taking 4.9 million cars off the road.

14           Most relevant here, Invenergy is now one of the  
15 leading solar energy developers within the United States.  
16 Invenergy's projects, which typically range in cost from 100  
17 million to over a billion dollars, takes years to develop  
18 and require multiple layers of coordination to complete.  
19 Everything has to come together at the right time in order  
20 for a project to be successful, including supply of  
21 equipment, obtaining permits, project financing,  
22 interconnection to the electric grid, off take agreements  
23 with utilities, et cetera. Because solar modules are the  
24 primary component of a solar project, any variations or  
25 uncertainty in their pricing or any inability to procure

1    them could have a dramatic impact on the viability of the  
2    project and/or threaten it altogether.

3                   Certainty is crucial to the success of a solar  
4    project and some suppliers have had a hard time committing  
5    its supply rates and quantities necessary for typical  
6    utility projects.  For example, in 2016 and 2017, Invenergy  
7    was in discussion with Hanwha Solar to supply modules to  
8    project in Long Island, New York.  After a year of  
9    negotiations and only five months before the modules were  
10   needed, Hanwha informed Invenergy that it did not have the  
11   supply available to fulfill the needs of the project.

12                   I'm now very cautious about engaging Hanwha  
13   again as a supplier.  Because of their relatively limited  
14   manufacturing domestic suppliers are especially challenged  
15   in committing supply at the rates and quantities necessary  
16   for utility projects.  Domestic producers have declined to  
17   sell product to Invenergy due to lack of supply or inability  
18   to meet timing, which has, in turn, forced us to turn to  
19   foreign-based suppliers.

20                   Turning to the bifacial issue, almost all of our  
21   utility scale projects are designed for bifacial modules  
22   which have several significant advantages.  They produce 5  
23   to 10 percent greater output than standard monofacial  
24   modules; thereby, requiring fewer modules for the same  
25   amount of power.  Fewer modules translates into less space,

1 less racking, and less overall impact necessary to construct  
2 a solar farm. For most of our projects land area is  
3 limited. Bifacial modules allow us to maximize energy  
4 production in that limited land area.

5 Bifacial modules are currently not being  
6 produced in the United States at the scale necessary to  
7 support the utility market. In fact, U.S.-based  
8 manufacturing is one or two generations of product  
9 development and implementation behind foreign-based  
10 manufacturing. This includes not only bifacial technology,  
11 but also HIT and HJT modules and CSPV wafer substrate  
12 materials made from end type doping material.

13 I had a long-standing relationship with Jinko  
14 Solar and have discussed the possibility of their new  
15 facility in Florida supplying Invenergy with bifacial  
16 modules. Due to tight supply in the United States  
17 currently, Jinko has not wanted to stop their monofacial  
18 production lines, domestically or internationally, to  
19 switch over to bifacial. It has been claimed that there are  
20 three domestic suppliers of bifacial modules, but the fact  
21 of the matter is when I looked at these companies I found  
22 they're all boutique. They're all producing 1000-volt  
23 residential or rooftop mount-class products in very limited  
24 quantities. None of them make 1500-volt panels demanded for  
25 utility scale products. Domestic manufacturing of bifacial

1 panels is simply irrelevant to the utility scale segment of  
2 the market.

3 I hope the Commission will help U.S. developers,  
4 like Invenergy, address the shortage in utility scale  
5 modules. Maintaining this bifacial exclusion is a good  
6 start, but getting rid of tariffs on 1500-volt panels  
7 altogether would be ideal. I thank you for time and happy  
8 to answer questions.

9 STATEMENT OF JAMES RESOR

10 MR. RESOR: Good afternoon. I'm James Resor,  
11 the CEO of EDF Renewables Distributed Solutions, just part  
12 of EDF Renewables. We're a renewable energy development and  
13 operating company that is headquartered in San Diego,  
14 California. In carrying out our mission to implement  
15 innovative renewable energy ideas, we employ approximately  
16 900 full-time employees in the United States and several  
17 thousand more contract technical and construction workers to  
18 build and operate our projects.

19 Our portfolio includes over 8 gigawatts of  
20 developed projects and 4 gigawatts of installed capacity,  
21 making us one of the largest utility scale developers in the  
22 United States. Over the past years, we've built project in  
23 14 states around the country. These solar projects have  
24 collectively created and supported hundreds and hundreds of  
25 construction jobs each year, in addition to numerous jobs in

1 engineering and development operations and administration.  
2 In addition, our purchases support a very diverse supplier  
3 base for racking structures, electrical components, and  
4 other electrical equipment required for solar projects.

5 In aggregate, the downstream jobs from solar  
6 project construction, related services, and non-module  
7 suppliers greatly exceeds the jobs created from the assembly  
8 of modules for the life cycle of each megawatt that's  
9 utilized in solar projects. We're pursuing a very active  
10 development strategy in the United States with outsourcing  
11 modules from China. We buy CSPV modules and have done so  
12 from Southeast Asia and South Korea and we source thin-film  
13 modules from the United States.

14 We've previously stated that we don't have plans  
15 to source modules from China for or current project  
16 construction and that is still the case. We own and operate  
17 our assets or typically develop and operate them in concert  
18 with our financial partners, so we have an ongoing stake in  
19 the cost of energy over the life of a project. We value  
20 quality over cost. Let me very clear, we rarely buy the  
21 lowest-priced modules for a project. We evaluate them  
22 whether a potential supplier has sufficient supply of  
23 high-quality modules with sufficient warranty and has a  
24 proven and reliable capacity and can meet EDF's rigorous  
25 technical specifications.

1           More specifically, we require them to deliver on  
2 a regular, predictable schedule and one that does not  
3 require a disproportional share of their volume to meet our  
4 business needs, to be subject to a manufacturing process and  
5 control audits and to implement the recommended  
6 improvements. Furthermore, to provide and validate the  
7 technology improvement roadmap that demonstrates continuous  
8 improvement in the performance, efficiency, and reduced  
9 cost of their modules.

10           In addition, to provide evidence of a secure and  
11 reliable supply of high-quality inputs that they use for the  
12 manufacturing of their modules and to set the module prices  
13 such that we can produce solar energy at a price that is  
14 competitive with other sources of energy, such as wind and  
15 conventional generation within the utility wholesale  
16 electric markets.

17           It's not a given that suppliers can meet these  
18 requirements. In our experience many suppliers will face  
19 challenges, such as the lack of scale, insufficient or  
20 uncertain financial resources, and limitations in their  
21 technology improvement trajectory; thus, they cannot meet  
22 our needs or the requirements of others in the utility  
23 wholesale electricity markets in the U.S. We do not expect  
24 that the U.S. manufacturers will be able to meet these needs  
25 in the near term due to a lack of capacity and also a lack

1 of a full product offering for the utility market.

2 In conclusion, EDF is opposed to the  
3 restrictions and any restrictions that would inhibit the  
4 ability to create new solar energy in the United States.  
5 Thank you again for your time and consideration.

6 STATEMENT OF MICHAEL ARNDT

7 MR. ARNDT: Good afternoon, and thank you for the  
8 opportunity to appear before you today. My name is Michael  
9 Arndt. I'm the managing director of development at  
10 Recurrent Energy and work in our Austin, Texas office.  
11 Recurrent is one of the largest solar development companies  
12 in the United States. We are proud to employ ninety  
13 Americans directly, and we also indirectly employ hundreds  
14 of other Americans including builders, engineers and other  
15 professionals.

16 I am familiar with our ongoing and plan  
17 contributions to America's energy grid, as well as our  
18 project sourcing decisions. I'm appearing today to ask the  
19 Commission to consider the adverse impacts of trade  
20 restrictions on our company, our industry and the broader  
21 U.S. economy.

22 As I testified last December, I'm grateful for  
23 the Commission's attentions to our promising industry, but  
24 I'm also concerned that the multiple overlapping trade  
25 restrictions on imports of solar products is detracting from

1 the development and deployment of U.S. solar energy. We  
2 remain optimistic about both the future of solar power and  
3 our role in the continued growth of solar energy. From 2006  
4 to 2019, Recurrent has accounted for more than 2,200  
5 megawatts of U.S. solar projects, \$9 billion in capital  
6 raised, 5,500 construction jobs and \$250 million added to  
7 state and local tax bases.

8 Cumulative U.S. trade measures have caused market  
9 uncertainty that dampens U.S. demand for utility scale solar  
10 energy leading to fewer installations and delayed projects.  
11 Recurrent has acutely felt the effects of the cumulated  
12 trade measures. For example, the vast majority of our  
13 on-contracted solar projects in advanced stages of  
14 development, are offered to energy buyers with 2022  
15 completion dates and beyond. This is despite the fact that  
16 many of the projects are positioned to be completed earlier,  
17 but aren't economically viable due to the tariffs.

18 Tariffs and associated cost increases have led us  
19 to the delay of the following: Over 1,100 megawatts of  
20 projects, \$1 billion of direct capital investment,  
21 approximately 3,000 construction jobs, in excess of \$100  
22 million added to state and local tax bases. Be pleased to  
23 answer your questions.

24 STATEMENT OF HAMILTON DAVIS

25 MR. DAVIS: Good afternoon, Mr. Chairman, fellow

1 Commissioners, and Commission staff. My name is Hamilton  
2 Davis, and I am the director of Regulatory Affairs at  
3 Southern Current, a Charleston, South Carolina-based company  
4 engaged in all three solar market segments. I'm here today  
5 to testify on the unique economics of utility scale projects  
6 and the negative impact of the 201 tariffs on this market  
7 segment.

8           In the more than two years since this case was  
9 filed, the resulting data have only confirmed our industry's  
10 most significant concerns. The demand for utility scale  
11 panels is far outstripping domestic supply and undermining  
12 our ability to effectively compete against monopoly  
13 utilities in monopsony markets and against other forms of  
14 electricity in wholesale markets.

15           Our goal today is simply for the Commission to  
16 recognize in its midterm review, the adverse impacts these  
17 tariffs are having on the utility scale solar industry. As  
18 the pricing of solar panels declined roughly 79% over the  
19 five years from 2011 to 2016, utility scale installations  
20 grew thirteen-fold.

21           In the first half of 2017, installations were  
22 still growing 14% year-over-year on the record-breaking year  
23 of 2016. Yet almost immediately following Suniva's filing  
24 the 201 case in the late spring of 2017, panel prices jumped  
25 roughly 30% to the range of 45 cents per watt and after the

1 case was decided, prices stayed in that range through much  
2 of 2018.

3 As a result of those price increases, utility  
4 scale solar installations crashed 43% over the two-year  
5 period. The on-the-ground impact of the 201 tariffs in  
6 states like South Carolina, North Carolina and Georgia, is  
7 higher costs being passed along directly to consumers, while  
8 also depriving rural counties and land owners of the  
9 substantial investments that companies like Southern Current  
10 bring to otherwise economically-challenged communities and  
11 families.

12 Today we are requesting that the unique economics  
13 of the utility solar segment be recognized in your report to  
14 the president. Thank you and I look forward to your  
15 questions.

16 STATEMENT OF CARY HAYES

17 MR. HAYES: Good afternoon. My name is Cary  
18 Hayes and I am the president of REC Americas, a company  
19 headquartered in San Mateo, California. We import and sell  
20 solar modules manufactured in Singapore. Thank you very  
21 much for the opportunity to present testimony here today.

22 The Commission's investigation report completed  
23 two years ago unanimously found that imports of CSPV  
24 products from Singapore were not a substantial cause of  
25 serious injury or threat to the U.S. domestic industry.

1 Therefore, the Commission recommended excluded Singapore  
2 from the safeguard remedy.

3 Consistent with the original investigation, the  
4 Commission should recommend in its midterm report to the  
5 president that CSPV products from Singapore be excluded from  
6 the remedy. First, the Commission's investigation report  
7 clearly established that Singapore was intended to be  
8 excluded.

9 Second, recent import data continues to show that  
10 Singapore is not a substantial cause of serious injury or  
11 threat of serious injury to the domestic industry. And  
12 third, a country exclusion for Singapore is warranted, given  
13 the unique and special economic and trade relationship  
14 between the two countries. In other words, the reasons the  
15 Commission gave to exclude Singapore from the remedies still  
16 apply today. Therefore, we ask that you make the same  
17 recommendation to exclude Singapore in your midterm report.

18 In the Commission's investigation, an economic  
19 model was built to assess different remedy options on  
20 imports of CSPV products. Singapore was notably excluded  
21 from all models. This fact alone is a very strong argument  
22 for a Singapore exclusion. In addition to this, import data  
23 collected in the midterm review continues to demonstrate  
24 that CSPV products from Singapore are not a substantial  
25 cause of serious injury or threat.

1           Singapore has a small PV manufacturing industry  
2 that manufactures high-quality CSPV products for export to  
3 the U.S. and other global markets. In fact, REC Solar is  
4 the only CSPV manufacturer in Singapore with a vertically  
5 integrated facility that produces both cells and modules.  
6 Since 2009, we have modestly expanded our capacity in  
7 Singapore, primarily through technological improvements.

8           We have the same factory on the same footprint.  
9 No matter what numbers you look at, the ratio to domestic  
10 production share of value of total imports or share of  
11 apparent U.S. consumption, imports from REC have not  
12 increased since the start of the investigation. We are  
13 still a small manufacturer that sells a high-end product to  
14 a niche market segment in the U.S.

15           Third, the trade relationship between Singapore  
16 and the United States continues to be unique and special.  
17 Since the implementation of the U.S./Singapore Free Trade  
18 Agreement, the U.S. trade surplus amounts to over \$200  
19 billion. The trade relationship between the U.S. and  
20 Singapore has been vibrant, and the continuation of the  
21 safeguard remedy threatens to cast a shadow on this robust  
22 trading relationship.

23           Under the Singapore Free Trade Agreement, the  
24 Commission is required to make a finding on whether imports  
25 from Singapore considered alone are a substantial cause of

1 serious injury. The data continues to show that imports  
2 from Singapore are not a cause of serious injury. For  
3 instance, during the period of January to September, 2019,  
4 imports of CSPV products from Singapore account for less  
5 than 3% of total imports by value.

6 Further, the close cooperation between the U.S.  
7 and the Singapore governments on trade matters, particularly  
8 customs matters, ensures a country exclusion for Singapore  
9 will be limited to only CSPV products from Singapore. U.S.  
10 Customs and Border Protection maintains a strong presence in  
11 Singapore, and therefore the compliance risk of any  
12 transshipment through Singapore is remote.

13 In conclusion, your original recommendation was  
14 to exclude Singapore. The Commission should again recommend  
15 to the president that Singapore should be excluded from the  
16 remedy. Thank you again for the opportunity to present our  
17 comments.

18 STATEMENT OF JONATHAN STOEL

19 MR. STOEL: Good afternoon Chairman Johanson,  
20 Commissioners and staff. My name is Jonathan Stoel. I'm a  
21 partner at Hogan Lovells and I represent the Canadian  
22 industry. I'd like to express my profound thanks to  
23 Commission staff for its tireless work on the original  
24 safeguard investigation and this monitoring investigation.  
25 We know how much work has been required in both proceedings

1 to gather complete and accurate data for reporting to the  
2 President.

3 This is particularly important to the Canadian  
4 industry, because the collected data again demonstrate the  
5 very small volume of imports from Canada should be excluded  
6 from the safeguard measures. I also would like to express  
7 my appreciation to the Commission for its negative finding  
8 as to Canada in the original investigation.

9 The Commission majority correctly found that  
10 Canadian imports met neither element of the NAFTA test, and  
11 therefore recommended that imports from Canada should be  
12 excluded from any safeguard remedy. First, the Commission  
13 majority correctly found that Canadian imports did not  
14 account for a substantial share of total U.S. imports.

15 Second, the Commission majority correctly  
16 found that Canada had not contributed importantly to any  
17 serious injury caused by imports. The Commission's findings  
18 were correct then and would remain correct today if the  
19 NAFTA test were reapplied. This is because the Canadian  
20 industry is small and stable. The three companies before  
21 you today were the Canadian CSPV sole manufacturing industry  
22 in 2017. They are today the entire Canadian industry.

23 Solar supply chains in Canada and the United  
24 States have long been intertwined, and this is even more  
25 accurate today. The Commission heard in the original

1 investigation about how a strong Canadian solar industry  
2 supports a strong U.S. industry, and also how both  
3 industries face similarly high production costs.

4           Since the original investigation, two Canadian  
5 producers, Heliene and Silfab, have made substantial  
6 investments in Minnesota and Washington State to expand  
7 solar module manufacturing operations, creating more than  
8 200 manufacturing jobs and fostering economic development in  
9 the process.

10           For these reasons, we respectfully request  
11 that the Commission reaffirm its findings that imports from  
12 Canada deserve to be excluded from the safeguard measures.  
13 I will now turn it over to Canadian industry witnesses,  
14 beginning with Paolo Maccario of Silfab Solar.

15                           STATEMENT OF PAOLO MACCARIO

16           MR. MACCARIO: Good afternoon and thank you  
17 for the opportunity to appear before you today. My name is  
18 Paolo Maccario. I am the president and CEO of Silfab Solar,  
19 a solar module producer based in Ontario, Canada. I am also  
20 the president and CEO of Silfab Solar Washington, a solar  
21 module producers located in Bellingham in the state of  
22 Washington. I'm here to explain Silfab's opposition to the  
23 safeguard measures. Silfab is part of the very small  
24 Canadian module manufacturing industry, which has been and  
25 remains deeply intertwined with the U.S. solar industry.

1                   These are key reason why the Commission  
2                   correctly found in its original safeguard investigation that  
3                   Canadian industry supports, not hinders, the U.S. solar  
4                   manufacturing industry. The Commission should once again  
5                   recommend to the President that U.S. imports from Canadian  
6                   should be excluded from any safeguard measures.

7                   Silfab has a long history of partnering with  
8                   the U.S. solar industry. For instance, from 2014 to 2016,  
9                   Silfab collaborated with U.S. solar cell manufacturer Suniva  
10                  in support of both companies' U.S. customer. Our relation  
11                  ended due to Suniva quality problems and subsequent closure  
12                  and bankruptcy.

13                  We are excited about the success enjoyed by  
14                  our growing U.S. business. In 2018, Silfab invested in a  
15                  solar module manufacturing facility in Bellingham,  
16                  Washington. That facility was previously owned by ITAC,  
17                  which was going out of business. Silfab saved those workers'  
18                  jobs and began producing at the former ITAC site in October  
19                  2018. Since then, we have invested more in the facility,  
20                  significantly increased capacity and grown employment. We  
21                  currently operate profitably and employ more than 100  
22                  Americans. Silfab has planned to further expand its U.S.  
23                  operation, make additional investment and hire more U.S.  
24                  workers.

25                  The continued health of  
                    Silfab Canadian manufacturing business is vital to our U.S.

1 production operation in Washington state. Silfab Canadian  
2 operation facilitate investment and research and  
3 development that have substantially benefitted our U.S.  
4 business. Put simply, if Silfab operation in Canada were no  
5 longer economically viable, then we would be unable to  
6 expand our Bellingham production capacity, or increase our  
7 American hiring.

8 Silfab's ability to access tariff-free solar  
9 cells is also critical to the success of our Bellingham  
10 operations. As I testified during the Commission's original  
11 investigation, there are no producers of solar cells in  
12 Canada. Moreover, today there is no commercial production  
13 of solar cells in the United States to supply Silfab or any  
14 other U.S. solar manufacturer. Accordingly, Silfab must  
15 import all of the solar cell consumed in North America in  
16 our solar module production.

17 The U.S. industry producing solar module is  
18 still growing. Accordingly, I am concerned that in 2020 the  
19 tariff rate quota provided by the President for up to 2.5  
20 gigawatt of solar cells would be exhausted. If the  
21 safeguard measures are to be maintained, then Silfab would  
22 support the TRQ expansion in order to assist our U.S.  
23 manufacturing operation and our American workers. I would  
24 be pleased to answer any questions. Thank you.

25 STATEMENT OF VINCENT AMBROSE

1                   MR. AMBROSE: Good afternoon, and thank you  
2 for the opportunity to appear before you again today. My  
3 name is Vincent Ambrose, and I'm the general manager for  
4 Canadian Solar, Inc. North America. We are a global solar  
5 company headquartered in Ontario, Canada and have invested  
6 more than \$1 billion into the U.S. solar industry.

7                   My responsibilities involve managing our U.S.  
8 and Canadian businesses. Our only Canadian manufacturing  
9 facility, Canadian Solar Solutions, Inc., is located in  
10 Guelph, Ontario and produces solely solar modules and not  
11 solar cells. In November 2017, the Commission recommended  
12 the exclusion of U.S. imports of solar products from Canada  
13 from the President's safeguard measures.

14                  Developments since the Commission's original  
15 safeguard investigation confirm the correctness of that  
16 recommendation. First, our U.S. imports of solar modules  
17 from Canada declined prior to the Commission's initial  
18 safeguard investigation, and have continued to erode since  
19 the President's imposition of the safeguard measures in  
20 February 2018. This is primarily due to high production  
21 costs in Canada that have caused the Guelph facility not to  
22 be commercially competitive.

23                  We thus have shifted our Canadian operations  
24 to research and development, and even further away from  
25 solar module manufacturing. In fact, we've had to reduce

1 significantly our Canadian workforce and production  
2 capacity. Today, Canadian Solar is producing and exporting  
3 only very small quantities of solar modules to the United  
4 States. This is highly unlikely to change due to the high  
5 cost of new equipment and labor in Canada.

6 In sum, there's no valid reason to continue  
7 the safeguard measures on imported solar modules from  
8 Canada, and I ask that the Commission reaffirm in its  
9 recommendation to the President that imports from Canada  
10 should be excluded from the safeguard measures. I'll be  
11 pleased to answer any questions. Thank you very much.

12 STATEMENT OF MARTIN POCHTARUK

13 MR. POCHTARUK: Good afternoon. Thank you for  
14 the opportunity to testify today. My name is Martin  
15 Pochtaruk. I'm the president of Heliene, a solar module  
16 manufacturer with production facilities in the U.S. and  
17 Canada. I'd like to begin by making two important points.  
18 First, imports of solar modules from Canada are not harming  
19 the U.S. solar industry. This is primarily because U.S.  
20 module production is unable to meet U.S. demand, and U.S.  
21 imports of solar modules from Canada has been historically  
22 and remain today very small.

23 Second, U.S. imports of solar cells are  
24 important to the success of the U.S. solar industry as we  
25 have heard. This is because U.S. solar module manufacturers

1 require solar cells, which are not being produced in the  
2 United States in commercial quantities. Please keep these  
3 two points in mind as I describe Heliene's operations and  
4 our experience with the solar safeguard.

5 Heliene began manufacturing solar modules in  
6 Sault Ste. Marie, Canada in 2010. We have expanded  
7 substantially since, and today we have 86 employees in  
8 Canada and 90 in the United States. Prior to the solar  
9 safeguard, Canadian manufactures solar modules in Canada  
10 primarily for the export to the United States, with the  
11 balance remaining in Canada.

12 Heliene never used solar cells from China in  
13 our Canadian manufacturing operations. In fact, since 2015  
14 our Canadian modules have been qualified by the U.S.  
15 Department of Defense for various projects. Heliene then  
16 also invested in a laminate facility in Mountain Iron,  
17 Minnesota that was previously operated by Silicon Energy.

18 After the safeguard was imposed in February  
19 2018, Heliene was forced to shut the Minnesota laminate  
20 operation and to reduce Canadian production. But I'm proud  
21 to be the leader of a resilient firm. Heliene decided to  
22 rebuild the Minnesota facility, upgrading the production  
23 line, investing 21 million and hiring a total of 90 workers.

24 Our Minnesota production capacity today is 150  
25 megawatts, and Heliene plans to invest an increase by 200

1 megawatts, an additional \$12 million in 2020. We also have  
2 continued to produce modest volumes of solar modules at our  
3 Canadian production facility, which today has a capacity of  
4 250 megawatts a year. Heliene does not plan to expand its  
5 Canadian capacity over the next five years.

6           The safeguard measures have harmed Heliene's  
7 operations on both sides of the U.S.-Canada border. First,  
8 Heliene USA depends on capital and know-how from Heliene  
9 Canada, the mother company. Heliene Canada has suffered  
10 greatly from reduced sales and profitability due to the  
11 safeguard, limiting its ability to provide capital to the  
12 American Heliene USA.

13           In turn, this has adversely impacted Heliene  
14 USA's ability to hire additional workers and to support even  
15 further the economic resurgence of the historically  
16 depressed Iron Range region of Minnesota. Second, Heliene  
17 U.S. facility relies on imported solar cells to produce  
18 modules. We are extremely concerned that the 2.5 gigawatt  
19 cell quota will be inadequate to accommodate the 2020  
20 demands of U.S. solar module manufacturers, including  
21 Heliene.

22           This could mean that Heliene would need to pay  
23 a tariff on imported solar cells, causing our production  
24 costs to rise. I would be pleased to answer your questions.  
25 Thank you.

## 1 STATEMENT OF RYAN CREAMER

2 MR. CREAMER: All right. Hi, I'm Ryan  
3 Creamer, founder and chief executive officer of sPower, a  
4 leading independent power producer here in the United States  
5 that operates utility-scale solar wind power plants across  
6 the country. Since 2012, we've invested over 3-1/2 billion  
7 dollars in renewable energy projects. We own and operate  
8 150 facilities in 13 different states, and provide 1,600  
9 megawatts of power to these different communities.

10 We provide over 4,000 jobs that's created  
11 much-needed opportunity in these communities, as well as  
12 created development opportunities for other industries such  
13 as manufacturing plants, data centers and technology parks.  
14 While we've had tremendous growth over the last six years,  
15 that growth has been slowed since the tariffs were imposed  
16 due to our inability to meet price point required by our  
17 customers and because of the available supply of more  
18 efficient panels does not meet their demand.

19 This morning's panel, they claim that things  
20 haven't changed. In 2018 and '19, I installed half the new  
21 capacity that we installed in 2016 alone, so things have  
22 changed. As acting chair of SEIA, I want to offer some  
23 concluding remarks to round out our panel today.

24 As you heard earlier from Ms. Hopper and Dr.  
25 Prusa, SEIA has demonstrated the opportunity cost of the

1 safeguard tariffs in terms of lost employment, lost  
2 investment and lost jobs. The cost of these tariffs are  
3 significant to many communities across America. To put a  
4 fine point on this, just one example. A 100 megawatt  
5 utility-scale project provides two to three hundred high  
6 quality paying jobs in a community, creating business for  
7 multiple manufacturers of the supply chain.

8           Manufacture workers, construction workers,  
9 engineers, operators pump income into the local economy.  
10 Just 100 megawatt project requires \$90 million of capital  
11 expenditure and generates real and personal property tax  
12 revenue that provides millions of dollars annually to local  
13 governments and school districts.

14           These tax dollars are important. They're  
15 supporting our schools in some of the most economically  
16 disadvantaged counties and districts in the country.

17 Overall, SEIA estimates 10-1/2 gigawatts of solar will not  
18 be built due to these tariffs, with a loss of \$19 billion in  
19 investment and 62,000 jobs, often in these rural areas.

20           During the investigation, SEIA warned the  
21 Commission and the administration of what would happen with  
22 trade restrictions. Our predictions came true. We hope you  
23 will make it clear to the President that these tariffs have  
24 created more harm than good, and that they need to be  
25 terminated or moderated accordingly.

1                   We appreciate your time, we thank you for it,  
2                   and we're now ready to answer any of your questions.

3                   CHAIRMAN JOHANSON: I'd like to thank all of  
4                   you for appearing here today. We will begin Commissioner  
5                   questions with Commissioner Schmidtlein.

6                   COMMISSIONER SCHMIDTLEIN: Okay, thank you  
7                   very much. I'd like to thank you all for being here today,  
8                   especially Mr. Pinkert. Welcome back. So I think I just  
9                   want to start with a couple of questions about the data, to  
10                  make sure I understand what's in front of us, in particular  
11                  the data that backs up the numbers that are on this slide,  
12                  which it seems to me is really the heart of your argument in  
13                  terms of what the impact of the safeguard has been, right,  
14                  the lost investment, the lost deployment, the fewer jobs. I  
15                  guess that's the three, the three.

16                  And so when I look at your appendix, there's  
17                  Appendix A, which is an impact analysis done by SEIA, right.  
18                  So what I'm wondering is two things, I guess. One is who  
19                  did this impact analysis? Is that Ms. Hopper? Did you --

20                  MR. BOCA: Hi there. I'm Justin Boca with  
21                  SEIA. I and my team did this impact analysis using  
22                  forecasts that we obtained from Wood McKenzie Power  
23                  Renewables, formerly known as GTM Research.

24                  COMMISSIONER SCHMIDTLEIN: Okay.

25                  MR. BOCA: We constructed the scenarios based

1 on forecasts that Wood McKenzie produced before and after  
2 the investigation. So that was the source of our changes in  
3 market opportunity.

4 COMMISSIONER SCHMIDTLEIN: And is this -- this  
5 is some sort of economic model that you've run to do this?

6 MR. BOCA: They run their models to produce  
7 those forecasts. We just use their models to build the  
8 employment on top of that. We run -- the deployment figures  
9 we get from Wood McKenzie we run through an economic model  
10 provided by the National Renewable Energy Lab. You put in  
11 deployment, market segment and cost --

12 COMMISSIONER SCHMIDTLEIN: But this is the one  
13 that's online?

14 MR. BOCA: Yes.

15 COMMISSIONER SCHMIDTLEIN: I'm recalling now  
16 from I think the first, okay. And so are you all a team of  
17 economists who are doing this at SEIA?

18 MR. BOCA: I think most of us have degrees in  
19 public administration.

20 COMMISSIONER SCHMIDTLEIN: Oh okay. So you're  
21 sort of just having -- that's not me. Sorry, okay. Okay.  
22 So you're gathering information and sort of putting it  
23 together in this, okay.

24 MR. BOCA: Yes.

25 COMMISSIONER SCHMIDTLEIN: And then there's

1 also -- and then of course Dr. Prusa, there is your report  
2 that is Appendix B, that also talks about the Wood McKenzie  
3 deployment model, or should I say sophisticated deployment  
4 model?

5 DR. PRUSA: That's what I said, right. The  
6 Wood McKenzie is -- do you want me to --

7 COMMISSIONER SCHMIDTLEIN: Yes. Please go  
8 ahead and explain --

9 DR. PRUSA: Okay.

10 COMMISSIONER SCHMIDTLEIN: --what that is and  
11 if they're here today.

12 DR. PRUSA: Wood McKenzie is not here. Wood  
13 McKenzie is a broad industry analysis group. One of the --  
14 if you do not remember from two years ago, they were under  
15 the name or this group was GTM. One of the aspects of Wood  
16 McKenzie is a renewable energy project. They provide  
17 information services to many of the people in the room  
18 today, right.

19 So they have a sophisticated analysis of each  
20 hundreds of individual markets in the United States, to  
21 understand the incentive to put solar in, and in more than  
22 just within markets. Within the markets of, you know, how  
23 much sun and how many houses are in certain locations. It's  
24 very sophisticated. This hundreds, thousands, tens of  
25 thousands of hours' work to create --

1                   COMMISSIONER SCHMIDTLEIN: This is on the  
2 ground work?

3                   DR. PRUSA: That's the Wood McKenzie model.

4                   COMMISSIONER SCHMIDTLEIN: Right.

5                   DR. PRUSA: Right. They've run the model many  
6 times, including the model with and without the impact of  
7 the tariff. I'd just mention one thing. You know, I had  
8 seen this morning just one comment on this, that this  
9 morning's panel seemed to express confusion as if the Wood  
10 McKenzie model is -- I hate to say it. It's a household  
11 name in the solar industry, and in fact one of the people on  
12 your panel has written Wood McKenzie deployment results.

13                   So they act as the Wood McKenzie model, we  
14 have no idea what's in the Wood McKenzie model. None of the  
15 people here on this panel work for Wood McKenzie. The  
16 morning panel in fact has a person who's written the  
17 deployment models, right. So they clearly understand, and  
18 in fact more than that, they've written with that author the  
19 deployment result with and without the impact of the  
20 safeguard tariffs.

21                   So to act like this is something novel that we  
22 constructed is a vast mischaracterization of what Wood  
23 McKenzie has done. Wood McKenzie, as a service to the  
24 industry, has studied the tariffs and the effect of  
25 declining module prices with -- and made their deployment

1 estimates, right. There's no -- Wood McKenzie has no skin  
2 in this proceeding.

3 Wood McKenzie's job is to provide accurate  
4 industry analysis to the people in the room, so they have a  
5 sense of what the market will be like going forward.

6 COMMISSIONER SCHMIDTLEIN: Right, okay. So  
7 but I assume -- this is something that they provide to you  
8 at a price? It's not publicly available on their website,  
9 right?

10 DR. PRUSA: But except this is -- they did not  
11 do a commissioned project for this. This is among the  
12 regular quarterly reports. Among these are a deployment  
13 analysis that's updated regularly.

14 COMMISSIONER SCHMIDTLEIN: Okay.

15 DR. PRUSA: Two years they did a deployment  
16 analysis specifically with the impact of the tariffs versus  
17 a discussion of what their impact analysis would have been  
18 without the tariffs, right? This is something --

19 COMMISSIONER SCHMIDTLEIN: This wasn't done at  
20 you all's request is what you're saying?

21 DR. PRUSA: No exactly, no. Wood McKenzie  
22 does this for, as a part of what the product they provide  
23 the industry. This is information for the solar industry.  
24 There's no reason that McKenzie would want to get it wrong,  
25 because then the people that care about what they tell them

1 would be angry that their forecasts are wrong. Wood  
2 McKenzie's job is to be accurate, right, and it's not about  
3 this proceeding.

4 We took advantage of a series of reports that  
5 they've done, including the reports written by people on the  
6 morning panel, and we looked at what they, Wood McKenzie was  
7 saying with and without the impact of the tariff, and that  
8 is part of what then we used in this analysis that you're  
9 seeing here.

10 COMMISSIONER SCHMIDTLEIN: Right. So is it  
11 possible to get the data underlying these reports to provide  
12 to the staff? Because I think that's really what the  
13 complaint was this morning.

14 DR. PRUSA: So what is the analysis? What's  
15 the question about -- what do you mean by the data? The  
16 output on --

17 COMMISSIONER SCHMIDTLEIN: No. I think the  
18 data that they're using to come up with those end numbers,  
19 because I thought that was the complaint this morning, is  
20 that we can't really see what the input was.

21 MR. CORNELIUS: I'm sure that we could ask  
22 them for that. So let's organize to provide that. I mean  
23 they're one of the broadest information providers for the  
24 energy industry broadly. Oil and gas, they're probably the  
25 biggest.

1                   COMMISSIONER SCHMIDTLEIN: Yeah. We've looked  
2 at their website. I can see where mining, they do a lot of  
3 different sectors.

4                   MR. CORNELIUS: Yeah. We can ask them for  
5 that I think.

6                   COMMISSIONER SCHMIDTLEIN: Okay. I think that  
7 would be helpful, and you know, you can put that under the  
8 APO and give it to the staff.

9                   DR. PRUSA: And again what we used, though,  
10 was not a -- there was not a request for Wood McKenzie to  
11 write something for the purpose of this proceedings.  
12 They've written many, many analyses --

13                   COMMISSIONER SCHMIDTLEIN: I know, but you're  
14 relying on it.

15                   DR. PRUSA: I understand. I'm saying just so  
16 you don't think that -- there was no actually -- there  
17 wasn't a lot of financial exchange here for the analysis  
18 that they did that we took advantage of.

19                   COMMISSIONER SCHMIDTLEIN: Yeah, I understand.  
20 Yeah, we're just trying to get the underlying data.

21                   DR. PRUSA: And we in fact have submitted the  
22 reports that are -- we've drawn a number for. You're asking  
23 about -- I sense, if I understand correctly, something like  
24 inputs, deep into their model, the 3,000 or whatever number  
25 of districts they have and the various segments. Yeah, I've

1 never seen those inputs.

2 COMMISSIONER SCHMIDTLEIN: Okay, and then just  
3 so that I'm clear, Dr. Prusa, you haven't done a model  
4 yourself? You have basically reviewed these things and are  
5 explaining them in Appendix B?

6 DR. PRUSA: That's correct.

7 COMMISSIONER SCHMIDTLEIN: Okay, all right.  
8 Okay. I just wanted to be clear about what kind of data we  
9 were looking at. Now one other sort of overarching question  
10 I had separate from the data, I guess this is really more a  
11 legal question maybe. I think Mr. Nicely, you know, you  
12 touch on this in your brief and it sort of keys off one of  
13 the last statements that was made in the testimony, that one  
14 of the witnesses said, you know, we hope that the Commission  
15 makes it clear to the President essentially that the cost  
16 would outweigh the benefit of this remedy.

17 I guess my question back is is that really our  
18 charge here in this midpoint review? If you look at the  
19 language of the statute, we're really supposed -- you know,  
20 we've already gone through the initial stage of the  
21 safeguard, where the Commission made a finding that there  
22 was serious injury to the domestic industry, which includes  
23 cell manufacturers and module manufacturers, and now we're  
24 here to look at what progress has been made, to make a  
25 positive adjustment to that remedy and whether there's been

1 a development.

2                   So is it really our job, in other words, in  
3 this report to analyze whether or not we think overall the  
4 remedy has -- the benefits of the remedy have outweighed  
5 some cost, you know, downstream or even upstream?

6                   MR. NICELY: Thank you Commissioner  
7 Schmidtlein. Part A of both Section 201 and 203 have almost  
8 identical language that focuses on that very topic. It is a  
9 central foundational aspect of safeguard relief, the  
10 safeguard provision. Because we're dealing with fair trade  
11 not with unfair trade, notwithstanding what you heard from  
12 some of the early morning witnesses, because this is fair  
13 trade the presumption is that we're looking to make sure  
14 that the action that the President takes does in fact create  
15 greater benefits than costs.

16                   In our view, if you go on to Section 204 and  
17 look at the provision that Mr. Pinkert talked about in his  
18 testimony today at 204(b), in 204(b)(1)(A)(i) in the hole,  
19 or actually little (ii) in the hole, it talks about whether  
20 or not -- it talks about the effectiveness of the action  
21 taken under Section 2253 of this title, whether it has been  
22 impaired by changed economic circumstances.

23                   In our view, you can read that and should read  
24 that to suggest that you should be looking at whether in  
25 fact there have been changed economic circumstances that

1 altered that analysis of whether there were greater benefits  
2 than costs or the opposite.

3 COMMISSIONER SCHMIDTLEIN: Isn't that up to  
4 the President though, not --

5 MR. NICELY: It is up to the President.

6 COMMISSIONER SCHMIDTLEIN: I assume you all  
7 will file a brief at USTR as well.

8 MR. NICELY: Well, will we have the  
9 opportunity to do that in this context? No. But our point  
10 is that you have the responsibility here to provide a report  
11 to the President that helps him make his decision. You've  
12 heard from almost everybody in the room today that you  
13 should be making recommendations to the President.

14 You've heard from Suniva. They want you to  
15 adjust the stepdown. You've heard from Hanwha and their  
16 coalition, that they want to adjust the cell, the cell TRQ,  
17 and you're hearing from us that we think you should also be  
18 making a recommendation about these issues, not merely the  
19 issue of whether or not there are greater benefits than  
20 costs, which we think it's clear that the costs have far  
21 outweighed the benefits, but we also are bringing to your  
22 attention that's not the only issue, remember Commissioner.

23 We're also talking about the significant  
24 shortage for the utility scale sector, which the domestic  
25 industry has not addressed in the course of their

1 adjustment. But with regard to this benefits versus costs,  
2 we are reading this provision of 204(b) to allow you at the  
3 very least, and we think you would want to be helpful to the  
4 President, to provide in your report your conclusions about  
5 whether in fact the relief has indeed done what was  
6 intended.

7 I will also remind you that Chairman Johanson  
8 and Commissioner Williamson in their remedy proposal, which  
9 was the one that the President largely relied upon, did take  
10 into consideration these issues of greater benefits versus  
11 costs. What we're just asking you to do now is okay, let's  
12 look two years later. Has that in fact happened? Are we  
13 looking at a situation where the benefits are greater than  
14 the costs?

15 According to the analysis that we've put  
16 together, you can tell that that's not happened.

17 COMMISSIONER SCHMIDTLEIN: Okay, I apologize.  
18 My time has expired.

19 CHAIRMAN JOHANSON: Commissioner Kearns.

20 COMMISSIONER KEARNS: Thank you. Thank you  
21 all for appearing before us today. I think that's a good  
22 segue for the question I had on my mind, which is I mean  
23 when I hear you all say that, you know, that the loss of  
24 employment for downstream installers and others, you know,  
25 suggests that this is not a good remedy, I'm thinking to

1 myself is this -- wouldn't you hear that in any 201 case?

2 For example, we had one on steel however many  
3 years ago that was, and you know, same thing right? Like  
4 yeah, you've saved some jobs at a few steel companies, but  
5 now the building going up across the street is going to be  
6 delayed and, you know. How is what you are saying or is it  
7 any different than what we would hear in any 201 case, where  
8 there's always going to be downstream costs?

9 But to some extent hasn't Congress said look,  
10 you know, in these certain circumstances when you have a  
11 surge in imports that cause the kind of injury we're talking  
12 about, that's -- this is a short-term measure to provide  
13 some breathing room for the U.S. industry to get back on  
14 track. What makes this case different from every other?

15 MR. NICELY: Grid parity is what makes this  
16 case different. Alternative sources of energy is what makes  
17 this case different. We're talking about a product that's  
18 being sold into an electricity grid that's competing with  
19 other --

20 COMMISSIONER KEARNS: Let me stop you there.  
21 So wouldn't that mean though okay -- so for example natural  
22 gas is one example, right? The way things were, most of the  
23 solar products were being input in the United States.  
24 Natural gas increasingly is made in the U.S. So if we are  
25 -- by that logic, shouldn't we also be looking at natural

1 gas and say well, if you're making the imported source of  
2 energy more expensive than relatively, that's going to be  
3 good for U.S. natural gas jobs, is that not right?

4 MR. NICELY: If the jobs were one for one  
5 perhaps, and we can talk about this in our post-hearing  
6 brief if you'd like. The fact is that the fantastic thing  
7 about this particular industry is that -- and some  
8 economists would tell you that it's an inefficient industry  
9 in this regard, but it is actually labor intensive across  
10 the entire solar supply chain.

11 The point therefore is that there are a  
12 significant number, greater number of jobs in the solar  
13 energy sector than there are in other energy sectors.

14 COMMISSIONER KEARNS: But again, isn't that  
15 the same as the steel case, for like you know, there's  
16 really more jobs in taking the steel and making it into  
17 things and building buildings. Won't there always be more  
18 jobs downstream usually or not?

19 DR. PRUSA: Tom Prusa, yes. Not to the extent  
20 that you see it here. Yes, a typical multiple might be two  
21 or three to one. It's 30 to 1 in this industry. There is  
22 something different, and let me elaborate on what Mr. Nicely  
23 just said about good parity. So it's important to interpret  
24 the increase in imports that accrued earlier was a result of  
25 declining prices that allowed heretofore unviable solar

1 projects to become competitive, right?

2                   That's the challenge. You have to -- the  
3 traditional ITC view that this is like a rebar case, where  
4 you put a tariff on and then demand -- you have a better  
5 sense about how demand's going to respond. This is not that  
6 kind of product, right? The challenges, the demand for this  
7 product is in a competition in a different way than these  
8 traditional ITC cases the manufacturing product you  
9 typically see.

10                   So one is you have to interpret the changes in  
11 demand that have occurred in the context of the competition  
12 for good parity, and number two in terms of the cost versus  
13 benefits, that the sector that was given relief, cells might  
14 be the least labor intensive and modules might be the second  
15 least labor intensive of the supply chain here.

16                   So what you've done is chosen, not you, a  
17 decision was made to protect in theory maybe create some  
18 jobs and in fact we do know from public data that  
19 approximately somewhere, 1,500 to 2,000 jobs have been  
20 created. Our point is this is a job killer. You can talk  
21 about 1,500 jobs and 500 jobs in Georgia, but there are 10,  
22 20, 30 times the number of jobs that have not been created  
23 because of this, and that is not the same as the steel 201.  
24 It's profoundly different.

25                   COMMISSIONER KEARNS: Okay, thank you.

1                   MR. O'SULLIVAN: Commissioner Kearns, could I  
2 take a run?

3                   COMMISSIONER KEARNS: Sure.

4                   MR. O'SULLIVAN: Mike O'Sullivan, NextEra.  
5 Try to explain your confusion over the steel parallel. In  
6 this country electrically speaking, we are 50 different  
7 countries. Every state treats electricity retail sales  
8 differently and on its own without coordination with the  
9 adjacent states. It sounds illogical, but that's how it's  
10 been going on for 100 years.

11                   Georgia doesn't coordinate with Florida, South  
12 Carolina doesn't talk to North Carolina, New York doesn't  
13 talk to New Jersey. Retail rates in this country range  
14 residentially from 80 cents to marginal rates in California  
15 where most of the folks this morning are selling into the  
16 residential market, in the 30 cent plus range.

17                   You don't need a calculator to put a panel on  
18 a roof when it comes -- and whether it's got a 2 or 4 cent  
19 or 6 cent market distortion on the panel price, it's not  
20 going to matter in the price of electricity that you're  
21 trying to save money on. The wholesale market in this  
22 United States is roughly between 2 and 4 cents most hours of  
23 the year. There are times it's below 2 cents, and there are  
24 a few hours a year it's above 4 cents, and that's largely  
25 broken into five or seven trading regions of the country

1 that we can get into a lot more detail and 100-some odd  
2 different control areas.

3 My point being is there's a wholesale market  
4 that goes on every day that supplies most electricity to  
5 most folks. What was being argued on this morning by most  
6 of the panels was this subliminal market of going and  
7 grabbing one, two or three thousand megawatts of demand  
8 every year that is sold retail grid parity that I think my  
9 colleague in front was interpreting too on the grid parity.

10 Retail grid parity is anywhere from 10-8 cents  
11 up to 30 cents residentially, anywhere from 3 cents or 10 or  
12 12 cents commercially and industrially. Wholesale parity is  
13 the natural gas-coal-wind situation that's one, two, three,  
14 four cents most days of the week, most hours of the day.  
15 That's the discrepancy that we're missing in the discussion  
16 and what is that marginal increase, that distortion from the  
17 safeguard being imposed on those panels is causing solar to  
18 be less competitive on the wholesale market, which is 99 --  
19 not 99, 90 plus percent of the electricity that's consumed  
20 in this country is competing in that way to go through the  
21 meter of residential customers.

22 Only in a handful of states in the U.S.  
23 Northeast and California, where rates are very high, does  
24 residential rooftop and rooftop and parking lots for  
25 commercial is a no-brainer to do. You don't have to hire a

1 consultant to tell you to do it. It's because of high  
2 retail grid parity that they're competing against.

3 COMMISSIONER KEARNS: Okay, thank you. I'll  
4 have to mull that over some more. I still have to say the  
5 way I read the 201 statute, I'm not sure I read it to say do  
6 a cost-benefit analysis and if the costs outweigh the  
7 benefits don't move forward on a safeguard. That's not how  
8 I read the safeguard, but I'd like to move on because we're  
9 -- I'm almost out of time here.

10 So where do you all think we're headed? What  
11 do you all expect will happen to U.S. production of cells  
12 and modules when the 201 import restraints are eliminated?

13 MR. CORNELIUS: Commissioner Kearns, I'd be  
14 glad to answer that question. I think it also has some  
15 bearing on the first question you'd posed, which is a good  
16 one. I'd not thought about that, and I'm only a solar  
17 industry professional. So I don't know about the other  
18 industries that have been before the Commission with 201  
19 cases.

20 But I think one potential important difference  
21 are the persistent negative returns on capital employed on  
22 investments in manufacturing facilities for solar globally  
23 throughout the history of its modern incarnation. So I can  
24 say this having been a government official funding R&D  
25 programs here from the U.S. Department of Energy, being a

1 venture and private equity investor and being a consumer of  
2 solar products for much of its modern life over the last  
3 decades, and for almost all that period of time, with the  
4 exception of maybe three years during the late 2000's,  
5 companies that manufactured solar cells and modules in  
6 aggregate were unprofitable.

7           The reason for that is in part a reflection of  
8 cycles of innovation that occur in manufacturing and  
9 tooling, the enthusiasm that governments and private  
10 investors have had for investing in a sector that they think  
11 is important and is part of the future, and frankly a lack  
12 of discipline in capital markets and amongst those  
13 governments in incentivizing and providing capital for  
14 facilities.

15           And I think the reason why that might be  
16 relevant to the question of how this 201 case is similar or  
17 different is I'm skeptical --

18           COMMISSIONER KEARNS: I didn't, I asked to  
19 move past that question. My question is what's going to  
20 happen to the U.S. module and cell producers once the 201  
21 relief is eliminated?

22           MR. CORNELIUS: Understood. That's where I'm  
23 going. I think most of these facilities in the United  
24 States will not be in place after the safeguard protections  
25 are no longer in position. I think -- and the reason for

1 that is it is unlikely that the balance of transportation  
2 costs, local factor mix and scale in the United States can  
3 overcome other local factor considerations elsewhere in  
4 countries of origin.

5 At best, I actually think there's wisdom to  
6 the tariff rate quota policy design here, where module  
7 assembly is more likely to be competitive in the United  
8 States than cell manufacturing. But in general, I'm not  
9 optimistic about the possibility that we'll see significant  
10 growth in those facilities in the U.S. after these safeguard  
11 protections aren't in place.

12 COMMISSIONER KEARNS: Okay. Anybody else have  
13 a different view on what is likely to happen in the U.S.  
14 market?

15 MR. POCHTARUK: Yes. This Martin Pochtaruk  
16 from Heliene. We're investing in another 200 megawatts of  
17 capacity in 2020. We're doing that independent of the  
18 safeguard going down in two years with one investment at  
19 least to be in place for the next six to eight years, if not  
20 more.

21 COMMISSIONER KEARNS: That's for modules --

22 MR. POCHTARUK: For modules, yes. We do not  
23 produce solar cells. We do import solar cells.

24 COMMISSIONER KEARNS: Uh-huh.

25 MR. POCHTARUK: Therefore, we base that

1 decision on research and development, technology advancement  
2 and what the next generation of solar modules is going to  
3 be.

4 COMMISSIONER KEARNS: Thank you. So you  
5 disagree with Mr. Cornelius. You think the U.S. module  
6 industry will continue to do okay even after --

7 MR. POCHTARUK: Based on innovation. I can  
8 only talk for Heliene. We're doing that based on innovation  
9 and what we foresee the next technology is and will be.

10 COMMISSIONER KEARNS: Mr. O'Sullivan.

11 MR. O'SULLIVAN: Yes. No matter who's in the  
12 White House the next ten years, 20 percent of the U.S.  
13 electricity supply is going to be up for grabs due to the  
14 retirement of uneconomic coal and nuclear in this country.  
15 That 20 percent, this load growth is not growing. We're  
16 largely using the same amount of electricity in this country  
17 as we did ten years ago, plus or minus a very small amount.

18 That 20 percent is going retire no matter what  
19 man or woman is in the White House the next ten years.  
20 Companies are retiring large amounts of coal and starting to  
21 retire large amounts of nuclear, because the variable  
22 operating cost of those plants is cheaper than wind and  
23 solar and natural gas today and yesterday.

24 They're making five and ten year plans and  
25 decisions regardless of this proceeding and regardless of

1 who invests in new solar --

2 COMMISSIONER KEARNS: I'm out of time. So  
3 you're saying you think that will be invested in U.S.  
4 production of modules?

5 MR. O'SULLIVAN: What will happen is you're  
6 going to fight over that 20 percent and it's going to go to  
7 natural gas, wind or solar, depending on who's cheapest in  
8 the wholesale market. That bifurcation I was trying to  
9 explain earlier on the retail market, that will still  
10 happen, because of high rates in 10 or 15 states.

11 COMMISSIONER KEARNS: I'm out of time. Maybe  
12 we can pursue this more later or post-hearing. But that  
13 suggests -- that doesn't necessarily mean to me it will be  
14 U.S. production of modules and cells. It could be imports.  
15 So maybe --

16 MR. O'SULLIVAN: Could be either. I don't  
17 think anybody in this room on the first panel or the second  
18 panel this afternoon is smart enough to tell you what's  
19 going to happen five or ten years from now. I don't think  
20 any of us are.

21 COMMISSIONER KEARNS: Okay. Thank you very  
22 much.

23 CHAIRMAN JOHANSON: Commissioner Stayin.

24 COMMISSIONER STAYIN: Yes. Going back to the  
25 gentleman just before you, I think -- I think it was

1 counsel, I'm sorry. But the question was what will happen  
2 when 201 relief is taken away, and wants to be taken away  
3 because it's taking away from investment globally. So we  
4 should get rid of the 201 remedy because the 201 remedy is  
5 taking away from investment globally.

6 I don't know. Maybe you want to explain that  
7 a little bit more. I'm not sure how global investment has  
8 to do with the production of these products in the United  
9 States. We're talking about, you know, slower modules.

10 MR. CORNELIUS: Sure. Commissioner Stayin --  
11 yeah, I'd be glad to clarify what I'd meant for that. What  
12 I was referencing is the cycle of investment that's  
13 happening in retooling solar factories that occurs about  
14 every three years.

15 COMMISSIONER STAYIN: Retooling solar  
16 factories?

17 MR. CORNELIUS: Yeah. So the factories that  
18 make solar panels employ all kinds of equipment, and the  
19 companies that design the equipment that work in those  
20 manufacturing process flows have been remarkably innovative  
21 over the last 15 years. So much so that in my experience,  
22 equipment, much of the equipment in a solar cell and module  
23 manufacturing facility can be made obsolete within less than  
24 five years, because of improvements in its throughput, the  
25 efficiency of the solar cells and panels that it can make.

1                   As a result of that, a continuing investment  
2 has to happen, whether it's from companies or governments,  
3 to maintain a certain amount of manufacturing capacity and  
4 certainly to grow it. The reason why I'm skeptical that the  
5 U.S. will be a place where we see significant incremental  
6 solar cell or module manufacturing deployed beyond the  
7 protection that the safeguard measures are providing today  
8 is that it will be more economically efficient for  
9 companies that want to be in the business of making solar  
10 cells and modules, to make those some place outside the  
11 United States because there's more scale in the material  
12 supply chain, or there are other factors that make it less  
13 costly to make those products elsewhere, or the capital to  
14 invest in those facilities will be more abundant elsewhere  
15 than in the United States. That's sort of what I meant.

16                   COMMISSIONER STAYIN: All right. So if we --  
17 if we do not -- if we take away the safeguard, this will  
18 enable foreign producers to deploy their products here in  
19 the United States.

20                   That's something I really should be concerned  
21 about, I guess. My question is why don't you use U.S.  
22 manufactured solar panels? And if you need them to be at a  
23 certain technological level, I can't believe that with the  
24 money behind these new factories in the United States, they  
25 won't be able to make those panels and be deployed in the

1 United States by a company in the United States.

2 I get confused on where you're coming from. I  
3 think maybe you're talking about an international group  
4 investment developing panels, and then we're going to ship  
5 them into the United States, or wherever. I saw that, and  
6 I'll think about that -- your chart there.

7 So, we're concerned right here. What we're  
8 dealing with here in the United States in the production of  
9 solar panels. The question is before us today, is not a  
10 re-litigation of injury, it's the issue before us today, I  
11 believe counselor, in the statute, is to determine whether  
12 the U.S. industry has made adjustments to import competition  
13 in the term -- the first two years.

14 And if we think they made a bona fide effort to  
15 adjust, then the remedy would go forward. That's, as I  
16 understand the statute, if I'm wrong, I think just put it in  
17 a post-hearing brief. That would be probably a good way for  
18 us to get to that.

19 MR. NICELY: Commissioner Stayin, if I could just  
20 react to a couple things you've just said. We had a  
21 conversation here with Mr. Kearns about -- and Commissioner  
22 Schmidtlein about the statute and about the relevance of the  
23 benefits versus the costs. On the other point that you just  
24 talked about, about whether or not the statutory provision  
25 that asks about the industry's adjustment.

1                   COMMISSIONER STAYIN:  What we're doing today.  
2  What our job is.

3                   MR. NICELY:  I think both are at issue today.  
4  But with regard to that provision in the statute,  
5  specifically with regard to whether or not the industry is  
6  making a positive adjustment, I'd like -- I think it would  
7  be useful for you to hear if you need to hear more from our  
8  witnesses about that topic, there are several witnesses here  
9  that spoke today in their testimony about the extent to  
10 which this industry is -- has not adjusted to service the  
11 part of the market that we knew two years ago was the  
12 biggest part of the market, the utility scale market.

13                   They still have not done so today.  You heard a  
14 little bit this morning about how that part -- how the new  
15 plants can produce for the utility market, but the volume  
16 that they can produce for the utility scale market is  
17 woefully small.  So, you heard from the other panel that  
18 they're growing, but most of these plants are producing for  
19 the residential and commercial part of the market, not for  
20 the utility scale market.

21                   That's the way in which we're talking about for  
22 what you're wanting to look at in the statute, that aspect  
23 of their adjustment has not happened and they're not coming  
24 anywhere near to service most of the people you have on this  
25 panel.

1           COMMISSIONER STAYIN:  So, you have gone to them  
2   and said, "We would like to have panels produced to this  
3   particular requirement."

4           MR. FLETCHER:  Commissioner, this is Art Fletcher  
5   with Invenergy.

6           COMMISSIONER STAYIN:  And they said to you that  
7   -- and said to you that they cannot, or will not, or what is  
8   their response to that?

9           MR. FLETCHER:  I actually discussed it in my  
10   testimony Commissioner.  I had reached out to Jinko Solar,  
11   who we have a very good relationship with.  Jinko has  
12   supplied two of my projects in the past, one in Nevada, and  
13   one in Long Island, New York, when Hanwha was unable to  
14   supply New York, Jinko stepped in for me and supplied to New  
15   York.

16           I have a terrific relationship with Jinko, and I  
17   asked them if they could supply to me from their  
18   Jacksonville facility, or their Malaysia facilities for this  
19   year.  And they flat out said they cannot do it.  They did  
20   not have the available capacity to meet our needs.

21           We have to recognize the industrial scale is just  
22   tremendous, you know.  If we talk about a rooftop versus an  
23   industrial plant, the scale is 1,000 times different.  And  
24   when we need modules for an industrial size project, I can't  
25   take modules from a facility that's capable of producing 150

1 megawatts a year, if that.

2           Because I may have a project that's 300 megawatts  
3 in size. I just finished a project in Georgia, where we  
4 employed 350 employees and it was 260 megawatts of bifacial  
5 power, bifacial panels. Somebody who's producing 150  
6 megawatts a year cannot feed such a project. We need that  
7 -- we need those modules over the course of three months,  
8 not over the course of 15 months in order to make that  
9 project successful.

10           MR. O'SULLIVAN: Commissioner, this is Mike  
11 O'Sullivan. If I could add to that.

12           COMMISSIONER STAYIN: Sure.

13           MR. O'SULLIVAN: To your issue. I think we all  
14 share your emotional belief that as Americans, we should be  
15 able to do this as well as the Chinese. But when you boil  
16 in a bunch of other factors that were not addressed this  
17 morning, that are very important commercial and legal issues  
18 when we buy panels in billions of dollars over many years.

19           For starters, logistics. Most of the companies  
20 this morning cannot deliver across all 48 states, or the 50  
21 states of the U.S. with the logistics and the costs of  
22 moving that product at scale at the volumes we're talking  
23 about.

24           Second, very few of them, if not any of them. I  
25 don't recall any of them are credit worthy. They're not

1 investment grade credits of counterparties. If a company  
2 like ours is going to give an order to somebody of billions  
3 of dollars over 2 or 3 years, it better show up. We can't  
4 make that bet with certain companies that are start-ups, or  
5 thinly capitalized.

6           The third thing, if the cost of capital for  
7 manufacturing in this country of panels and modules, your  
8 safeguard tariff, made it such a financial attractive  
9 investment, why are there no other multinational  
10 conglomerates investing in factories in the United States to  
11 supply our need? It should be a giant price signal to  
12 those folks with billions of dollars of capital who want to  
13 manufacture products for our country, whether they're  
14 American or not, to invest in the solar manufacturing  
15 business in this country.

16           And the silence of that, or the lack of very few  
17 companies other than a few of the ones that showed up this  
18 morning, willing to do that, is deafening. Another key  
19 thing is the warranty issues that some of these companies --  
20 they have to be around. The folks that were here 2 years  
21 ago when you had a few of us here, aren't even around  
22 anymore, which proved our point.

23           If you're going to sell us a panel, we're making  
24 30 year investments when we build these projects. Our  
25 economic return is over 30 years. Now, granted the warranty

1 period isn't for that whole 30 years, it's a much shorter  
2 duration. But a lot of these companies weren't around 2 or  
3 4 years ago and are not going to be around 2 to 4 years from  
4 today. A couple of them will, but most of them not.

5           So, these factories that you're seeing, like the  
6 very slick presentation this morning on Georgia, that's just  
7 a couple hundred million dollars. We're talking about an  
8 industry that's trying to put 10 or 20 billion dollars in  
9 every year in 20 and 30 year assets to compete against  
10 natural gas, wind, nuclear and the other forms of  
11 electricity. This is a big game that's going on globally,  
12 and as Mr. Werner said this morning, it's over 120 gigawatts  
13 of that capacity globally floating into this country to  
14 supply some of that demand, and we're a fraction of that  
15 global demand.

16           It is a large money business and the players this  
17 morning are very thinly capitalized entities.

18           COMMISSIONER STAYIN: And you're saying that's LG  
19 and Hanwha are not?

20           MR. O'SULLIVAN: Hanwha Q CELLS wasn't even a  
21 billion dollar market gap when they went private in their  
22 parent last year.

23           COMMISSIONER STAYIN: And LG?

24           MR. O'SULLIVAN: LG's a multi-conglomerate  
25 company that we buy quite a few batteries from, but they're

1 in a lot of businesses around the world. The cell  
2 manufacturing or module manufacturing business is perhaps a  
3 big growth business for them, but globally they're not that  
4 large a player.

5 COMMISSIONER STAYIN: Sounds like a place they  
6 ought to be.

7 MR. O'SULLIVAN: They're making very modest  
8 investments in places like Alabama and Georgia. If this was  
9 such a great market for them, the utility scale, it is a  
10 giant opportunity from it they're not hitting.

11 COMMISSIONER STAYIN: My time has run out. I'll  
12 be back to you shortly.

13 MR. PINKERT: Commissioner Stayin, can I make  
14 just one very brief comment?

15 COMMISSIONER STAYIN: Sure, go ahead.

16 MR. PINKERT: Dean Pinkert here. I think that  
17 it's important to recognize that this is not a zero sum  
18 game. It's not you move the transaction here, or you move  
19 the transaction here. And it's the same. No. What we're  
20 talking about when we talk about grid parity, is we're  
21 talking about the opportunity with trade liberalization in  
22 this product, to actually expand demand in the United  
23 States.

24 And so, it really -- we need to keep that in mind  
25 that as we get closer to grid parity, demand expands and

1 it's on a local basis from locality to locality around the  
2 country. Thank you.

3 COMMISSIONER STAYIN: Okay.

4 MR. HERSHMAN: Commissioner, if I can just step  
5 in real quick. George Hershman with Swinerton. As a  
6 contractor who builds these large scale projects, logistics  
7 is one of our largest concerns. And so, if we were able to  
8 source product in the U.S., we would. But these -- when we  
9 talked about, and I appreciated this morning hearing that LG  
10 wants to dedicate 10 percent of their factory for the  
11 utility market -- that's 50 megawatts.

12 Our smallest project we'll build next year is 100  
13 megawatts. Standard project puts 10,000 modules a day in  
14 place. So, logistics and being able to get product at scale  
15 means everything to construction companies like ours. So,  
16 we would buy product in the U.S. if we could. And, you  
17 know, I applaud the fact that manufacturing is coming to the  
18 U.S.

19 I would love to see more and more manufacturers  
20 coming to the U.S. We just cannot source product here.

21 COMMISSIONER STAYIN: Okay, thank you.

22 CHAIRMAN JOHANSON: Commissioner Karpel?

23 COMMISSIONER KARPEL: Thank you for being here  
24 today. I wanted to ask, you've made statements about the  
25 impact of the safeguard measures, and in particular, that

1 they're limiting supply of solar modules and cells in the  
2 U.S.

3 And I wanted to understand better your argument  
4 there. How are they limiting supply? What I think you  
5 might be saying is they're limiting supply at a price that  
6 you need to be able to install them in your projects and be  
7 competitive, vis- -vis other sources of energy.

8 But I don't want to put words in your mouth, so  
9 if you could talk to that a bit, I'd appreciate it.

10 MR. NICELY: Go back a slide or two. We want to  
11 make sure, Commissioner, that you understand the difference  
12 in locale and across the country how the differences in  
13 price, not this one. The one before, yeah.

14 MR. PRUSA: So, yeah, it's a complicated  
15 question. I mean I said it earlier and I'll say it again.  
16 That the nuances of how demand is generated, the speaker  
17 from Florida Light emphasized, and that's what most of the  
18 people here are talking about wholesale.

19 This is a graph of residential, because it's a  
20 little bit clearer, and a similar phenomenon happens here  
21 that you're correct, that as in this graph, depending upon  
22 what the alternative price of retail electricity is, that is  
23 the essentially the hurdle that solar has to beat, right?

24 In a sense, it's easier for solar to win in  
25 Newark, New Jersey, despite its northern latitude, than it

1 is for solar to beat it in Las Vegas, despite its southern  
2 latitude. And the reason is electricity prices are higher  
3 in Newark, right. And so, across cities, across locations,  
4 there's differential price effect. It isn't just that it  
5 shuts out Newark completely, necessarily. It's this nuanced  
6 effect that demand different demand is shut out for being  
7 economically viable across markets in different ways.

8           And that's how deployment opportunities are lost.  
9 And that's the similar phenomenon on this wholesale level,  
10 but instead of it being 8 cents, or 12 cents, they're  
11 talking a third or a half of that as the wholesale price of  
12 electricity, right.

13           And so, it varies. The impact of the tariff is  
14 going to raise the cost for someone to deliver solar to  
15 them. And that doesn't make it therefore viable, compared  
16 to just buying electricity off the grid.

17           COMMISSIONER KARPEL: How does this tie in with  
18 your arguments on supply? You've mentioned a lot of times  
19 that --

20           MR. BURCH: Can you turn on your microphone,  
21 Commissioner Karpel?

22           COMMISSIONER KARPEL: Maybe I wasn't close  
23 enough. You've made arguments about the domestic industry  
24 having insufficient supply for your needs. I would assume  
25 there's a relationship between supply and costs here, but,

1 or price, but can you speak to that too?

2 MR. NICELY: So, you're asking about supply?

3 Well, first of all, as we discussed I think, even the  
4 morning panel talked about it in broad terms, 5 gigawatts  
5 eventually reaching the current plants reaching the 5  
6 gigawatts of capacity here in the United States.

7 You also heard that in the next year or two,  
8 we're going to be looking at 15 -- between 15 and 20  
9 gigawatts. So -- per year. And so, from that perspective  
10 on an overall basis, and even on this those numbers actually  
11 include thin films as well but take off a gigawatt for thin  
12 film.

13 In broad terms, you're talking about this  
14 industry, this new industry being able to supply about maybe  
15 a quarter of demand. However, what's critical to  
16 understand, is that for the utility sector, the utility  
17 scale sector, the difference is demonstrably more.

18 It's more like about 10 percent of demand, that  
19 this industry is able to supply. That's what we're talking  
20 about in terms of U.S. supply.

21 COMMISSIONER KARPEL: But I'm interested in the  
22 safeguard measure's impact on supply. And so, is that in  
23 your view, having an impact on supply? I understand that  
24 you think that the current amount of production by the  
25 domestic industry isn't going to be sufficient to meet your

1 needs, but what's the impact on supply?

2 MR. NICELY: That's why we put this up, because  
3 when you think about it from a broader, global perspective,  
4 can you find product given the tariffs? Can you find supply  
5 that is going to be able to compete with other forms of  
6 energy? And when you add the tariffs, they become less,  
7 they become less competitive. Solar becomes less  
8 competitive.

9 COMMISSIONER KARPEL: It's supply at a particular  
10 price point that you're talking about, not --

11 MR. NICELY: Yes.

12 MR. HERSHMAN: Commissioner, to answer your  
13 question, yes, I think its supply at a price point, yes. We  
14 could -- the supply would be there, but the demand wouldn't  
15 be there. That's the other issue, right? So, if the demand  
16 isn't there because prices are high for product, which don't  
17 allow us to support a build cost to support the market.

18 So, supply is affected by cost. Right? Yes, at  
19 some cost we could buy product. But demand in the  
20 marketplace isn't there when the prices get to a point where  
21 it doesn't support the wholesale market.

22 MR. PRUSA: But let me add to the supply  
23 question. Again, we have people that can comment deeper  
24 than I, but the magnitude of these projects are -- we  
25 mentioned 10,000 a day, right? There might be a million

1 modules needed on a buildout. And I think -- I get the  
2 sense that there's a feeling that these buyers, well why  
3 don't they just buy 50 from company A and 50 from company B  
4 and 35 from company C and put them all on. That's not how  
5 they buildout.

6           They buy huge amounts from one or maybe two  
7 module suppliers, and they have to have that module supplier  
8 have the capacity. Mr. Swinerton can't have an entire  
9 company's annual capacity tied up with him, that's too risky  
10 for him. He has to have, if he's going to buy with a  
11 company, that company has to have way more capacity than any  
12 risk to him, right, I should defer to him. But I think  
13 that's when we understand the supply problem, these  
14 companies are buying massive, massive amounts. Way more  
15 than an individual company can supply here in the United  
16 States.

17           MR. ARNDT: And this is Mike Arndt. Maybe I  
18 could just make one statement. If we look at where we are  
19 as an industry, and our projects in particular. You're  
20 right, there is supply available at a price. But at a  
21 certain price the energy costs more and consumers don't want  
22 to buy. So, if we're forced to buy modules that have a  
23 large tariff, the projects are uneconomic from a utility's  
24 perspective. They can't afford to buy the energy. That's  
25 why projects get delayed, because they're uneconomic today.

1

2           So, as long as safeguards are in place, and  
3 there's not domestic capacity to supply the needs of the  
4 industry, the projects aren't going to get built, because  
5 they're too expensive. And the energy cost is too high to  
6 compete with other forms. And that's the crux of the issue.

7           There's not enough U.S. manufacturing capacity,  
8 not even close, to meet utility scale demand in this  
9 country.

10           MR. O'SULLIVAN: At both the price and the  
11 quality I alluded to earlier with the other Commissioner.  
12 Those other terms and conditions, Commissioner Karpel, are  
13 almost as important as the nominal price on the first page  
14 that we're talking about today.

15           The last hour or so. It's a very important  
16 thing, but all of those other factors, logistics, credit  
17 worthiness, warranty, expansion capabilities, all production  
18 showing up on time is so important, especially in a tax  
19 credit world where we're measuring it at the end of each  
20 year, and the safe harbor part that we haven't talked about  
21 today where many of us went out and bought panels, some  
22 domestically, some elsewhere for the next four years to make  
23 sure we qualified for the 30 percent investment tax credit  
24 in '21, '22, and '23, is also a big timing maneuver that is  
25 lost in the discussion and the discussions on both panels

1 today.

2 COMMISSIONER KARPEL: And so, can I ask, so  
3 prices have fallen overall, or at least average prices, and  
4 maybe that's the thing, it hasn't fallen -- maybe averaging  
5 isn't always an indicator there. But prices have fallen  
6 generally, after the safeguards have gone in place.

7 So, how does that affect the arguments you're  
8 making about the safeguards making the price of solar too  
9 expensive in certain markets?

10 MR. O'SULLIVAN: Largely coincidence. Okay,  
11 first of all you have four or five things going on in the  
12 last two years since we were all here before, why they've  
13 fallen. And you can't take credit for it, that everything's  
14 rosy, because you inflated the cost of the panels and see,  
15 more got built, so everything must be fine.

16 That was the theme of this morning. Here's four  
17 or five things to think about. One -- what I talked about  
18 earlier. The high cost of residential and rooftop solar, I  
19 mean, excuse me, electricity in those states out west and  
20 the northeast. That hasn't changed. So, the panel pricing  
21 going up a little, or down a little, is not going to change  
22 that demand for residential and rooftop.

23 Second, technology continues to improve globally.  
24 This is a global market of over 100,000 megawatts every  
25 year. The couple thousand megawatts you're talking about

1 manufacturing this morning is microscopic in that pool.

2 Third, balance a plant cost that the Swinerton  
3 company and others like him put in is dropping fabulously  
4 fast. Five years ago that was three dollars a watt. Today  
5 that's well below a dollar a watt. Those costs continue to  
6 go down. And here's two big ones that people don't  
7 understand and don't pay attention to very much.

8 The cost of capital and negative interest rates  
9 in the global environment today, like a quarter of all  
10 sovereign debt trades at a negative interest rate, those  
11 investors are now looking for yields and returns on other  
12 opportunities, and it's coming into the solar sector by tens  
13 of billions of dollars, globally, seeking what they appear  
14 to be is low risk returns on solar projects.

15 That's driving down capital returns on finished  
16 projects. As a result, that, on top of some safe harbor  
17 purchases that are being made in the U.S. the last couple of  
18 years by all of us in this room, all of those factors put  
19 together in the blender cause everyone to kind of go well  
20 prices are going down, everybody must still be okay, and  
21 it's not true.

22 Because back to what we've been saying all  
23 afternoon. That incremental decision by that utility to  
24 purchase energy of some form whether it's wind, natural gas,  
25 fossil or solar, solar is getting less competitive if its

1 higher cost compared to those others.

2 MR. HERSHMAN: And I think there's one less, or  
3 one more cost factor as well, and I'll correct the record.  
4 I wish I was Mr. Swinerton.

5 MR. O'SULLIVAN: I meant that, I slipped. Sorry,  
6 George.

7 MR. HERSHMAN: No, no, no problem. We're now a  
8 much more mature industry from a construction standpoint, so  
9 efficiencies in our business and how we install has driven  
10 down the cost dramatically. So, while we see that  
11 technology has a forward cost curve of lower and lower cost,  
12 so does construction, as we get further into a developing  
13 market.

14 Our crews get trained, they understand the  
15 product. We install it faster. I mean the capacity that's  
16 going in the ground by installers today is 10 X what it was  
17 when we started in this market. And that's helped to drive  
18 costs down.

19 So, while we look at technology costs a lot, and  
20 we look at product cost a lot. The cost of labor, as a  
21 percentage, of the build cost, particularly on utility scale  
22 projects has come down dramatically over the years.

23 MR. DOUGAN: Commissioner Karpel, Jim Dougan from  
24 ECS. I know you're out of time. But just one other thing,  
25 we can come back to some of this later. But raw material

1 costs. I mean, dramatic declines. Figure 6-1 of the staff  
2 report, the polysilicon and wafer prices have declined  
3 dramatically since 2016.

4 So, and in fact, even since early 2018. So, if  
5 -- and if those are key raw materials for this, the idea  
6 that prices overall might have come down, is again, not  
7 surprising based on this, in addition to all the other  
8 factors that have been mentioned.

9 COMMISSIONER KARPEL: Yeah, I think my time is  
10 up, so I'll pass it on. But I guess I'm also going to come  
11 back to this, curious though, that if prices have gone down  
12 for these reasons, has that not made up for the price  
13 increase you attribute to the tariffs? And so, my time's  
14 up. So, don't answer, but I'll maybe come back to that,  
15 okay.

16 CHAIRMAN JOHANSON: Okay, thanks to all of you  
17 for appearing here today. We spoke quite a bit this morning  
18 about solar cells, so my first question will involve that.  
19 Do you all think the domestic cell production has been  
20 impacted by the 2.5 gigawatt CSBP cell exclusion?

21 MR. NICELY: Has cell production been impacted by  
22 the exclusion? The quota part of the 2.5 TRQ, the quota,  
23 the 2.5 gigawatt quota part of the TRQ hasn't come anywhere  
24 near to bind in the last two years. So it hasn't had much  
25 of an impact.

1 I do think there is an interesting question  
2 though here whether in light of the fact that imports have  
3 not been significant in any event for cells, the question  
4 that some of you were posing to Suniva this morning is quite  
5 interesting, that if they in fact could have produced those  
6 cells here in the United States and shipped them overseas  
7 and had those products come back tariff free, that would  
8 have seemed to be a good business option for them but they  
9 didn't bother to do so.

10 CHAIRMAN JOHANSON: Right. Thank you, Mr.  
11 Nicely.

12 Okay, the first panel, or this morning's panel  
13 made the point that the bi-facial solar panel issue  
14 illustrates what would happen in the absence of the  
15 safeguard measures. They described a massive surge for that  
16 one product. Do you agree that there was a massive surge?  
17 And are there any lessons to draw from the import volumes  
18 of bi-facial modules under exclusion?

19 MR. DOUGAN: Commissioner Johanson, Jim Dougan  
20 from UCS. One thing I just wanted to point out, that the  
21 slide used to illustrate that example, which is  
22 confidential, so you will be able to look at it but I won't  
23 be able to refer to it in detail, that compares -- this is  
24 slide 19 of Mr. Kerwin's presentation -- that compares  
25 January to June 2018 to January to June 2019. And this is

1 supposedly evidence of the surge in bi-facial modules as a  
2 result of the exclusion.

3 I will remind the Commission that the exclusion  
4 was announced on June 13th, 2019. So there was 17 days  
5 covered by this chart under which the bi-facial modules  
6 would be excluded. Therefore, all of the volume, or all but  
7 17 days of the that volume, came in under the tariffs.

8 So what this suggests to me is that there was  
9 actual organic demand for the bi-facial modules for reasons  
10 other than them being excluded from the tariffs.

11 MR. NICELY: But just to be clear, Chairman  
12 Johanson, the bi-facial products that are coming in for the  
13 most part are being used for utility-scale projects, which  
14 some of our witnesses can talk about. The fact is that  
15 that's part of -- that was part of a goal of the exclusion  
16 that was sought and was granted, was to in fact service the  
17 utility-scale market that is so woefully underserved by  
18 the U.S. industry.

19 So it is simply servicing a part of demand that  
20 the domestic industry, even the new plants, are not  
21 servicing today.

22 CHAIRMAN JOHANSON: And for those of you who are  
23 familiar with the utility sector, this is the preferred  
24 panel? The bi-facial panel?

25 MR. CORNELIUS: Chairman Johanson, this is Craig

1 Cornelius. Historically it hasn't been. So bi-facial  
2 technology has represented less than 5 percent of global  
3 installations, and more commonly closer to 1 percent for  
4 much of the last decade. The reason why it represented a  
5 small fraction of total installations was that the higher  
6 cost of manufacturing a bi-facial module, and the  
7 uncertainty about how it would perform, made it a purchasing  
8 decision that companies like ours, or most of the rest of  
9 the market, felt imprudent because we would have to pay more  
10 for a module, and it was unclear that that module would  
11 produce enough incremental energy to justify the higher  
12 cost.

13           So the exemption of the tariff on bi-facial  
14 entries into the United States I think was recommended by  
15 agencies within this government, for the reason that they  
16 wanted to incent adoption of a still nascent technology that  
17 in the longer run could be a superior technology for use,  
18 and particularly in utility-scale applications in the desert  
19 Southwest where it's possible to collect a lot of reflected  
20 light from the ground.

21           So I believe that the logic was, while this  
22 product was historically not a significant portion of the  
23 market and was unlikely to become a significant portion in  
24 the future, providing a difference in the tariff level for  
25 bi-facial product as opposed to mono-facial product would

1 give a company like ours an economic incentive to adopt a  
2 technology that we might otherwise be unprepared to adopt.

3 MR. O'SULLIVAN: Our experience is the customers  
4 themselves are indifferent. The ultimate customer on the  
5 wholesale side when they are looking for solar specifically,  
6 which technology we use. They usually leave that to us.  
7 They want to know what we're going to use, but they leave it  
8 to us. They're looking for a bus bar, or a metered price  
9 of electricity.

10 The second phenomenon that's happened in the last  
11 6 or 12 months is the market's pretty sophisticated and the  
12 efficient market theory component of this has all rolled  
13 through the market. The folks making Brand A or Brand B  
14 have figured this out, the discrepancy in pricing, and they  
15 take into account their quoted price to guys like us.

16 So the efficient market is working. So a more  
17 complicated product that might add more value, a higher  
18 capacity factor, is getting priced accordingly compared to a  
19 less efficient product, perhaps, on a generation point of  
20 view. In our opinion, the noise in the market has  
21 sufficiently washed itself out, and the manufacturers  
22 globally have figured that out.

23 MR. HERSHMAN: And some of the factors have  
24 changed as well, as we've grown -- as standard mono-facial  
25 modules have become more efficient, and being used more

1 often, and we're seeing the cost delta between a bi-facial  
2 module and a mono-perc module closer in price, and seeing  
3 that there's more reasons to use them now.

4 We actually were one of the lucky kind of early  
5 adopters of bi-facial modules and built 400 megawatts of  
6 bi-facial projects in the U.S., and turned them on this year  
7 prior to the exemption, and were able to start to see the  
8 efficiencies of the use of that product.

9 So it really became, as systems changed and  
10 efficiencies grew, we saw a lot of benefit starting to come  
11 into the system.

12 CHAIRMAN JOHANSON: Okay, thanks for your  
13 responses there. I am now going to pose a question that I  
14 asked of this morning's panel, and I'm curious as to your  
15 view on this.

16 The evidence reflects a small and decreasing  
17 volume of CSPV imports from Canada and Singapore throughout  
18 the monitoring period. Canadian Solar and REC argued that  
19 imports from Canada and Singapore should be excluded from  
20 the safeguard remedy under the respective trade agreements.

21 Is this something that the Commission can even  
22 address in the monitoring report?

23 MR. NICELY: We think absolutely you can, for the  
24 reasons that I've talked about earlier, that you're the  
25 government's think tank with regard to trade, okay? And in

1 the context of 201, nothing stops you. And in the context of  
2 a midterm review, nothing stops you from making  
3 recommendations to the President.

4           Several Commissioners in the past have done so.  
5 We talk about that in our brief. Practically everybody in  
6 the room is asking you to do that. And I heard Mr. Gurley  
7 say this morning that you didn't have the authority to do  
8 so, but that doesn't make a lot of sense to me given that  
9 he's actually asking you to increase the quota on the TRQ on  
10 cells.

11           So it appears to us that there is precedent for  
12 the Commission making recommendations, and therefore you  
13 absolutely do have the authority to do it. And we as SEIA,  
14 as we have indicated I think both I and Ms. Hopper have  
15 mentioned that we support the Canadians and Singaporeans on  
16 this.

17           CHAIRMAN JOHANSON: Okay, thank you--

18           MR. OLEYNIK: Ronald Oleynik for REC Solar. I  
19 would just endorse those. And despite Mr. Gurley's  
20 statements this morning, the rest of the counsel --

21           MR. BURCH: Mr. Oleynik, would you pull your mike  
22 a little closer?

23           MR. OLEYNIK: --the rest of this morning's  
24 counsel that you asked that question to made it clear and I  
25 think said it best that you have the legal authority and the

1 discretion to do so.

2 MR. STOEL: Chairman Johanson, Jonathan Stoel for  
3 the record. First of all, the statute says that you can  
4 provide a report or advice. And so we think it is broader  
5 than just factual information. I think that is our first  
6 point.

7 Other witnesses have testified that.

8 And Mr. Porter I think was what my colleague was  
9 referring to agreed with us this morning. And LG expressly  
10 said they would not be opposing the exclusion for Canada, we  
11 point out.

12 We have with us two solar modular manufacturers  
13 in the United States, and for us it is very important that  
14 your report factually represented what is going on.  
15 Canadian imports are going down. Unfortunately, Canadian  
16 manufacturing is smaller today than it was during the  
17 original investigation. And, frankly, these folks have  
18 done the right thing. They have invested in the United  
19 States, one of them already has and the other one has joined  
20 them, and we ask that the Commission, and frankly, the  
21 President, do the right thing and exclude Canada. Thank  
22 you.

23 CHAIRMAN JOHANSON: Alright, thanks for your  
24 responses. The red light is on, so I will now turn to  
25 Commissioner Schmidtlein.

1           COMMISSIONER SCHMIDTLEIN: Okay, I'm still just  
2 want to make sure I understand the data and what underlies  
3 your models and your analysis. And so I just want to make  
4 sure I understand.

5           I am looking at the exhibits that are attached to  
6 the brief. And exhibit, I believe it is exhibit 8, which is  
7 public, which includes a comparison of, let me get to it  
8 here--

9           MR. NICELY: Commissioner Schmidtlein, are you  
10 talking about Exhibit B-8 or 8?

11          COMMISSIONER SCHMIDTLEIN: I think it is 8.

12          MR. NICELY: Eight? Okay.

13          COMMISSIONER SCHMIDTLEIN: You do have a lot of  
14 exhibits. Okay, summary, impact of safeguards. This is  
15 public. This is not BCI. Summary: Impacts of safeguard  
16 tariffs 2018 to 2021, you break it down, residential,  
17 commercial, and then you have the asterisk, comparison of  
18 Wood McKinsey's Deployment Forecast with safeguard tariff  
19 versus deployment forecast without.

20          So I guess my question is: I know you have a bar  
21 graph below that, which I guess -- is this from the  
22 quarterly report that is also included in the exhibits that  
23 are CBI?

24          MR. PRUSA: I'm sorry, I don't have the exhibit  
25 with me.

1 MR. NICELY: We can find it.

2 COMMISSIONER SCHMIDTLEIN: I mean this is like  
3 the heart of it here.

4 MR. PRUSA: Could we do it post-hearing? I don't  
5 have a copy of it --

6 ME. NICELY: She's talking about the one that has  
7 the three --

8 MR. PRUSA: Isn't that Exhibit B?

9 MR. NICELY: B-8?

10 COMMISSIONER SCHMIDTLEIN: I don't think it's  
11 B-8. It's Exhibit 8. It's public. So you've got lost  
12 deployment, 3,214 for residential, 1,265 for commercial,  
13 3,724 for utility scale, and the asterisk below that just  
14 says comparison of Wood McKinsey's Deployment Forecast with  
15 safeguard tariff versus forecast without.

16 And I guess my simple question is: Is this --  
17 these deployment forecasts are coming from the quarterly  
18 reports?

19 MR. PRUSA: Yes.

20 COMMISSIONER SCHMIDTLEIN: That you have  
21 included, right? Okay. So Wood McKinsey produces a  
22 quarterly report in conjunction with SAIE, right? SEIA?

23 MR. BACA: So, yeah.

24 COMMISSIONER SCHMIDTLEIN: Except when it comes  
25 to the forecast, that's just Wood McKinsey's work? Right?

1 That's how I read it.

2 MR. BACA: That's right. We worked with them on  
3 the quarterly report. We leave the forecasting 100 percent  
4 to them, because we, for other reasons, don't want to be in  
5 the game of forecasting, particularly of prices for  
6 antitrust reasons. So we just take what they produce.

7 COMMISSIONER SCHMIDTLEIN: Okay.

8 MR. BACA: And they sell it to other clients, as  
9 well.

10 COMMISSIONER SCHMIDTLEIN: And so what quarterly  
11 report are you relying on to get that difference for the  
12 deployment forecast without safeguard tariffs? I assume  
13 it's going back in like 2017 or something?

14 MR. BACA: We use one -- we use three different  
15 forecasts. We use one from early 2017 before the  
16 investigation was announced and one forecast from the --  
17 that was produced in 2018. Forecasts that have been  
18 produced for the 2017 floor market year-end review and that  
19 forecast was produced in February of 2018, so that was after  
20 the safeguards were announced. So, the difference between  
21 those two -- and in that report, the 2017 year-end review  
22 there's a noting that the forecast had gone down. I think  
23 it was 13 percent over that timeframe due to the tariffs.

24 COMMISSIONER SCHMIDTLEIN: According to Wood  
25 McKinsey?

1 MR. BACA: According to Wood McKinsey.

2 COMMISSIONER SCHMIDTLEIN: According to Wood  
3 McKinsey, okay. But otherwise, these numbers you've derived  
4 is just simply subtracting one forecast from the other  
5 forecast.

6 MR. BACA: And adding it to a newer baseline.  
7 So, on a percentage basis, the way we've constructed the  
8 scenarios is probably showing a rosier picture than reality,  
9 but yeah, it's subtraction of different -- area.

10 COMMISSIONER SCHMIDTLEIN: So, how do you  
11 account for all the other things that can change the  
12 forecast, right? So, we're looking at the same years,  
13 right, 2020, 2021, but obviously, it's a very complicated  
14 market. I mean when you read through this quarterly report  
15 with regard to all of the different measures in different  
16 states -- I mean I'm reading about you know California and  
17 Massachusetts and what's causing installations to go up or  
18 down across the country. And as I've heard several of you  
19 testify how the states don't coordinate. It's all very  
20 complicated. Of course, then you've got all these different  
21 developers and whether they've got capital. I mean what is  
22 driving these installations is affected by so many different  
23 factors that have nothing to do with tariffs, so how can you  
24 just assume that if you subtract one forecast from the  
25 other, well, that must be the effect of the tariff when

1 you've got all these other things and you've got the  
2 forecast being made at different points in time.

3 MR. BACA: I would say that Wood McKinsey also  
4 at the time had also done another analysis that showed  
5 strictly with and without tariffs, but the primary negative  
6 policy change from our perspective during that timeframe was  
7 the tariffs. And there was some other noise in the market,  
8 but that mostly put demand up. So, in a sense here, the  
9 methodology reviews shows a rather muted effect of the  
10 tariffs because we haven't necessarily controlled from some  
11 of the other positive things.

12 I think one of the big positive things that  
13 artificially decreases the delta between the current policy  
14 and the counterfactual is that Florida significantly  
15 increased their purchases.

16 COMMISSIONER SCHMIDTLEIN: Right.

17 MR. BACA: But that wasn't because of the tariff  
18 and that wasn't necessarily in reference to the tariff. It  
19 was just something else that happened that sort of took some  
20 of the sting out, but it wasn't the industry adjusting  
21 necessarily. It was obviously a policy change.

22 COMMISSIONER SCHMIDTLEIN: So, the report that  
23 you referenced where Wood McKinsey looks at specifically  
24 what was the effect of tariffs have you all put that on the  
25 record?

1                   MR. BACA: I don't think we have, no. We can  
2 dig that up.

3                   COMMISSIONER SCHMIDTLEIN: I mean I'm just  
4 curious because honestly when I read through this report  
5 they don't really discuss tariffs all that much. I mean you  
6 know I see where they talk about the PV utility segment is  
7 really booming and so it's a little ironic that I hear you  
8 all talk about how that segment is suffering. It seemed  
9 like that was sort of one of the themes or maybe I'm wrong.  
10 You agree that the utility segment in the United States is  
11 booming. It's just that the U.S. producers can't supply  
12 it; is that the point?

13                   MR. PRUSA: That's true; they can't supply it.  
14 But it would -- the Wood McKinsey analysis shows that it  
15 would be stronger than it is.

16                   COMMISSIONER SCHMIDTLEIN: It's booming, but it  
17 would be booming more.

18                   MR. PRUSA: It would be stronger than it is.

19                   MS. HOPPER: That's exactly the point. The  
20 impact of the tariffs have been -- they have muted what  
21 could have been an even brighter story and so there isn't  
22 anyone here that would deny the growth of our industry, but  
23 what could have been is not being realized because of these  
24 tariffs.

25                   COMMISSIONER SCHMIDTLEIN: So, you know I was

1 here two years ago, obviously, when this case was going on  
2 and we heard a lot of doomsday talk at that point. I mean I  
3 don't think anyone sat here and said, oh, if this remedy  
4 goes into place what's going to happen is, yeah, things are  
5 going grow and it's going to boom, but it's just not going  
6 to be as big as a boom. So, do you think that undercuts the  
7 credibility of what you're saying here? I mean that two  
8 years ago your forecasts were so wrong for what the impact  
9 would be?

10 MR. NICELY: Not at all. Our forecast were not  
11 wrong, actually, Commissioner. I mean remember what Suniva  
12 was putting in front of you was a proposal that was rather  
13 Draconian and was illegal, small issue, but would've been  
14 greater than the 50 percent duty, right?

15 So, what you might be thinking about, I think,  
16 is --

17 COMMISSIONER SCHMIDTLEIN: Your response to  
18 that.

19 MR. NICELY: The response to that, right.

20 COMMISSIONER SCHMIDTLEIN: Okay, I see.

21 MR. NICELY: But what we talked about what was  
22 ultimately imposed our forecasts are pretty spot on.

23 COMMISSIONER SCHMIDTLEIN: Okay. And then, I  
24 guess, just again the employment numbers we could recreate  
25 by going on the Jedi -- on the website and using this Jedi

1 model to plug in the numbers.

2 MS. HOPPER: Yes, that's exactly right. And  
3 we'll include that analysis in our post-hearing brief.

4 COMMISSIONER SCHMIDTLEIN: Okay. And the 62,000  
5 jobs that are on your slide is -- now those are 62,000 jobs  
6 in module and cell manufacturing or that includes other  
7 jobs?

8 MR. NICELY: No, no, no.

9 COMMISSIONER SCHMIDTLEIN: That includes  
10 installation jobs.

11 MR. NICELY: Right.

12 COMMISSIONER SCHMIDTLEIN: Okay.

13 MR. NICELY: What we're saying is that if you  
14 had not imposed tariffs on the modules you would've seen  
15 this much more -- that much more deployment and that much  
16 more deployment would've turn into that much more  
17 employment.

18 COMMISSIONER SCHMIDTLEIN: Yes, so most of this  
19 is installers or are there others too.

20 MR. NICELY: No, that's unfair too -- right,  
21 because -- and in fact, I highly recommend to you to read  
22 the Solar Foundation's study that they put out every year on  
23 the solar census because that breaks down for you what the  
24 all the jobs are that we're actually talking about here.  
25 And by the way -- and we have a little section in our brief

1 about this -- the manufacturing jobs -- I know it's not the  
2 manufacturing jobs are the people who brought this case, but  
3 still manufacturing jobs are a fundamental part of that  
4 62,000. Okay. And the manufacturing jobs that are lost as  
5 a result are more significant than what they have added.

6 COMMISSIONER SCHMIDTLEIN: Okay. And I think  
7 that report is on the record. I believe I've seen that in  
8 your exhibits, right?

9 MR. NICELY: It is, yes.

10 COMMISSIONER SCHMIDTLEIN: Okay. Alright, thank  
11 you.

12 CHAIRMAN JOHANSON: Commissioner Kearns.

13 COMMISSIONER KEARNS: Thank you. And so just to  
14 kind of wrap up part of that, what I'm hearing -- tell me if  
15 I'm wrong -- is we obviously don't have data on you know  
16 installers profitability, employment, and so forth. But I  
17 think what I'm hearing is if we had that we wouldn't see a  
18 drop in employment. We wouldn't see a drop in  
19 profitability. It's just that profitability wouldn't be as  
20 great as it would've had this remedy not been put in place.  
21 Employment would've been greater had this remedy not been  
22 put in place; is that right or it's actually been losses in  
23 jobs -- overall, net losses in jobs downstream as a result  
24 of this remedy.

25 MR. NICELY: In our brief, we have two sections

1 that do exactly what you're talking about, Commissioner  
2 Kearns. One is the actual losses in jobs that the Solar  
3 Foundation's study does talk about. That, in fact, over the  
4 course if you look at from 2016 to 2018 there is a decline.  
5 Some of that is because 2016 was an oddly high year. We'll  
6 grant you that, but the fact is that they were down and we  
7 have lost jobs, actual jobs, as compared of where we were.  
8 In addition, yes, we're also talking about the opportunity  
9 lost in addition to actual lost jobs.

10 COMMISSIONER KEARNS: Okay. Maybe this goes to  
11 --

12 MR. HERSHMAN: I could tell you as the installer  
13 on the panel we had job losses and revenue declines --  
14 dramatic revenue declines in '18 and the first half of '19.  
15 We're starting to move back to levels that we saw, from a  
16 company standpoint, in early '17. So, we did -- and I can  
17 speak for most of the manufacturers and contractors that I  
18 know that we compete with in the industry they saw a very  
19 similar trend in revenue, profits, and employment through  
20 the latter half of '17, all of '18, and are now coming back  
21 up to levels where we were prior to the 201.

22 COMMISSIONER KEARNS: Okay. I don't know how  
23 much I want to pursue this, but I mean did we -- we actually  
24 predicted that demand -- regardless of the relief, demand  
25 was going to go down during that time, right? So, wouldn't

1 you have expected -- even if we had not put relief in place,  
2 wouldn't there have been job losses in 2018 because the  
3 market was going to decline during that time?

4 MR. NICELY: From 2017 to 2018, no; from 2016 to  
5 2017, yes. There was never any anticipation of any losses  
6 from 2017 to 2018.

7 COMMISSIONER KEARNS: In demand -- we didn't  
8 expect that demand was going to decline?

9 MR. NICELY: I don't believe -- no.

10 COMMISSIONER KEARNS: I'm pretty sure we did.

11 MR. NICELY: From 2017 to 2018?

12 COMMISSIONER KEARNS: I'm pretty sure that we  
13 saw demand declining. I might be wrong.

14 MR. BACA: Following '16.

15 COMMISSIONER KEARNS: I was kind of shocked, by  
16 the way, in terms of how well people did with their  
17 estimates. I think the Commissioners had indicated that  
18 demand would be down I thought through 20 -- I thought it  
19 was through 2018 and then it went up in 2019. That seems  
20 like that's exactly what's happened, but maybe we don't need  
21 to dwell on this point here; but anyway, maybe post-hearing  
22 if you can provide more information. It just seems to me  
23 like -- I'm not sure we should attribute that to the 201  
24 when people, I think, thought demand was going to go down.

25 MR. NICELY: We'll address the details in our

1 post-hearing.

2                   COMMISSIONER KEARNS: Okay, thank you. I guess  
3 this still gets to what Commissioner Karpel was addressing  
4 before. What I think I'm hearing too, in terms of pricing,  
5 is, yes, prices have gone down because of -- for a variety  
6 of reasons, including you know costs have gone down -- input  
7 costs and so forth; but incrementally, not the margin, but  
8 for the 201 remedy there would be more sales. There would  
9 be you know a better outcome, but that's always true, right?  
10 I mean that's always going to be the case because we're just  
11 struggling, I think, with the fact that you're seeing pretty  
12 dramatically lower prices than we expected, even with the  
13 relief. But we're hearing from you all you know it's not  
14 enough and I get it. Like without any import restraints I  
15 suppose prices would be lower, but that's not really the  
16 questions I think everyone was trying to answer. Do you  
17 disagree with that?

18                   MR. O'SULLIVAN: I think if you compare two or  
19 three years ago to the other costs of the other products,  
20 natural gas is a lot cheaper, wind is a lot cheaper. That's  
21 who you're competing with. I hate to keep beating the same  
22 drum, but that's what's going on and what's going on today  
23 in late '19, the end of '19, the same customers are deciding  
24 what to do for '21, '22 and '23, and the uncertainty of all  
25 this is causing them to delay the decisions.

1                   There will be robust new solar built in '20  
2   and '21, but it's all getting pushed out to '22 and '23,  
3   hoping the world calms down and it's a little more  
4   transparent and has cheaper panels and more cheaper  
5   installed panels perhaps that installers will be able to put  
6   in due to labor productivity or other techniques, or  
7   improvements in the panels themselves from an efficiency  
8   point of view or a wattage.

9                   That's all what's largely, and that's what I  
10   was trying to explain to Commissioner Karpel earlier, is  
11   you've got all these dynamics and a dramatic change in the  
12   cost to borrow money and the cost of equity in the last two  
13   or three years, and the institutional market that invests in  
14   these projects, guys that we compete with.

15                   That cost of investment dwarfs what's happened  
16   on the cost of panels, dwarfs it, and that is an ordered  
17   mess. So when all that settles in and that's the new normal  
18   perhaps in the next two or three years, you look at what is  
19   incrementally changing the cost of a new decision by a new  
20   project by a new customer, and it's the panel price.

21                   COMMISSIONER KEARNS: Okay.

22                   MR. POCHTARUK: Two years ago, the standard  
23   margin-- this is Martin Pochtaruk from Heliene, excuse me.  
24   Two years ago, the standard margin for utility scale  
25   projects was at 340 or 345 watts per module. Today we're

1 selling at 380 or 385 watts per module. Therefore, there's  
2 a technology advancement on a per module basis, because you  
3 are using the -- , and the rest of cabling and the rest of  
4 the costs on the balance of system for a module is much more  
5 efficient on a per square foot basis.

6 COMMISSIONER KEARNS: Okay, thank you.  
7 Actually, I'd like to stay with you here for a second, both  
8 for Heliene and Silfab, a question about U.S. module  
9 facilities. In your brief, you discuss investments and  
10 expansions that were made to the companies, U.S. operations  
11 since the imposition of the safeguard measure while imports  
12 from Canada declined. Were those investments an expansion  
13 to the companies' operations in the United States, and  
14 decline in imports from Canada the result of the safeguard  
15 that covered imports from Canada?

16 MR. POCHTARUK: So I'll go --

17 MR. STOEL: Commissioner Kearns, would you  
18 mind repeating the question? Sorry.

19 COMMISSIONER KEARNS: I mean the -- your brief  
20 refers to investments you've made, I think both Heliene and  
21 Silfab, since the -- since the relief was put in place.  
22 Were those investments made because -- not at the same time.  
23 Imports from Canada were dropping. You were importing less  
24 from Canada. Is that because of the 201 that that happened  
25 or was that how you were planning to invest and import

1 regardless of the relief?

2 MR. MACCARIO: It's Paolo Maccario at Silfab.  
3 The plan -- our customer has always been also from Canada  
4 and the United States, and particularly the residential  
5 United States. We have invested or decided to invest before  
6 the Section 201 and independently from the Section 201.  
7 What I can say is the Section 201 expedited the type of  
8 investment, and we decided to take over the facility in  
9 Washington rather than building a new one in Buffalo.

10 COMMISSIONER KEARNS: Okay, thank you.

11 MR. POCHTARUK: In Heliene's case, we did have  
12 a plant in Minnesota already. It was using laminates that  
13 were brought in from Canada. So the difference due to the  
14 imposition of the safeguard is that bringing in laminates  
15 was not economically viable anymore. So we had to shut down  
16 that facility, got the building and built a new facility.  
17 So basically we were out of the market for a good six-seven  
18 months until the new factory was in place. And the 2020  
19 factory is a direct enhancement of that to increase market  
20 share.

21 COMMISSIONER KEARNS: Okay.

22 MR. STOEL: Commissioner Kearns, I just wanted  
23 to take the opportunity to remind the Commission these folks  
24 invested not predicated on the safeguard. They both hired  
25 now nearly 200 American workers. They're both planning on

1 expanding. They're continuing their investments. Both  
2 companies are planning on additional investments in both  
3 states. So these are folks that have done exactly what the  
4 President and I think the Commission wanted you all, all of  
5 them to do. So we appreciate the opportunity to be here.

6 COMMISSIONER KEARNS: Okay. Last question I  
7 wanted to ask Mr. O'Sullivan. What impact do the tariffs  
8 have on your module sourcing and your decision to source  
9 modules from Jinko's plant in Florida? Did your contact  
10 with Jinko contribute to its decision to establish a U.S.  
11 factory?

12 MR. O'SULLIVAN: I think our -- I believe our  
13 -- you have to ask Jinko that. They made the final  
14 decision. I believe it contributed to them sourcing it in  
15 the U.S. Southeast. We had similar discussions with  
16 numerous other manufacturers globally, to bring and  
17 encourage jobs in Florida or in the Southeast, because a  
18 lot of our market, I think we built a little over 500  
19 megawatts in Georgia the last couple of years, including  
20 this year, and I think we have another 400 megawatts in  
21 Georgia going in '20 and '21 if I recall correctly.

22 That region is very important to us, and we're  
23 going to put in I believe over 7,000 megawatts in Florida in  
24 the next three to seven years. But a lot of these  
25 manufacturers, the uncertainty of the tariff coming or going

1 or going up or going down have done the study and the  
2 logistics of bringing that manufacturing, and they can't hit  
3 the price point. They'd rather take the risk and do it from  
4 other countries or relocate that investment to other  
5 countries that aren't affected by the tariff.

6           They're making that pennies per watt decision  
7 and it's pennies here and pennies there, and the logistics  
8 decisions on top of taxes, on top of start-up costs, on top  
9 of new build greenfield versus brownfield retrofit to a  
10 manufacturing facility. When you put all that in the  
11 blender, it's a very complicated discussion for many of  
12 them, and we're frankly a little surprised that more haven't  
13 moved to the U.S. and made the investment.

14           COMMISSIONER KEARNS: Okay, thank you very  
15 much. My time has expired.

16           CHAIRMAN JOHANSON: Commissioner Stayin.

17           COMMISSIONER STAYIN: Thank you. One of the  
18 issues is the question of what the impact on the U.S.  
19 industry has been with respect to the safeguard remedy.  
20 We're looking at the U.S. industry that produces the cell  
21 products.

22           One of the things that strikes me is that  
23 we've lost the production of cells, you know. I don't think  
24 we have the U.S. industry that produces cells anymore, and  
25 I'm curious if you have any thoughts on why that is. It's a

1 basic product. It's one of the products that's subject to  
2 this safeguard proceeding. I think that maybe that's not in  
3 your bailiwick but go ahead, if anybody can answer that.

4 MR. CORNELIUS: Commissioner Stayin, this is  
5 Craig Cornelius. I suppose you see some caution because  
6 it's not a great story to tell, because it's a sad one I  
7 think. I mean from my standpoint, I spent the better part  
8 of a decade as an official in the U.S. government and as a  
9 private investor, attempting to help us create a domestic  
10 solar cell manufacturing industry when the terrestrial solar  
11 industry was really becoming a global commercially viable  
12 industry in the mid-2000's.

13 Here in this country, you know, we made a bet  
14 that certain types of technologies might be the prevailing  
15 technologies for solar cell manufacture. That was a bet  
16 that we made in the U.S. government, it was a bet that  
17 venture investors made.

18 So the companies that grew up over 2005, 2006,  
19 '07, '08 '09, '10 were all oriented around a certain family  
20 of thin-filmed technologies or technologies called  
21 concentrating PV, while other parts of the world invested in  
22 creating global scale and manufacturing efficiencies around  
23 a crystalline silicon technology that frankly we regarded as  
24 plain and uninteresting and without a lot of potential.

25 And during the time that those other countries

1 and companies in them got to scale and truly advanced the  
2 state of the art in that technology, the companies that we  
3 had in this country, some of them which I frankly was an  
4 investor in, found themselves unable to meet the goals that  
5 they'd originally led out. This was explored pretty  
6 significantly two years ago.

7           So I think fundamentally, the reason why we  
8 don't have a significant solar cell industry in the United  
9 States is that as a country we didn't really pursue the  
10 right technology pathway. Today, there are significant  
11 advantages in input materials and know-how and people, in  
12 particular in solar cell making, that are local and dense.

13           It is very hard to replicate those when you've  
14 got 100 gigawatt solar cell manufacturing supply chain that  
15 is highly localized in Southeast Asia and that general  
16 region of the world. I'm not sure that there's a policy  
17 interest for the United States in trying to replicate it. I  
18 think there's some wisdom in trying to assemble modules from  
19 solar cells that are made elsewhere, but I don't see an  
20 abiding policy reason for feeling like it's essential for us  
21 to be able to make solar cells here in the United States in  
22 any given year.

23           If we really found that we needed to, it takes  
24 eight months to build a factory to do it. So if there was a  
25 national security reason to do that within the course of a

1 couple of years, we could build a major solar cell factory,  
2 you know, complex here in the United States. It just might  
3 be very expensive and economically irrational.

4 COMMISSIONER STAYIN: Do you see any national  
5 security issue with not having solar cell production in the  
6 United States?

7 MR. CORNELIUS: No I don't, and I have  
8 experience evaluating those considerations on behalf of the  
9 U.S. government. The reasons I would give you for that are  
10 the following. First, solar energy is an important part of  
11 the U.S.'s future energy supply mix, but as our arguments  
12 here have told you today, most customers in the United  
13 States have the ability to chose between solar as a source  
14 of energy or wind or natural gas. They don't have to buy  
15 power from solar.

16 Second, our consumption here in the United  
17 States is not growing. Demand here is flat. We don't lack  
18 for sources of energy supply. It's not essential that solar  
19 be there to be able to grow by 10 and 20 gigawatts per year  
20 for sustaining the U.S. economy.

21 Third, the replacement of solar cells that go  
22 into solar modules or into existing power systems is not  
23 something that the U.S. grid relies upon for its fundamental  
24 reliability. And fourth, if for some reason we were to  
25 decide that our calculus around all those things change, it

1 does not take a lot of time to build these factories.

2 That's part of the reason why it's not a great  
3 business, is how quickly people can build factories and  
4 compete them out.

5 COMMISSIONER STAYIN: Thank you. I was  
6 wondering myself how the solar cell issue related to  
7 national security, but it has been raised. With respect to  
8 the development in the United States, the safeguard issue  
9 applied -- actually the investigation was with respect to  
10 cells and into the next stage. The investigation focused on  
11 the modules and the cells.

12 So the issue before us is has the U.S.  
13 producers of modules and cells, have they made adjustments  
14 to try to deal with competing, with competition that they  
15 face in the marketplace. Commissioner, I think you know,  
16 you and I have looked at these questionnaire responses that  
17 we sent out for all people to look at, and they have all  
18 these numbers, you know. Your employees, raw materials and  
19 all that in determining issues.

20 But I've never seen in our consideration of  
21 injury or issues the 62,000 construction jobs --

22 MR. BURCH: Commissioner Stayin, can you pull  
23 the mic a little closer?

24 COMMISSIONER STAYIN: The 62,000 jobs. In the  
25 discussion, I understand that there's a lot of construction

1 jobs involved in those numbers. I think realistically you  
2 need to scrub it and give us the actual numbers of jobs  
3 involved in the production of the product. That is the  
4 issue before us. The issue is jobs lost in the United  
5 States in the production of product manufactured in the  
6 United States.

7 That is the focus of our investigation. Our  
8 investigation doesn't really look into jobs and products  
9 made overseas or products that are made overseas.

10 MR. NICELY: Commissioner Stayin, Matt Nicely  
11 with Hughes Hubbard. The reason we have put that  
12 information in front of you -- and these jobs are the solar  
13 supply chain, right, that going all the way back to  
14 polysilicon, all the way to installation. It's not just  
15 construction, it's multiple -- it's jobs all along the  
16 supply chain.

17 What we're saying is that by imposing the tariffs  
18 and therefore inflating prices, even though the prices have  
19 gone down. They are higher than they would otherwise be if  
20 the tariffs were not there. You are losing several other --  
21 several jobs, tens of thousands of them, in lost deployment.  
22 Deployment that would have otherwise happened.

23 And the reason why it's relevant, from our  
24 perspective, is this is a Section 201 case, not an  
25 anti-dumping or countervailing duty case. And as a result,

1 the statute, as I mentioned earlier in response to a  
2 question that Commissioner Schmidtlein put before us, as a  
3 result the question of the cost versus the benefits, is  
4 relevant.

5           It was relevant when the President imposed the  
6 duties and the relief in the first place, and we believe it  
7 continues to be relevant today when you make -- when you  
8 report to the President whether or not the relief has been  
9 effective or not. And what I mean when I say has the relief  
10 been effective, it's not simply a question of whether or not  
11 it's been effective for the domestic industry.

12           Has it been effective with regard to that  
13 question of benefit versus cost? That's why we've put these  
14 numbers in front of you. We recognize that your staff  
15 didn't collect them. We think it's relevant under the  
16 statute to be considering cost versus benefit.

17           MR. PINKERT: Let me just jump in at this point.

18           COMMISSIONER STAYIN: Sure.

19           MR. PINKERT: And say that I think it's important  
20 to recognize some of the distinctive elements of Section  
21 201. And in my mind, the closest analogue that you apply in  
22 the routine work of the Commission, is the public interest  
23 provisions in Section 337, not the anti-dumping provisions.

24           And when it talks about providing a greater  
25 economic and social benefit than cost, that invokes the full

1    arsenal of economics to try to figure out for example, the  
2    words used in Section 337, the interests of consumers, or  
3    the public welfare, or the overall benefit of this  
4    particular action.

5                    And I think when you do that, and you look at it  
6    in those terms, you see that the economic and social costs  
7    on a very broad scale of this set of measures has been much  
8    greater than the benefits.

9                    COMMISSIONER STAYIN: Thank you. I would invite,  
10   you know, submission in the post-hearing brief on the  
11   subject. There is a public interest connection in the 337,  
12   which deals with anti-trust issues, or competition issues.  
13   We even have a department that is responsible for looking at  
14   the public interest in these 337 cases.

15                   I haven't seen that applied to a 201 issue, but  
16   certainly willing to take a look at your analysis of it,  
17   thank you Commissioner. The -- going back to what we're  
18   having to deal with here, bottom line is my time has run  
19   out. Bottom line is I appreciate you being here, and I  
20   appreciate keying us in on an issue and approach and that  
21   doesn't normally come across our desk.

22                   What you're doing is very important to get a --  
23   develop an industry that provides safe, secure,  
24   environmentally friendly energy. I think it's something to  
25   be admired, so I wish you well in that. Thank you.

1           CHAIRMAN JOHANSON: Commissioner Karpel?

2           COMMISSIONER KARPEL: Thank you. Yeah, I want to  
3 go back to the conversation we were having before, and I  
4 think I left off trying to understand how the tariffs have  
5 affected the price for solar and price for the imports for  
6 that.

7           So, I'll phrase my question this way. Has the  
8 price decrease for solar caused by the various factors  
9 you've mentioned, not been enough to make up for the  
10 increased cost of purchasing modules that are subject to the  
11 tariffs? And if your answer is no, then can you walk me  
12 through why that is?

13           Is it because your competitors in other energy  
14 sources have similarly faced these downward costs and so,  
15 it's only your industry that is -- if all else is equal, and  
16 it's only your industry that is facing these tariffs, or --  
17 walk me through that.

18           MR. DAVIS: This is Hamilton Davis, Southern  
19 Current. Let me take a shot and just giving you an example  
20 of what this looks like on the ground in Southern Current.  
21 And this is different in different markets. But I think  
22 this will help illustrate what you're looking for.

23           So, in Southern Carolina, and what we're  
24 competing against is the utilities and marginal cost of  
25 energy, it's called a voided cost. And so, that's -- we

1 have to meet or beat that for us to bring our product into  
2 the market.

3 In South Carolina what we've seen as retail rates  
4 have increased, a voided cost rates, marginal cost of energy  
5 has actually decreased over this two year span that these  
6 tariffs have been in place. So, as we're trying to keep up  
7 with that decreasing marginal cost of energy for the  
8 utilities that we sell to, our prices are now -- even though  
9 they're potentially lower than they were, they're not as low  
10 as they could be, which undermines our ability to compete at  
11 that price point.

12 So, that's where the rubber hits the road for us  
13 in a state like South Caroline where we otherwise would be  
14 bringing these investments into communities like Orangeburg,  
15 and I would encourage the Commission to look up the corridor  
16 of shame in South Carolina. These are the types of places  
17 that we invest in, where we put up hundreds of millions of  
18 dollars, billions of dollars across the State of South  
19 Carolina that translate into hundreds of millions of  
20 dollars in local property taxes for these very poor, rural  
21 areas, and these families that depend on this type of  
22 revenue stream to keep those properties in their family.

23 If we can't compete with that utility price, then  
24 those investments just don't get made. And that is also  
25 taking place in wholesale markets where yes, the price of

1 natural gas is dictating a lot of the price point that we  
2 have to compete with in that market, is those prices have  
3 gone down, and solar has not been going down as quickly. It  
4 undermines our competition, ability to compete.

5 COMMISSIONER KARPEL: Do others have something to  
6 offer?

7 MR. CORNELIUS: Yeah, Commissioner Karpel, this  
8 is Craig Cornelius. And, I think I'd be glad to resubmit  
9 for the record some information from the initial safeguard  
10 case two years ago that I think was helpful in illustrating  
11 some of these dynamics. One of the factors that I know is  
12 relevant for us is that commonly when we purchase and  
13 receive a solar module, it is to install it in a project  
14 that we signed a revenue contract for 24 to 36 months prior  
15 to taking delivery on that product.

16 So, the price that is an acceptable price for a  
17 module today, is a reflection of the incentives and the  
18 willingness to pay from a customer, some two or three years  
19 ago. And aspects of the world that are different in 2019  
20 than were in 2017, are the following.

21 In many state markets, there were remaining  
22 compliance requirements for renewable portfolio standards,  
23 or other state level incentives that supplemented the market  
24 price of power and factored into the price we could afford  
25 to pay for a solar module.

1           And in most states in the United States, those  
2 compliance obligations have now been met. And while you  
3 heard this morning reference to new state incentives, or  
4 renewable portfolio standards, most of those have a  
5 compliance requirement in 2026, or in 2030. They don't have  
6 a compliance requirement today that leaves a utility to be  
7 prepared to pay more than the wholesale price of power.

8           So, in addition to the other factors and changes  
9 to the base wholesale power costs, what's happened is  
10 effectively state level incentives have been consumed.  
11 They've worked. But the state level incentives were  
12 originally set in most places based on an anticipated  
13 forward cost curve for solar modules.

14           And this forward cost curves which, companies  
15 like ours or policy practitioners looked at, hadn't  
16 anticipated the inflationary impacts of tariffs.

17           COMMISSIONER KARPEL: Thank you. And a related  
18 question. We heard some -- where is it, discussion this  
19 morning, arguments that foreign producers have been  
20 absorbing the costs of tariffs. And that the reason, or  
21 some of the reason -- this is the reason, or some of the  
22 reason, prices have fallen since imposition of the  
23 safeguard. Can -- do you agree, and if not, what is your  
24 estimate of the tariff pass through to utilities and other  
25 users, purchasers or modules?

1           MR. NICELY: I'll let Doctor Prusa talk about  
2 this, but I think it's important to recognize that this  
3 product, as you've seen with the Swanson's law curve that  
4 we've shown you, that we've talked about. There's this  
5 relentless decline in pricing that happens year on year, on  
6 year in this industry.

7           Because of the technological advances, right?  
8 So, to assume that because prices fell, the foreigners were  
9 therefore absorbing the cost of the tariff, ignores the  
10 reality of how this market has worked for decades. So, I  
11 don't know if you want to add.

12           MR. PRUSA: Right, and to add to that, in the  
13 SEIA pre-hearing brief, in Exhibit B, Figure 9, there's a  
14 BPI figure comparing global module prices with U.S. prices.  
15 And I can't state to the actual price, but I can tell you  
16 percentage changes. In 2018, average module prices in the  
17 United States were 35 percent higher than global prices.

18           And in 2019, when the tariff went down by 5  
19 percentage points, the gap fell from 35 percent to 29  
20 percent. So, sure, looking at the pricing data, the gap  
21 between U.S. prices and foreign prices is tracking the gap,  
22 the distortion of the tariff. So, the idea that it has in  
23 the past -- I think that what Mr. Nicely pointed out, there  
24 was a little bit of -- I felt like a little magic trick this  
25 morning.

1           Everybody here in energy recognizes solar module  
2 prices are falling, largely to what Mr. Dougan pointed out,  
3 which is dramatically falling raw material cost, but do not  
4 understate the importance of efficiency gains that have  
5 occurred even in the last two years.

6           Those two magic things put together mean prices  
7 have fallen, just like they've fallen for the last 40 years.  
8 But U.S. prices are among the highest prices and we are the  
9 highest priced of any major solar market in the world.

10           COMMISSIONER KARPEL: That's all I have for right  
11 now, thank you, passing on.

12           CHAIRMAN JOHANSON: The average unit value of  
13 imports was at its lowest level in 2016, and at its lowest  
14 level in the first -- no, I'm sorry. The average unit value  
15 of imports was at its highest level in 2016, and at its  
16 lowest level in the first six months of 2019. What is the  
17 reason for this trend?

18           MR. NICELY: I think that's what we just  
19 discussed, Chairman Johanson, is that those declines have  
20 been happening over the course of many years. And they've  
21 been happening because of the technological advances, the  
22 efficiencies gained with regard to these products, which  
23 have been happening for many, many, many years.

24           And those technological advances have not changed  
25 over the course of, just because the tariffs were imposed.

1           MR. PRUSA: That's what's displayed here in this  
2 figure, which is also in the pre-hearing brief. I mean  
3 this, the idea that this is something new since 2012, or  
4 2015, module prices have consistently fallen and not just by  
5 a little bit. That's what makes this industry really  
6 different, I think, than most of the ones you see which is  
7 if you have a period where module prices are not falling,  
8 that's the time.

9           And these are global prices. And this is just  
10 the pattern that we've observed for 40 years, and that's  
11 partly what's made solar a success story.

12           CHAIRMAN JOHANSON: But you don't attribute any  
13 of this change to the safeguard relief?

14           MR. NICELY: The decline in the price to the  
15 safeguard relief?

16           CHAIRMAN JOHANSON: How much did the safeguard  
17 impact the price in general would you say?

18           MR. NICELY: Well, again, I would point to what  
19 Doctor Prusa has just mentioned in response to Commissioner  
20 Karpel, that in fact, with the imposition of the tariffs,  
21 you suddenly see a significant difference -- very similar to  
22 the difference in the amount of the tariff, between global  
23 prices and U.S. prices.

24           MR. PRUSA: And that gap did not exist earlier?  
25 So, again, we have a figure you need to look at, and U.S.

1 prices and global prices in this confidential data, are on  
2 top of one another until the safeguard investigation starts.  
3 And that's when you start to see this deviation. And now  
4 the price gap is very much like the tariff.

5 MR. NICELY: But they're both on a continuous  
6 decline.

7 MR. PRUSA: Yes.

8 CHAIRMAN JOHANSON: Due to innovation, et cetera,  
9 you would say?

10 MR. NICELY: Et cetera, yes.

11 CHAIRMAN JOHANSON: Okay. Okay, thank you. I'm  
12 going to get back to the Canadians whom I spoke to before.  
13 You all say at page two of your brief, this is Canadian  
14 Solar, that the Canadian industry complements the U.S. solar  
15 industry. How does it complement the industry in the  
16 United States?

17 MR. POCHTARUK: Basically, because we manufacture  
18 on both sides of the border. With the mother companies in  
19 the case of Heliene and Silfab being on the Canadian side of  
20 the border, being the investor on the American side of the  
21 border.

22 CHAIRMAN JOHANSON: You all did not, of course,  
23 do not produce solar cells?

24 MR. POCHTARUK: No, we produce modules only.

25 CHAIRMAN JOHANSON: Is there any -- are there any

1 plans to start solar cell production in Canada?

2 MR. POCHTARUK: I can say for Heliene that's not  
3 the case now.

4 CHAIRMAN JOHANSON: Okay, thank you.

5 MR. STOEL: Commissioner, Jonathan Stoel for the  
6 record, we're not aware of any solar cell production in  
7 Canada or any plans for that. I would like to make two  
8 points for these folks. One is that you talked a little bit  
9 this morning about what's happening on the production side  
10 for the U.S. I would point out that the Section 301 tariff  
11 is having adverse consequences for U.S. producers.

12 I know that's not within your control. But  
13 that's something that would be great if you could recommend  
14 to the President that the 301 tariffs that are hurting U.S.  
15 manufacturing be removed.

16 The second thing is you heard from both of my  
17 witnesses earlier, they both support the removal or  
18 certainly the raising of the TRQ to at least 5 gigawatts.  
19 And the reason for that is that it is not yet binding. I  
20 agree with Mr. Nicely on that. But I think all projections  
21 are the U.S. manufacturing is going to exceed 2.5 gigawatts,  
22 and maybe I think, 4 gigawatts as LG predicted in their  
23 brief.

24 And so, it's very important that we don't put a  
25 further tax on this U.S. manufacturing. You all, and the

1 President have incentivized U.S. solar module producers here  
2 in the United States. Folks have responded. We shouldn't  
3 tax them with a tariff that's going to cause the very  
4 production that current U.S. policy has encouraged. So, I  
5 really appreciate your attention to that matter. I think  
6 everybody on this panel agrees with me on this point.

7 CHAIRMAN JOHANSON: Thanks Mr. Stoel. And talk  
8 about U.S. policy. To what extent is the investment tax  
9 credit an impending step down on December 31st, an important  
10 incentive influencing demand for solar products, or  
11 inhibiting demand for solar products?

12 MR. O'SULLIVAN: For wholesale projects, this is  
13 Mike O'Sullivan from NextEra. It's not changing demand for  
14 the next three or four years, because everybody's largely  
15 safe harbored a percentage of panels the last two or three  
16 years for the '21, '22 and '23 years.

17 And the step down in '24, from 30 percent to 10  
18 percent, is a small economic drop from a wholesale point of  
19 view. You're talking about wholesale electricity from solar  
20 that's in the roughly nationally on an average base, it's a  
21 range between 2 and 6 cents, but let's call it 3 cents  
22 average.

23 You know it might jump to 3 and 1/2 cents when it  
24 goes to a 10 percent tax credit. So, and you have five more  
25 years to figure out that on energy, excuse me, panel

1 efficiencies, labor efficiencies, logistics, things that  
2 others talked about today to make up for that. It's a lot  
3 of time to go figure that out.

4 So, we've been a big fan of the phase out of the  
5 tax credits, and a big supporter of that since back in 2015  
6 when the wind and solar tax credits were extended and  
7 proposed to be phased out.

8 MS. HOPPER: And Mr. Chairman, with all due  
9 respect to NextEra, it's the largest energy company in the  
10 world. SEIA represents all of the solar companies, and I  
11 think as an organization, we are very supportive. We think  
12 the investment tax credit has been a critical piece to  
13 deployment of solar projects, and so, I can give you some of  
14 the quick talking points since 2006 when it was created.

15 There's been about a 10,000 increase in solar  
16 installations. So, it's been incredibly impactful. And so,  
17 this -- I realize that many companies, large companies, have  
18 been able to safe harbor, but many smaller or residential  
19 companies have not been able to do that. And so, the step  
20 down is a pretty impactful thing for solar deployment as we  
21 look forward, which is part of why we've been so adamant  
22 about extending the invested tax credit.

23 MR. CORNELIUS: Chairman Johanson, if I might,  
24 this is Craig Cornelius. Speaking to the -- some of the  
25 questions related to trade and what you'd be observing in

1 prices and volumes in the United States, which I'm wondering  
2 might be part of the reason for the question.

3 I think what the step down from 30 to 26 percent  
4 does, is it inflates the price we are prepared to pay for  
5 modules that we can take delivery on today. And inflates  
6 demand, in particular, in our segment, relative to the total  
7 volume we are able to install. And the reason for that is  
8 if we purchase a module today, we have the ability to use  
9 that module in a project that would be qualified for the 30  
10 percent investment tax credit until 2023.

11 So, companies like ours, are purchasing modules  
12 right now that we will not install this year or next year.  
13 And that likely is perhaps giving some artificial signal  
14 that we can afford to pay the prices we're paying for solar  
15 modules, because the modules that we purchase today will  
16 only represent say, 15% of the total volume that goes into  
17 an eventual installation.

18 So, I think the step down -- at least with  
19 respect to the utilities solar market, indicates an ability  
20 to pay a higher price for modules based on entries that are  
21 occurring today that we can afford to pay in future years.

22 CHAIRMAN JOHANSON: And this morning I asked  
23 about state incentives. And I think if you all could touch  
24 upon possible state incentives, in particular, probably  
25 Utility Regulatory Policy's Act and any changes that have

1 occurred there. I understand Southern Current might have  
2 something -- might know something along those line?

3 MR. DAVIS: Yeah, I'm happy to just speak briefly  
4 to the fact that there's a notice of proposed rulemaking as  
5 it relates to PURPA, that's primarily what we rely on in  
6 South Carolina. That's, you know, like I said, it's  
7 different per state. Which states use that, South Carolina  
8 currently, the legislature has decided that PURPA is the  
9 appropriate mechanism to drive solar investment in the  
10 state.

11 We've submitted comments as of this week as to  
12 what we think about the proposed rules. We think it would  
13 be detrimental to a market like South Carolina in terms of  
14 the ability of PURPA to actually translate into investment  
15 opportunity, so we're involved in that proceeding and you  
16 know, we'll be monitoring it and hoping that the other end  
17 continues to allow PURPA to function as an adequate ability  
18 to compete in these monop's and e-markets which, you know,  
19 if you take that away, there's no other customers to sell  
20 to except the monopoly utility and that really is the only  
21 mechanism, that's the only game in town at the moment.

22 CHAIRMAN JOHANSON: Okay, thanks for your  
23 response.

24 MR. DOUGAN: Chairman Johanson, I'm sorry, Jim  
25 Dougan, from ECS.

1           CHAIRMAN JOHANSON: Yes.

2           MR. DOUGAN: Do you mind I have something to add.

3           CHAIRMAN JOHANSON: No, go right ahead.

4           MR. DOUGAN: To your prior question about -- and  
5 I think Mr. Cornelius is probably right in that your  
6 question about 2019 was precipitated by is this an increase  
7 in actual demand in deployment or is it you know, incented  
8 by the expiration of these tax credits?

9           And I think one, part of the reason this is of  
10 interest is a part of what you've been hearing from the  
11 panel this morning or at least in their briefs, was the fact  
12 that you saw an increase -- a very substantial increase in  
13 apparent consumption between the part year '18, and the part  
14 year '19, was clearly evidence that, you know, the tariffs  
15 had no muting or detrimental effect on demand.

16           Because look at this large increase, right?  
17 There's a couple things to keep in mind. One, that may not  
18 necessarily, for the reasons Mr. Cornelius mentioned, affect  
19 actual deployment and use of these modules. The other thing  
20 is at the same time they're arguing that they were saying  
21 well, demand in the first half of 2018, at least was  
22 depressed, because there was an inventory overhang, because  
23 everyone brought in their you know, their imports at the end  
24 of 2017, before the tariffs went into effect.

25           So, in effect, what you are kind of seeing if you

1 compare the apparent consumption in the first halves of '18  
2 and '19, is perhaps an artificially depressed level of  
3 apparent consumption that wouldn't entirely be reflective of  
4 demand. And what might appear to be an artificially  
5 inflated apparent consumption that isn't necessarily  
6 reflective of demand.

7 So, when you're viewing the effect of the tariff  
8 on demand and considering whether this increase that you  
9 observe in apparent consumption would be a counter argument  
10 to ours, that there was the depressing effect on demand from  
11 the tariff. It's helpful to keep those facts in mind.

12 CHAIRMAN JOHANSON: Okay, thank you Mr. Dougan.  
13 Also, you all brought in the marching band today. Okay,  
14 yeah. I meant to thank you all for that, I thought it was  
15 -- it would have made more sense to bring them in at 5:30  
16 p.m. as opposed to 8:30 a.m. I could be revived right now.  
17 I think a number of us could. Thanks for your responses.  
18 It'd probably work better than this cup of coffee I got  
19 right here. Okay, Commissioner Schmidtlein?

20 COMMISSIONER SCHMIDTLEIN: I don't have any  
21 further questions, thank you very much.

22 CHAIRMAN JOHANSON: Commissioner Kearns? Do any  
23 other Commissioners have questions? Commissioner Karpel?

24 COMMISSIONER KARPEL: Sorry, I remembered a  
25 question I have written on another piece of paper. I wanted

1 to circle back to something I think Mr. Cornelius, that you  
2 said, but I thought was interesting and I wondered if others  
3 shared the same perspective.

4 I think a few others maybe spoke to it, but maybe  
5 not directly, but you had said that Commissioner Kearns had  
6 asked you what happens when the tariffs go away? And you  
7 had suggested that you didn't think the U.S. module industry  
8 that had started increasing production, a sense imposition  
9 of the tariffs would stick around, that it would go away.  
10 Do others share that perspective?

11 MR. CREAMER: So, I think Mr. Cornelius hit a  
12 nail on the head. It's a tough situation. And you know,  
13 part of it comes to when you look at the cost, you look at  
14 the scale, what the utility sector has actually brought to  
15 the solar industry as a whole, is skilled manufacturing.

16 I look at the investments that are going into it.  
17 Boy, it's great to see some. I think all of us would love  
18 to have more U.S. manufacturing to be able to come into it.  
19 I've talked with, at a minimum, three of the manufacturers  
20 that were on the panel this morning to supply panels for our  
21 projects, without response.

22 Not willing to supply us and to be able to do  
23 that. And part of that's driven by there's multiple markets  
24 in the solar section. You have residential market, you have  
25 a utility scale market, there are premiums based around how

1 people want panels to look on their house, versus how we  
2 want them to look out in the fields. So, can they make a  
3 bigger profit off of selling a different product to a  
4 different market? Yes. They can.

5 But when I think, you know, the overall question  
6 comes down to it, is the investment going to be willing --  
7 are they going to make enough investment? And we've seen  
8 the little bits right now, but today in the last two years,  
9 I haven't been able to buy a panel from them.

10 So, I think there's probably a question out there  
11 whether or not they're going to be able to come in and  
12 supply at that price, and on a go forward basis. We hope  
13 that they can. Absolutely hope that they're going to be  
14 able to do that. But today their history hasn't shown  
15 they're willing to get there.

16 MR. RESOR: May I add something to that. James  
17 Resor, EDF. I think also as was mentioned earlier, to look  
18 more broadly at the manufacturing opportunities that we, as  
19 a solar industry contributing to, in the last few years and  
20 looking forward, I think there's quite a bit of optimism for  
21 manufacturers that make racking trackers.

22 I mean we buy equipment made in Mississippi,  
23 Ohio, Upstate New York, West Virginia, switch gear,  
24 electronical, so even though there may be some hesitation  
25 about what the module itself can do, there's a lot of other

1 manufacturing and innovation that is occurring.

2 MR. HERSHMAN: Commissioner, George Hershman with  
3 Swinerton. I have a more optimistic view than my friend  
4 Craig, I think on this. And one item to point to is that  
5 one of the major manufacturers that did come into the U.S.  
6 after the 201 Jinko Solar, was not here today.

7 And was not on the panel this morning and doesn't  
8 support the same positions as those other manufacturers and  
9 do see an opportunity and a path forward past the 201 and  
10 have that stated position. So, I think that there is  
11 opportunity and there's continued opportunity in many  
12 markets within the U.S. where product made by LG and product  
13 made by Sun Power, will flourish in those market and  
14 opportunities.

15 Not necessarily for projects that we build, and  
16 you know, we talk a lot about the fact that nobody buys more  
17 modules in the country absent of NextEra than we do. And  
18 you know, we went out to the -- I personally, went out to  
19 the residential market and bought a product that was unique  
20 for my house.

21 There are not millions of modules that I buy for  
22 my utility sector. So, there is opportunity in the sector  
23 for manufacturers and the manufacturers that have come in  
24 and invested and continue to grow. And I think Jinko is a  
25 good manufacturer to look at and see that they have a stated

1 position of their plant moving forward post 201.

2 MS. HOPPER: And I just want to add my voice to  
3 that. I think Mr. Hershner and I share perhaps, the same  
4 optimism, and I would suggest that perhaps not all  
5 manufacturers here are similarly situated, so yes, there are  
6 certainly some here this morning who seems to have based  
7 their business case on the tariffs being in place, although  
8 I will point out they continue to invest even as those  
9 prices continue to fall as we saw.

10 But there are others who were not sitting at the  
11 table, with Jinko being one of them. We have our friends  
12 from Canada here, who have invested in the United States.  
13 And so, I think there are opportunities to continue. I  
14 might suggest that tariffs aren't perhaps, the best policy.  
15 And we at SEIA are working on different ways to help incent  
16 and support manufacturing in the United States, other than  
17 tariff policy.

18 But other avenues, but I do think that we need to  
19 not put every single manufacturer in one bucket but  
20 recognize that they have different models and different  
21 assumptions about the future.

22 MR. MACCARIO: Thank you Commissioner Karpel.  
23 Your question is part of -- Paulo Maccario at Silfab, I  
24 certainly would answer yes. We are here to stick around for  
25 the long-term. We define ourselves a bit like crutches,

1 because we have been, we started in Canada with certain  
2 incentive that disappeared, and we continued, and we stuck  
3 around.

4           When we arrived to Washington, there were state  
5 incentives that were rewarding domestic manufacturing that  
6 disappeared. Not only we stuck around, but we tripled  
7 capacity in the state. We brought one line that is unique  
8 in all the United States and is manufactured in the most  
9 efficient module currently made in the U.S. and we intend to  
10 expand that line.

11           So, given the possibility that what we are asking  
12 here, to have sufficient cells that are tariff free.  
13 Therefore, the request of expanding the TRQ and given the  
14 possibility of being able to continue finance and provide  
15 that from Canada, not only we are sticking around, but we  
16 are encouraging employment and capacity in the U.S.

17           COMMISSIONER KARPEL: Thank you, that's the last  
18 question I had.

19           CHAIRMAN JOHANSON: Alright. That concludes  
20 Commissioner's questions. Do staff have any questions for  
21 this panel?

22           MR. DAVID: A few, staff has a few questions. A  
23 few requests for post-hearing briefs. For Heliene and  
24 Silfab, the same question I asked this morning, if you can  
25 provide your protected 2020 production capacity and

1 production in your post-hearing brief, that would be greatly  
2 appreciated.

3 For Mr. Prusa, two requests. You said that the  
4 market projects that you were using were based on the  
5 pre-tariff and post-tariff GTM data applied to a baseline.  
6 If you can specify what that baseline is and provide the  
7 documentation for that in the post-hearing brief, that would  
8 be greatly appreciated.

9 Also, if you can explain the methodology for why  
10 the projected market size that you put forward today in your  
11 presentation for 2020 and 2021 is about 4 gigawatts greater  
12 than the information that was presented in your pre-hearing  
13 brief, that would be greatly appreciated, thank you.

14 CHAIRMAN JOHANSON: Do any parties on panel one  
15 have questions for this panel?

16 MR. KERWIN: So, I apologize for asking one more  
17 question at this hour of the day when we all would like to  
18 pack up and go have a cocktail. But I feel this needs to be  
19 asked. Clearly, this is really a follow-up to Commissioner  
20 Schmidtlein's line of questioning. It's clear that a lot of  
21 people are not -- don't understand how the SEIA numbers that  
22 were -- the slide that was up there for three-quarters of  
23 the presentation, how those numbers were derived.

24 Frankly, I don't understand how they were derived  
25 either. We now understand, from what the panel has said,

1 that those numbers were not derived from Wood McKenzie, but  
2 they were generated by SEIA internally. So, SEIA should  
3 have documentation that they can put on the record to show  
4 exactly how those numbers were derived, walk us through each  
5 step, and to also provide us with thorough documentation of  
6 where those -- where the original numbers came from within  
7 the Wood McKenzie reports, so we can say, yes, it's at  
8 Exhibit 4, page 7, 2017 number.

9 So, we can see exactly how these numbers were  
10 derived. Because as of now, we really don't know how they  
11 were derived. And despite having six volumes of exhibits  
12 associated with their brief, we still don't understand how  
13 it was derived and don't have that information.

14 So, I would request that that information be  
15 placed on the record. And I would also request that SEIA  
16 clarify in relation to a statement that was made before.  
17 This was from one of the GTM's in the SEIA reports that  
18 apparently, some of this information was derived from.

19 This is specifically Exhibit 4, page 7 at the  
20 bottom. I'm not going to read it because their requests  
21 were proprietary treatment for this. But it seems to  
22 indicate there may be other causes, other than the Section  
23 201 duties that were factored into the analysis that was  
24 done in the revision to SEIA's projections and GTM's  
25 projections for the coming year.

1           So, if they could please address that to clarify  
2   that what was assumed in their model, or in their  
3   calculations, was only in relation to the Section 201  
4   remedy, that would be very helpful.

5           And I would also ask that this information be  
6   placed on the record by Monday, so that we could have the  
7   ability to comment on this information in our post-hearing  
8   brief, because it's not really sufficient to get the  
9   information at the time of the post-hearing brief when  
10   clearly, the staff has questions on it, the Commissioners  
11   have questions on it, and we have questions on it. And we'd  
12   like to comment on it by next Thursday.

13           So, I would be very appreciative if we could have  
14   that information from this panel.

15           COMMISSIONER STAYIN: While the Chairman is  
16   involved in something right now. Do you agree with that, to  
17   provide that information as requested?

18           MR. NICELY: I don't think I've ever been  
19   involved in a case where the other side is asking us to  
20   prepare something by a certain date, so I think I'd look to  
21   the Commission to tell us one way or the other how they  
22   would like to approach it.

23           CHAIRMAN JOHANSON: It would be helpful to have  
24   the underlying information by Monday, if possible. That is  
25   the request of Commissioners.

1 MR. NICELY: Thank you Mr. Chairman.

2 CHAIRMAN JOHANSON: Okay, certainly.

3 MR. KERWIN: Thank you very much.

4 CHAIRMAN JOHANSON: Certainly. I would like to  
5 thank this panel for appearing this afternoon. And for all  
6 appearing today, I know it's been a very long day. Before I  
7 dismiss the afternoon's panel, I would like to note that for  
8 purposes of rebuttal and closing statements that panel one  
9 has a total of 7 minutes, with 4 and a half minutes for  
10 Suniva and 3.5 minutes for the other -- all others, that's  
11 for panel one.

12 Pardon me, that's for a total of 8 minutes. So,  
13 4 and a half minutes for Suniva and 3 and a half minutes for  
14 all others. For panel two, you have 1 minute of direct, and  
15 5 minutes of closing for a total of 6 minutes. This panel  
16 is dismissed. Thank you again for being here today.

17 MR. BURCH: Will the room please come to order.  
18 Closing and rebuttal remarks on behalf of panel one will be  
19 given by Matthew J. McConkey of Mayer Brown for Suniva, and  
20 John R. Magnus, TradeWins for all others on the panel.

21 Mr. McConkey, you have four-and-a-half minutes.

22 CLOSING STATEMENT OF MATTHEW J. MCCONKEY

23 MR. MCCONKEY: Thank you. It is a very, very  
24 long day. I don't know how you guys do this more than once  
25 a year. It's exhausting.

1           So I am going to do what I kind of do sometimes.  
2 We just jotted down some notes as things came up throughout  
3 the day as they came to us, so I am just going to kind of  
4 read them out randomly.

5           We have not asserted that the module tariff does  
6 not benefit cell production. Indeed, that's why we have  
7 suggested in our brief -- we didn't talk about it a whole  
8 lot today, but that's why we talked about slowing the rate  
9 reduction of the tariff, because that also helps modules,  
10 and it helps cells.

11           It is also obvious that enjoying tariff  
12 protection remedy for imports over 2.5 gigawatts would be  
13 highly beneficial to cell production. I don't think anybody  
14 can really contradict that statement.

15           Regarding the cell TRQ, just as the sky did not  
16 fall on U.S. solar installations when the 201 tariffs were  
17 imposed on modules, the sky will not fall when the 201  
18 tariff kicks in for cells also. The Commissioners should be  
19 skeptical of doom and gloom predictions from all quarters.  
20 Implementation of the TRQ cell remedy will lead to a bright  
21 and sunny future for the full solar value chain.

22           Indeed, everyone who is invested in new module  
23 production after the 201 remedy announcement did so knowing  
24 that the 2.5 gigawatt TRQ was in place. That's something  
25 that wasn't really discussed today. All of these new

1 entrants came in. They knew at that time that the 2.5  
2 gigawatt TRQ was there. Now they're coming asking for it to  
3 be increased, but at the time they made their investments  
4 they knew what it was.

5 I also -- and we will address this more in our  
6 posthearing brief -- we suggest that the impact of people  
7 having to pay a tariff once the TRQ has been exhausted, but  
8 the financial impact of that is over-rated, just remember  
9 there would still be 2.5 gigawatts of product coming in  
10 tariff free.

11 So the additional cost would only be applied to  
12 those over the 2.5, and so the average cost as applied to  
13 those would be very little. And that's the purpose of the  
14 TRQ.

15 These are all too snarky and maybe even for me.

16 (Laughter.)

17 MR. McCONKEY: So, Commissioner Schmidtlein, I'm  
18 actually going to close with you with a couple of issues  
19 since you asked a lot of questions of us today.

20 A couple of requests to the Commission, and it is  
21 somewhat following up on Commissioner Schmidtlein, we would  
22 love for the Commission to model in your final report what  
23 it would look like if you did lower the TRQ. We did not  
24 address the TRQ. Our ask in our brief today was our brief,  
25 and our ask today was to keep the TRQ in place. But you

1 also suggested the possibility of a TRQ being lowered, and I  
2 think it would behoove all of us if you would model that in  
3 your final report.

4           Similarly, we think that it might be helpful, as  
5 again Commissioner Schmidtlein noted, that it is not  
6 necessary that all the 201 ends in two more years, that it's  
7 exactly a four-year process, so maybe it would help -- it  
8 would help I think maybe to add some modeling if the 201  
9 tariffs were extended beyond the four-year period, modeled  
10 to see what that would look like.

11           And finally, a lot of discussion, especially on  
12 the first panel and some on the second panel today, with  
13 respect to the impact of the bi-facial exclusion that's out  
14 there. And I think it would be very helpful for all  
15 involved for the Commission to model the impact of the  
16 bi-facial exclusion on the 201 remedies. Thank you.

17           MR. BURCH: Thank you, Mr. McConkey. And Mr.  
18 Magnus, you have three-and-a-half minutes.

19           CLOSING STATEMENT OF JOHN MAGNUS

20           MR. MAGNUS: Thank you. John Magnus closing for  
21 the MODCO group. I appear before you without a snark filter  
22 switched on. I apologize in advance.

23           A couple of quick thoughts about the framing for  
24 your report about what we've learned today, and then at the  
25 end about cells.

1           The framing:    There's the who, and the what?  
2    Right?  The who is a domestic industry, a very specific  
3    domestic industry, the one that makes the SPV equipment.  
4    This includes the active MODCO that doesn't include anybody  
5    who buys that.  That's not the industry adjusting its import  
6    competition, nor does it include everybody who happens at  
7    one point in history to have been making CSP, the equipment.

8           There is an industry whose adjustment to import  
9    competition you can focus on and assess, and we think that  
10   is what you are supposed to do.

11           What?  Is positive adjustment under the existing  
12   safeguard measure.  The Executive Branch does not utilize  
13   the provision in the statute that is available if it would  
14   like you to examine alternative and model the effects of  
15   alternative remedy structures, and so the existing safeguard  
16   measure is the one that counts.

17           What did we learn today?  I think we have learned  
18   that the remedy is succeeding.  It is working for both  
19   legacy and in the U.S. producers.  So much so that the  
20   domestic producer market share will soon rise to 40 percent.  
21   Sharper and more rapid progress than any trade case has ever  
22   prompted.  Financial results that are still in parentheses  
23   but are pointing in the right direction.

24           The idea that somehow when there's some element  
25   of unmet utility scale demand that that means that we don't

1 have a positive adjustment to import competition. That's a  
2 very bizarre idea. I think that is not something you can  
3 espouse, or should espouse.

4 I teach with Matt Nicely. We tell our students  
5 that what matters in safeguard cases is not the import  
6 relief itself, even though that's what gets attention, but  
7 what happens underneath the umbrella while the umbrella is  
8 up, the positive adjustment.

9 The positive adjustment in this case is  
10 stupendous. We also learned today that the complaint from  
11 users is pretty speculative. The truth about the tariff's  
12 impact on demand and price is really not readily knowable.  
13 We all agree that the market is growing handsomely. We just  
14 don't agree about whether the safeguard measure is slowing  
15 that handsome growth.

16 Prices are lower than pre-tariff levels. Demand  
17 and forecast demand are both very strong.

18 Now to close on cell making. It attracted a lot  
19 of interest today, frankly much more than we had expected.  
20 The industry participants have different views on what's  
21 needed to generate a supply response on cells.

22 I would say to discount the massive supply  
23 response that you've had on modules because it has not also  
24 occurred for cells would be very unfair and distorted. Not  
25 a good approach to take in your report.

1           All of the MODCOs think that 2.5 gigawatts is too  
2 low, and so does the Nation's leading cell maker. Which, if  
3 you will recall, in the last round organized the effort to  
4 have a larger category of duty-free cells. I am speaking  
5 about Tesla, and they were for 5 gigawatts all along.

6           Please do not equate cell making with any one  
7 firm. The answer we are all looking for might not have  
8 anything to do with Norcross, Georgia.

9           And finally, I want to address this question of  
10 whether there's an unfairness in the existing remedy by  
11 noting --and I say this so SunPower bought Hillsborough, so  
12 I guess we're the successors there -- SolarWorld and Suniva  
13 came in front of the U.S. Government a couple of years ago  
14 and they were both producers of both modules and cells.  
15 They were both in both lines of business, right?

16           The remedy came out the way it came out. Some  
17 business decisions were made, and now what you see is that  
18 Hillsborough is moving forward in the module business, and  
19 what you see is another company Norcross not moving forward  
20 in the cell business.

21           There's no unfairness in that. Those are  
22 business decisions that have been made in the world that  
23 resulted from the remedy decision that you recommended, and  
24 that the President put in place.

25           Thank you very much, and thank you especially for

1 your hard work on this mid-term review.

2 MR. BURCH: Thank you, Mr. Magnus. And rebuttal  
3 and closing remarks on behalf of panel two will be given by  
4 Dean A. Pinkert of Hughes Hubbard & Reed. Mr. Pinkert, you  
5 have six minutes.

6 CLOSING STATEMENT OF DEAN A. PINKERT

7 MR. PINKERT: Thank you. I want to thank the  
8 Commission for its attention today. It's been a long day,  
9 but I think it's been very illuminating. And I want to give  
10 you some very brief remarks about the role of the Commission  
11 and what we're hoping the Commission is able to grapple with  
12 in this midterm review.

13 Basically, the role of the Commission here, I  
14 think, should be to help the President determine whether the  
15 tariffs are working. Help the President determine cost  
16 versus benefits. Help the President determine whether  
17 there's been a positive adjustment to import competition and  
18 point the way on what to do about the remedy. And the plain  
19 truth is that the tariffs are not working. The tariffs on  
20 modules have driven down solar deployments, again, relative  
21 to what they would've been without the tariffs and that has  
22 a ripple effect throughout the economy.

23 Meanwhile, the utility sector is virtually shut  
24 out by domestic sources; is that a model remedy? This  
25 industry could be making far greater inroads in providing a

1 boost to quality jobs in the United States, to  
2 well-compensated jobs in the United States, and making more  
3 of a contribution to environmental welfare. The key is  
4 allowing cost reductions to make the product more  
5 competitive on the grid, which drives demand in this  
6 industry.

7           And I would say in regard to the request for  
8 modeling that, to the extent that the Commission does do  
9 modeling in this case, it should reflect the localized  
10 conditions that we've been talking about where grid parity  
11 is achieved at different levels in different parts of the  
12 country. So, the modeling can't just be a uniform  
13 elasticity model -- and I'm not saying that the Commission  
14 would be inclined to do that, but in the past there's been  
15 reliance on modeling that doesn't have that kind of nuance  
16 detailed, local flavor that enables you to determine what  
17 the effect on grid parity would be under various scenarios  
18 and that's really, really crucial to understanding this  
19 industry and understanding the effects of any remedy.

20           Finally, I want to list three outcomes in  
21 declining order of optimality from the point of view of the  
22 overall solar industry. First of all, terminate the  
23 tariffs. Secondly, exclude Canada and Mexico and provide  
24 some relief to the utility sector, including improving  
25 access to bifacial modules. That's very, very important for

1 the utility sector, as we talked about today.

2 And finally, if one and two are not in the cards  
3 for whatever reason, then do no harm. Don't decrease the  
4 pace of liberalization. The statute and the safeguards  
5 agreement that provides some of the context for the statute  
6 makes it clear that these remedies are supposed to be  
7 liberalize over time and that the pace of liberalization  
8 should not be decreased in any way. So, do no harm means if  
9 you can't get to the other two, then at least don't affect  
10 the pace of liberalization in a way that would make the  
11 solar industry, as a whole, less competitive and less able  
12 to serve the economic welfare and environmental welfare of  
13 all Americans. Thank you very much.

14 CHAIRMAN JOHANSON: I would like to thank you  
15 all for having appeared here today. I will now make the  
16 closing statement. Post-hearing briefs, statements  
17 responsive to questions and requests of the Commission and  
18 corrections to the transcript must be filed by December 12.  
19 Any person who has not entered an appearance as a party to  
20 the investigation may submit a written statement concerning  
21 the matters to be addressed in the Commissioner's report to  
22 the President and you all may do so by December 12, 2019 and  
23 the report is submitted to the President and the Congress on  
24 February 7, 2020.

25 With that, this hearing is adjourned.

1                                   (Whereupon, the hearing was adjourned at  
2 6:04 p.m.)  
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## CERTIFICATE OF REPORTER

TITLE: In The Matter Of: Crystalline Silicon Photovoltaic Cells, Whether or Not Partially or Fully Assembled into Other Products: Monitoring Developments in the Domestic Industry

INVESTIGATION NO.: TA-201-75 (Monitoring)

HEARING DATE: 12-5-19

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: 12-5-19

SIGNED: Mark A. Jagan

Signature of the Contractor or the  
Authorized Contractor's Representative

I hereby certify that I am not the Court Reporter and that I have proofread the above-referenced transcript of the proceedings 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 proceedings.

SIGNED: Christopher Weiskircher  
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I hereby certify that I reported the above-referenced proceedings 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 proceedings.

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Court Reporter