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Before the House Select Committee on the Strategic Competition Between the United States and the Chinese Communist Party

"Outproducing the CCP: Restoring American Manufacturing"

November 20, 2026

Good morning, Chairman Moolenaar, Ranking Member Khanna, and distinguished members of the Committee. My name is Mark Widmar, and I am the Chief Executive Officer of First Solar, the largest solar manufacturer in the Western Hemisphere. I have been with First Solar for 15 years, serving as CEO since 2016.

Thank you for convening this hearing. I want to start by acknowledging this Committee's unique role. It connects the dots between national security, economics, and technology that permanent committees' jurisdictional borders keep apart. In a time when political polarization is easy, this Committee has continued to choose the hard work of bipartisanship, as its recently released bipartisan report, "Rigging the Game: How China Undermined Western Manufacturing and Helped Hollow Out American Industry," demonstrates.[1]

This Committee has made clear that manufacturing capacity and national security are inseparable. First Solar is here today as proof that domestic manufacturing is critical to our national security, and that America can rebuild its manufacturing capacity.

In this statement, I describe what First Solar has built and why we built it here; why solar manufacturing is a national security question; how a toolbox of remedies can level the playing field; what an industrial strategy that holds across administrations has already produced; how PRC-based and -affiliated competitors are working around our tax and trade rules; and what Congress and the administration can do next.

First Solar: Proof That America Can Rebuild

First Solar is America's Solar Company. Founded in 1999 outside Toledo, Ohio, we are the only U.S.-headquartered company among the world's largest solar manufacturers. In just the last four years, we added four American factories: a third factory in Ohio in 2023, Alabama in 2024, Louisiana in 2025, and this fall, South Carolina. We have grown from two American factories and 2 gigawatts (GW) of U.S. capacity in 2021 to six factories and 15 GW by the end of this year, and we expect approximately 17 GW when fully ramped in 2027. The utility-scale modules we produce in the U.S. form the backbone of solar that helps serve our nation's electricity needs.

From 2019 through today, we have invested approximately $5 billion in American manufacturing and research and development (R&D) infrastructure combined. Each of our six operating U.S.

[1]House Select Committee on the CCP, Rigging the Game: How China Undermined Western Manufacturing and Helped Hollow Out American Industry (Nov. 13, 2026).



factories produces a reliable supply of ready-to-deploy American-made utility-scale solar technology. This is power generation that is ready to serve quickly and helps protect ratepayers from higher bills by adding lower-cost generation capacity when and where it is needed.

Our technology was invented in America and developed in American labs, and we own the intellectual property. Our modules use a thin film of cadmium telluride, a semiconductor layer about three percent the thickness of a human hair, made from by-products of zinc and copper mining. We have invested more than $2 billion in R&D and established the Jim Nolan Center for Solar Innovation in Ohio, the largest solar R&D center outside of China. Our Ohio campus also houses a test line for the development of perovskites, a next-generation photovoltaic technology that we are racing against China to commercialize. We expect a pilot perovskite manufacturing line to become operational in Ohio in the coming months.

In our Ohio, Alabama, and Louisiana factories, a sheet of glass becomes a finished module under one roof in about four hours, with no Chinese polysilicon, wafers, cells, or manufacturing equipment. That independence reflects a decision, made more than 25 years ago, to build on thin film rather than crystalline silicon, whose supply chain China dominates today. It also means our factories have no exposure to forced labor in the Xinjiang Uyghur Autonomous Region (XUAR).

Our supply chain spans 22 states: glass from Illinois, Ohio, and Pennsylvania, made with Michigan silica and Wyoming soda ash; steel within 25 miles of our Alabama factory; and tellurium from a Utah copper mine.

Since 2023, we have grown our American workforce from about 2,700 to more than 5,000 workers currently, and by 2027 we expect to employ approximately 6,500, an increase of roughly 140 percent over four years. That growth came as we added three advanced, AI-enabled factories in Ohio, Alabama, and Louisiana, which shows that high-tech automation and employment can grow together.

What changed is the shape of the workforce. We have upskilled manufacturing jobs with fewer people doing repetitive tasks and more technicians, process engineers, and operators who are empowered to make decisions about how the factory runs. And they are paid accordingly. Our manufacturing associates earn on average about $80,000 a year, often two to three times the local median income in the rural communities where we build. These are durable, good-paying jobs with career pathways, including apprenticeships, that revitalize our local communities and give American families real opportunity for upward mobility right where they grew up.

Crucially, the value multiplies: a study by the University of Louisiana at Lafayette estimates that our operations supported 29,605 direct, indirect and induced jobs in 2025, about 6.2 indirect and induced jobs for every First Solar job, and will support nearly 40,000 jobs, $4.0 billion in labor income and $7.8 billion in GDP by 2027, up from 16,245 jobs in 2023. When true American manufacturing grows, America grows.

First Solar’s growth was no accident, and it has not been easy. Our position today is the result of a corporate strategy that doubled down on America. We repeatedly chose to invest in American manufacturing and American workers, in an industry where our largest competitors are

headquartered in China and benefit from state support that no company playing by the rules can possibly match.

We made those choices because American tax and trade policy, supported by both parties and for which we are greatly appreciative, gave us confidence that American-made products could compete if given a level playing field. We welcome competition. All we ask for is the opportunity to compete on a level playing field.

Why Solar Manufacturing Is a National Security Question

Solar is one chapter in a larger story that this Committee has documented. China's strategy to dominate manufacturing is decades old. Today China accounts for roughly 28 percent of global manufacturing value added, more than the United States, Germany and Japan combined, against roughly 17 percent for the United States. The United Nations Industrial Development Organization projects China could approach 45 percent by 2030.[2]

The Committee's "Rigging the Game" report describes the same old playbook used to undermine American business and American workers: massive state subsidies, violation of trading rules, deliberate overcapacity, dumping to bankrupt foreign competitors, and then consolidation of market share and the weaponization of pricing power.[3] It observes that after China joined the World Trade Organization in 2001, China concluded that physical production capacity underpins global power in the twenty-first century, while the United States treated manufacturing as a legacy sector to be financialized, offshored and replaced by services. And it describes China's "chokepoint" strategy as both sword and shield: it protects a domestic supply chain, then builds global market share that can be used as leverage.

China has followed that playbook as it relates to solar step by step since the mid-1980s, when photovoltaics first appeared in a Five-Year Plan.[4] The PRC invested more than $50 billion in new solar supply capacity from 2011 to 2022, ten times Europe's investment, and today its share of every stage of panel manufacturing exceeds 80 percent.[5] China also dominates polysilicon, the base material for crystalline silicon panels, accounting for close to 95 percent of global supply.[6] Upstream of that sits metallurgical-grade silicon, and the XUAR accounts for 53 percent of China's output,[7] underscoring crystalline silicon solar's unconscionable exposure to forced labor.

In the face of this coordinated strategy, Western solar manufacturers have largely folded. Europe, once the world's leading solar manufacturing market, has been reduced to near-absolute dependence on Chinese solar panels, and its solar manufacturing workforce has been

[2]United Nations Industrial Development Organization, The Future of Industrialization (Oct. 2024), and World Bank manufacturing value-added data.
[3]Rigging the Game, at 2–4, 9–10.
[4]Carolina Ferrerosa Young, How Trade Enforcement Strengthens American Manufacturing (Alliance for American Manufacturing, Nov. 2026), at 16.
[5]International Energy Agency, Special Report on Solar PV Global Supply Chains (July 2022).
[6]Bernreuter Research, Top Ten Polysilicon Makers Nearly All Chinese (Nov. 25, 2025).
[7]CSIS, Assessing the Impact of the Uyghur Forced Labor Prevention Act After Three Years (Aug. 29, 2025).

decimated.[8] Here at home, none of the American companies that started their journeys alongside First Solar in the 1990s exist today.[9]

The Committee's report notes that a commercial drone maker or an electric-vehicle battery factory is a national security asset whether or not the government intended it. The same is true of a solar factory, which puts productive capacity, a skilled workforce and a secure source of electricity in one place.

Electricity is the foundation of America's economic strength and security, and whoever controls its supply chain holds an on/off switch. Solar built with American technology, factories and supply chains is electricity no adversary can interrupt. Solar reliant on PRC supply chains can be switched off by Beijing the moment it decides to use its leverage, as it has done with critical minerals.[10]

Beijing is now extending that leverage to solar manufacturing itself. In October, China proposed to prohibit or restrict exports of 12 solar manufacturing technologies and related core equipment spanning polysilicon, wafers and cells, and began requiring exporters to register technology transfers, including licensing, equipment shipments and on-site installation support.[11] And since September 15, new exit rules allow China to restrict the foreign travel of engineers who hold controlled technical know-how, including those who might otherwise help install and commission equipment abroad.[12] Any production that depends on Chinese equipment, technology and technicians remains exposed to those decisions.

Further, Chinese-made grid equipment with embedded microelectronics, including inverters, can present a risk of remote-access exposure for grid infrastructure.[13] Both political parties have already moved to restrict Chinese equipment in sensitive grid applications; domestic manufacturing extends that protection upstream.

The stakes are rising. Solar is 51 percent of the record 86 GW of new generating capacity planned for 2026.[14] Utility-scale solar is among the lowest-cost sources of new generation and one of the quickest to bring online, typically in months rather than the years required for most other resources, and it is generally built with private capital and private risk, so developers, not ratepayers, bear construction and performance risk. Modules are a small and shrinking share of

[8]The Guardian, Reliance on Chinese green tech poses 'serious' risk for Europe, experts say (Apr. 29, 2026).
[9]Bloomberg, How the US Lost the Solar Power Race to China (Sep. 30, 2024).
[10]House Select Committee on the CCP, Predatory Pricing: How the Chinese Communist Party Manipulates Global Minerals Prices to Maintain Its Dominance (Nov. 12, 2025).
[11] Ministry of Commerce and Ministry of Science and Technology of China, Joint Announcement No. 48 of 2026 (Oct. 16, 2026) (proposed revisions to the Catalogue of Technologies Prohibited and Restricted from Export; consultation through Nov. 15, 2026); *see* pv magazine, "China proposes ban on exports of perovskite, tandem solar manufacturing technology" (Oct. 16, 2026).
[12] State Council, exit-entry regulations (effective Sept. 15, 2026); *see* Asia Times, "China exit rules tightened to guard rare earth, battery secrets" (Aug. 2026).
[13]EU Institute for Security Studies, The dragon in the grid: Limiting China's influence in Europe's energy system (Jan. 15, 2026).
[14]U.S. Energy Information Administration, New U.S. electric generating capacity expected to reach a record high in 2026 (Feb. 20, 2026).

installed system cost, so building them here does not slow deployment and instead determines whether growth rests on a secure domestic base or a fragile import chain.

Walking away because China dominates is not an economic argument. It is surrender.

A Toolbox of Trade Remedies

The government has a toolbox it can use to level the playing field: antidumping and countervailing duties (AD/CVD), safeguards, Section 301, Section 232, forced-labor enforcement, and the customs enforcement to back them up. Administrations of both parties have deployed combinations of them. The best remedies are specific, aimed at a particular national security risk or economic abuse, and applied where there is domestic capacity to build.

American trade remedies such as AD/CVD have applied to Chinese solar since 2012, and each time PRC-owned producers moved to another country and started over. The International Trade Commission found in 2025 that subsidized imports from Cambodia, Malaysia, Thailand and Vietnam injured U.S. manufacturers,[15] and Commerce's September 2026 determinations on India, Indonesia and Laos mark the fourth AD/CVD case involving many of the same PRC-based companies. Cases take an average of 14 months to produce duties, by which time producers have moved on to the next country to exploit our trade laws.[16]

The Section 201 solar safeguard was imposed in 2018 and extended in 2022, and the measures first imposed on Chinese products under Section 301 in 2018 were maintained and, for solar cells, strengthened in 2024.[17]

The Section 201 solar safeguard gave the industry a temporary period of market stability and prompted numerous announcements of new U.S. solar manufacturing. But its effectiveness eroded over time through declining tariff rates, a tariff-rate quota that allowed a set volume of cell imports to enter without the safeguard duty, and an exemption for bifacial modules. Only a limited number of those announced projects materialized, and the safeguard expired in February 2026.

Section 301 tariffs on Chinese solar cells, which were strengthened in 2024, suffer from a similar flaw: because they apply only to products made in China, they did little to stop Chinese-owned manufacturers from relocating production to Southeast Asia and other third countries, resulting in dependent manufacturers chasing the supply chain from country to country through successive AD/CVD cases.

The lesson is that narrow or temporary remedies invite circumvention and do not support the capital investment needed to expand our domestic manufacturing base. We have seen it time and time again.

[15]U.S. International Trade Commission, final affirmative injury determinations, Crystalline Silicon Photovoltaic Cells from Cambodia, Malaysia, Thailand and Vietnam (May 2025).
[16]AAM report, at 4.
[17]AAM report, at 12.

To give manufacturers the certainty to build, remedies must be durable, comprehensive and hard to route around.

I thank President Trump and Secretary Lutnick for the Section 232 action on polysilicon and its derivatives. It is the first true acknowledgment that the solar supply chain is a national security issue, and it is a good example of a specific remedy applied where domestic capacity exists. When Proclamation 11052 takes effect on December 4, 2026, it sets minimum import prices at each stage of the supply chain, adds a 15 percent duty on derivative products, directs Commerce to monitor stockpiling ahead of the effective date, and creates an onshoring program for U.S. investment.[18] Its success will depend on enforcement, and if it is properly enforced, it will create American jobs.

We ask the administration to enforce the minimum import prices and anti-evasion provisions with robust country-of-origin traceability; to ensure the onshoring program rewards real U.S. investment and excludes PRC-linked companies, including those artificially restructured without substantive business purpose in order to appear American; and to ensure the pending Section 301 investigations on excess capacity and forced labor reinforce Section 232 rather than create gaps.

Evasion also continues at the border. So-called “blue wafers” are solar wafers on which the p-n junction, the most capital-intensive step in making a cell, has been formed abroad. They circumvent duties that apply to cells but not to wafers. Importers are finishing them and marketing the result as a U.S.-made cell, undermining trade remedies and claiming 45X tax credits and domestic-content benefits meant for real American production. This concern is shared across the aisle: in July, Ranking Member Khanna and Representatives Bost, Harrigan, and Kaptur wrote to Customs and Border Protection and the IRS about it.[19] Cells that are roughly 80 percent foreign-made should not qualify for credits merely because of final-stage processing in the United States. Congress should clarify in statute that a cell is defined as having a p-n junction.

Forced labor is another chronic problem: crystalline silicon solar products account for most goods detained under the Uyghur Forced Labor Prevention Act (UFLPA), but traceability through multi-country supply chains remains difficult. As the Act approaches its sunset in 2029, Congress should not only reauthorize this valuable law but strengthen it by addressing the documented loopholes exploited by PRC-related companies and their affiliates.

Safeguarding the U.S. Tax Code Against PRC Exploits

The same anti-competitive playbook we have seen in trade is now being run actively against the U.S. tax code. In 2025, Congress barred 45X credits for “prohibited foreign entities”: PRC-controlled companies, entities under their “effective control” through equity of 25 percent or more, debt, officer appointments or contracts such as IP licenses, and products with material assistance

[18]Proclamation 11052, Adjusting Imports of Polysilicon and Its Derivatives Into the United States (Aug. 6, 2026).
[19]Letter from Reps. Ro Khanna, Mike Bost, Pat Harrigan and Marcy Kaptur to U.S. Customs and Border Protection and the Internal Revenue Service (July 16, 2026).

from them.[20] We thank Congress for this strong framework. Treasury issued interim guidance on material assistance in February 2026,[21] but final regulations, including how effective control is applied, are still pending. In the meantime, PRC-based manufacturers have moved quickly to work around the rules. In December 2025, days before the restrictions took full effect, three of the largest PRC-based solar manufacturers restructured their U.S. operations around the one test that is easy to measure: equity ownership. PRC industry commentary itself describes the approach as holding minimal formal ownership while keeping brand value and guaranteed revenue.[22] Experts have described it as a "shell game" that risks "constituting surface-level compliance without altering underlying exposure to foreign influence,"[23] all to benefit PRC-tied companies.

The patterns are consistent. A PRC-based parent keeps its ownership just under 25 percent while retaining control through other means. In one reported structure, a joint venture is 75.1 percent owned by a Canada-domiciled parent and 24.9 percent by its PRC-based subsidiary, which retains ownership of the equipment and leases it back on roughly five-year terms at rates set by a Shanghai appraisal firm, giving the lessor the ability to interrupt production. In the case of another U.S. company, which has made public statements about its eligibility for U.S. tax credits, all net sales in a quarter went to the PRC-based manufacturer that sold it its factory, which was also its largest supplier by shipments.[24]

Intellectual property is parked with intermediaries: in one case, for a majority of roughly 110 patents and applications, public records did not show the announced transfer months later. Stakes are sold to newly formed entities with minimal capital; in one case an acquirer capitalized with $1,500 bought a 75.1 percent stake for $192 million while the former parent continued to guarantee the U.S. entity's obligations. And convertible instruments and anti-dilution rights allow a restricted party to rebuild its position even as its reported ownership percentage falls.[25]

The result is a screwdriver plant: a U.S. company controlled by a PRC-based parent that is its sole customer, imports every component, merely assembles those foreign components in a U.S.-located building, and potentially collects millions in American taxpayer dollars. We cannot let America become a mere low-value assembly outpost while China retains and controls the highest-value aspects of the crystalline silicon supply chain financed by the U.S. tax code. Developers and investors that buy from restructured suppliers also face the risk that credits will be clawed back over a long window, and companies that follow the law face higher costs than those that game it.[26]

A rule that measures only who owns the equity will only ever change the equity ownership structure. We ask Treasury to follow dependency to:

- Count leases, tolling arrangements and retained guarantees as effective control.

[20]Horizon Advisory, The Shell Game Continues: Updating Diligence and PFE Rules for Solar Sector Maneuvering (Nov. 2026), at 8–9.
[21]Treasury Dep't & IRS, Notice 2026-15 (Feb. 12, 2026).
[22]Horizon report, at 1, 5.
[23]Horizon report, at 1.
[24]Horizon report, at 10–14, 19–20.
[25]Horizon report, at 21–23, 26–29.
[26]Horizon report, at 9.

- Look through family and related-party holdings and aggregate ownership across covered entities.
- Require disclosure of lessors, licensors, guarantors and principal customers, and construe undisclosed ownership against the taxpayer.
- Require a complete recorded chain of title before an IP transfer is treated as severing a license.
- Test ownership on a fully diluted basis, including conversion and anti-dilution rights, in every year a credit is claimed.
- Apply substance over form, set standards for supplier certifications and material-assistance accounting, and build the capacity to verify them.

Because PRC-linked companies will keep finding loopholes, agencies must also be dynamic and adapt as new tactics emerge.

Industrial Strategy That Holds Across Administrations Produces Results

In 2021, the United States had about 5 GW of solar module capacity and 2.6 GW of cell capacity. Today it has more than 60 GW of module capacity and roughly 36 GW of cell capacity, along with an estimated 21 GW of wafer capacity and 36 GW of polysilicon capacity, up from 2.6 GW and 15 to 20 GW in 2021.[27] In that same period, First Solar went from two factories and 2 GW to six factories and 15 GW this year, and approximately 17 GW when fully ramped next year.

That growth came from tax and trade policies that transcend political power shifts: the Section 201 solar safeguards imposed in 2018 and extended by the next administration; the Section 301 tariffs on Chinese solar cells and modules implemented in 2018 and strengthened by the next administration; and the Section 45X production credit, created in 2022 and preserved in full through the 2025 reconciliation process with the addition of prohibited foreign entity restrictions.

Other sectors show the same pattern. The Committee's report notes that administrations from both sides of the aisle have partnered with Congress to begin revitalizing key parts of the manufacturing sector, including the CHIPS for America program in 2021 and the ADVANCE Act in 2024, both enacted with strong bipartisan support.[28]

The lesson is that industrial strategy must be bipartisan to be durable. When the rules hold from one administration and one Congress to the next, entire markets can grow, and domestic manufacturers have the certainty they need to invest more in the United States. As the Committee's report puts it, the commitment must be sustained across multiple administrations and election cycles.[29]

For solar, this is a starting point, not a finish line. Module production can meet demand, while cell and wafer manufacturing lag, even though they are the most capital-intensive steps that anchor the supply chain. China also dominates key silicon production equipment, so the goal is not only

[27]AAM report at 16 (module capacity from 5 GW to over 60 GW and cell capacity from 2.6 GW to 36 GW, 2021 to 2026); PV Tech, US PV manufacturing: how much capacity will actually be online by 2030? (2026 estimates).
[28]Rigging the Game, at 11.
[29]Rigging the Game, at 32–33.

to make components here but to control the tools needed to make them. Congress should allow the industry to leverage the domestic manufacturing incentives proven to draw investment, provide predictable phasedowns rather than cliffs, and close the loopholes that let minimally processed components capture taxpayer-funded credits meant for American manufacturing.

Our position has not changed with who occupies the White House or controls Congress: American taxpayer dollars should not line the pockets of PRC-linked companies, and our tax and trade laws should be enforced as written.

Recommendations

The Committee's report calls for a deliberate industrial strategy that treats productive capacity, resilient supply chains, technological leadership and a skilled workforce as strategic national assets, pursued through a multi-decade, whole-of-government effort that rebuilds American strength, including in towns hollowed out by the CCP's practices. We agree. The strongest enforcement is the kind that survives changes in administration and in Congress, because that is the kind manufacturers can build on.

We respectfully recommend eight steps.

i. Coordinate enforcement across Commerce, Customs and Border Protection, Treasury, Labor, the U.S. Trade Representative and Justice, with the personnel, data and supply chain tracing tools to detect transshipment and other evasion tactics, and false origin claims.
ii. Finalize stringent prohibited-foreign-entity regulations that follow dependency.
iii. Enforce Section 232 as written, closing loopholes before they open.
iv. Define a solar cell by its p-n junction to close the blue wafer loophole.
v. Reintroduce and advance bipartisan enforcement bills in the next Congress, including the Leveling the Playing Field 2.0 Act and the Fighting Trade Cheats Act.
vi. Make remedies faster and more prospective, so unfair practices are addressed before factories close and workers are displaced.
vii. Provide predictable, durable policies targeted at the remaining gaps in cells, wafers and manufacturing equipment, with phasedowns rather than cliffs.
viii. Continue to invest in the American worker, including training and apprenticeships.

In conclusion, American technology, American factories, American workers, and consistent enforcement of our trade laws are not Democratic priorities or Republican ones. They are American ones.

First Solar is proof that America can rebuild its manufacturing capacity and employ American workers in enduring, well-paid, middle-class jobs: we are doing it right now. I welcome the opportunity to host all members of this Committee at our factories, to see for themselves what American ingenuity, powered by American workers, and an American supply chain, looks like.

Thank you again for the opportunity to testify. I am pleased to answer your questions.