



LEADING THE WORLD'S
SUSTAINABLE ENERGY FUTURE



SUSTAINABILITY REPORT 2024.



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Note Regarding Forward-Looking Statements.

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This report contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. All statements in this report, other than statements of historical fact, are forward-looking statements. These forward-looking statements are often characterized by the use of words such as “estimate,” “expect,” “anticipate,” “project,” “plan,” “intend,” “seek,” “believe,” “forecast,” “foresee,” “likely,” “may,” “should,” “goal,” “target,” “might,” “will,” “could,” “predict,” “continue,” and the negative or plural of these words and other comparable terminology. Forward-looking statements are only predictions based on our current expectations and our projections about future events and therefore speak only as of the date of this report. You should not place undue reliance on these forward-looking statements. We undertake no obligation to update any of these forward-looking statements for any reason, whether as a result of new information, future developments or otherwise. These forward-looking statements involve known and unknown risks, uncertainties, and other factors that may cause our actual results, levels of activity, performance, or achievements to differ materially from those expressed or implied by these statements. These factors include, but are not limited to, the matters discussed under the captions “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” of our most recent Annual Report on Form 10-K and our subsequently filed Quarterly Reports on Form 10-Q, as supplemented by our other filings with the Securities and Exchange Commission. All financial numbers in this report are based on U.S. Generally Accepted Accounting Principles.



Message From the CEO.



25 Years of Better Solar

As we celebrate 25 years of First Solar in 2024, we are also celebrating 25 years of an unwavering commitment to the principles of Responsible Solar: solar that embodies sustainability, enriches people's lives, has zero tolerance for human rights abuses, and meaningfully supports the fight against climate change.

The results of building our company on a principled foundation are readily apparent, from our verifiable leadership in ultra-low-carbon solar technology and high-value recycling to our benchmark-setting human rights track record and transparent reporting. These credible third-party validated benchmarks do not simply further differentiate First Solar from the competition – they challenge the industry to do better.

While too many solar module manufacturers make assertions of carbon neutrality, these claims are rarely, if ever, backed by independent verification provided by a credible Type 1 ecolabel.

Although the global photovoltaic (PV) industry currently accounts for a small portion of global emissions today, that's changing. A recent report by the Clean Energy Buyers Institute (CEBI) warns that a business-as-usual approach to PV manufacturing is forecast to see the industry's carbon emissions overtake aluminum manufacturing, currently the fourth-most emissions-intensive commodity, by 2040.



MARK WIDMAR
Chief Executive Officer





To head this off, urgent action is needed today to ensure that the global PV-manufacturing industry does not undermine its role in the fight against climate change. While unverified claims do not move the needle, the industry must undertake a wholesale shift to producing verifiable ultra-low-carbon solar.

First Solar technology is leading the charge, differentiating itself from the competition by setting the global standard for ultra-low-carbon solar. Our Series 6 *Plus* and Series 7 *TR1* products are the world's first PV solar modules to achieve the EPEAT Climate+ designation by meeting the ultra-low-carbon threshold of ≤ 400 kg CO₂e/kWp and enabling greater avoided emissions across their lifetime. EPEAT is a globally recognized, US Environmental Protection Agency-approved ecolabel that combines lifecycle-based, multi-attribute criteria with independent validation, which sets it apart from hundreds of other standards and ecolabels.

In addition to its environmental performance, solar must better people's lives to be truly responsible. This principle is underpinned by an awareness that fighting climate change and fulfilling our industry's social responsibilities are not mutually exclusive.

We are proud of our work to sustainably improve the lives of the communities in which we live and operate. In the United States, where we expect to have 14 gigawatts of annual nameplate capacity by 2026, we are projected by that year to support over 30,000 direct, indirect, and induced jobs, representing almost \$2.8 billion in annual labor income, according to a study commissioned by First Solar and conducted by the University of Louisiana at Lafayette.

According to the study, in 2026, every one of the thousands of middle-class manufacturing jobs we create is projected to support 7.3 direct, indirect, and induced jobs across the country. This acutely demonstrates the economic impact that high-value, vertically integrated solar manufacturing can deliver.

However, our social responsibility extends beyond jobs and economic value creation. Our industry's work to fight climate change should not undermine its commitment to human rights.

Unfortunately, as industry trade bodies reportedly work to water down measures designed to address human rights abuses in the global solar value chain, they sidestep the reality that these abuses fall into two broad categories: modern slavery in countries where independent social audits and remediation are possible, and state-sponsored forced labor in countries like China where the government is allegedly complicit in human rights abuses and independent social audits are systemically hindered.

The solar industry can address the first issue through independent third-party, on-site social audits and effective remedies. However, the systemic nature of state-sponsored forced labor makes full disengagement necessary to comply with responsible business standards, according to labor rights advocates and anti-slavery organizations. State-sponsored forced labor cannot be mitigated through standards and protocols that encourage bifurcating supply chains or include exemptions for certain facilities and product lines in their code of conduct. In contrast, the Responsible Business Alliance (RBA), which First Solar joined in 2021, requires its members to apply the RBA Code of Conduct as a total supply chain initiative.

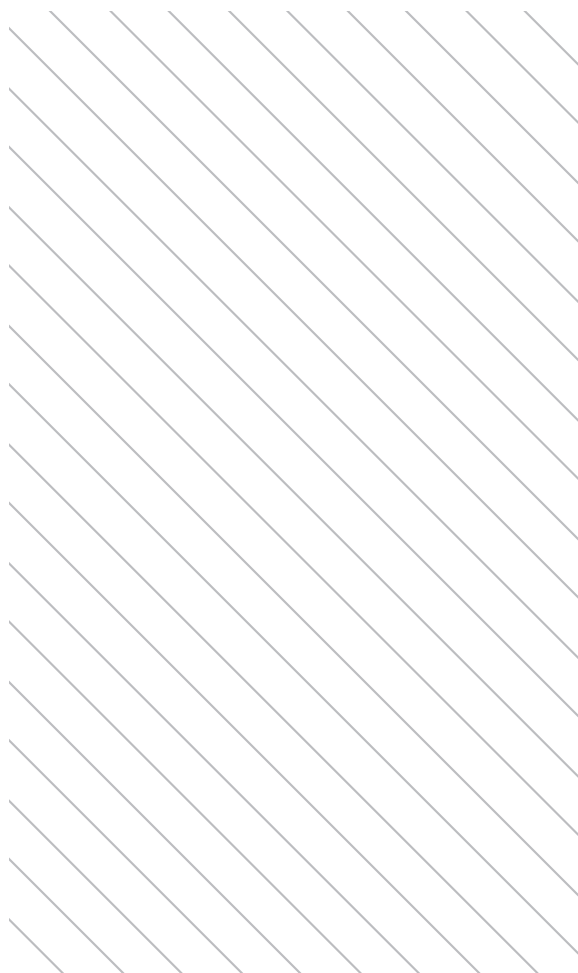
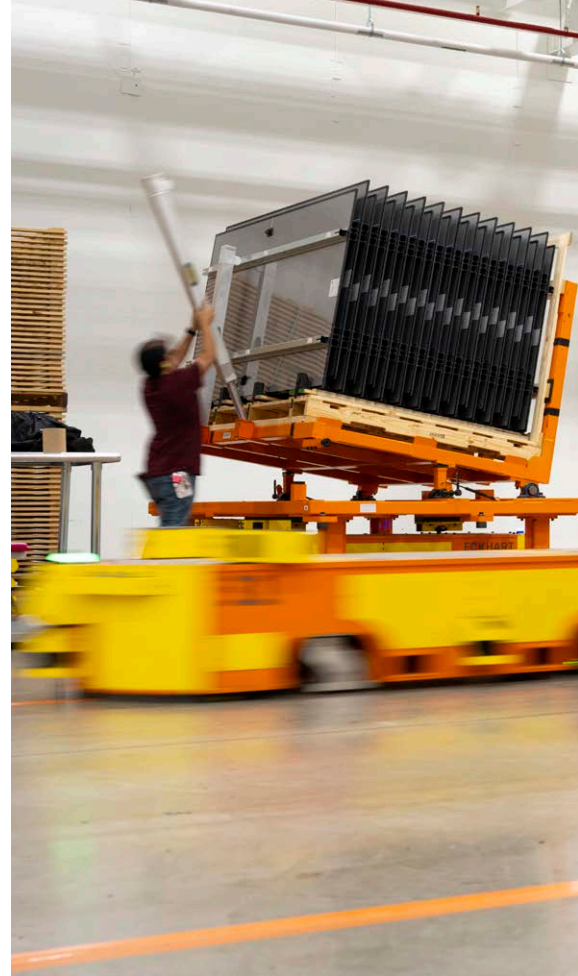
Once again, First Solar's differentiated approach to manufacturing and sourcing sets it apart from the rest of the industry, and we remain the only major solar manufacturer to have not just conducted independent third-party, on-site social audits across its global manufacturing footprint in 2023, but also to have achieved the highest possible rating. The audits conducted under the RBA's Validated Assessment Program (VAP) awarded our operational facilities in the United States, Vietnam, and Malaysia with platinum status as of December 2023.

These results are enabled by our differentiated technology as well as our manufacturing and sourcing strategies, which do not source materials from Xinjiang, China, and are not reliant on Chinese crystalline silicon supply chains. They are also enabled by our robust commitment to human rights.

The Business and Human Rights Resource Centre commented in its 2023 Renewable Energy Human Rights Benchmark report that the solar panel manufacturing industry "lags significantly on human rights commitments and practices." However, it also highlighted First Solar as being one of only two companies of the six evaluated major solar manufacturers to have a strong human rights commitment in place. And while First Solar outperformed the other five companies assessed with a score that illustrates the disparities in the industry's approach to human rights in stark terms, we know there is still work to be done.

We cannot be content with simply leading the industry – we must drive change across the sector.

Twenty-five years into our journey, we understand that Responsible Solar is a work-in-progress because our values aren't just spoken but lived. Our culture of continuous improvement extends to the principle of placing sustainability at the heart of everything we do, and we are not content with resting on earned laurels.



We continue to find new ways to advance sustainability in our products. For instance, the carbon footprint of our Series 7 module is as much as 22% lower than that of our Series 6 family of modules, and as much as four times lower than that of a crystalline silicon solar panel utilizing cells made from Chinese polysilicon (even if assembled in the United States).

Additionally, we continue to expand our industry-leading recycling capabilities. By opening the first operational solar recycling plant in India, we established an important cornerstone for end-of-life management in one of the world's largest solar PV markets. We also continue to improve our recycling processes and are proud of achieving a record-high global average module material recovery rate of 95%.

Furthermore, in line with our commitment to reduce our water footprint, especially in water-scarce areas, we recycled 318 million liters of water in 2023, an 88% increase over 2022.

As we take stock of our journey and look to the future, First Solar aims to exit this decade in a stronger position than we entered it. This holds true not just for our financial, commercial, and technological goals but also for our sustainability performance, which has emerged as a significant differentiator.

In this milestone year for First Solar, we are reinforcing our commitment to Responsible Solar and recognizing it as an inextricable aspect of our vision to lead the world's sustainable energy future.

Mark Widmar

Chief Executive Officer



2023 Highlights.



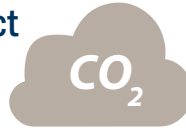
12.1 GW

Produced

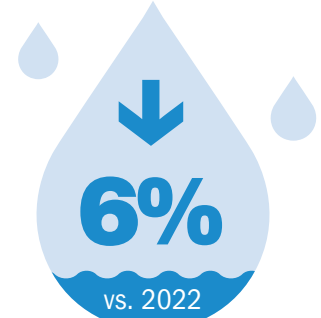


↓ 22%

Lower Product Carbon Footprint



Series 7 vs. Series 6

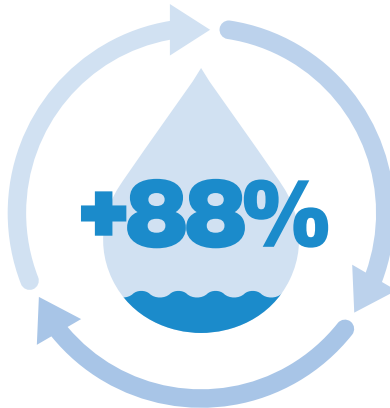


Lower Manufacturing Water Intensity

↓ 23%

Lower Manufacturing Waste Intensity

vs. 2022



More Water Recycling
vs. 2022

+ 3%

More Women in Workforce

vs. 2022



A-

CDP Climate Change and Water Security Leadership



Prime

ISS ESG Rating



AA

MSCI ESG RATING



About First Solar.

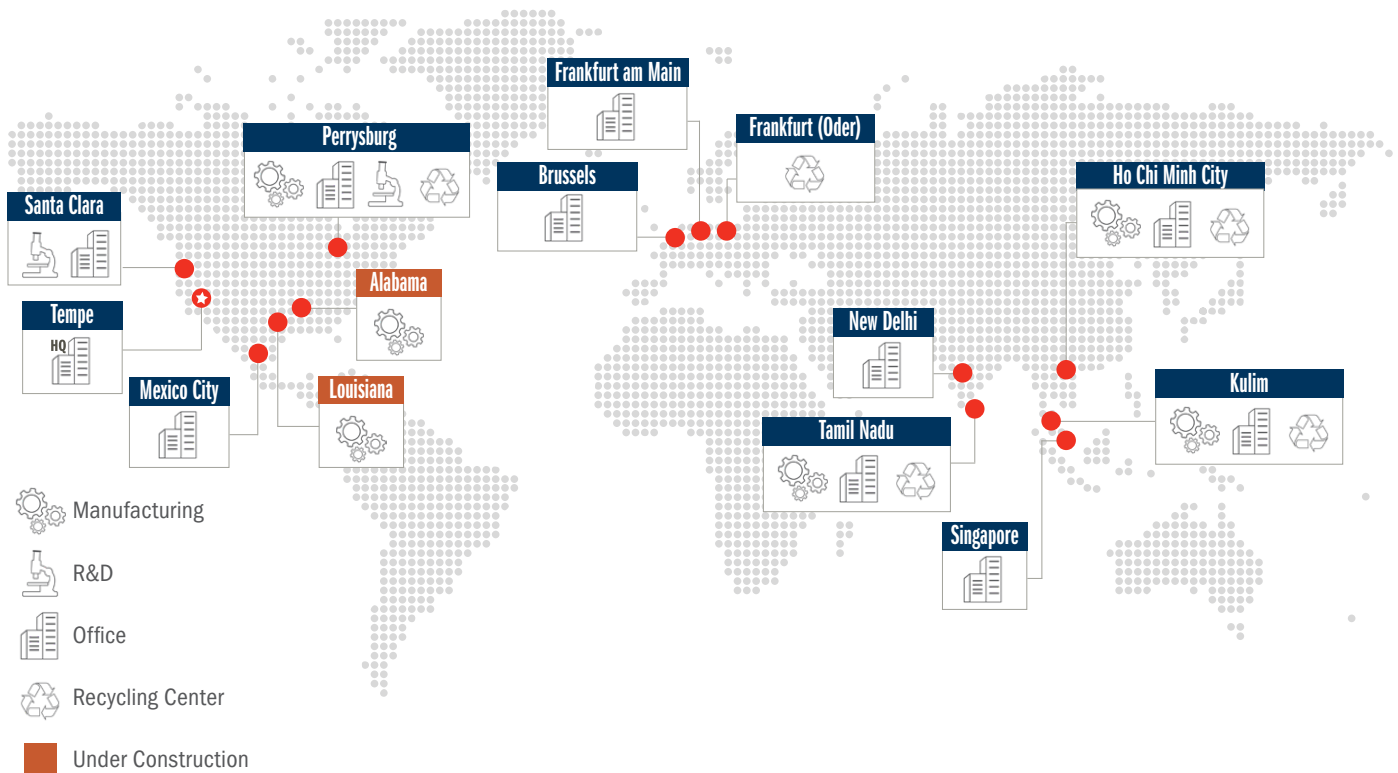
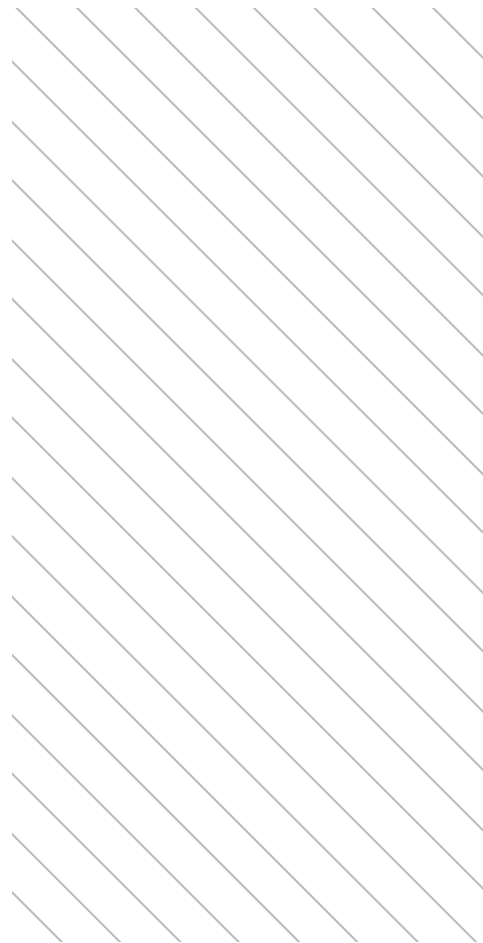


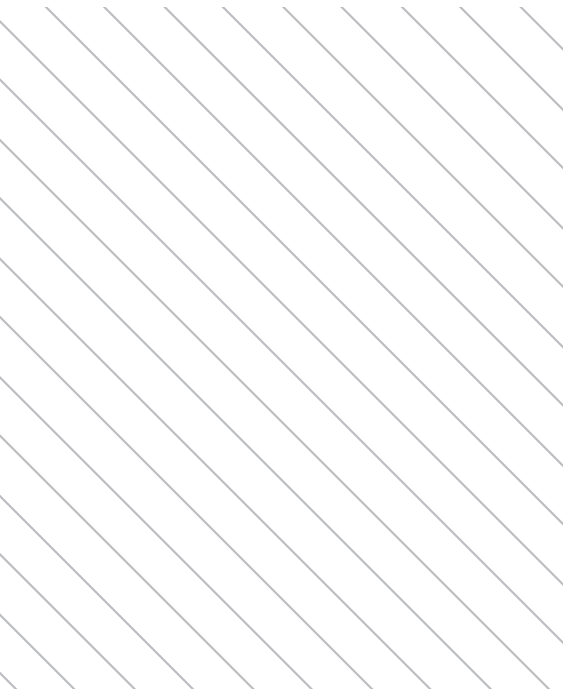
First Solar is a leading American solar technology company and global provider of responsibly produced eco-efficient solar modules advancing the fight against climate change.



We are unique among the world’s largest solar manufacturers for being the only US-headquartered company and for not using a crystalline silicon (c-Si) semiconductor. Developed at R&D labs in California and Ohio, First Solar’s advanced thin film photovoltaic (PV) modules represent the next generation of solar technologies, providing a competitive, high-performance, lower-carbon alternative to conventional c-Si PV panels. From raw material sourcing and manufacturing through end-of-life module recycling, First Solar’s approach to technology embodies sustainability and a responsibility toward people and the planet.

First Solar is headquartered in Tempe, Arizona, with regional offices around the world and a global manufacturing footprint with facilities in the United States, Malaysia, Vietnam, and India. Our annual manufacturing capacity has grown from 1.5 megawatts (MW) in 2002 to 16.6 gigawatts (GW) as of Dec. 31, 2023. First Solar already operates the Western Hemisphere’s largest solar manufacturing footprint, and we are in the process of expanding to reach an expected 14 GW of annual nameplate capacity in the United States and over 25 GW worldwide by the end of 2026.





From 2002 through 2023, we have produced and shipped more than 60 GW of PV solar modules and have an additional backlog of approximately 74.6 GW as of the end of June 2024, [including orders stretching to 2030]. Assuming average worldwide irradiance and grid electricity emissions, our products – including modules already shipped and backlog as of the end of June 2024 - are projected to displace 84 million metric tons of CO₂eq per year during their 30+ year product life [by 2030]. This would be equivalent to powering more than 70 million average homes, planting 1.4 billion trees and saving over 252 billion liters of water (or more than 100,000 Olympic swimming pools) per year based on worldwide averages.

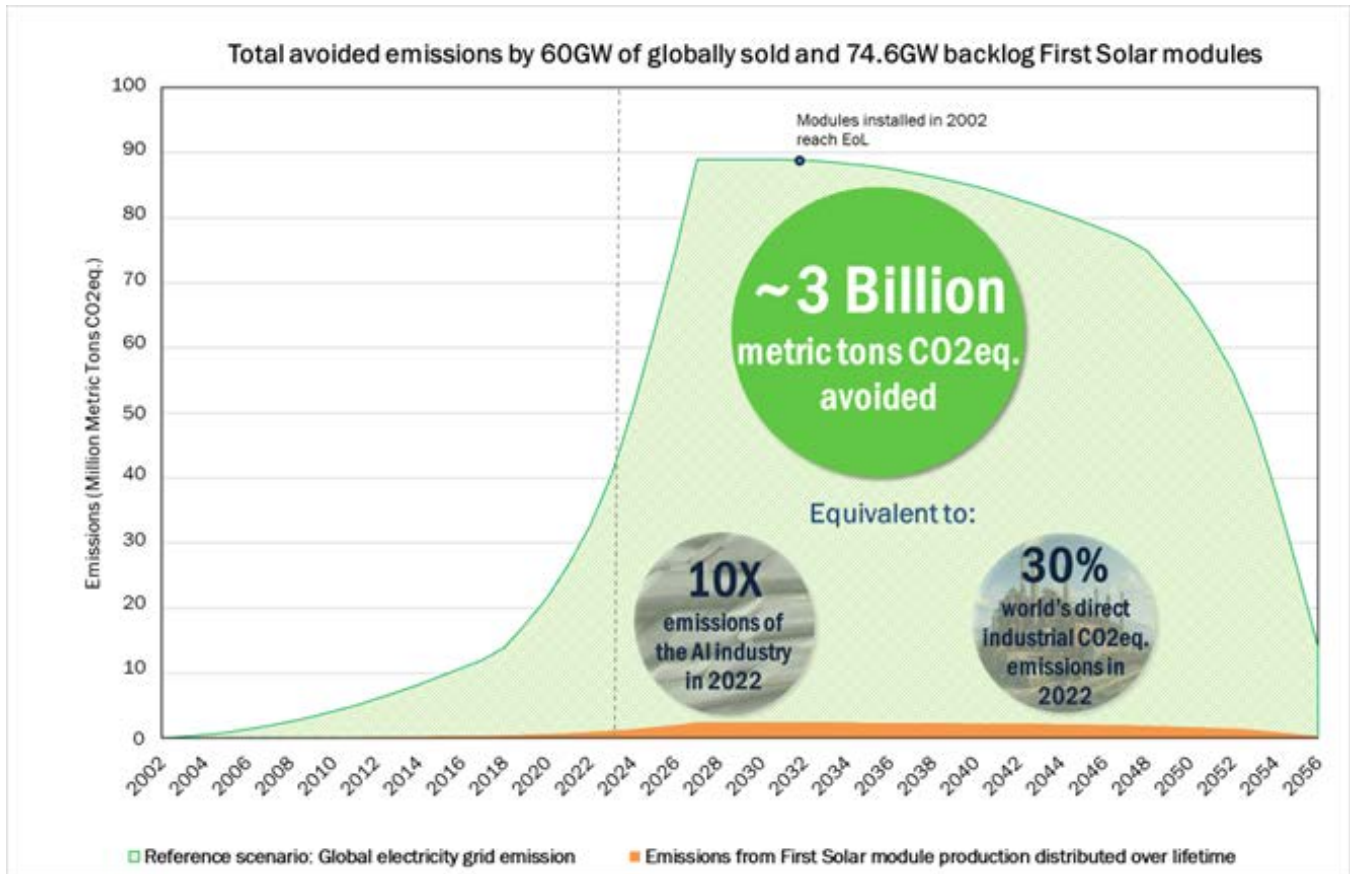
Every year, 60 GW of First Solar products displace 38 million metric tons of CO₂eq, which is more than seven times the amount of greenhouse gas emissions (GHG) we emit through our global operations and supply chain. Assuming worldwide average irradiance and grid electricity emissions, we estimate that the 12.1 GWdc of products produced in 2023 alone are being used to displace 7.6 million metric tons CO₂e per year, or 228 million metric tons of CO₂eq over their 30+ year product life.



84M CO₂eq displaced is equivalent to:



Assuming worldwide average irradiance and grid electricity emissions, the lifetime avoided emissions of the 60 GW of sold First Solar modules are greater than 1.14 billion metric tons of CO₂eq. With the addition of the 74.6 GW backlog, the total avoided lifetime emissions are estimated to amount to 2.6 billion metric tons of CO₂eq. This is equivalent to 30% of the world’s direct industrial CO₂eq. emissions in 2022 and is 10 times the total CO₂eq. emissions of the aluminum industry of the same year, according to the [International Energy Agency \(IEA\)](#).



The avoided emissions assessment helps to quantify the decarbonization benefits of First Solar products and net positive impact to society compared to a reference scenario (global average grid electricity emissions), based on the World Business Council for Sustainable Development’s [Guidance on Avoided Emissions](#).

Air pollution is the world’s single largest environmental health risk, accounting for 1 in 5 deaths each year according to a study by [Harvard University](#). By using less grid electricity during manufacturing and in the supply chain, First Solar thin film PV modules have the lowest human health impacts of all PV technologies on a life cycle basis, according to a [UNEP report](#). Replacing grid electricity with CdTe PV amounts to [up to 98% reductions](#) of GHG emissions, criteria pollutants, heavy metals, and radioactive species.

Responsible Solar.

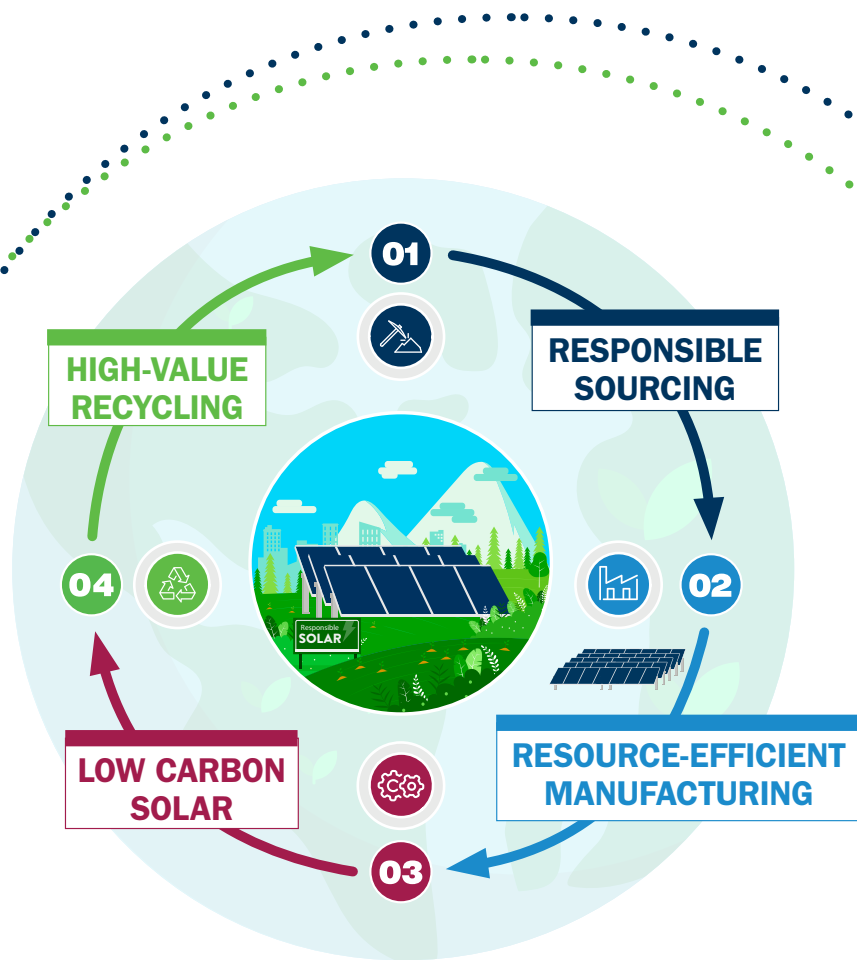
In 1999, First Solar was founded with a goal of developing and producing solar modules that would set the leading edge for an emerging renewable energy source. Twenty-five years later, First Solar remains focused on making solar better. Integral to our strategies is a commitment to uphold and advance Responsible Solar in all we do. Our sense of responsibility toward our planet, our communities, and our customers reinforces our sense of purpose and inspires First Solar associates worldwide who are dedicated to leading the world's sustainable energy future.

Our approach to Responsible Solar is interwoven into every aspect of our business and product lifecycle — from raw material sourcing and manufacturing to end-of-life recycling.

We'd like to thank you for the example First Solar sets as a company that understands the intertwined nature of sustainability and strategy. In particular, we are impressed by the company's long-standing and differentiated commitment to maintaining the highest global standards at every stage of the manufacturing process, including materials, labor, and policy compliance."

- First Solar Investor

Ensuring a Just and Sustainable Clean Energy Transition.



Third-Party Validation

Our longstanding commitment to transparency and credible third-party validation sets us apart from our competition. First Solar became the first company to register its products in EPEAT, a globally recognized and independently validated Type 1 ecolabel. Ecolabels like EPEAT help consumers and institutional purchasers identify and select environmentally preferable products from socially responsible companies. While hundreds of ecolabels exist, not all of them are created equal. Managed by the Global Electronics Council (GEC), a mission-driven non-profit that seeks to create a world with only sustainable electronics, EPEAT combines rigorous and comprehensive criteria with ongoing independent third-party verification, which provides a critical layer of credibility compared to other ecolabels and standards. As a result, EPEAT is used by more purchasers of electronics than any other ecolabel worldwide. In the United States, the Federal Acquisition Regulation (FAR) directs federal agencies to procure products and services that meet the Environmental Protection Agency's purchasing program requirements, which includes giving preference to multi-attribute or lifecycle based standards and ecolabels. EPEAT for Solar is currently the only approved ecolabel for PV modules and power purchase agreements in the US EPA's [Recommendations of Specifications, Standards, and Ecolabels for Federal Purchasing](#).

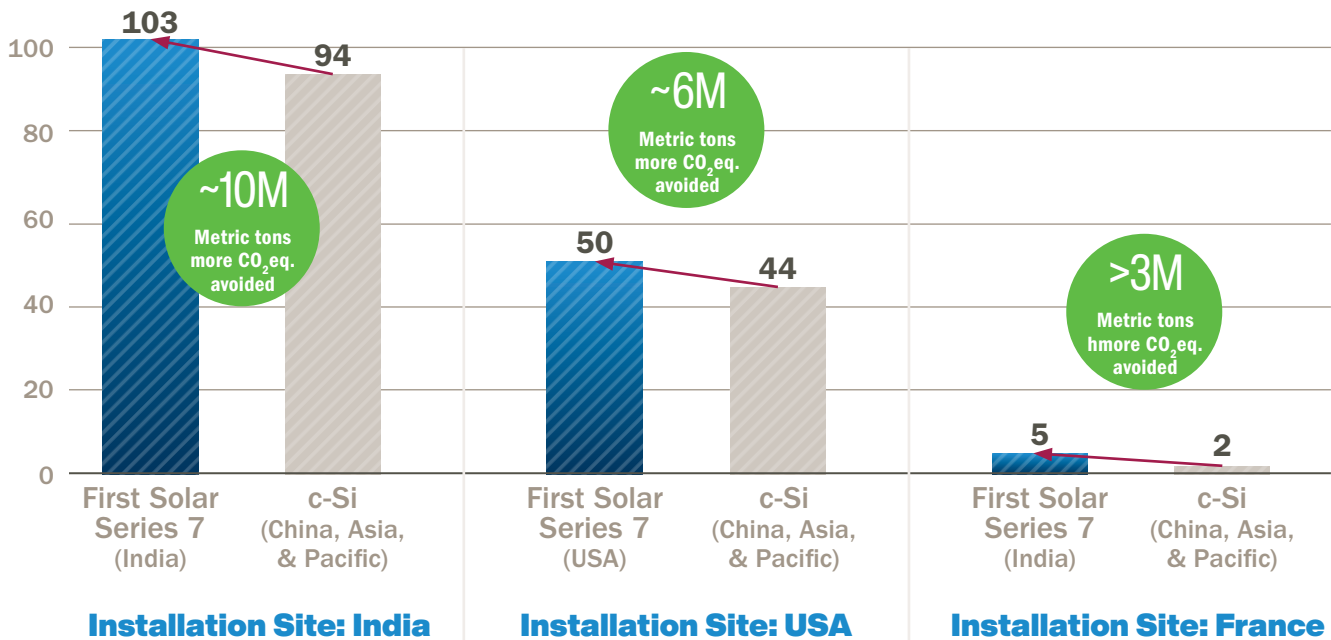
[EPEAT for Solar](#) addresses the whole product lifecycle, including managing substances in the product; manufacturing energy and water use; product packaging; end-of-life recycling; corporate responsibility; and human rights. First Solar Series 6, Series 6 *Plus*, and Series 7 modules have achieved EPEAT Silver, demonstrating conformance to NSF/ANSI 457, the industry's first sustainability leadership standard for PV modules and inverters. In 2024, First Solar's Series 6 *Plus* and Series 7 *TR1* products became the world's first PV modules to meet EPEAT's ultra-low-carbon solar criteria and achieve EPEAT Silver with Climate+ designation. By partnering with First Solar, our customers can confidently procure solar modules that are responsibly made and that lower their scope 3 greenhouse gas emissions. Since PV modules can account for more than 60% of a PV system's carbon footprint, purchasing low-carbon solar panels is critical to maximizing the benefits of renewable energy investments.



Why Ultra Low-Carbon Solar Matters

Although solar PV manufacturing represents a small percentage of global emissions today, a [business-as-usual approach would lead it to exceed aluminum manufacturing](#) (the fourth most emissions-intensive industrial commodity) by 2040. A [2022 study by the National Renewable Energy Laboratory](#) (NREL) estimated that relying on crystalline silicon modules produced in coal-intensive grids could consume as much as 14% of the remaining carbon budget for a 1.5°C world, resulting in 68 billion metric tons of CO₂. For perspective, the world emits approximately 50 billion metric tons of CO₂ per year. CdTe PV modules manufactured in the US have a carbon footprint that is more than 2.5X lower than crystalline silicon modules manufactured in China, which translates into a value of \$0.04-\$0.08 per watt, assuming a carbon cost of \$50-\$100 per metric ton of CO₂.

Lifetime Avoided Emissions of 3.5GW of PV modules (million metric tons CO₂eq)

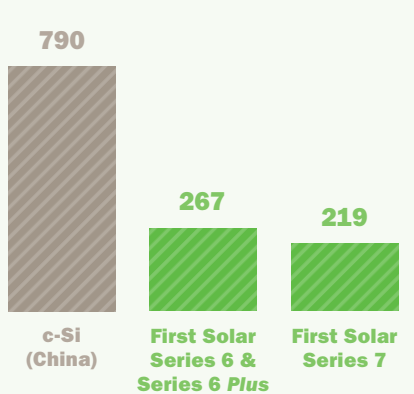


The above graphs depict how installing CdTe PV modules with lower embodied carbon achieves greater lifetime avoided emissions compared to crystalline silicon modules manufactured in carbon intensive regions (based on 3.5GW of modules installed in India and France respectively). 3.5 GW of ultra low-carbon First Solar modules installed in India results in an estimated 103 million metric tons of CO₂eq of avoided emissions over their lifetime, which is approximately 10 million metric tons more avoided emissions than higher-carbon crystalline silicon modules. The carbon payback period to net-zero emissions for First Solar

Life cycle emissions data for crystalline silicon modules is based on the 2023 [IEA Photovoltaic Power Systems \(PVPS\) factsheet](#).

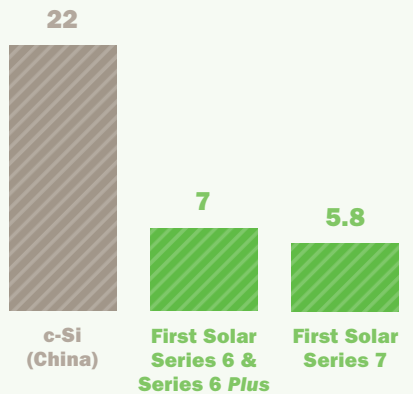
modules is less than 7 months compared to approximately 2 years for crystalline silicon modules. 3.5GW of American-made First Solar Series 7 modules installed in the US would avoid more than 50 million metric tons of CO₂eq over their lifetime, which is 6 million metric tons more avoided emissions compared to a crystalline silicon module manufactured in China and the Asia Pacific. Lastly, in France, 3.5GW of First Solar modules avoids 3.4 million metric tons more emissions than crystalline silicon modules. As India’s national grid electricity is more fossil fuel-heavy than France’s national electricity grid, the avoided emissions are greater in India. Due to France’s low-carbon grid, the payback period to net-zero emissions of a high carbon crystalline silicon module can be higher than 21 years whereas First Solar modules reach net-zero emissions in one-third of that time. This is why ultra low-carbon solar matters.

LOWEST CARBON FOOTPRINT
(gCO₂eq/Wp)



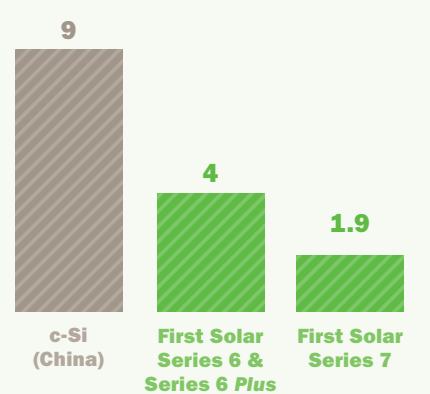
Up To
4X
Lower

LOWEST WATER FOOTPRINT
(Liters/Wp)



Up To
4X
Lower

FASTEST ENERGY PAYBACK TIME
(Months)



Up To
5X
Faster

Crystalline silicon data: R. Frischknecht, Environmental Life Cycle Assessment of Electricity from PV systems (2022 Update). International Energy Agency (IEA) PVPS Task 12, 2022. First Solar data: NEPD-2993-1671-EN Series 6 Photovoltaic Module; Sinha et al., Net Zero Water Strategies and Impacts for PV Manufacturing, IEEE Journal of Photovoltaics, 2023.



First Solar modules have the lowest carbon and water footprint and fastest energy payback time in the industry, measured on a lifecycle basis, which accounts for the energy, raw materials, water usage, and transportation across the supply chain; manufacturing process; and end-of-life module recycling. Our Series 7 module is our most eco-efficient module to date — with a carbon and water footprint that is nearly 4X lower than conventional crystalline silicon modules manufactured in China, and an energy-payback time that is approximately 5X faster. In just two months under high irradiation conditions, First Solar Series 7 PV modules can produce more energy than was required to manufacture them. This corresponds to a 180-fold energy return on investment (EROI) over a 30-year project lifetime, providing an abundant net energy gain to the electricity grid. The product carbon footprint of our Series 7 modules is up to 22% lower than our Series 6 modules and up to 30% lower than our Series 4 modules. We aim to reduce the carbon footprint of our ultra-low-carbon solar panels by more than 65% by 2028 by going 100% renewable and engaging with key suppliers to minimize the embodied carbon of our module components.

Benefits of Thin Film CdTe PV

In addition to boasting the lowest environmental footprint in the industry, CdTe (or “CadTel”) PV offers numerous benefits to our customers, society, and the environment. CdTe PV is a uniquely American solar technology, first developed in R&D labs in Ohio and California. From its inception, thin film CadTel PV technology demonstrated a number of qualities that led First Solar to select it over conventional technologies such as crystalline silicon, including a lower manufacturing cost profile, superior scalability, and a higher theoretical efficiency limit. These differentiating qualities include:

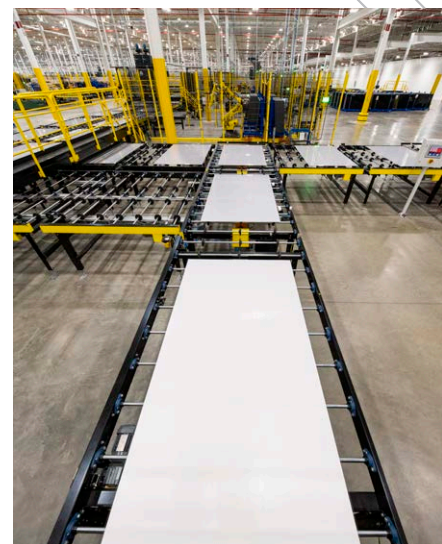
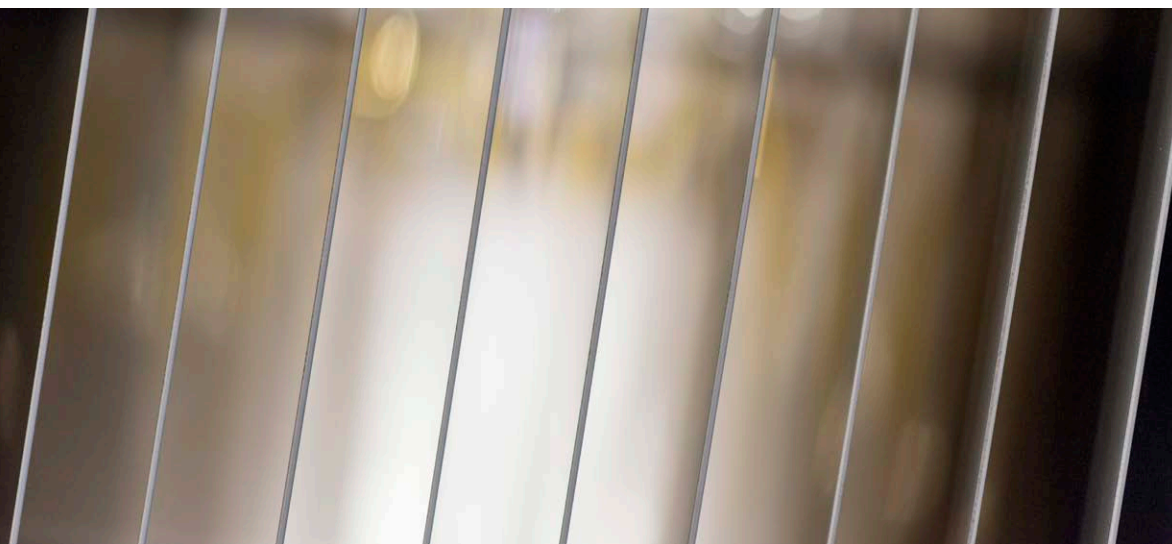
- **Higher lifetime energy yield:** Superior degradation rate, less sensitive to shaded conditions, up to 4% more annual energy in hot climates, and up to an additional 4% more annual energy in high humidity conditions.



Did you know?

The most comprehensive way to measure real-world module performance is to use lifetime specific energy yield, because it accounts for a solar module’s output power through the full range of real-world conditions, including energy loss factors, which are not accounted for in efficiency ratings, alone. The term "Lifetime Specific Energy Yield" refers to a measure of a solar power system's total energy output over its entire operational life, standardized or normalized per unit of installed capacity.

- **Supply chain and energy security advantages:** Not dependent on crystalline silicon wafers controlled by China, no module components sourced from Xinjiang or suppliers connected to entities on the Uyghur Forced Labor Prevention Act (UFLPA) entity list, and a vertically integrated manufacturing process that enables rapid scaling to open a new factory in as little as 18 months.
- **Superior environmental profile:** Lowest carbon and water footprint, fastest energy payback time, and designed for high-value recycling and closed loop semiconductor recovery.

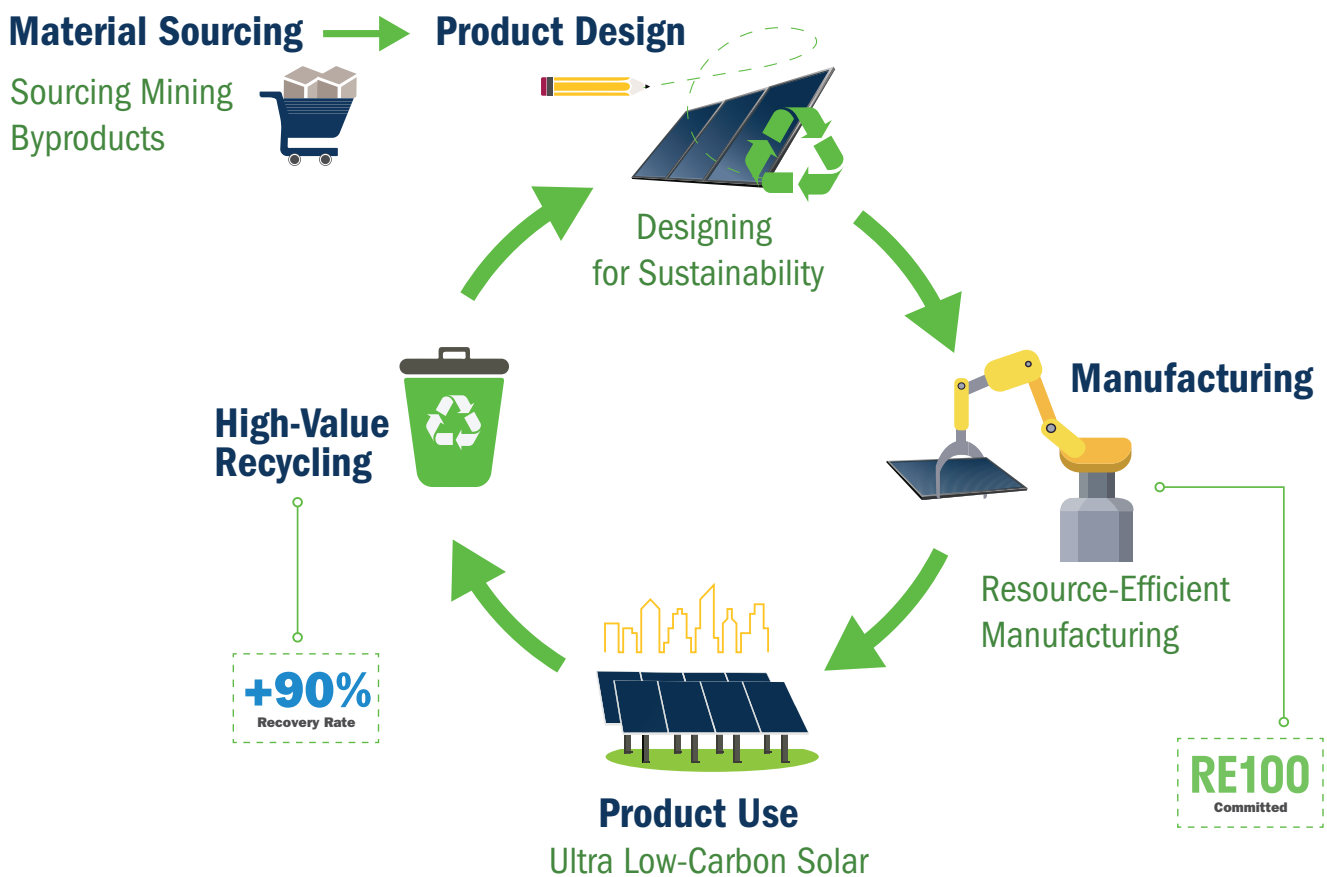


In 20+ years of commercial operations, First Solar has sold more than 60,000 MW of CdTe PV modules for use in solar projects in the US and around the world without any reported adverse impacts to the environment or human health, even after sustaining direct hits from hurricanes and tornadoes. More than 50 researchers from leading international institutions have confirmed the environmental benefits and safety of First Solar's thin film PV technology over its entire lifecycle; during normal operation, during foreseeable accidents such as fire or breakage, and through end-of-life recycling and disposal.



Designed for Circularity.

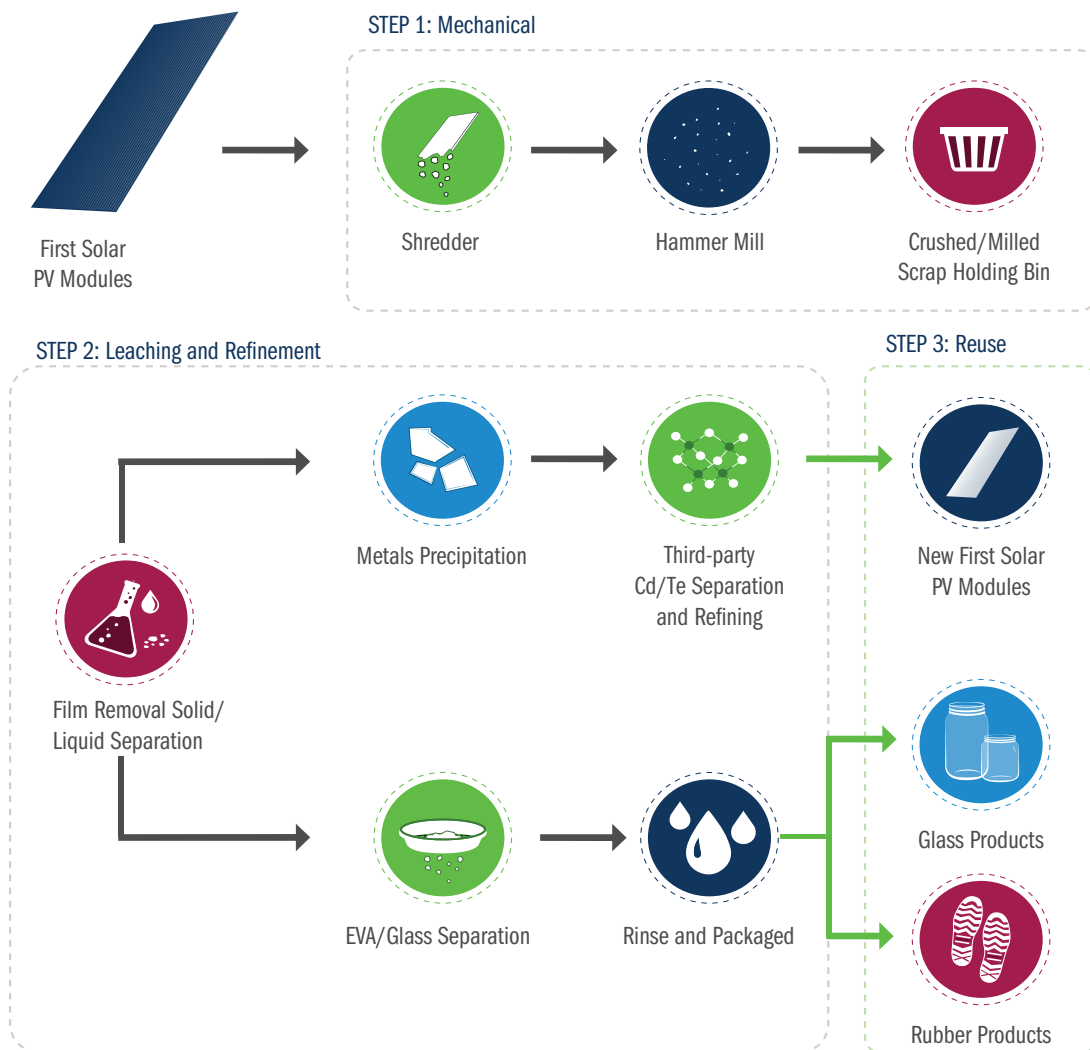
Circularity is embedded from the very beginning of our product’s lifecycle. Our semiconductor material is sourced from byproducts of the zinc and copper industries, providing a sustainable use for materials that would otherwise be disposed of. Cadmium (Cd), a waste byproduct of zinc refining, is generated regardless of its use in PV. Combining cadmium with tellurium (Te), a byproduct of copper refining, transforms it into a stable CdTe compound and a leading eco-efficient PV technology. Once solar modules reach the end of their useful life, high-value recycling helps recover materials so they can re-enter the solar supply chain to enable sustainable growth.



First Solar implements a robust change management system (CMS) to ensure product changes do not negatively impact product safety, reliability, environmental footprint, or recyclability. Process changes and module design improvements undergo several test and validation runs before receiving final approval and being implemented across manufacturing facilities. Lifecycle analysis is performed for significant product and manufacturing process modifications to assess environmental, health, and safety impacts before any changes are implemented. First Solar Series 6, Series 6 *Plus* and Series 7 PV modules consist of four articles: glass module, junction box, cable, and frame/rail. These articles do not contain substances on the Candidate List of Substances of Very High Concern (SVHC) as defined by EU REACH regulation (revision date: Sep. 25, 2023) above 0.1% by weight per article.

Closing the Loop

First Solar modules are designed for high-value recycling to maximize material recovery at end-of-life and recover more than 90% of module materials for reuse, providing high-quality secondary resources for new solar panels, glass, rubber, and aluminum products. We operate scalable, high-value PV recycling facilities in Vietnam, Malaysia, Germany, the US (Ohio), and India. Our recycling facility in India began operating in early 2024 and represents the country’s first solar recycling facility. We will add additional recycling facilities at our manufacturing plants under construction in Alabama and Louisiana, as part of our standard site replication process. In 2023, our global recycling facilities had a designed annual recycling capacity of 88,000 metric tons (or ~2.6 million modules) and we expect to grow our global designed recycling capacity to 136,000 metric tons by the end of 2026.



First Solar has a unique and longstanding leadership position in PV recycling, having established the industry's first global recycling program in 2005, and recycled nearly 400,000 metric tons of PV modules to date — [more than any other PV recycler or PV recycling scheme](#). While most PV recycling processes focus only on recovering high-mass fraction materials such as glass and frames (i.e., bulk recycling), First Solar's high-value recycling process goes further by recovering more than 90% of the semiconductor material for reuse in new First Solar modules and 90% of the glass for use in new glass container products. Module frames are removed and recycled for reuse in aluminum products. In Malaysia, the recovered laminate material is reused in rubber products. The remainder of the recycled module scrap (approximately 5%) consists of glass fines, which cannot be used in secondary raw materials and are handled using other responsible waste treatment techniques. In 2023, First Solar's recycling facilities achieved a global average material recovery rate of approximately 95%. In comparison, the recycling material recovery rates for cars and mobile phones are approximately 75% and 80% respectively. To learn more about First Solar's global recycling services, please see our [recycling brochure](#).

First Solar modules do not have unique end-of-life management requirements as highlighted by [a study](#) by the International Energy Agency PV Power Systems Programme. High-value recycling is important for all PV technologies to reduce the embodied carbon of solar modules, bolster domestic supply chains, and enable the industry to scale sustainably. Lifecycle assessment studies show the benefits of high-value recycling significantly outweigh its impact. While recycling accounts for up to 5% of a PV module's environmental footprint, the benefits from recycling can reduce the environmental footprint by as much as 17%.

One kilogram of First Solar's semiconductor material can be recycled 41 times over, which translates into a use time of more than 1,200 years. Our ultimate goal is to be able to feed all our recycled materials back into the solar supply chain, as we already do with our semiconductor material. First Solar is partnering with the REMADE Institute, national laboratories and universities across the US on high-value recycling R&D projects to develop high-value recycling technologies for crystalline silicon modules, help close the loop on glass and aluminum, and refine the delamination process to maximize the quantity and quality of the recyclable materials.



ESG Strategy and Management.

At First Solar, our approach to Responsible Solar drives our company’s environmental, social, and governance (ESG) strategy and differentiation. We are committed to minimizing the environmental impacts and enhancing the social and economic benefits of our products across their lifecycle through our approach to environmental footprint management, resource efficiency and greenhouse gas emissions reduction, waste management, global charitable giving, operational cost reduction, responsible sourcing, and human rights, as well as our global PV module recycling services. First Solar’s [Corporate Sustainability Policy](#) is available for review on our website.

Environmental



- Lowest environmental footprint in the industry
- Resource-efficient and RE100-committed operations
- Industry leading high-value PV recycling services

Social



- Promote a safe, inclusive and diverse workplace
- Engage in local communities and contribute to a just transition
- Responsible sourcing with zero tolerance for forced labor

Governance



- ESG oversight at Board level
- Transparent reporting and disclosure
- EPEAT Silver Rated
- Member of the Responsible Business Alliance (RBA)

ESG Governance

First Solar’s Board of Directors’ nominating and governance committee has overall oversight of the company’s environmental, social, and corporate governance (ESG) strategy and policies, as defined in its [charter](#). The nominating and governance committee receives updates from management on a biannual (or more frequent) basis about significant ESG activities including, among others: (i) energy, emissions, and resource efficiency; (ii) inclusion, diversity, and belonging; (iii) product innovation and reliability; (iv) responsible sourcing and human rights; (v) public policy; and (vi) circular economy. Our board of directors comprises members with expertise in strategic planning, business development, risk management, and corporate governance, as well as experience in disciplines related to our business such as the renewable energy industry, low carbon energy technology, sustainability, climate finance and infrastructure, among others.

First Solar’s ESG Steering Committee, led by our Chief Executive Officer and consisting of our Executive Leadership Team, has the highest level of direct responsibility for ESG matters, and reports to the Board of Directors on a biannual (or more frequent) basis. The nominating and governance committee takes an active role in reviewing and overseeing the company’s climate change goals and strategy, monitoring progress on environmental targets, and reviewing/overseeing the company’s due diligence efforts regarding human rights. The full Board of Directors approves the Company’s Modern Slavery Statement on an annual basis.

First Solar’s ESG and Sustainability team coordinates the cross-functional task force of ESG focus leaders responsible for defining, measuring, and reporting on progress to the ESG Steering Committee on a quarterly basis. The cross-functional ESG task force is responsible for identifying strategic ESG risks and opportunities (including transitional and physical climate-related risks and opportunities related to our approach to Responsible Solar), gaps, and challenges; anticipating ESG trends that could impact the company; and proposing new ESG policies, practices, targets, metrics, and disclosures.

First Solar’s ESG focus leaders help advance the company’s approach to Responsible Solar by driving progress on key strategic ESG areas, including: (i) Energy, Emissions, and Resource Efficiency, (ii) Circular Economy, (iii) Inclusion, Diversity, and Belonging, (iv) Innovative Products, (v) Public Policy and Public Sentiment, (vi) Reliable Products, (vii) Responsible Sourcing and Human Rights.



ESG Risk Management

First Solar has a comprehensive risk management process in which management is responsible for identifying and managing the Company’s risks, with the board of directors and its four standing committees providing oversight of these efforts. Management reports on risks and risk management initiatives to the board and its committees throughout the year. The nominating and governance committee considers risks related to corporate governance practices, including the Company’s ESG strategy, policies, and initiatives. Key potential sustainability-related risks and opportunities are included in our [annual report on Form 10-K](#).

The following table summarizes key potential climate-related risks and opportunities:

Climate-Related Risks	Potential Impact	Risk Management Strategy
CLIMATE-RELATED PHYSICAL IMPACTS ON OPERATIONS		
<p>Climate-related physical risks, including weather events and natural disasters, may affect our manufacturing operations which could have a material adverse effect on our business, financial condition, or results of operations. We have manufacturing operations in regions that have experienced extreme weather such as flooding, hurricanes, and tornadoes. In case of these or other weather events or natural disasters, (i) our manufacturing and R&D equipment, on-site IT facilities, and inventory, among other things, may be damaged or destroyed, which may result in significant write-offs or significant expenses to repair or replace certain operations; (ii) the production and shipment of our solar modules may be disrupted as a result of (a) the damage or destruction of our facilities and infrastructure, (b) power outages, (c) delayed or cancelled deliveries of equipment and raw materials, and/or (d) the lack of clear and safe physical access to and from our manufacturing facilities, among other things; and (iii) we may be unable to execute our technology roadmap in a timely manner. We also consider the risks associated with weather events and natural disasters as part of our site selection, design, and construction process. Further, as a result of our own potential operational delays mentioned above, our ability to fulfill customer orders may be impaired or delayed, and we could incur significant losses.</p>	<p>Decreased revenues due to reduced production capacity</p>	<p>To manage the impacts of a natural disaster on our operations, we separate our manufacturing capabilities across several buildings and purchase insurance to cover losses arising from such natural disasters, among other proactive and reactive strategies.</p>

Climate-Related Risks	Potential Impact	Risk Management Strategy
CLIMATE-RELATED SUPPLY CHAIN RISKS		
<p>Climate-related physical risks, including weather events and natural disasters, which could have a material adverse effect on our business, financial condition, or results of operations. Our suppliers may be adversely affected by weather events and natural disasters, which could disrupt their ability to deliver certain manufacturing equipment, materials, and/or services for extended periods of time. Our suppliers may also incur additional costs to repair or replace their own operations, which may cause them to require higher prices as part of current and future contracts and/or otherwise be unable to perform under their existing contract commitments.</p>	<p>Decreased revenues due to reduced production capacity</p>	<p>As part of our sourcing strategy, we partner with many suppliers that are near our manufacturing locations, which is intended to reduce the transportation costs, environmental footprint, and lead times for these materials.</p>
CLIMATE-RELATED CUSTOMER RISKS		
<p>Climate-related physical risks, including weather events and natural disasters, may affect our customers, which could have a material adverse effect on our business, financial condition, or results of operations. Our customers may be adversely affected by weather events and natural disasters, which could result in significant site damages, including damages to our solar modules installed at those sites. Damages may adversely impact our customers financially, and related business disruptions may delay or accelerate certain project timelines, which could result in an inability to perform under their contracts or otherwise deliver timely payment to us, if at all. The loss of any of our large customers, or the inability of our customers and counterparties to perform under their contracts with us, could significantly reduce our net sales and negatively impact our results of operations.</p>	<p>Reduced and/or deferred revenues and/or cash flows due to adverse customer circumstances</p>	<p>We have research and development (R&D) programs to improve module durability and our products go through extended reliability testing to evaluate long-term durability in extremes of temperature, wind, irradiation, humidity and precipitation. First Solar modules are the only PV module in the industry warranted against cell cracking and micro-cracking, which can be caused by excessive thermal and mechanical stress.</p>

Climate-Related Risks	Potential Impact	Risk Management Strategy
RAW MATERIAL AVAILABILITY		
<p>A disruption in our supply chain for CdTe, other key raw materials, or equipment could interrupt or impair our ability to manufacture solar modules and could adversely impact our profitability and long-term growth prospects. Tellurium (Te), one of the main components of CdTe, is mainly produced as a by-product of copper refining, and therefore, its supply is largely dependent upon demand for copper.</p>	<p>Decreased revenues due to reduced production capacity</p>	<p>We implement various raw material management strategies and continually evaluate new and additional suppliers as part of our cost reduction roadmap and expansion activities. When possible, we attempt to use suppliers that can provide a raw material supply source that is near our manufacturing locations, reducing the cost, risk, and lead times for such materials. Accordingly, we may enter into long-term supply agreements to manage potential risks related to the procurement of key raw materials and components. We also implement demand and supply side strategies for various raw materials, including efforts to reduce material intensity per watt, strategic reserve management, and maximizing material recovery at end-of-life through high-value recycling. Researchers from independent institutions have concluded that a combination of improvements in PV module Te intensity, Te recovery from copper ores and recycling could lead to annual production of CdTe PV on the order of 100GW per year by mid-century at reasonable cost. Growing concerns about the climate are driving advancements and adoption of electrification technologies, which in turn are increasing the demand for copper. An increase in copper supply will create opportunities for increased Te production.</p>



M. Redlinger, M. Lokanc, R. G. Eggert, M. Woodhouse, A.C. Goodrich, The Present, Mid-Term, and Long-Term Supply Curves for Tellurium: and updates in the results from NREL's CdTe PV module manufacturing cost model, 2013.

Y. Houari, J. Speirs, C. Candelise, and R. Gross. A system dynamics model of tellurium availability for CdTe PV, 2013.

V. Fthenakis, Sustainability metrics for extending thin-film photovoltaics to terawatt levels. MRS Bulletin. Vol. 37: 425-430, 2012.

Climate-Related Opportunities	Potential Impact	Opportunity Management Strategy
PRODUCTS AND SERVICES		
<p>Solar energy is one of the fastest growing forms of renewable energy with numerous economic and environmental benefits that make it an attractive complement to and/or substitute for traditional forms of energy generation. We believe our strategies and points of differentiation provide the foundation for our competitive position and enable us to remain one of the preferred providers of PV solar modules.</p>	<p>Increased revenues due to increased demand for products and services</p>	<p>As a result of the market opportunities and increased demand for our products, we are in the process of expanding our global manufacturing capacity to over 25GW by the end of 2026, with the construction of our fourth and fifth PV manufacturing facilities in the US. Additionally, we are investing approximately half a billion dollars in research and development infrastructure in Ohio, including the Jim Nolan Center for Solar Innovation, which was commissioned in 2024.</p>
MARKETS		
<p>Recently enacted government support programs, such as the Inflation Reduction Act (IRA) of 2022, have contributed and are expected to continue to contribute to this momentum by providing solar module manufacturers, project developers, and project owners with tax incentives to accelerate the ongoing transition to clean energy. Although module average selling prices in many global markets have generally declined for several years, near-term module pricing in the United States, our primary market, remains relatively stable due in part to the rising demand for domestically manufactured modules as a result of the IRA.</p>	<p>Increased revenues due to increased production capacity</p>	<p>In light of such market realities, we continue to focus on our strategies and points of differentiation, which include our advanced module technology, our manufacturing process and distributed manufacturing presence, our R&D capabilities, the sustainability advantage of our modules, and our financial stability.</p>
<p>India continues to represent one of the largest and fastest growing markets for PV solar energy with aggressive renewable energy targets, which include increasing the country’s overall renewable energy capacity to 500 GW by 2030, becoming energy independent by 2047, and establishing a net-zero carbon emissions target by 2070. Based on these targets, it is projected that the installed solar energy generation capacity will be 350 GW by 2030. In March 2023, the government of India allocated financial incentives under the Production Linked Incentive (PLI) scheme to certain PV module manufacturers, including First Solar. The Indian government has also implemented a regulation mandating that any solar project with federal utility, state utility, or commercial and industrial off-takers that interconnects through government owned transmission lines only use solar modules from manufacturers included in the ALMM, and a requirement that all federal procurement of solar modules be only from cells and modules produced domestically.</p>	<p>Increased revenues due to access to new and emerging markets</p>	<p>As a result of such market opportunities and renewable targets, we recently commenced production of Series 7 modules at our first manufacturing facility in India, bringing our total installed nameplate production capacity in the country to 3.2 GW. First Solar is included on the Approved List of Module Manufacturers (ALMM), which was introduced in 2021 as a non-tariff barrier to incentivize domestic manufacturing of PV modules in India.</p>

Climate-Related Opportunities	Potential Impact	Opportunity Management Strategy
MARKETS		
<p>Certain markets in Europe, such as France, have adopted regulations for public tenders of renewable energy to prioritize PV solar power systems that utilize solar modules produced in low-carbon manufacturing processes. Such regulations require developers to provide information about the carbon footprint of PV solar modules used in their utility-scale projects and precludes the use of module technology that does not meet certain minimum carbon footprint thresholds. Under the Net Zero Industry Act, additional EU member states may introduce sustainability and resilience criteria as requirements for public tenders of PV solar power systems. For example, in January 2024, Spain adopted a law that its public tenders of PV solar power systems must include sustainability and resilience criteria weighting at least 30% of the pricing.</p>	<p>Increased revenues due to increased demand for products and services</p>	<p>Our thin film module technology has the smallest carbon footprint of any competing PV solar technology, measured on a lifecycle basis. We are committed to driving down the carbon footprint of our products and advocate for strong PV carbon footprint methodologies (such as those described in the EPEAT ecolabel's ultra-low carbon solar criteria) which minimize the potential for greenwashing. Furthermore, we registered our Series 6, Series 6 <i>Plus</i>, and Series 7 modules in the EPEAT registry. EPEAT is the only US EPA-approved ecolabel for the federal procurement of PV modules and power purchase agreements.</p>



Environmental Metrics & Targets.



Environmental Targets



ENERGY

Targets

- Enhance the energy efficiency of our operations by achieving a 30% reduction in global energy usage per watt produced by 2028, (from a 2020 baseline).
- Power global operations with 100% renewable energy by 2028 and 100% of our US operations by 2026.

2023 Progress

Since 2020, we have reduced our energy usage per watt produced by 15% and are halfway toward meeting our 2028 energy efficiency target. In 2023, we installed a 300kW PV carport array in Ohio and consumed more than 7.5 million kilowatt hours (kWh) of renewable electricity from onsite solar installations globally.



WATER

Targets

- Achieve 58% reduction in global water usage per watt produced by 2028 (from a 2020 baseline).

2023 Progress

Since 2020, we have reduced our manufacturing water intensity by 48%. In 2023, our manufacturing water intensity decreased by 6% compared to 2022, due to increased water recycling initiatives. We recycled 318 million liters of water in 2023, an 88% increase in water recycling compared to 2022.



EMISSIONS

Targets

- Reduce absolute scope 1 and scope 2 GHG emissions by 34% by 2028 and 95% by 2050, (from a 2020 baseline).
- Reduce scope 3 GHG emissions from purchased goods and services by 45% per MW by 2028.
- Reduce scope 3 GHG emissions from purchased goods and services, capital goods, and fuel- and energy-related activities by 97% per MW produced by 2050 (relative to 2020).
- Achieve net-zero GHG emissions by 2050 (relative to 2020).

2023 Progress

Since 2020, we doubled our production capacity which has resulted in a 57% increase in our absolute scope 1 and scope 2 greenhouse gas emissions. While scope 3 emissions per MW from purchased goods and services decreased by 3% compared to 2020, scope 3 increased by 16% per MW when including capital goods and fuel- and energy-related activities.



WASTE

Targets

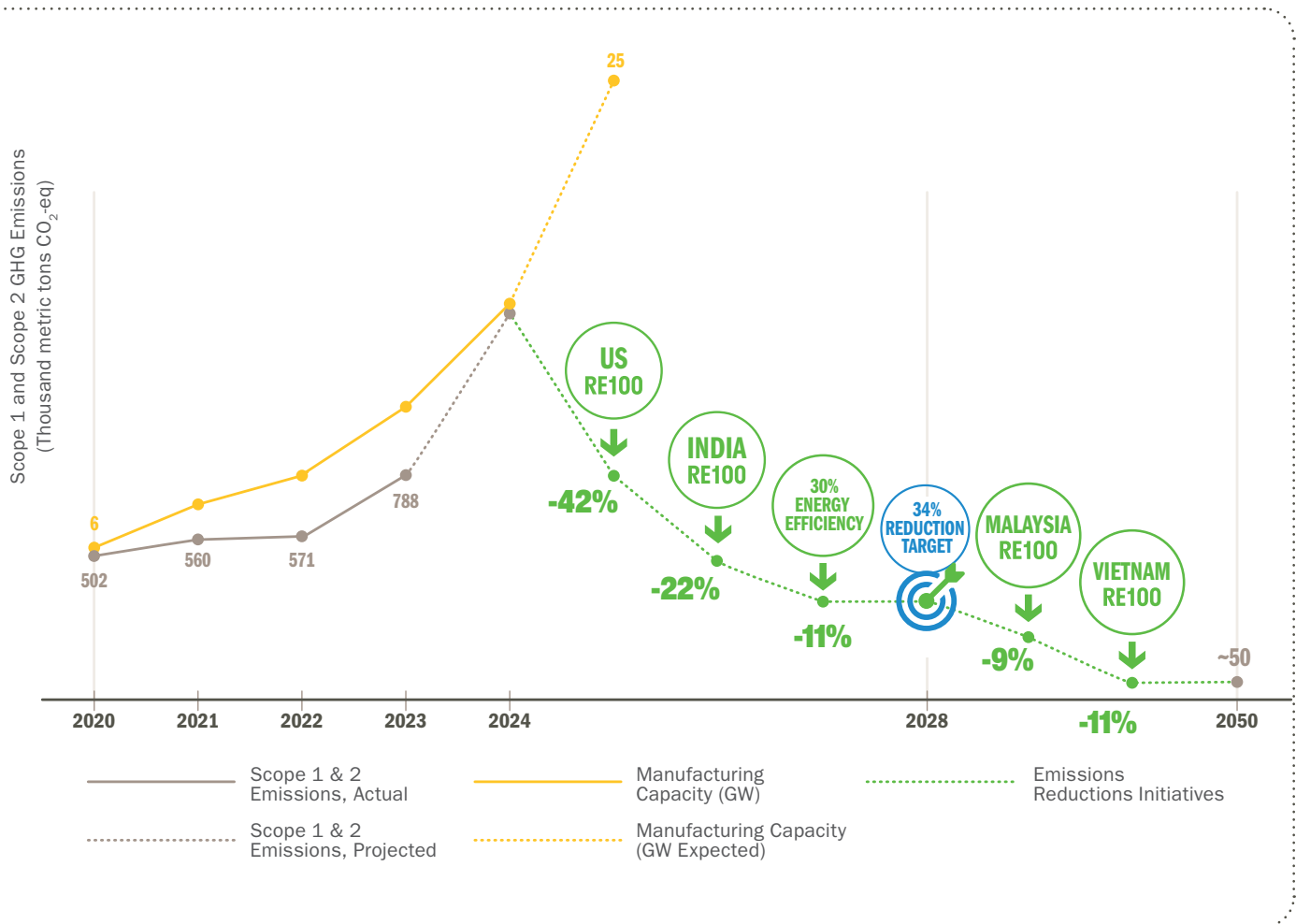
- Achieve >90% waste diversion from landfills globally by 2028.
- Maintain >90% PV recycling material recovery rate.

2023 Progress

87% of waste was diverted from disposal in 2023 through recycling, reuse, and recovery.

In 2023, our global recycling facilities achieved an average PV module material recovery rate of 95%.

Path to Net Zero



We have set science-based targets to reduce our absolute scope 1 and scope 2 GHG emissions by 34% by 2028 and achieve Net-Zero GHG emissions by 2050, relative to 2020. Our near-term science-based emissions reduction target and net-zero target are in line with limiting the global temperature rise to 1.5 degrees Celsius above pre-industrial levels. As scope 3 value chain emissions account for more than 80% of our total emissions, we set a target to reduce our scope 3 GHG emissions intensity from purchased goods and services by 45% per MW produced by 2028, relative to 2020. By 2050, we aim to reduce our scope 3 GHG emissions from purchased goods and services, capital goods, and fuel- and energy-related activities by 97% per MW produced, relative to 2020. In 2023, First Solar became the first of the world’s largest solar manufacturers to have our net-zero target validated by the Science Based Targets initiative (SBTi).



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Since 2020, we doubled our production and are on track to almost quadruple our production through 2026. The addition of new manufacturing plants in India and the United States has resulted in a 57% increase in our absolute scope 1 and scope 2 greenhouse gas emissions since 2020. First Solar is committed to driving down our carbon footprint and enabling renewable energy procurement in Malaysia and Vietnam.

In 2020, we joined RE100 and set an ambitious target to achieve 100% renewable energy across our global operations by 2028. As part of our renewable energy strategy, we are investigating opportunities to procure offsite renewable electricity, install PV rooftop and carport arrays, and purchase bundled renewable energy credits (RECs). The residual 5% scope 1 emissions can be neutralized with high quality carbon offsets to get to net-zero, in accordance with the SBTi's Net-Zero Standards. We have installed onsite PV installations at our production sites in Ohio, Malaysia, Vietnam, and at our recycling facility in Frankfurt Oder, Germany, which generated approximately 7.5 million kWh of solar electricity globally. We installed a 300kW PV carport array which began operating in 2023 at our second manufacturing facility in Ohio, and have installed carports at our facilities in Vietnam and Malaysia. In 2024, we secured a 15-year power purchase agreement with Cleantech Solar to cover approximately 70% of our power needs in India.



Environmental Metrics

Since 2009, we have successfully reduced our greenhouse gas emissions, energy, water, and waste intensity per watt produced by implementing resource conservation and low-carbon projects at our facilities and through improvements in module efficiency, manufacturing throughput, manufacturing yield, and capacity utilization.

In 2023, we produced 12.1 GW of solar modules, representing a 33% increase in production over 2022. As a result of various market opportunities and increased demand for our products, in 2023 we commenced production of Series 7 modules at our third manufacturing facility in Ohio and our first manufacturing facility in India. This brought our total installed nameplate production capacity across all our facilities to approximately 16.6 GW at the end of 2023.

All operating First Solar manufacturing sites are certified to globally recognized standards: ISO 14001 for Environmental Management, ISO 9001 for Quality Management, and ISO 45001 for Occupational Health and Safety. We foster a culture in which environmental, health and safety (EHS) is an integral part of our associates' work, and we also require our contractors and suppliers to adhere to our standards and commitments. Since 2022, First Solar's annual bonus plan includes a metric that encourages Good Catch reporting to identify any unsafe behaviors, conditions, or opportunities for safety improvement. First Solar's [Environmental, Health and Safety Policy](#) is published on our website. This policy is communicated to all associates through internal communication channels, associate meetings, and notice boards throughout our facilities.

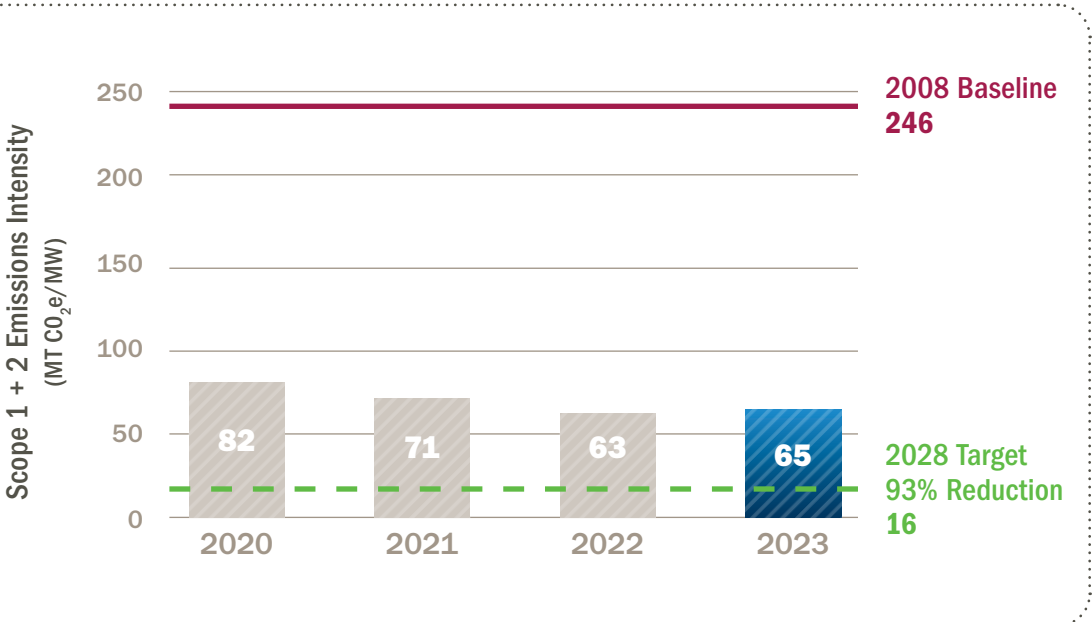
We have received global recognition for our state-of-the-art environmental controls, performance, and manufacturing excellence. Our facilities in Perrysburg and Lake Township, Ohio, have received the Ohio EPA's Encouraging Environmental Excellence Platinum Level Award in recognition of the company's accomplishments in waste reduction, community engagement, and eco-efficient manufacturing. In 2021, First Solar Vietnam was awarded third place in the Ho Chi Minh City (HCMC) Environment Award, which recognizes individuals, organizations, and communities that contribute significantly to environmental protection. In 2020, First Solar Malaysia received the prestigious State Environmental Excellence Award from the Kedah Department of Environment in recognition of our leadership and continuous efforts to demonstrate full environmental compliance in our manufacturing operations.





GREENHOUSE GAS EMISSIONS INTENSITY GOAL

In line with our absolute GHG emissions reduction goals, we aim to reduce scope 1 and scope 2 GHG emissions per watt produced by 78% by 2028 (from a 2020 baseline). Since 2008, our company-wide carbon intensity decreased by approximately 74% as a result of increased module efficiency, manufacturing throughput, and capacity utilization, along with energy conservation and low-carbon initiatives. In 2023, our GHG emissions intensity increased by 3% primarily due to the ramp-up of new manufacturing facilities. In 2023, our global energy conservation projects resulted in annual savings of 7,779 metrics tons of CO₂eq.



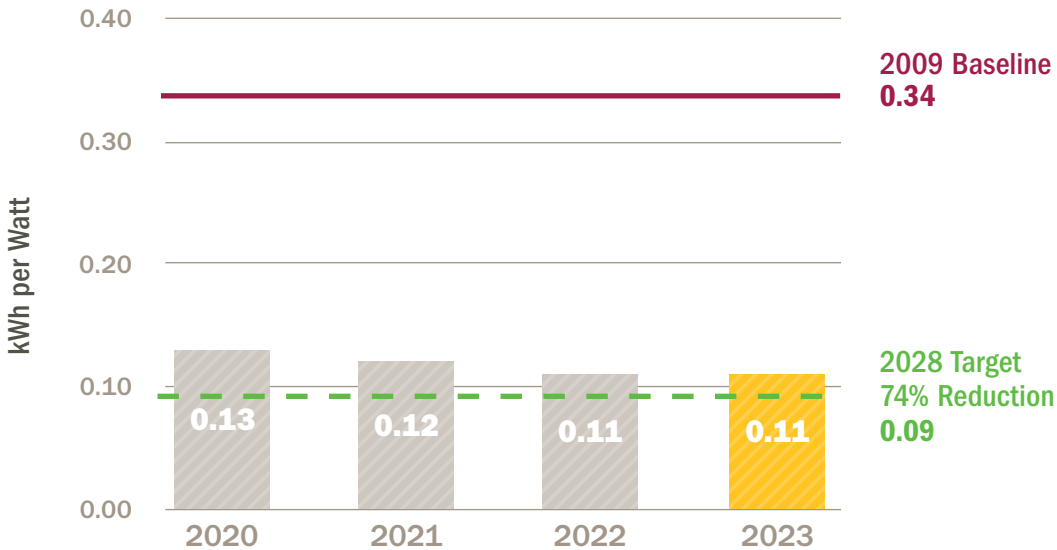
The chart depicts direct (scope 1) and indirect (scope 2) emissions of all manufacturing and recycling plants, R&D and testing facilities, company-owned operational solar projects, and company-owned vehicle fleet on a carbon intensity basis measured per MW produced.

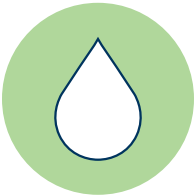


MANUFACTURING ENERGY INTENSITY

In 2023, our manufacturing energy intensity (energy consumption per watt produced) remained flat primarily due to the ramp-up of new manufacturing sites. In 2021, we set a target to improve global energy efficiency per watt produced by 30% by 2028, from a 2020 baseline. We are halfway toward meeting our 2028 energy efficiency target.

First Solar’s manufacturing energy intensity includes total energy (electricity and fuel) consumed by global manufacturing operations on a per-watt-produced basis and includes all processes, from the beginning of our manufacturing process to finished module. Increased manufacturing throughput combined with module efficiency improvements and energy conservation initiatives have enabled us to cut our manufacturing energy intensity per watt by more than 65% since 2009. In 2023, our global energy conservation projects resulted in annual savings of 12,245 MWh.

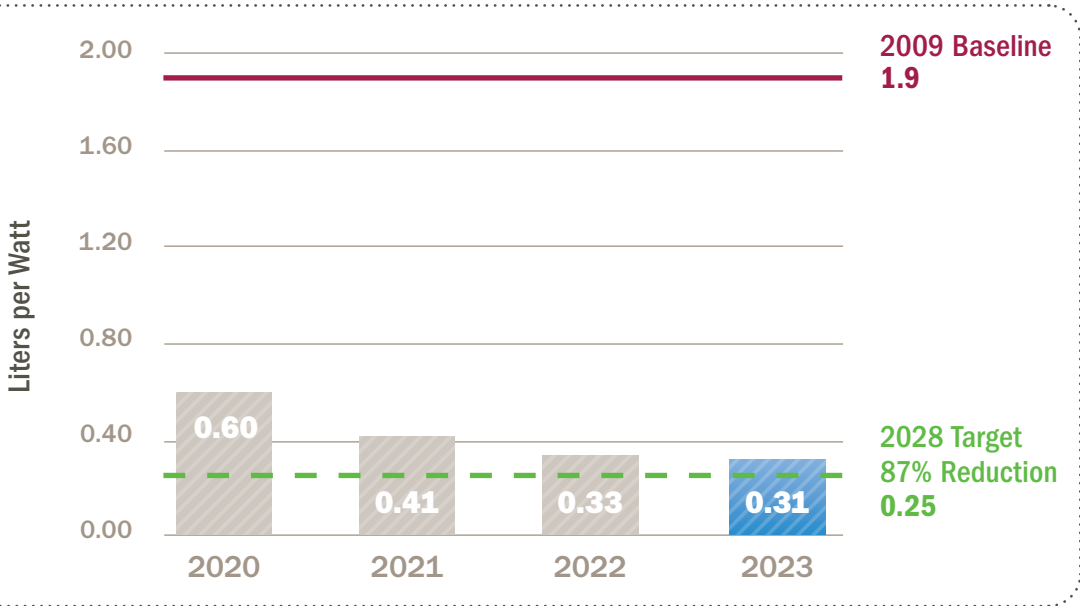




MANUFACTURING WATER INTENSITY

Since 2009, First Solar’s manufacturing water intensity (water consumption per watt produced) decreased by approximately 84% due to significant improvements in module efficiency, manufacturing throughput, and the implementation of water conservation and recycling projects in our manufacturing and recycling operations. In 2021, we set a water intensity target of 0.25 liters per watt by 2028, which is equivalent to a 58% reduction compared to our 2020 baseline. While our production increased by 33% in 2022, our absolute water withdrawals increased by approximately 23% and our manufacturing water intensity decreased by 6% due to increased water recycling initiatives. In total, we recycled 318 million liters of water in 2023, equivalent to approximately 8% of our absolute water use and representing an 88% increase in water recycling compared to 2022. We continue to review water consumption patterns down to the unit-operation level in our manufacturing processes and are challenging our process engineers to deliver additional water savings.

We monitor and measure 100% of the water discharges from our manufacturing, recycling, and research and development facilities. First Solar recycling plants and our manufacturing facility in India are designed to generate zero wastewater discharge. 100% of our water withdrawals (3,859 megaliters) come from third-party water utilities or municipal wastewater treatment plants. In 2023, approximately 44% of First Solar’s total water withdrawals (1,701 megaliters) was discharged as wastewater from our industrial wastewater treatment systems. Approximately 76% of our wastewater was sent to a third party (municipal wastewater facilities) and approximately 24% was discharged directly to fresh surface water (rivers). First Solar treats wastewater at our manufacturing and recycling facilities using a batch discharge system. Once treated, the water is collected in holding tanks, where it is sampled and tested to confirm compliance with regulatory limits before being discharged. No industrial wastewater leaves our site unless we have tested and approved it for discharge, even if it is being discharged to a municipal wastewater treatment plant. If water contaminant levels are above the permitted discharge limit, the wastewater undergoes re-treatment internally.



Net Zero Manufacturing Water Withdrawal in India

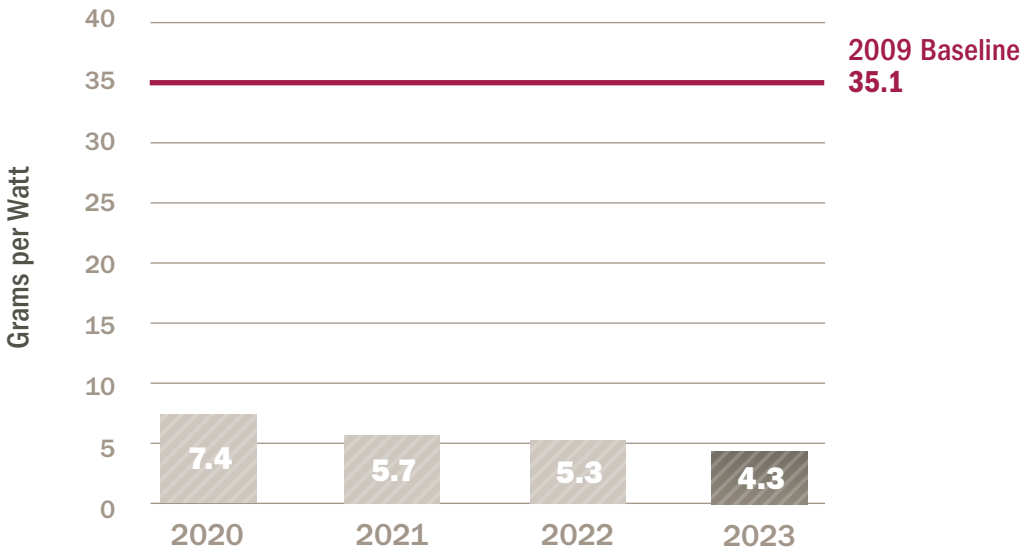
According to the World Resources Institute, one in four people globally face extremely high water stress. In 2023, 8% of our water withdrawals were in water-stressed locations. Although our PV manufacturing facilities in the U.S., Malaysia and Vietnam operate in areas with low to very low baseline water stress, our manufacturing facility near Chennai in Tamil Nadu, India which began operating in 2023, faces high baseline water stress. To minimize impacts on local water resources, we operate a net-zero PV manufacturing water withdrawal facility which relies entirely on tertiary treated reverse osmosis water from the city's sewage treatment plant for its process water with zero wastewater discharge. Instead of being discharged, the wastewater is treated onsite and converted into freshwater so it can be reused in our operations. In addition to maximizing alternative water usage, i.e. water that is not derived from fresh surface water or ground water sources, we are also driving continuous improvement in water conservation through internal monitoring, benchmarking, and optimization of our process tool designs.





MANUFACTURING WASTE INTENSITY

First Solar’s manufacturing waste generation intensity (grams per watt produced) has decreased by 88% since 2009 as a result of increased module efficiency and manufacturing throughput combined with recycling and waste minimization projects. In 2023, our manufacturing waste intensity decreased by 23% compared to 2022 primarily due to increased recycling and manufacturing throughput. While our production increased by 33% in 2023 compared to the previous year, our absolute waste generation only increased by approximately 9%. We increased the amount of waste diverted from disposal in 2022 and 2023 by recycling glass fines from edge grinding (a process step to smooth out each side of the raw glass used to make a solar module). In Malaysia and Vietnam the glass fines are being transformed into bricks.





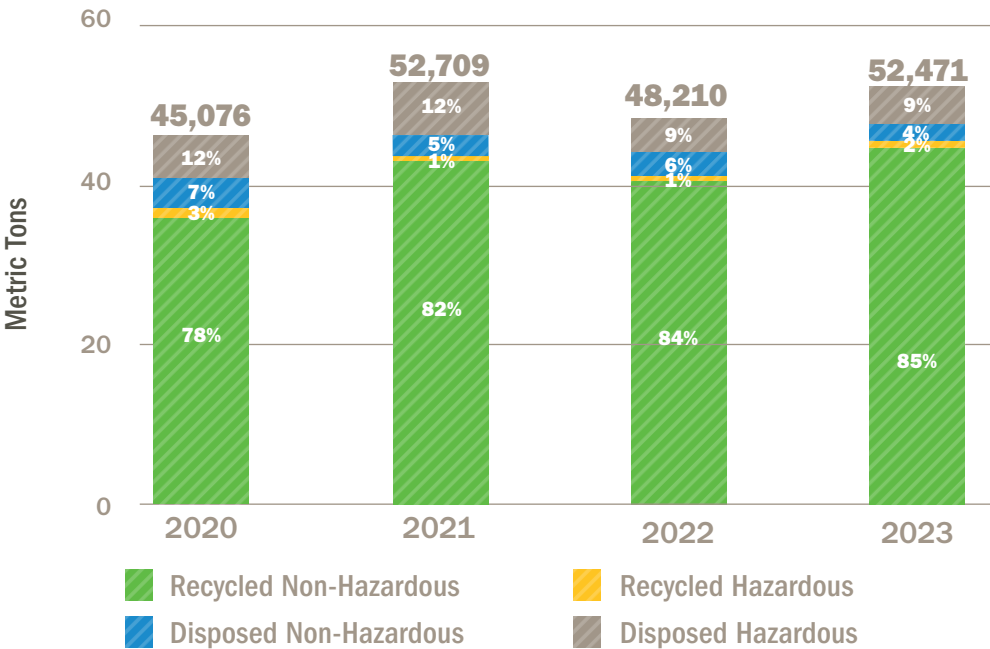
WASTE BY TYPE AND DISPOSAL

This graph depicts First Solar’s absolute manufacturing waste produced in metric tons with a percentage breakdown by type and destination. In 2023, our absolute waste generation increased by approximately 9% due to the ramp-up in production and new manufacturing facilities. In 2022 and 2023, the amount of waste recycled increased to 85% and 87% respectively.

First Solar is committed to reducing and recycling hazardous waste in line with our environmental management system objectives of minimizing waste and preventing pollution. Since 2012, we have reduced our hazardous waste generation per watt produced by approximately 76%.

Hazardous waste is classified according to the definition used by the countries in which we operate, e.g., under the Environmental Quality (Scheduled Wastes) Regulations in Malaysia, Law No. 55/2014/QH13 on Environmental Protection in Vietnam, the Resource Conservation and Recovery Act in the US, and the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016 along with its amendments in India.

We are committed to having zero electronic waste end up in landfills. We accomplish this by repurposing IT equipment through donations (e.g., to schools), and working with local partners in each of our locations that certify that the equipment is either repurposed or disposed of properly. Our e-waste management partners in the US, Vietnam, and Malaysia are either R2 certified or ISO 14001 certified. In India, we work with an e-waste recycler that holds a certification of authorization for e-waste dismantling and recycling from the Tamil Nadu Pollution Control Board. We follow and regularly exceed the standards provided by ISO and local regulations.

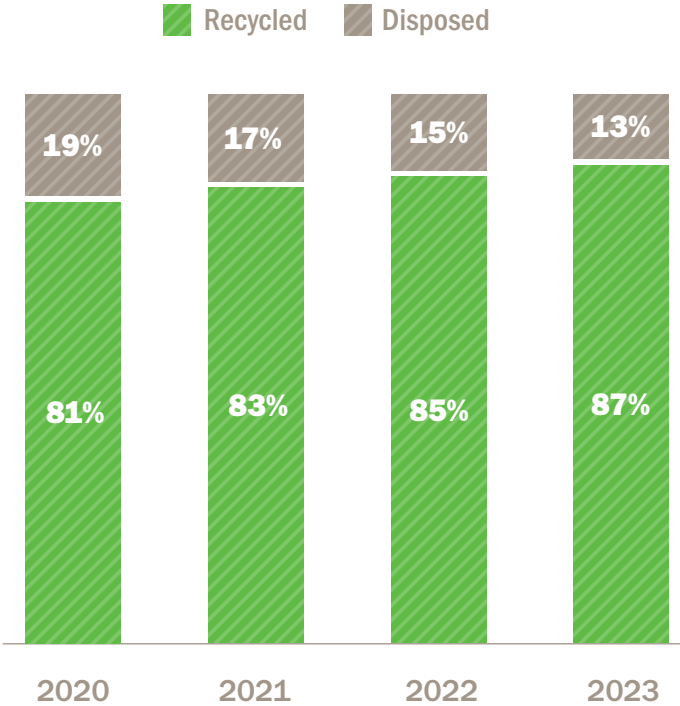




MANUFACTURING WASTE RECYCLED VS. DISPOSED

This graph depicts waste recycled and disposed by First Solar’s manufacturing and recycling facilities in Ohio, Malaysia, Vietnam, and India (which began manufacturing operations in 2023). The data includes modules that we recycle on-site: both manufacturing-line scrap and modules returned from the field, along with many other manufacturing byproducts that are recycled. The data does not include modules that are recycled at our recycling facility in Germany.

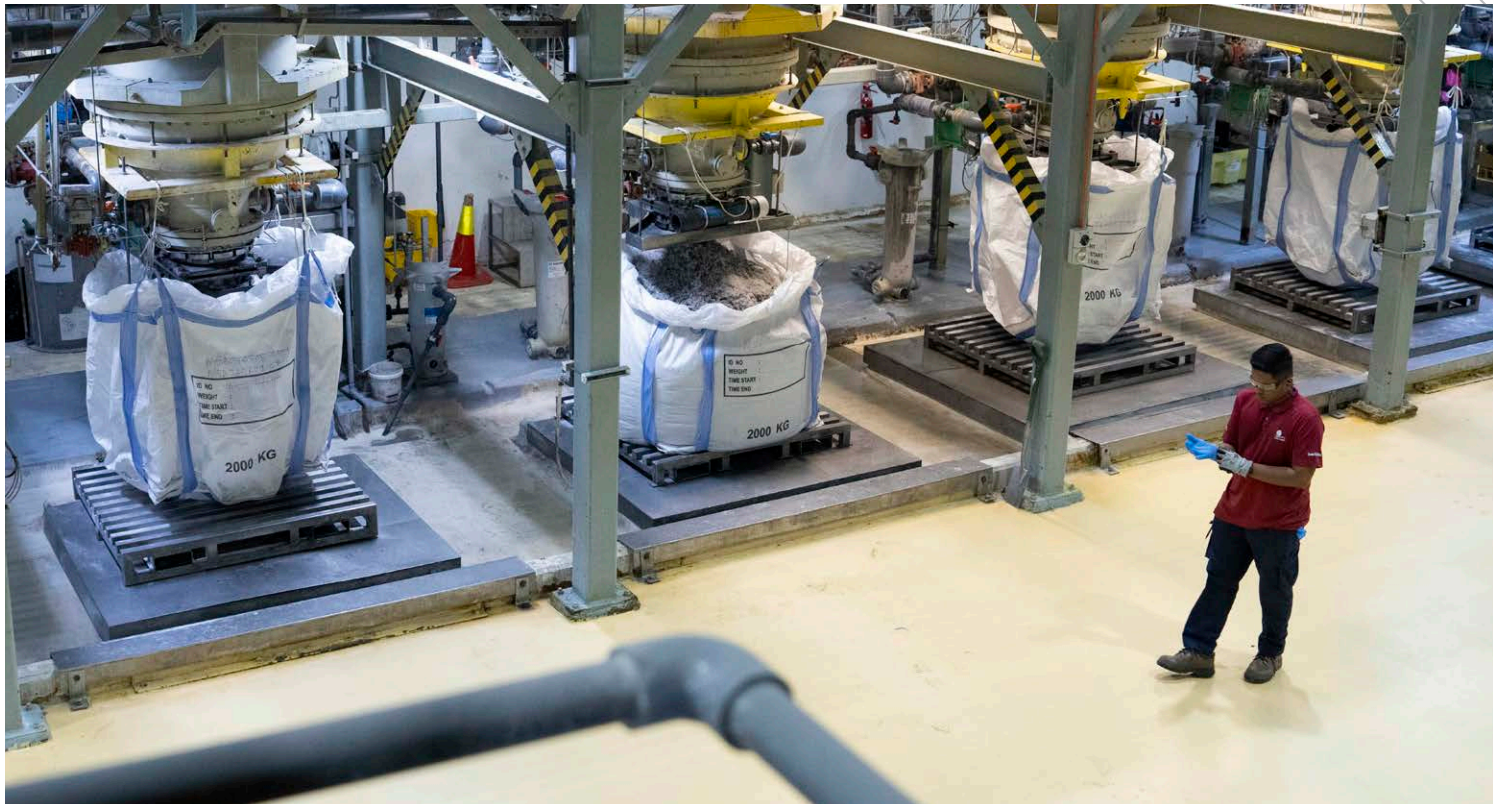
The amount of waste recycled increased in 2022 and 2023 through the recovery of glass fines from the edge grinding step in our manufacturing process. Overall, of the total material First Solar sends off-site, 87% is sent for beneficial reuse and not for disposal.



2023 RECYCLING AND RECOVERY ACHIEVEMENT

Metric	Unit	Global
Total collected (metric tons)	Metric tons	31,173
Total recycled — metals (not including semiconductor materials)	%	1
Total recycled — semiconductor materials	%	0.6
Total recycled — glass	%	94
Total recycled — other materials	%	0.5
Total disposed — sent to a thermal energy recovery facility	%	0.2
Total disposed — sent to a thermal or landfill facility for disposal	%	3
Products or components prepared for reuse**	%	0
Recycling rate	%	~95
*Recycling rate is the quotient of total recycled and total collected.		
**Refers to products or components that are used again for the same purpose for which they were conceived without any pre-processing, e.g., refurbishment.		

First Solar PV Module Recycling Material Recovery Achievements	
Glass	= 90 mass-%
Metals (not including semiconductor materials)	≥ 90 mass-%
Semiconductor Materials	≥ 90 mass-%



Biodiversity Protection

We seek to improve the local communities and environment where we operate. Over the past 50 years, biodiversity in the Asia-Pacific region has decreased by 55%, according to [WWF's 2022 Living Planet Report](#). We use the WWF biodiversity risk filter to screen our manufacturing locations for impacts on biodiversity. Although none of our manufacturing facilities are located in or near biodiversity-sensitive areas, we recognize the importance of protecting biodiversity and native habitats. In 2023, First Solar India planted 5,000 saplings for a green bed development surrounding our manufacturing facility. In 2024, First Solar India planted 12,000 additional saplings.



In Vietnam, First Solar Sustainability Ambassadors and volunteers embarked on the “Plant Hope – Grow Life” journey at Can Gio Biosphere Reserve in Ho Chi Minh City, which is among the top cities in the world most threatened by the risks associated with rising sea-levels, according to a report by the [Organization for Economic Cooperation and Development \(OECD\)](#). First Solar Vietnam planted 250 indigenous mangrove trees to support the mitigation of climate change-related flooding in the city.



Responsible Supply Chain Management.



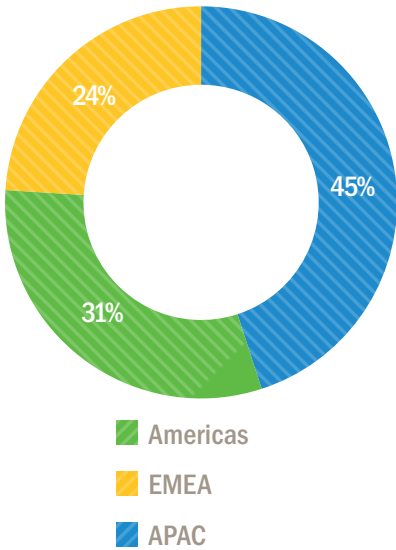
Supply Chain Overview

Our thin film module manufacturing process uses approximately 30 types of raw materials and components to produce a solar module. Critical raw materials and components in our manufacturing process include CdTe, front glass coated with transparent conductive oxide, organics such as photo resist, tempered back glass, frames, packaging components such as interlayer, cord plates/cord plate caps, cables, and solar connectors. As part of our sourcing strategy, we partner with suppliers that are near to our manufacturing locations, thereby reducing the transportation costs, environmental footprint and lead times for these materials.

First Solar has a global set of specifications for the materials used in our products, which results in a tightly controlled supply chain, superior traceability, and high-quality products. We also own and operate the facilities that manufacture our modules — turning a sheet of glass into a completed module all under one roof. In contrast, many traditional tier one crystalline silicon PV manufacturers have multiple products, processes, and bill of materials with a sprawling supply chain — which includes multiple process steps (polysilicon/ingots/wafers/cells/modules), often across multiple continents, resulting in increased risks relating to variability, quality, reliability, and traceability.

The true value of the clean energy transition goes well beyond the direct investment and creation of solar module manufacturing jobs. In 2023, First Solar spent more than \$3.17 billion on our global supply chain. This amount includes our manufacturing bill of materials, project spend, capital spend and indirect expenses. The data is based on the region in which purchase orders are issued. Over 31% of our global spend in 2023 was spent on local suppliers in the US to support our module manufacturing operations. In 2023, approximately \$118 million was awarded to women-, minority-, and disabled veteran-business enterprises (WMDVBE) based on purchase order data.

2023 Supplier Spend by Region (%)



\$3.17B
2023 global supply chain spend

\$118M
2023 awarded to women-, minority-, and disabled veteran-businesses



The Value of American Solar

Since our founding 25 years ago, First Solar has invested in America. We are expanding our American footprint to an unprecedented level and are on the path to achieving 14 gigawatts of annual nameplate vertically integrated solar manufacturing capacity across the US by 2026. First Solar has invested in a largely American supply chain for our US-manufactured PV modules. Our American-made Series 6 Plus and Series 7 thin film solar panels are uniquely qualified for the domestic content bonus provided by the Inflation Reduction Act of 2022, based on current interpretations of guidance issued by the U.S. Department of Treasury. These products are manufactured entirely in America, with US-origin manufactured product components, including 100% American glass, steel, and cell.

In 2023, First Solar spent approximately \$1 billion on American materials and services per year, supporting jobs with suppliers such as glass producers, steel producers, silica miners, soda ash miners, copper miners, crate and pallet makers, automated manufacturing toolmakers, research scientists, truck drivers, logistics workers, and more. These are jobs in industries that have historically been the lifeblood of the American economy are finding new purpose in the American Solar supply chain.

First Solar commissioned a study by researchers at the Kathleen Babineaux Blanco Public Policy Center at the University of Louisiana at Lafayette to analyze the economic impact of our investments and value chain in the US. This report is believed to be the first comprehensive economic analysis of a vertically integrated solar manufacturer’s value chain in the US.

The study, which was conducted using IMPLAN economic impact analysis software, found that First Solar supported an estimated 16,245 direct, indirect, and induced jobs in 2023, representing approximately \$1.6 billion in annual labor income. As our manufacturing footprint grows to an expected 14 GW in annual US nameplate capacity by 2026, it is forecast to support an estimated 30,060 direct, indirect, and induced jobs across the country, representing \$2.8 billion in annual labor income. The study projects that every direct job First Solar supports in 2026 will support 7.3 jobs nationwide and that every dollar directly spent on wages created \$3.3 in labor income. This demonstrates the real value of solar technology that is made in America, and not simply assembled here using imported components.



Trona Mining | Wyoming



Critical Materials | Utah



Galvanizing | Ohio



Glass Production | Ohio

2026

Projected Operational Activities



Responsible Sourcing

SCREENING

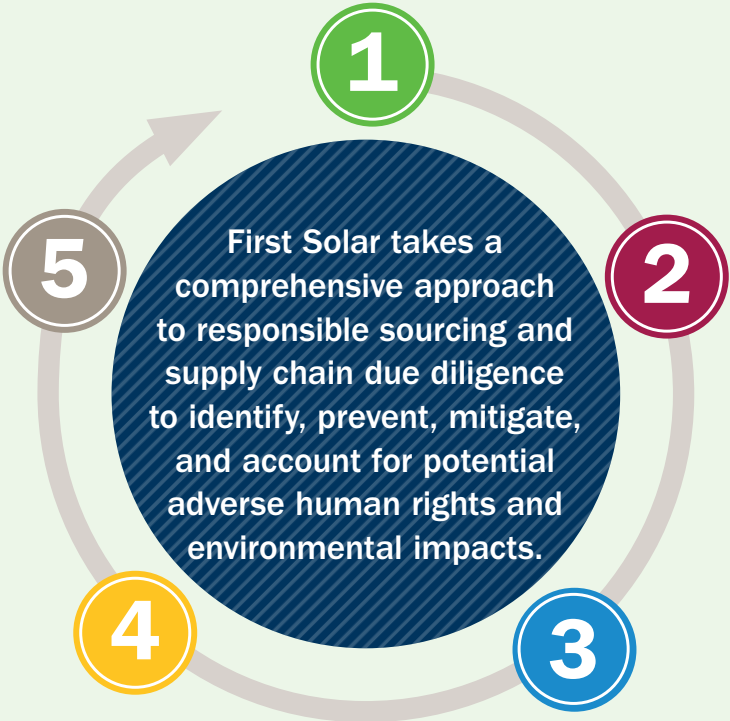
All new suppliers undergo a rigorous qualification process using a balanced scorecard that focuses on Quality, Cost, Flexibility, Service, Technology, and Sustainability. We regularly map our supply base and conduct an annual risk assessment to identify potential high-risk suppliers. In 2023, First Solar assessed 100% of our tier 1 suppliers that provide materials and components for manufacturing and 100% of our new suppliers using social and environmental criteria. All of our major suppliers completed an RBA Self-Assessment Questionnaire (SAQ). We leverage third-party tools and indexes on global slavery, forced labor and other environmental, social, and governance (ESG) aspects to identify high-risk suppliers based on industry, geography, and spend.

CERTIFICATION

First Solar’s supplier agreements require compliance with applicable laws and regulations in addition to First Solar requirements, which may exceed local legal requirements. Under the terms of First Solar’s supplier agreements, suppliers must commit to comply with the [Responsible Business Alliance \(RBA\) Code of Conduct](#) and require their suppliers to do the same. Suppliers must also represent, warrant, and covenant that they will not use child, slave, prisoner, or any other form of forced or involuntary labor, or engage in abusive employment in the supply of goods or provision of services. Violation of any labor standards may result in the termination of First Solar’s business relationship with such party.

REPORTING

First Solar has an established third-party operated Ethics Hotline to provide an anonymous and confidential solution to communicate serious legal, financial, ethical, or human rights concerns. No human rights concerns were reported in 2023. The [Ethics Hotline](#) ensures that serious concerns are heard and acted upon immediately. Any associate of First Solar, supplier or other external stakeholder can report concerns toll-free via our Ethics Hotline, free of any retaliation, discrimination, or harassment.



TRAINING

We provide Transparency Across Supply Chain training to all First Solar associates involved in procurement. This training includes the following objectives: recognizing and communicating awareness of human trafficking risks relevant to First Solar’s business; ensuring compliance with the California Transparency in Supply Chains Act (SB 657) and global human rights regulations; and identifying and avoiding trafficked labor in each specific business unit at First Solar. Additional training is available to First Solar associates and suppliers via the RBA e-learning academy. In 2023, following our VAP audit in Malaysia, we organized a half-day RBA briefing session for our on-site service providers and a full day of training on RBA labor standards for First Solar’s local purchasing, manufacturing, warehouse operation, human resources, and facilities teams. In 2023, First Solar provided global internal training on forced labor, the Uyghur Forced Labor Prevention Act, the company’s commitment to Responsible Solar and approach to responsible sourcing to associates involved in procurement, legal, and global trade compliance.

AUDITS

First Solar audits new and high-risk suppliers on quality as well as environmental management, health and safety, labor, human rights, and ethics by leveraging the RBA Code as a framework. In 2023, First Solar conducted 18 on-site audits at supplier sites based on quality as well as environmental and social criteria. We work with suppliers to drive improvements and to remedy adverse impacts through corrective action plans. We publicly report on the environmental and social performance of the suppliers we audit in our Sustainability Report on an annual basis. As part of our commitment to transparency, First Solar accounts for actual and potential adverse impacts on an annual basis in our [Modern Slavery Statement](#) and Sustainability Report.

Third-Party Social Audits

In addition to assessing our suppliers, First Solar proactively initiated third-party on-site RBA Validated Assessment Program (VAP) audits at our manufacturing facilities in 2022. In 2023, First Solar completed an on-site third-party RBA VAP closure audit at our manufacturing facility in Malaysia, which verified the corrective actions to address the priority findings from the 2022 audit relating to third-party service providers charging recruitment fees. All recruitment fees to our service providers' affected workers in Malaysia have been reimbursed in accordance with RBA best practices and [OECD Due Diligence Guidelines for Responsible Business Conduct](#).

As of December 2023, our manufacturing facilities in Ohio, Vietnam, and Malaysia successfully achieved Platinum status, the highest possible RBA rating. First Solar is the first — and remains the only — solar manufacturer in the world to have conducted independent, third-party on-site social audits across fully operational facilities in our global manufacturing footprint. An audit at a First Solar manufacturing facility is equivalent to auditing a crystalline silicon manufacturer's ingot, wafer, cell, and module assembly facilities. While independent social audits and remediation are possible in countries like Malaysia, it is important to differentiate it from state-sponsored forced labor in the Uyghur Region of China where credible due diligence is not possible and disengagement is the only option, as highlighted by guidance recently published by [Anti-Slavery International](#), the world's oldest human rights non-governmental organization (NGO).

In 2023, First Solar was ranked first out of six solar manufacturers evaluated in the Business and Human Rights Resource Centre's [Renewable Energy Human Rights Benchmark](#). Of the six evaluated manufacturers, First Solar is the only company without serious allegations against it relating to exposure to the Uyghur Region. We were also recognized for being the only solar manufacturer providing remedy on adverse impacts, the only solar manufacturer with a strong commitment to due diligence in place in line with the OECD Guidance, and one of two companies in the benchmark which have closed the gender pay gap to date.

First Solar has a longstanding commitment to conduct business in compliance with applicable laws and regulations and in accordance with the highest ethical principles. Our decision to join the RBA was driven by our commitment to continuous improvement and recognition that not all audit programs are comparable. Our experience with the RBA's Validated Assessment Program further affirms our belief that it is one of the most robust and proven social auditing protocols available. The RBA has a 20-year track record of helping companies improve sustainability and human rights in their supply chains. We recognize that due diligence is an ongoing process and will continue to work with our suppliers to ensure they conduct their business in line with First Solar values to help improve the lives of workers across our supply chain.



Supplier Screening and Audits

GRI Indicator	Title	2023 Disclosure	Social impacts used for screening
414-1	New suppliers that were screened using social criteria	100%	<p>Suppliers are screened on the following social criteria:</p> <ul style="list-style-type: none"> • Clean and safe facilities • Minimum wages and compensation for overtime • Working hours (allowing at least one day off per week) • Health and safety practices • Non-discrimination • Freedom of association and collective bargaining • Humane treatment and prevention of harassment or abuse • Prohibition of child labor • Prohibition of forced or compulsory labor • Business ethics (including corruption, extortion, embezzlement, conflict of interest, bribery, excessive gift giving, disclosure of information, intellectual property, fair business advertising and competition, privacy and non-retaliation.) • Conflict minerals
414-2	Negative impacts on social impacts in supply chain and actions taken	24	<p>In 2023, First Solar conducted 18 onsite audits at supplier sites which included environmental and social criteria based on the RBA Code of Conduct. Out of the 18 supplier audits, 8 suppliers were identified as having significant actual or potential negative social impacts in the areas of health and safety. Each of the identified suppliers (or 100%) has a corrective action plan in place. No suppliers were terminated. We worked with the suppliers to drive improvements on their EHS management systems and policies, personal protective equipment usage, onsite evacuation and emergency response plans.</p>
308-1	New suppliers that were screened using environmental criteria	100%	<p>Suppliers are screened on the following environmental criteria:</p> <ul style="list-style-type: none"> • Environmental management systems • Pollution prevention and resource reduction • Solid waste management • Hazardous substances management • Environmental permits • Air emissions monitoring and management • Water management • Energy consumption and GHG emissions
308-2	Negative environmental impacts in the supply chain and actions taken	24	<p>In 2023, First Solar conducted 18 onsite audits at supplier sites which included environmental and social criteria based on the RBA Code of Conduct. Out of the 18 audits, 9 suppliers were identified as having significant actual or potential negative environmental impacts relating predominantly to the lack of environmental targets. Each of the identified suppliers (or 100%) has a corrective action plan in place, and we are working with the suppliers to set environmental targets and greenhouse emissions targets. One supplier had air pollution violations and implemented a new emissions control system as part of their corrective action. No suppliers were terminated.</p>

Human Rights Standards and Practices

First Solar is committed to protecting human rights, enforcing fair labor practices, and addressing the potential risks of forced labor, child labor, human trafficking, and slavery across our operations and supply chain. As part of this commitment, we stand against all forms of modern slavery and have zero tolerance for forced labor, human trafficking, and child labor. Our [2023 Transparency in Supply Chains and Modern Slavery Statement](#) describes our efforts to address the risks of modern slavery across our operations and supply chain. This statement was published in accordance with the California Transparency in Supply Chains Act of 2010 (SB 657) and the UK Modern Slavery Act 2015 and is published on our website.

Our [Labor and Human Rights Policy](#), which references international human rights declarations and due diligence guidelines, applies to everyone at First Solar and its affiliates, including all associates, officers, and directors. As a member of the Responsible Business Alliance, we implement the RBA Code of Conduct within our operations and our supply chain. Under the terms of First Solar's supplier agreements, suppliers must commit to comply with the [RBA Code of Conduct](#) and require their suppliers to do the same. Suppliers must also represent, warrant and covenant that they will not use child, slave, prisoner, or any other form of forced or involuntary labor, or engage in abusive employment in the supply of goods or provision of services.

Our Chief Compliance Officer manages First Solar's Global Compliance Organization, which oversees our ethics and compliance program. The goal of this organization is to implement policies, processes, training, monitoring, and general awareness programs to promote ethics and compliance with applicable legal and regulatory standards. Subject to the requirements of local law, and after due diligence and full and fair investigation, any employee found to have directly engaged in or knowingly engaged suppliers engaged in slave labor or human trafficking will be subject to immediate termination of employment.



Conflict Minerals

First Solar is committed to operating a supply chain free of conflict minerals, which include gold, tin, tantalum, and tungsten, as well as their derivatives (or any other mineral or its derivative determined by the US Secretary of State) whose extraction and trade are financing conflict in the eastern Democratic Republic of the Congo or an adjoining country (together, the “covered countries”). To the extent we source minerals from the covered countries, we are dedicated to protecting and respecting human rights by responsibly sourcing such minerals.

We have a longstanding commitment to conduct our business in compliance with applicable laws and regulations, and we condemn human rights abuses associated with the extraction, transport, or trade of minerals. In addition, we have a no-tolerance policy with respect to corruption, money laundering, and/or bribery. We require all direct suppliers to agree to follow such principles. First Solar’s [Conflict Mineral Policy](#) is communicated to our suppliers and is published on our website. We have an operating, cross-functional internal governance team with representatives from our supply chain, compliance, and legal departments to ensure that policy statements and control processes are followed.

We support sourcing from the covered countries when performed in accordance with accepted international standards, specifically within the guidance from the OECD. Suppliers with minerals not found to be conflict-free in their sourcing are given a reasonable amount of time to begin sourcing minerals responsibly and in a manner consistent with the principles of responsible sourcing from conflict-affected areas. First Solar reserves the right to take appropriate actions up to and including identifying an alternate source of supply or discontinuing purchases from a supplier if a supplier’s efforts to comply with this policy are found to be deficient.

As we do not source directly from smelter or refiner processing facilities, we rely on the Responsible Minerals Initiative’s Responsible Minerals Assurance Program (RMAP), previously known as Conflict-Free Smelter Program, to oversee and coordinate third-party audits of these facilities. The RMAP audit protocols and procedures require the smelters or refiners to engage specially trained third-party auditors to independently verify that these smelters and refiners can be considered conflict-free. Our conflict minerals risk mitigation plan defines supplier-risk management strategies, including (i) continued procurement, (ii) assistance in identifying alternate sources of supply, and (iii) disengagement, the severity of which is at the discretion of our executive management. We aim to advance the effectiveness of our due diligence efforts and further enhance our compliance processes by, among other things, encouraging non-RMAP validated processing facilities to become validated either through the RMAP or an RMAP-recognized third-party audit program.

First Solar is committed to complying with the reporting obligations required under Section 1502 of the Dodd-Frank Act and the SEC’s rules on conflict minerals, including the requirement to conduct inquiries and, if necessary, due diligence into the source and chain of custody of any conflict minerals included in our products. 100% of the smelter and refiner facilities that may have processed the necessary conflict minerals used in our products during 2023 were RMAP-compliant. First Solar’s Specialized Disclosure and Conflict Minerals reports are available on our public website (see the [“Specialized Disclosure”](#) tab in SEC Filings).

Social Responsibility.



Our Culture

At First Solar, our talented, passionate, mission-driven people work together to realize our vision, to lead the world's sustainable energy future. We pursue success through our values-based culture, by cultivating agility, collaboration, and accountability throughout our workforce. The safety and well-being of our people is our priority and our global culture is a diverse tapestry of different viewpoints, approaches, voices and perspectives, that come together and help us to produce better products and services.

Agility



We are creative and resilient.

Collaboration



We help each other succeed.

Accountability



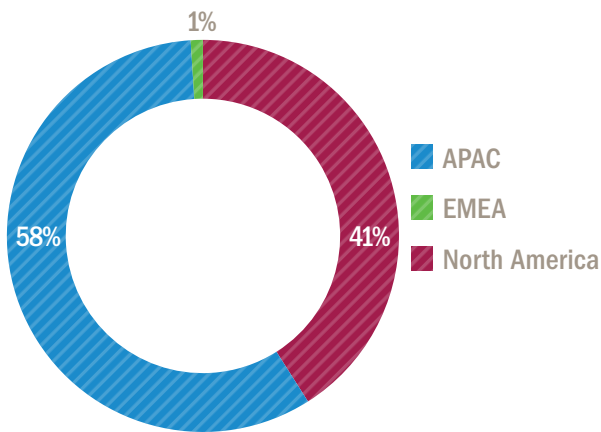
We own the results of our actions.



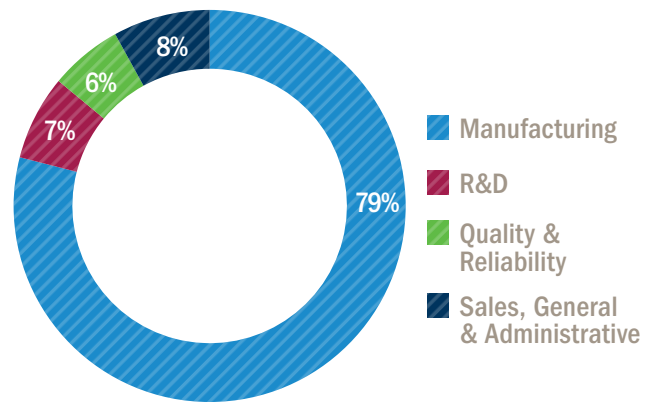
Working at First Solar

As of Dec. 31, 2023, First Solar had approximately 7,000 associates, including full-time, part-time, interns, and temporary employees, compared to approximately 5,500 at 2022 EOY. The majority of these associates work in the United States, Malaysia, Vietnam, and India. The increase in the number of associates is primarily attributed to our manufacturing expansions in Ohio and in India. During 2023, we commenced production of our Series 7 modules at our third US manufacturing facility and our first manufacturing facility in India. Approximately 79% of our associates work in manufacturing, and the remainder of our associates are in research and development, quality and reliability, sales, and general/administrative positions. In 2023, 11 associates (or approximately 0.16%) were part-time while the rest were full-time.

Associates by Region in 2023



Associates by Function in 2023



First Solar’s people strategy represents an inclusive, integrated approach that connects talent, performance, and learning on a foundational global total rewards program. All associates have the opportunity to learn, grow, and succeed. We believe in direct engagement and dialogue with our associates. We are one, global, diverse community serving a common purpose. Meeting net-zero ambitions will require automation and upskilling of the labor force, which provides opportunities for meaningful career growth and wealth creation.

First Solar’s Global Career Framework gives associates control over their own futures and provides career pathways for all associates by transparently describing the job and critical skill requirements needed to facilitate talent movement, from entry-level to executive leadership-level positions. Our Training Academy is available to all our associates to ensure that training is equitably provided. First Solar has Training Advocates on the manufacturing floor who encourage associates to leverage all of the learning opportunities available to them. There are many examples of First Solar associates who started as hourly production operators and successfully became manufacturing managers and plant managers.

First Solar Associates as of December 31, 2023

Female	Male	Other	Not Disclosed	Total
NUMBER OF EMPLOYEES (HEADCOUNT/FTE)				
1,615	5,242	8	92	6,957
NUMBER OF PERMANENT EMPLOYEES (HEADCOUNT/FTE)				
1,599	5,237	8	92	6,936
NUMBER OF TEMPORARY EMPLOYEES (HEADCOUNT/FTE)				
16	5	0	0	21
NUMBER OF NON-GUARANTEED HOURS EMPLOYEES (HEADCOUNT/FTE)				
0	0	0	0	0
NUMBER OF FULL-TIME EMPLOYEES (HEADCOUNT/FTE)				
1,595	5,232	8	90	6,925
NUMBER OF PART-TIME EMPLOYEES (HEADCOUNT/FTE)				
4	5	0	2	11

APAC	North America	EMEA	Total
NUMBER OF EMPLOYEES (HEADCOUNT/FTE)			
4,046	2,836	75	6,957
NUMBER OF PERMANENT EMPLOYEES (HEADCOUNT/FTE)			
4025	2,836	75	6,936
NUMBER OF TEMPORARY EMPLOYEES (HEADCOUNT/FTE)			
21	0	0	21
NUMBER OF NON-GUARANTEED HOURS EMPLOYEES (HEADCOUNT/FTE)			
0	0	0	0
NUMBER OF FULL-TIME EMPLOYEES (HEADCOUNT/FTE)			
4025	2,830	70	6,925
NUMBER OF PART-TIME EMPLOYEES (HEADCOUNT/FTE)			
0	6	5	11



Inclusion, Diversity & Belonging

At First Solar, we recognize that diversity and inclusion (D&I) is a driving force in the success of our company. We believe in creating an environment where different voices are encouraged, heard, and valued, including people of all genders, races, ethnicities, sexual orientations, military status, generations, abilities, perspectives, backgrounds, and personalities. At First Solar we are one global community serving a common purpose of leading the world's sustainable energy future.



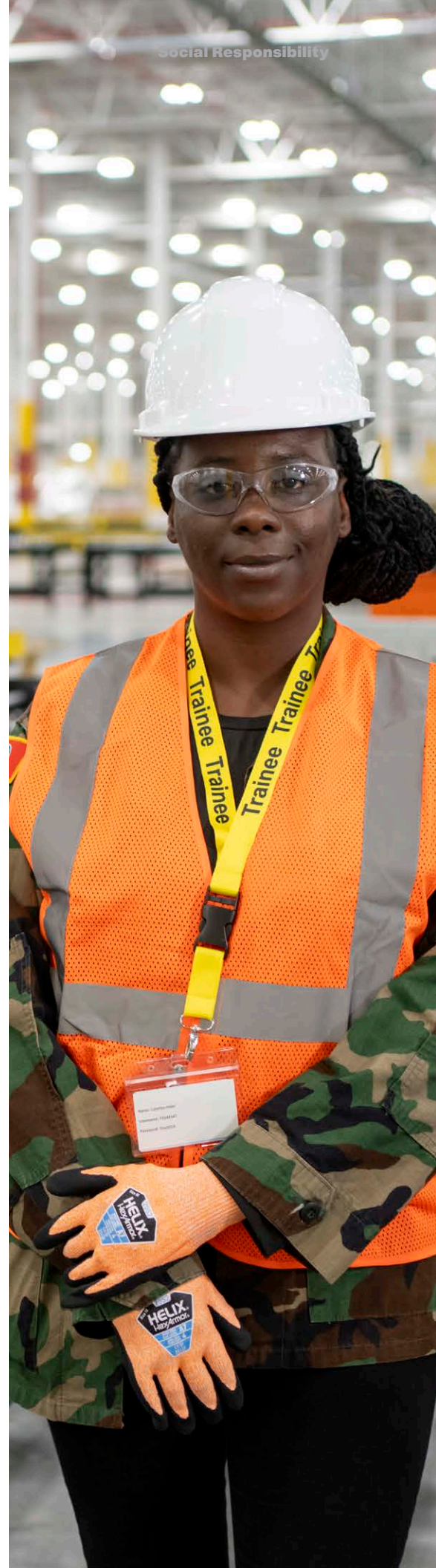
First Solar has integrated goals and measures for ensuring diversity, inclusion, and belonging throughout our company, translating our global strategy into local action. We believe in comprehensive actions at every level to drive foundational change in the culture and promote a diverse and inclusive workplace.

LEADERSHIP: First Solar's Board of Directors believes that maintaining a diverse membership enhances discussions and enables the board to better represent all of the company's constituents, including associates, customers, suppliers, and stockholders. Six out of seven of the most recently nominated board candidates were diverse, demonstrating our ongoing commitment to enhance diversity at the board level. As of May 8, 2024, 30% of the seats on our Board of Directors are occupied by women. When gender, ethnicity, and racial diversity are taken into account, First Solar's Board of Directors is 50% diverse. Each board committee has at least one diverse representative. We are proud to be recognized as a "3+ company" by [50/50 Women on Boards](#) for having at least three women serve on our board. Our first lead independent director was a woman, and the chair of our Audit Committee is a woman. A diverse board and Executive Leadership Team, nearly half of whom consist of first-generation Americans, sets the tone from the top, helping to drive diversity and inclusion throughout our organization. We are committed to including one or more qualified diverse candidates in the search process for new board members and new members of the Executive Leadership Team. We are also committed to using a search firm to broaden our board recruiting pipeline in instances where one or more qualified diverse candidates have not been identified among the personal networks of our directors or members of the Executive Leadership Team. The gender and racial composition of our board is disclosed in our [2023 proxy statement](#).



TALENT ACQUISITION: At First Solar, we seek to hire outstanding, qualified talent globally to further our mission. Consistent with this, we take a consciously inclusive approach in our hiring practices to access the broadest and best talent pipelines and to build globally diverse, high-performing teams. We post our open jobs on more than 25 diversity and veteran-focused recruitment sites, and we strive to have every external candidate search include diverse individuals. Our Talent Acquisition team reviews applicant and new hire metrics quarterly, including metrics related to diversity. First Solar is an Equal Opportunity Employer (EOE), and we prohibit discrimination based on race, color, religion, sex, age, national origin, veteran status, disability, sexual orientation, or gender identity. First Solar makes good faith efforts to make year-over-year improvements in our degree of representation in those areas. [First Solar's EOE policy](#) is available online. In India, our strategy to hire female graduates and provide them with three months of specialized training at Nettur Technical Training Foundation (NTTF), a public-private partnership initiative, has proven very successful. Through this initiative, we have hired several hundred women to date.

PAY AND PROMOTIONS: First Solar monitors the market to ensure that we are paying a fair living wage to all our associates. We review all elements of compensation (salaries, merit increases, bonuses) to check for internal and external equity, including assessing for gender pay gaps, minimum wage and living wage. First Solar provides a Global Career Framework for our associates' growth and development and a pay-for-performance model, which rewards associates for achieving goals, reaching associated metrics, and demonstrating First Solar values. Promotions are managed within our Global Career Framework, which provides a common language to describe career pathways, job and skill requirements and enables talent movement. Within this framework, we use a Global Grading System — a rigorous process for job-leveling, and a consistent, systematic approach for evaluating individual positions in the context of the entire company. Additionally, we have integrated career advancement, mentorship, and leadership programs to ensure the professional growth and development of our diverse talent worldwide. In 2023, we completed a global gender pay gap assessment, which showed no gender pay gap across all regions. In the future, we intend to expand this to formally assess racial equity. Our Bonus Plan includes D&I goals and metrics for all associates.



BENEFIT PROGRAMS AND POLICIES: First Solar offers competitive compensation and benefit packages to our global full-time, part-time and intern associates. Benefit packages may include, health care and other insurance benefits, retirement programs, paid time off, paid parental leave, flexible work schedules, and education assistance. First Solar is committed to helping associates face the demands of balancing work, family, and life-related issues by offering a number of alternative work options. A hybrid virtual working model called FLEX empowers associates to work on-premises, at home, or both depending on circumstances and business needs. First Solar's alternative work schedules enable women returning from maternity leave to work part-time while transitioning back into the workforce. First Solar also offers four-week paid parental leave to all US associates who meet basic employment requirements to enable associates and their families to care for and bond with a newborn child, a newly adopted child, or a newly placed foster child. We also provide various rewards and recognition programs for all associates, including gift cards, Lifemart discounts, auto and home insurance financing, Excellence in Action awards, and other financial rewards.

ENGAGEMENT AND INCLUSION: We gather and respond to associate feedback in a variety of ways, including through anonymous, periodic associate engagement as well as inclusion surveys, pulse surveys, town halls, and one-on-one interactions. We conduct a global inclusion and engagement survey on an annual basis. We had a record high response rate of 91% in 2024 up from 78% in 2023. We saw an increase in favorable responses in every question category. The global inclusion index for 2023 was 79%, compared to 78% in 2022. In 2023, engagement among women increased from 78% in 2022 to 83% in 2023. However, inclusion scores among women decreased by 1% in 2023 compared to 2022. Inclusion scores for associates who stated their intent to stay at First Solar for the next year increased by 5% in 2023. In 2023, 85% of associates stated they are proud to work for First Solar. In 2023, 87% of associates responded that they think First Solar operates in a socially and environmentally responsible manner (up from 83% in 2022).

EXTERNAL PARTNERSHIPS: First Solar works closely with local communities to provide employment opportunities to disadvantaged and underserved populations. We collaborate with high schools in Toledo, Ohio, to offer part-time work to low-income students, enabling them to finish their studies. We then offer them full-time employment with paid higher education benefits. We are replicating this successful model at the manufacturing facility we are constructing in Alabama. In 2024, we have two partnerships in place with the US military, including an agreement with the US Army through its Partnership for Your Success (PaYs) Program, and we were accepted into a partnership with the Department of Defense Skillbridge program, offering an opportunity for service members to gain valuable civilian work experience through specific industry training, apprenticeships, or internships during

the last 180 days of service and to then be hired into First Solar. We are able to offer a seamless transition from military to civilian life through our Veteran Connector Program, which connects new veterans with others in our organization who have successfully transitioned. First Solar is committed to supporting and encouraging girls and women in science, technology, engineering, and mathematics (STEM) fields by participating in initiatives such as The University of Toledo College of Engineering's Introduce a Girl to Engineering Day, and Bowling Green State University's Women in Technology and Women in Black Leadership program. We also contribute to the Santa Clara Valley Section of the Society of Women Engineers. In addition to working with local universities, First Solar partners with external organizations, such as Women in Cleantech and Sustainability, to foster an industry network of professionals with a mission of furthering the roles of women in growing the renewables economy and making a positive impact on the environment.

COMMUNITY IMPACT: In 2021, First Solar invested \$11 million in efforts to revitalize American communities and bridge racial gaps in health, wealth, and opportunity. As part of the initiative, First Solar purchased \$10 million in Impact Notes, or fixed-income debt securities, issued by the Local Initiatives Support Corporation ([LISC](#)) which help fund community and economic development projects across 36 cities and 2,100 rural counties in 45 states. In 2023, First Solar made a \$1 million deposit with [OneUnited Bank](#), the largest Black-owned bank in the U.S., which aims to close the racial wealth gap by enhancing financial literacy, alleviating personal financial challenges, and creating affordable access products and services to historically underserved minority populations nationwide. We renewed the \$1 million deposit with OneUnited in 2024.

REPORTING: First Solar's certified 2023 Employer Information Report (EEO-1) data is publicly available in the [sustainability documents library](#) on our website. Although the EEO-1 data is solely US-focused, our diversity and inclusion initiatives are global.

GLOBAL AND REGIONAL DIVERSITY NETWORKS: We continue to expand our global and regional diversity networks and affinity groups, consistent with First Solar's culture and philosophy. First Solar's Global Employee Networks and Employee Resource Groups promote an inclusive and supportive work environment, support recruitment and retention of colleagues with diverse backgrounds, and enhance associates' professional and personal development. Members include associates from all levels of the organization with appointed senior-level sponsors. These groups have highly visible support and high levels of involvement from leadership.

Global & Regional Diversity Networks



The Global Women's Network (GLOW): Launched in 2019, GLOW's aim is to attract and develop future leaders through mentoring, sponsorship, networking, and a collaborative learning culture and enriching dialogue across the business. Since 2021, GLOW's membership has grown twelve-fold to over 500 members. In 2023, GLOW participated in the Women in Cleantech & Sustainability Talks, celebrated International Women's Day, engaged with local universities and youth on STEM, participated in career fairs, and enhanced women's professional and personal development through inspiring discussions and webinars with thought leaders from across the company, including the company's female Board members.

Sustainability Ambassadors: First Solar's global internal Sustainability Ambassadors program enables associates at various sites to identify and implement local sustainability initiatives, such as resource efficiency and reduce/reuse/recycle (3R) projects; educational and awareness-building workshops; site clean-ups; and local community outreach and volunteering. In 2023, our Sustainability Ambassadors organized local clean-ups, reduced waste and single-use plastic, turned used coffee grounds into fertilizer, collected more than 600 kilograms of fabric waste for recycling, organized a local blood drive in Vietnam, and diverted glass fines from landfill by recycling and transforming them into bricks — among many other initiatives.



RenewABLE: As a voluntary, employee-led group with a broad representation of abilities and backgrounds, RenewABLE focuses on collaborating, educating, and empowering employees to make First Solar a disability-friendly, accessible workplace. RenewABLE's goal is to provide cultural support to associates who were born with or have acquired a disability; who have child(ren) with disabilities; or who serve as a caregiver to adults with disabilities. In 2023, RenewABLE identified opportunities to improve accessibility at First Solar, shared tips on accessibility in technology for Global Accessibility Awareness Day, coordinated an annual disability etiquette training, sponsored a golf fundraiser for Avenues for Autism, volunteered to build a ramp with The Ability Center, participated as a featured employer in the Opportunities for Ohioans with Disabilities' Career Connection Showcase, hosted a lunch and learn for National Disability Employment Awareness Month in October, among other initiatives.

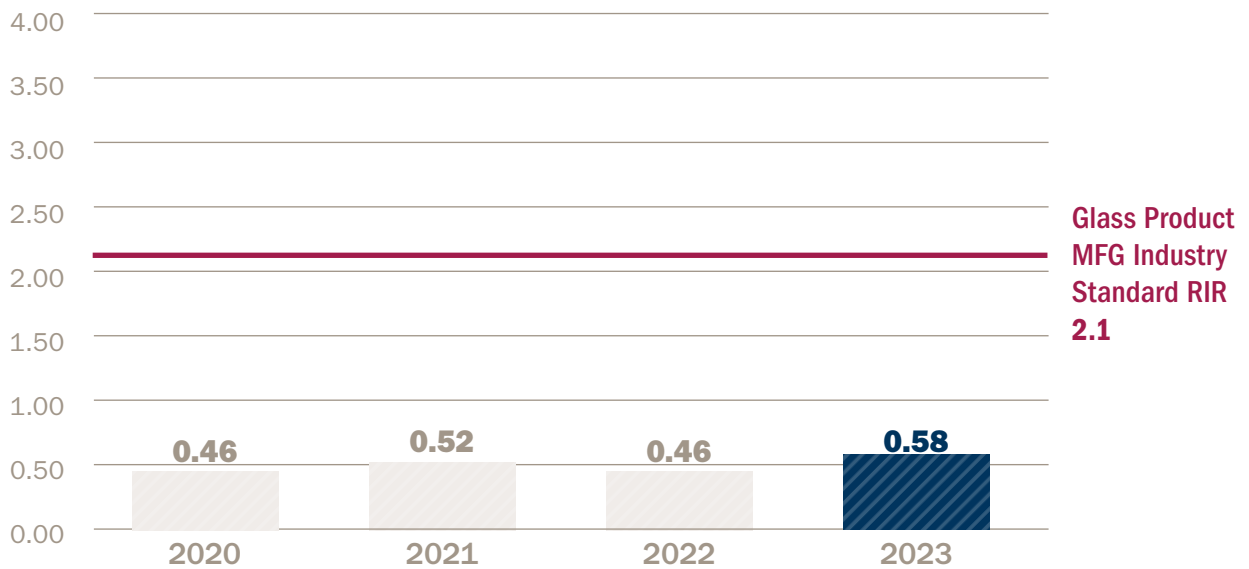
HEROES @ First Solar: In 2023, First Solar launched the HEROES @ First Solar Employee Resource Group. HEROES strives to create a safe space and a platform for the proud community of active military, veterans, and those who support military personnel (family, friends, colleagues), where they can connect, share experiences, and support one another. HEROES aims to build camaraderie through shared experiences, veteran recruitment, community engagement, professional growth, and retention.



Occupational Health and Safety

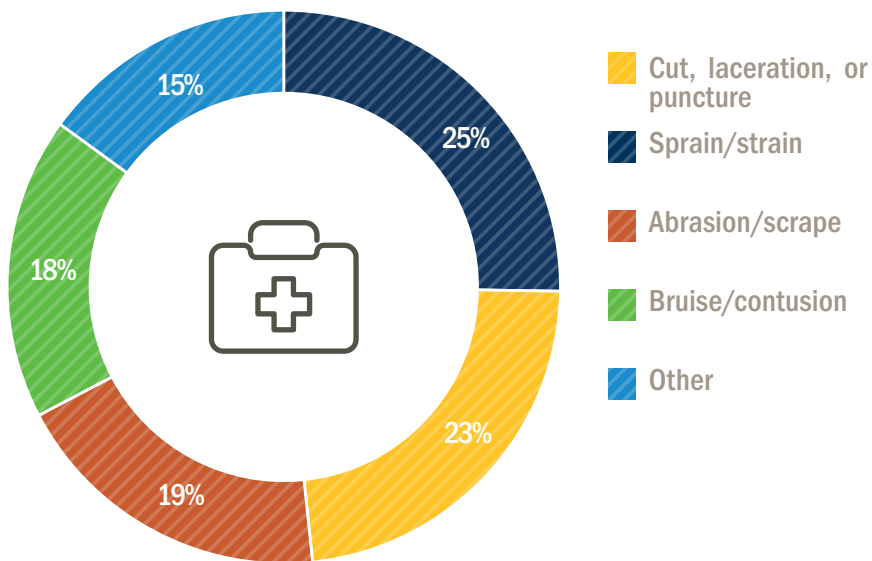
First Solar associates work in clean and safe high-tech environments, and our goal is to achieve an injury-free workplace. Since 2008, our recordable injury rate (RIR) has decreased by 77% (from 2.6) by establishing a strong safety culture throughout the company and ensuring an understanding of First Solar’s Safety Policies and Procedures. Our company-wide recordable injury rate is approximately four times lower than the glass-product manufacturing industry average. First Solar’s RIR includes all manufacturing, R&D, and office locations, calculated per 200,000 hours. An injury is considered recordable if it requires medical attention beyond first aid. First Solar’s manufacturing safety data covers all processes from the beginning of the manufacturing process to the finished module and includes all of the company’s manufacturing facilities in the US, Malaysia, Vietnam, and India. First Solar has established leading safety indicators that include Good Catch and Safety Walk and Talk (SWAT). Good Catch reporting increased 62% from 2022 to 2023. A SWAT encourages proactive one-on-one discussions between managers and associates on various safety topics. The number of SWATs has increased year over year since being introduced in 2010. A Good Catch is an observation regarding a safety improvement — either an unsafe act or condition. All associates are encouraged to report Good Catches to enhance our safety culture and proactively identify and reduce risk.

Recordable Injury Rate (per 200,000 hours)



All First Solar associates receive legally required health and safety training as well as routine refreshers on health and safety topics pertinent to their job requirements. First Solar requires all contractors to work under our safety policies, programs, and procedures. A full 100% of First Solar’s workforce and management team are represented by formal joint management/worker health and safety committees. Associates from all levels and functions can participate in these cross-functional safety committees, which meet on a regular basis to review incidents and implement corrective actions. The site safety committees report to the EHS Steering Committee on a quarterly basis or more frequently if needed.

Injuries by Type | 2023



Safety data includes all global manufacturing and offices.

First Solar’s safety management system hazard identification and risk assessment process identified the following hazards that have the potential for serious injury or fatality: confined space entry, electrical exposure and arc flash, line of fire, lock out/tag out, machine guards, vehicle collision, working with a suspended load, and working at heights. All incidents are reviewed and classified for the potential to result in a serious injury or fatality to track and analyze trends to avoid serious injuries. This also includes a proactive method to verify high risk activities have controls in place. We had no high-consequence work-related injuries or fatalities in 2023. First Solar has developed EHS Design Requirements for new equipment that includes equipment and machine safety requirements. Training and procedures are in place to identify and control potential hazards.

Global Charitable Giving Program

First Solar makes three kinds of donations as part of our Global Charitable Giving Program: corporate donations (i.e., donations made through the First Solar Corporate Charitable Fund), site donations (i.e., donations made through First Solar local offices and manufacturing sites), and business development donations (i.e., donations related to First Solar sales activities). First Solar donated more than \$520,000 in 2023 in total cash and in-kind contributions.

Global Charitable Giving Program	Type	2023
Manufacturing and Office Site Donations	Community	\$209,868
Business Development Donations	Community	\$184,250
Corporate Charitable Fund Donations	Corporate	\$126,400
	Total	\$520,518

Michigan Solar Car Race

In 2023 and 2024, First Solar sponsored the University of Michigan Solar Car Team in the American Solar Challenge. In 2024, the team defeated collegiate-level solar car teams from countries around the world to win the bi-annual competition in which teams design, build, and race solar-powered vehicles in a 1,500+ mile cross-country endurance rally across North America. The University of Michigan solar car team achieved first place, covering 2095.5 miles (3372 km) at 37.51 mph (60.3 kmph) over 8 days from Tennessee to Wyoming. First Solar proudly sponsored this student-run group composed of the next generation of talented engineers and entrepreneurs working towards a greener future.



We partner with NGOs to improve the quality of life in communities around the world to:

- Empower the next generation through education for sustainable development
- Ensure access to clean energy and water
- Reduce inequality through economic inclusion, diversity, and equal opportunity
- Promote a circular economy through sustainable production and responsible consumption

Corporate Giving Initiatives | 2023

NGO/PARTNER

Black Girls Do Engineer Corporation

Awarded a \$10,000 grant to support a Carbon Footprint Reduction Symposium in Houston, Texas, with industry professionals and nine chapters of BGDE. Attendees learned how to conduct research and present results at a collegiate level while learning about the importance of carbon footprint reduction. Some 60 attendees made presentations and the top three youth presenters received scholarships.



The 577 Foundation

Awarded a \$21,400 grant to support the Curiosity Shop in Toledo, Ohio, over two years. The shop seeks to improve the environment by diverting books and crafts from landfill.



NGO/PARTNER

Colorado State University

First Solar modules donated to provide sustainable energy for three Navajo Nation chapters (Alamo, Navajo Mountain, and Chilchinbeto)



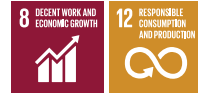
Glass City Community Solar

Awarded a \$15,000 grant to support the installation of First Solar-donated modules at Oak Openings Metropark in Swanton, Ohio, to help reduce the facility’s operating costs and educate the public about photovoltaic solar technology and its benefits.



Lott Industries, Inc.

Awarded a \$15,000 grant to support a Styrofoam recycling workforce development program in Ohio. As a result, Styrofoam recycling has increased at Lott Industries. Associates participated in 26 “Clean Toledo” events to collect Styrofoam from 500-700 individuals.



RE-volv

Awarded a \$35,000 grant to support and expand the collegiate [Solar Ambassador Fellowship program](#), a year-long program for college students who want to prepare for solar careers while helping a non-profit near their campus go solar. A total of 89 Ambassadors received a completion certificate by completing the Solar Ambassador Boot Camp, participating in monthly webinars and the Ambassador Leadership Summit, hosting at least three team events per month, and completing outreach at a local nonprofit.



Vietnam Children Fund

Awarded a \$30,000 grant for the construction of an energy-efficient school in Vietnam. The school, which serves 300 students, opened in February 2024.



Governance.



Board of Directors

First Solar's business is conducted under the oversight of our Board of Directors. The primary responsibility of the board is to oversee and review senior management's performance of First Solar's business operations. Our Board of Directors is composed of 10 directors, including eight independent directors and two non-independent directors, our Chair of the Board and our CEO. Each of the chairs of our board committees are held by an independent director. In 2021, the Board of Directors established the position of Lead Independent Director and adopted a Lead Independent Director Charter that set forth the duties and responsibilities of the position. Molly E. Joseph served as the Company's first Lead Independent Director from July 2021 until July 2023. On July 20, 2023, William J. Post was unanimously selected by the independent directors of the board of directors to succeed Ms. Joseph as Lead Independent Director for a one-year renewable term.

Pursuant to our nominating and governance committee Charter, the board and nominating and governance committee are committed to actively seek qualified women and minority candidates as part of the search process for new board members, and shall include at least one racially or ethnically diverse candidate in each search process for new members of the Board of Directors. First Solar provides enhanced disclosure regarding the skills and diversity of the members of our board in our [annual proxy statement](#).

For more information, please visit our website:

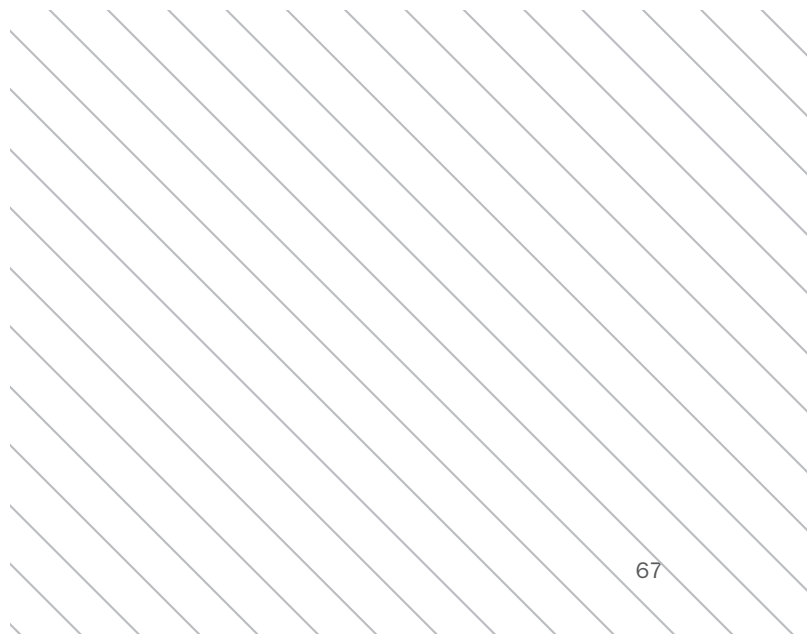
<http://www.firstsolar.com/en/About-Us/Leadership>

Executive Leadership Team

First Solar's CEO and executive leadership team are responsible for managing the company's day-to-day business operations, including the preparation of financial statements and short- and long-term strategic planning.

For more information, please visit our website:

<http://www.firstsolar.com/en/About-Us/Leadership>



Ethical Business Conduct

highest ethical standards in every area of our business — everywhere we do business. First Solar’s [Code of Conduct, Relentless Integrity: How We Conduct Business Ethically](#) demonstrates our commitment to this principle and guides the company’s business conduct. Our Code of Conduct applies to everyone, from members of the Board of Directors to our officers, associates, and valued partners. We have a longstanding commitment to conduct our business in compliance with applicable laws and regulations. This commitment — along with our culture of agility, collaboration, and accountability — defines our accepted behaviors and enables us to advance our mission to provide cost-advantaged solar technology through rigorous safety practices, innovation, customer engagement, industry leadership, and operational excellence. First Solar’s Chief Compliance Officer reports regularly to the Board of Directors and the Executive Leadership Team on the status of our ethical culture; and develops processes and procedures to further monitor and advance our ethics and compliance programs. First Solar maintains a mechanism for reporting any misconduct or policy violations via various channels, including our [Ethics Hotline](#). Any First Solar associate, supplier, or external stakeholder can report concerns free of any retaliation, discrimination, or harassment via our third-party operated Ethics Hotline, which provides an anonymous and confidential outlet for communicating any concerns regarding conduct.

Anti-Corruption

First Solar performs risk assessments that consider the possibility of fraud and related indicators. We currently operate in, and may expand into, many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. First Solar’s Global Anti-Corruption Policy requires all associates to comply with the US Foreign Corrupt Practices Act (FCPA) and all other applicable local anti-corruption laws. The Global Anti-Corruption Policy prohibits bribery, kickbacks, and the giving of other improper payments to obtain or retain business; and covers any person engaged to perform work on behalf of First Solar, including freelancers, independent contractors, temporary contractors, independent professionals, agents, and consultants. We communicate our anti-corruption and anti-bribery policies in our customer and service contracts. FCPA training is provided to associates in higher risk profile jobs and tailored according to the region. First Solar has implemented processes and procedures to help ensure compliance with all applicable anti-corruption laws. These processes and procedures are monitored and audited on an ongoing basis.

Public Policy

First Solar participates in the political process to help shape public policy, legislation and other governmental actions that are consistent with First Solar's business objectives and values. First Solar's VP of Global Policy, Marketing and Sustainability is part of the cross-functional ESG taskforce that is responsible for driving the company's approach to Responsible Solar, including public policy in alignment with the goals of the Paris Agreement among other topics. First Solar believes corporate participation in the public policy process is an important means of enhancing shareholder value and is fundamental to democratic societies.

In strict compliance with federal and state laws, First Solar makes bipartisan contributions to political candidates, organizations and initiatives that support public policy and sustainable market growth for First Solar's business, in line with our Corporate Political Engagement Policy. We believe that engaging in this manner is in the best interests of the Company. First Solar reviews potential contributions to candidates based on the totality of their positions on matters important to First Solar. Contributions made by First Solar or the First Solar PAC to an individual or political organization do not mean First Solar or its PAC support or agree with every position taken by contribution recipients on every issue.

Factors that may be considered in determining whether to support a candidate are:

- the geographical area of the candidate's representation;
- the candidate's position or voting record on key issues affecting our industry;
- the candidate's committee standing and ranking;
- the candidate's elected political leadership position and voting record; and
- whether the candidate is the most pro-business or pro-clean energy candidate in a given state or district.

Additionally, First Solar may make contributions for ballot initiatives that could affect our business operations. When First Solar makes these types of ballot initiative contributions, it does so to promote the interests of the Company.

Federal lobbying reports are available at: [Lobbying Disclosure, Office of the Clerk \(house.gov\)](#), [Home | Lobbying Disclosure \(senate.gov\)](#)



First Solar Political Action Committee

The First Solar Political Action Committee (“First Solar PAC”) was formed in 2010 to promote good citizenship and further business interests that are of concern to the Company. Funds in the First Solar PAC come directly from voluntary contributions from eligible associates and stockholders.

Beyond administrative support, as permitted under U.S. election laws, no corporate funds are used to support the First Solar PAC. The First Solar PAC’s activities are governed by a voluntary board consisting of First Solar executives (the “PAC Board”) that manages funds, approves budgets, and considers contributions to individual candidates.

Contributions to, and disbursements from, the First Solar PAC are regulated by federal and state laws and are managed by the PAC Board under guidelines governing its operations, including the selection and approval of contributions to candidates. Compliance and filings of the First Solar PAC are conducted by an outside firm.

The First Solar PAC may make bipartisan Contributions to candidates for federal office or to candidates for state office. Contributions from the First Solar PAC program generally support candidates, parties and/or committees whose views on specific issues are consistent with First Solar’s interests. First Solar PAC program contributions are made without regard to the private political preferences of the Company’s executive management team or any other Company executive.

Participation in Trade Associations and Independent Groups in the US

Like many major corporations, First Solar is a member of various industry trade organizations in the United States. Many of these organizations engage in lobbying activities, and some operate their own political action committees.

First Solar may not necessarily agree with every position taken by each organization of which it is a member or of the other members of such organizations, but believes that, on balance, membership in and contributions to such organizations are consistent with promoting public policy aligned with the Company’s overall business objectives.

In instances where the Company disagrees with its trade groups, or other trade group member companies, First Solar expects that the associates representing First Solar share the Company’s positions in a constructive manner, working within the organization’s structure toward greater alignment on policy issues important to First Solar and our stakeholders.

First Solar regularly evaluates its trade association memberships.

2023 Political Contributions

First Solar's political engagement in 2023 primarily focused on working toward our policy objectives including strategies to level the playing field for US solar manufacturing.

2023 First Solar Political Action Committee Contributions to Federal Candidates

Federal Candidate	Candidate Office	Full Year 2023 Contributions
Sherrod Brown	US Senate	\$2,000
Ron Wyden	US Senate	\$1,000
Jason Smith	US House of Representatives	\$1,000
Bill Posey	US House of Representatives	\$1,000
Marcie Kaptur	US House of Representatives	\$1,500

2023 First Solar Political Action Committee Contributions to State Candidates

State Candidate	Candidate Office	Full Year 2023 Contributions
n/a	n/a	n/a

2023 First Solar Corporate Contributions to Political Action Committees

Recipient	Full Year 2023 Contributions
Future Forward USA Action	\$200,000

Collective Bargaining and Freedom of Association

In 2023, 19% of our associates were covered by a collective bargaining agreement. Other than our associates in Vietnam and Sweden, none of our associates are currently represented by labor unions or covered by a collective bargaining agreement. Our associates in Vietnam are represented by the Vietnam General Confederation of Labor; and our associates in Sweden are represented by the Engineers of Sweden. First Solar recognizes that in the locations where we operate, employees have the right to freely associate or not associate with third-party labor organizations, along with the right to bargain or not bargain collectively in accordance with local laws. First Solar respects those rights and is committed to creating an environment of open, two-way communication where employees can speak with their managers about their ideas, concerns, or problems, and work together to address workplace issues.

Cybersecurity and Data Privacy

First Solar maintains a cyber risk management program designed to identify, assess, and manage cybersecurity risks. The underlying controls of the cyber risk management program incorporate best practices and standards for cybersecurity, including guidance from the National Institute of Standards and Technology (NIST) Cybersecurity Framework. Our cyber risk management program includes various risk assessments that are completed on a regular basis, including architectural and technical assessments with third-party experts; internal and external penetration testing with third-party service providers; continuous cyber risk register reviews; and risk prioritization with our executive officers. The identification of cybersecurity risks is aided by a technical toolset as well as threat-hunting and counterintelligence services provided by third-party service providers. We conduct annual audits and testing of our information security and data privacy programs, as well as engaging external partners periodically. As a result of these practices and ongoing monitoring, First Solar has not experienced an information security breach in the last three years. Our associates engage in annual cybersecurity training and periodic phishing simulation exercises with targeted training. A formal cyber communication cadence provides topical awareness on a monthly basis (or more frequently). The Head of Information Security oversees the Information Security team, which assesses and manages cybersecurity risks at First Solar as part of our information security program. The Head of Information Security reports to the Chief Information Officer and regularly briefs the Chief Financial Officer and the Audit Committee of the board of directors on cybersecurity matters.

First Solar is committed to complying with all data protection and privacy laws applicable to our business. First Solar's global data protection compliance program operates as part of our global compliance program. The company's Global Data Protection Policy establishes minimum standards that First Solar and our subsidiaries must apply to personal data on a company-wide basis. All First Solar associates are required to comply with our Global Data Protection Policy, including by ensuring that they have completed the requisite training to enable them to do so. Non-compliance with this policy may lead to disciplinary action, up to and including dismissal or contract termination. First Solar conducts periodic and as-needed training regarding the lawful and intended purposes of processing personal data; the need to protect and keep information accurate and up-to-date; and the need to maintain the confidentiality of the data to which associates have access. Confidential information-protection training is regularly provided to associates who have access to personally identifiable information, reside in certain jurisdictions, or have privileged access.

ESG Recognition and Awards

- **2024: America’s Most Responsible Companies - Newsweek and Statista**
#2 in the Energy and Utilities industry
- **2024: Global 100 Most Sustainable Corporations Driving the Green Transition - Corporate Knights**
#34 out of 6,733 global public companies with at least \$1 billion in revenue
- **2023: A- (Leadership) — CDP Climate Change and CDP Water Security**
Leadership band represents companies implementing current best practices
- **2023: FTSE4Good Index Series**
In recognition of the company’s strong ESG practices
- **2023: AA (Leader) Rating — MSCI ESG Research**
Highest rating in the solar industry
- **2023: “Prime” Rating - Institutional Shareholder Service ESG**
Demonstrating best-in-class environmental, social, governance performance
- **2023: Low Risk” ESG Rating - Sustainalytics**
In recognition of company's strong overall management of material ESG issues
- **2022: Best ESG Companies of 2022 — Investor’s Business Daily**
#6 in Energy category and #6 Overall Leader for commitment to sustainable and ethical business practices
- **2022: Productivity-Linked Wage Systems Award- Malaysia Human Resources Minister**
Winner of the large company category
- **2022: Global Challenges Index**
Among 50 companies making pioneering contributions to overcome global challenges such as climate change, the provision of clean drinking water, deforestation, biodiversity, population development, poverty and global governance
- **2021: Ohio EPA Encouraging Environmental Excellence PLATINUM Award**
Most prestigious environmental recognition in Ohio
- **2021: Department of Natural Resources and Environment HCMH Environment Award**
First Solar Vietnam achieved 3rd place in recognition of its efforts to protect the environment
- **2020: Kedah Department of Environment State Environmental Excellence Award**
In recognition of First Solar Malaysia’s leadership and manufacturing operations



FTSE4Good



External Sustainability Initiatives

- **Carbon Disclosure Project (CDP):** First Solar has participated in and publicly reported to CDP since 2011.
- **Climate Leadership Council:** As a founding member, First Solar supports the Climate Leadership Council's mission and carbon dividends plan as a cost-effective, equitable and politically viable climate solution. The plan calls for a substantial, gradually rising, revenue-neutral carbon tax with the revenue distributed to citizens.
- **EPEAT:** First Solar is a member of the EPEAT Advisory Council, a non-fiduciary body formed to provide input and advice to EPEAT management. EPEAT is a globally recognized Type 1 Ecolabel that enables public and private purchasers to identify environmentally leading products from socially responsible companies. The EPEAT PV modules and inverters category was introduced in October 2020.
- **International Energy Agency (IEA) Photovoltaic Power Systems Program Task Committees 12:** As a member of Task 12, First Solar promotes international collaboration on PV safety and sustainability.
- **International Renewable Energy Agency (IRENA):** First Solar is a founding member of IRENA's multi-stakeholder Coalition for Action, which works to dispel common misperceptions and factual inaccuracies about renewable energy.
- **RE100:** First Solar joined RE100 in 2020 and committed to powering our global operations with 100% renewable energy by 2028. RE100 is a global initiative dedicated to accelerating the shift to zero-carbon grids, led by The Climate Group in partnership with CDP.
- **Responsible Business Alliance (RBA):** First Solar joined the RBA in 2021 as a regular member to build on our track record of responsible sourcing. The RBA is the world's largest industry coalition dedicated to supporting the rights and well-being of workers and communities in the global supply chain. First Solar is the first of the world's largest top ten PV manufacturers to join the RBA.
- **Ultra Low-Carbon Solar Alliance (ULCSA):** First Solar is a founding member of the ULCSA, an alliance of companies across the solar PV value chain committed to expanding market awareness and deployment of ultra low-carbon PV to accelerate reductions in solar supply chain GHG emissions.
- **Beyond the Megawatt:** First Solar is a foundational funder of the Clean Energy Buyers Institute's Beyond the Megawatt initiative, which aims to decarbonize the economy by driving resilient, equitable, and environmentally sustainable energy systems for the benefit of all.

About this Report.



About this Report

First Solar's Sustainability Report was developed in accordance with the Global Reporting Initiative's (GRI) Sustainability Reporting Standards and references the European Sustainability Reporting Standards (ESRS). This report covers significant economic, social, and environmental impacts associated with our global manufacturing, R&D, and recycling operations. Unless otherwise specified, this report includes environmental performance data from all of First Solar's manufacturing plants and our R&D facility in Santa Clara. First Solar's manufacturing data covers all processes (from the beginning of the manufacturing process to the finished module) and includes all of the company's manufacturing facilities in the US, Malaysia, Vietnam, and India. First Solar's advanced thin film modules are manufactured in a high-throughput, automated environment that integrates all manufacturing steps into a continuous flow operation under one roof. The reporting period spans Jan. 1, 2023 up to and including Dec. 31, 2023. We have not sought third-party verification for this report; however, our greenhouse gas emissions inventories of scope 1 and scope 2 sources were externally verified in 2024 with limited assurance. First Solar's GHG emissions inventory is externally verified on an annual basis with the International Standard ISO 14064 Part 3 (ISO 14064-3) as well as the WRI/WBCSD GHG Protocol.

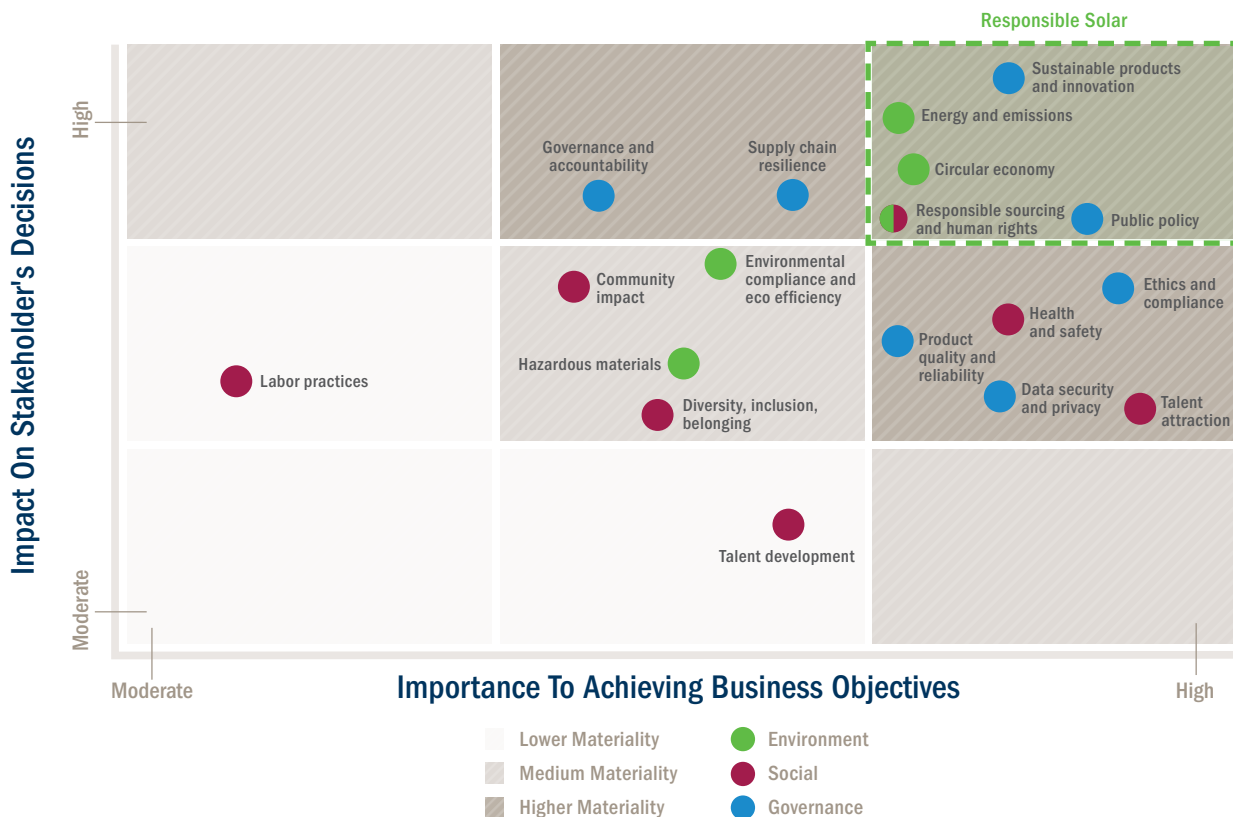
To provide feedback on our Sustainability Report, please contact:

Sustainability@firstsolar.com



Sustainability Materiality Assessment

As part of our stakeholder mapping and materiality assessment process, First Solar conducts a survey with our external-facing departments including business development, government affairs, and investor relations, to identify key aspects that significantly impact our company and our stakeholders, both within and outside our organization. First Solar’s stakeholders were prioritized according to their ability to significantly influence or be significantly impacted by our company. Our 2023 sustainability materiality assessment builds on the results from our 2020 survey and interviews with internal and external stakeholders including associates, management, customers and investors. In addition to the survey results and interviews, we leverage the PV industry’s sustainability leadership standard (NSF/ANSI 457 – 2019) which identified relevant corporate reporting criteria for the PV industry through a multi-stakeholder process led by NSF International and the Global Electronics Council. As part of our efforts to move towards more dynamic materiality assessments, First Solar’s ESG focus leaders and other internal experts review and refresh the company’s materiality map on a biannual basis. This cross-functional ESG taskforce is also responsible for identifying strategic ESG risks, opportunities, gaps and challenges, anticipating ESG trends that could impact the company, and proposing new ESG policies, practices, targets, metrics and disclosures. The material topics were mapped out based on their importance to First Solar’s business objectives and their impact on stakeholders’ decisions. The material topics included in the upper right quadrant represent First Solar’s approach to Responsible Solar which helps to competitively differentiate the company and create long-term value.



Stakeholder Engagement

First Solar engages with various stakeholder groups including employees, customers, industry associations, NGOs, local communities, scientific organizations, media, investors and stockholders. The following chart depicts First Solar’s approach to stakeholder engagement; including frequency of engagement by type and stakeholder group, along with key topics and concerns raised:

Stakeholder Groups	How We Engage	Engagement Frequency	Key Topics and Concerns
Employees	Training Sessions, Meetings, Newsletters, Surveys, Global Webcasts and Town Halls, Sustainability Ambassador program	Daily, ongoing basis	<ul style="list-style-type: none"> • Circular Economy • Community Impact • Energy & Emissions • Environmental compliance & eco-efficiency • Labor practices • Talent attraction & retention • Training & education
Customers/ Technical Advisors	Meetings, Seminars & Conferences, Technical Workshops, Product Presentations	Ongoing basis	<ul style="list-style-type: none"> • Circular economy • Data security & privacy • Economic performance • Energy & emissions • Environmental compliance & eco-efficiency • Hazardous materials • Public policy • Quality & reliability • Responsible sourcing & human rights • Sustainable products & innovation
Investors/ Stockholders	Meetings, Earnings Calls, Analyst Days, ESG engagement calls	Quarterly/ annually, ongoing basis	<ul style="list-style-type: none"> • Economic performance • Energy & emissions • Inclusion, diversity & belonging • Governance & accountability • Labor practices • Responsible sourcing & human rights
Local Communities	Meetings & Town Councils, Presentations to Community Organizations, School Visits, Local Tours, Training Programs	Ongoing basis	<ul style="list-style-type: none"> • Circular economy • Community Impact • Environmental compliance & eco-efficiency • Health & safety • Job creation • Quality & Reliability
Government/ Regulators	Meetings & Hearings, Conference Presentations, Seminars & Workshops, Committees, Tax Audits	Ongoing basis	<ul style="list-style-type: none"> • Circular economy • Community Impact • Economic performance • Energy & emissions • Environmental compliance & eco-efficiency • Ethics & compliance • Hazardous materials • Public policy • Quality & reliability

Stakeholder Groups	How We Engage	Engagement Frequency	Key Topics and Concerns
NGOs	External Surveys, Partnerships, Group Meetings, Workshops, standards development	Ongoing basis, annually	<ul style="list-style-type: none"> • Circular economy • Community impact • Environmental compliance & eco-efficiency • Hazardous materials • Health & safety • Job creation • Labor practices • Responsible sourcing & human rights • Sustainable products & innovation
Scientific Community	Conferences, Workshops, Meetings, Working Groups, Technical Seminars, Collaboration, Peer Reviews, standards development	Ongoing basis, annually	<ul style="list-style-type: none"> • Circular economy • Energy & emissions • Environmental compliance & eco-efficiency • Health & safety • Raw material availability • Responsible sourcing & human rights

Key Performance Indicators

Key Performance Indicators	2022	2023	Boundary	GRI	SASB	NSF 457	CSRD
Net Sales (\$ Billion)	2.6	3.3	Global (Equity Share)	102-7			SBM-1
Total Modules Produced (Millions)	19.6	25.2	Manufacturing	102-7		11.2.1	SBM-1
Total Gigawatts Produced (GW)	9.1	12.1	Manufacturing	102-7	RR-ST-000.A	11.2.1	SBM-1
Current and Future Revenue from Activities Aligned with EU Taxonomy (%)	100%	100%	Global	--			SBM-1
Total Energy Consumption (MWh)	1,072,663	1,449,109	Global (Equity Share)	302-1			E1-5
Energy intensity per revenue (MWh/ \$ revenue)	0.00041	0.00044	Global	302-3			E1-5
Total Electricity Consumption (MWh)	1,039,836	1,392,240	Global (Equity Share)	302-1			E1-5
Consumption of Purchased Non-Renewable Electricity (MWh)	1,032,664	1,384,708	Global (Equity Share)	302-1			E1-5
Consumption of Self-Generated Renewable Electricity- Solar (MWh)	7,172	7,532	Manufacturing and Recycling	302-1	RR-ST-130a.1		E1-5
Share of grid electricity in total energy consumption (%)	96%	96%	Global (Equity Share)	--			E1-5
Share of renewable sources in total energy consumption- onsite solar (%)	1%	1%	Global (Equity Share)	--			E1-5
Total Fuel Consumption from Non-Renewable Sources (MWh)	32,827	56,869	Global (Equity Share)	302-1			E1-5
Natural Gas	29,749	56,078	Global (Equity Share)	302-1			E1-5
Diesel/Gas oil	482	636	Global (Equity Share)	302-1			E1-5
Motor Gasoline	2596	155	Global (Equity Share)	302-1			E1-5
Manufacturing Energy Consumption (MWh)	1,016,560	1,376,981	Manufacturing	--	RR-ST-130a.1	11.2.1	E1-5
Manufacturing Energy Intensity (kWh per watt produced)	0.11	0.11	Manufacturing	302-3		11.2.1	E1-5
Total Scope 1 and 2 GHG Emissions (Metric Tons CO ₂ eq)	571,343	788,140	Global (Equity Share)	305-1 & 2			E1-6
Scope 1 GHG Emissions (Metric Tons CO ₂ eq)	7,690	11,638	Global (Equity Share)	305-1		11.2.1	E1-6
Scope 2 GHG Emissions- market-based (Metric Tons CO ₂ eq)	563,652	776,502	Global (Equity Share)	305-2		11.2.1	E1-6

Key Performance Indicators	2022	2023	Boundary	GRI	SASB	NSF 457	CSRD
Scope 2 GHG Emissions- location-based (Metric Tons CO ₂ eq)	605,714	793,171	Global (Equity Share)	305-2		11.2.1	E1-6
Scope 3 GHG Emissions (Metric Tons CO ₂ eq)	2,679,637	3,660,151	Supply Chain	305-3			E1-6
GHG intensity per net revenue (scope 1 and 2 tCO ₂ e/ \$ revenue)	0.00022	0.00024	Global	305-4			E1-6
GHG Intensity (Scope 1 and Scope 2 Metric Tons CO ₂ per Megawatt Produced)	63	65	Global (Equity Share)	305-4		11.2.2	E1-6
Reduction of Scope 1 GHG emissions (metric tons CO ₂ eq)	0	0	Global (Equity Share)	305-5			E1-7
Reduction of Scope 2 GHG emissions (metric tons CO ₂ eq)	2,254	7,779	Global (Equity Share)	305-5			E1-7
Total Waste Generation (Metric Tons)	48,210	52,471	Manufacturing	306-3		11.2.1	E5-5
Non-Hazardous Waste Generated (Metric Tons)	43,351	46,865	Manufacturing	306-3			E5-5
Hazardous Waste Generated (Metric Tons)	4,859	5,606	Manufacturing	306-3			E5-5
Total Waste Diverted from Disposal	40,907	45,575	Manufacturing	306-4			E5-5
Non-Hazardous Waste Diverted from Disposal (Metric Tons)	40,368	44,697	Manufacturing	306-4			E5-5
Recycled Non-Hazardous (Metric Tons)	39,318	42,589	Manufacturing	306-4		11.2.1	E5-5
Reused Non-Hazardous (Metric Tons)	1,004	2,108	Manufacturing	306-4			E5-5
Non-Hazardous Waste Recovered by Other Operations (Metric Tons)	46	n/a	Manufacturing	306-4			E5-5
Hazardous Waste Diverted from Disposal (Metric Tons)	539	878	Manufacturing	306-4			E5-5
Recycled Hazardous (Metric Tons)	438	541	Manufacturing	306-4	RR-ST-150a.1	11.2.1	E5-5
Hazardous Waste Reused (Metric Tons)	45	82	Manufacturing	306-4			E5-5
Hazardous Waste Recovered by Other Operations (Metric Tons)	56	255	Manufacturing	306-4			E5-5
Waste Directed to Disposal (Metric Tons)	7,303	6,895	Manufacturing	306-5			E5-5
Disposed Non-Hazardous Waste (Metric Tons)	2,983	2,168	Manufacturing	306-5		11.2.1	E5-5
Non-Hazardous Waste landfilled (Metric Tons)	2,342	1,735	Manufacturing	306-5			E5-5
Non-Hazardous Waste Incinerated	641	217	Manufacturing	306-5			E5-5
Non-Hazardous Waste Disposed via other Disposal Operations	0	216	Manufacturing	306-5			E5-5

Key Performance Indicators	2022	2023	Boundary	GRI	SASB	NSF 457	CSRD
Disposed Hazardous (Metric Tons)	4,320	4,728	Manufacturing	306-5	RR-ST-150a.1	11.2.1	E5-5
Hazardous Waste Landfilled (Metric Tons)	1,393	3,074	Manufacturing	306-5			E5-5
Hazardous Waste Incinerated (Metric Tons)	2,924	1,651	Manufacturing	306-5			E5-5
Hazardous Waste Disposed by Other Disposal Operations (Metric Tons)	3	3	Manufacturing	306-5			E5-5
Manufacturing Waste Intensity (Grams per Watt Produced)	5.3	4.3	Manufacturing	--			-
Total Water Withdrawals (Megaliters)	3,149	3,859	Manufacturing, Recycling and R&D	303-3	RR-ST-140a.1	11.2.1	E3-4
Manufacturing Water Intensity (Liters per Watt Produced)	0.33	0.31	Manufacturing	--			E3-4
Total Water Recycled or Reused (Megaliters)	169	318	Manufacturing, Recycling and R&D	--		11.2.2	E3-4
Water withdrawn in water stressed areas (%)	0.02%	8%	Manufacturing, Recycling and R&D	303-3	RR-ST-140a.1	11.2.2	E3-4
Total Wastewater Discharge (Megaliters)	1,373	1,701	Manufacturing, Recycling and R&D	303-4			E3-4
Wastewater Generation Intensity (Liters per Watt produced)	0.15	0.14	Manufacturing, Recycling and R&D	--			-
Total Number of Associates	5,532	6,957*	Global	102-7			S1-6
Total Number of Associates by Country		United States: 2,834 Malaysia: 1,760 Vietnam: 1,303 India: 977 Other: 83	Global				S1-6
% Male Workforce	79%	76%	Global	405-1			S1-6
% Female Workforce	21%	24%	Global	405-1			S1-6
Workforce by age- % under 30 years old		35%	Global	405-1			S1-9
Workforce by age- % 30-50 years old		56%	Global	405-1			S1-9
Workforce by age- % over 50 years old		9%	Global	405-1			S1-9

* Includes full-time, part-time, and temporary employees as well as interns.

Key Performance Indicators	2022	2023	Boundary	GRI	SASB	NSF 457	CSRD
Unadjusted Male-Female Pay Gap (%)	0%	0%	Global				S1-16
% Women on the Board	25%	25%	Board	405-1			S1-9
First Solar Global Recordable Injury Rate (per 200,000 hours)	0.46	0.58	Global	403-9		11.2.1	S1-14
Number of Recordable Work-Related Injuries	27	42	Global	403-9			S1-14
First Solar Manufacturing Recordable Injury Rate (per 200,000 hours)	0.45	0.69	Global				S1-14
First Solar Global Lost Time Injury Rate (per 200,000 hours)	0.14	0.14	Global	403-9			S1-14
Number and Rate of Work-Related Fatalities	0	0	Global	403-9		11.2.1	S1-14
Number and Rate of High-Consequence Work-Related Injuries	0	0	Global	403-9			S1-14
Number of cases of First Solar work-related ill-health	0	0	Global	403-10			S1-14
Total Hours Worked	11,633,177	14,476,363	Global	403-9			S1-14
ISO 14001 Certification of Mfg. %	100%	100%	Global	--			E1-7
ISO 45001 Certification of Mfg. %	100%	100%	Global	--			S1-1
PV panel recycling program in place	Yes	Yes	Global	--		11.2.2	E5-3

TCFD Index

TCFD Framework	References	Summary of alignment with the Task Force on Climate-related Financial Disclosures (TCFD)
GOVERNANCE		
Board's oversight of climate-related risks and opportunities	Sustainability report: ESG Governance	First Solar has fully integrated ESG oversight, which includes climate-related issues, at the executive and board levels. The Board's nominating and governance committee takes an active role in reviewing and overseeing the company's climate change goals and strategy, monitoring progress on environmental targets.
Management's Role	Sustainability report: ESG Governance	First Solar's Chief Executive Officer has overall responsibility for climate-related issues within the company and leads the company's ESG Steering Committee which consists of the company's Executive Leadership Team. Members of the ESG Steering Committee hold operational responsibility for climate change actions and other ESG priorities which are driven by a cross-functional taskforce of ESG focus leaders.
STRATEGY		
Climate-related risks and opportunities the organization has identified over the short, medium and long term	Sustainability report: ESG Risk Management; 2023 CDP Climate Change response	First Solar's risk management process considers risks and risk trends over a 5-year horizon. We use forward-looking scenario analyses in considering climate-related risks and opportunities over a medium-term (5-10 years) and long-term (10-30 years) horizon.
Impact of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning	Sustainability report: ESG Risk Management; 2023 CDP Climate Change response	<p>Both climate change risks and opportunities have influenced our business, strategy, and financial planning. We are focused on minimizing risks for our factory locations and supply chain as it relates to the dollars that we are putting to work in manufacturing capex. Increases in the cost of electricity to power our manufacturing facilities (direct costs) or impacts to our supply chain which increase the cost of raw materials (indirect costs) can be impacted by climate change. As part of our own mitigation strategy, we committed to being powered by 100% renewable electricity.</p> <p>The demand for our solar products is driven by climate mitigation strategies, With 28.3 GW of net bookings in 2023 and an additional backlog of approximately 74.6 as of the end of June 2024.</p>
Resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario	2023 CDP Climate Change response	We derive 100% of our revenues from clean energy products. Our commitment to Responsible Solar drives our company's ESG strategy and differentiation and is interwoven into every aspect of our business and product lifecycle- from raw material sourcing to end-of-life recycling.

TCFD Framework	References	Summary of alignment with the Task Force on Climate-related Financial Disclosures (TCFD)
RISK MANAGEMENT		
Organization's processes for identifying and assessing climate-related risks	Sustainability report: ESG Risk Management; 2023 CDP Climate Change response	We evaluated climate-related physical and transition risks using possible projections under a 1.5-degree Celsius, 2-degree Celsius, and 3-degree Celsius.
Organization's processes for managing climate-related risks	Sustainability report: ESG Risk Management; 2023 CDP Climate Change response	A risk balancing assessment is implemented to evaluate the impact of risks in the company's operating and monetization model, and to determine which risks to mitigate, transfer, accept or control, and how.
How processes for identifying, assessing, and managing climate-related risks are integrated into the organization's overall risk management	Sustainability report: ESG Risk Management; 2023 CDP Climate Change response	First Solar's enterprise risk management process leverages existing functional operating systems and embedded risk management activities to manage risks within each domain. A cross-functional ESG taskforce, consisting of ESG focus leaders and other internal experts, is responsible for identifying strategic ESG risks and opportunities (including transitional and physical climate-related risks and opportunities), gaps and challenges, anticipating ESG trends that could impact the company, and proposing new ESG policies, practices, targets, metrics and disclosures.
METRICS AND TARGETS		
Metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Sustainability report: Environmental metrics; 2023 CDP Climate Change response	First Solar incentivizes associates across the company to manage climate-related issues and make progress against its energy and GHG targets. Our corporate bonus and Executive Performance Equity Plan (long-term incentive) includes metrics on sustainable products and innovation.
Scope 1, Scope 2, and Scope 3 GHG emissions	Sustainability report: Key performance indicators; 2023 CDP Climate Change response	First Solar has participated in and publicly reported to CDP since 2011. We also report our scope 1, scope 2, and scope 3 GHG emissions in the KPI chart in our sustainability report.
Targets used by the organization to manage climate-related risks and opportunities and performance against targets	Sustainability report: Environmental Targets	<p>In line with limiting the global temperature rise to 1.5 degrees Celsius above pre-industrial levels, we have set science-based targets to:</p> <ul style="list-style-type: none"> • Reduce absolute scope 1 and scope 2 GHG emissions by 34% by 2028 and 95% by 2050 • Reduce scope 3 GHG emissions intensity from purchased goods and services by 45% per MW produced by 2028, • Reduce scope 3 GHG emissions from purchased goods and services, capital goods, and fuel- and energy-related activities by 97% per MW produced, and • Achieve Net-Zero GHG emissions by 2050, relative to 2020. <p>Our net-zero target was validated by the Science Based Targets initiative (SBTi) in 2023.</p>

GRI Content Index

GRI Standards	CSRD	General Disclosures	Cross-Reference
2-1		Organization details	First Solar Inc. 350 W Washington St #600, Tempe, AZ 85288, United States
2-2	BP-1	Entities included in the organization's sustainability reporting	Annual Report and 10-K
2-3		Reporting period, frequency and contact point	January 1, 2023 – December 31, 2023 Sustainability@firstsolar.com
2-4	BP-2	Restatements of Information	Our 2022 waste metrics were updated to include glass cullet from our recycling process. As a result, our manufacturing waste intensity increased from 4.8 to 5.3 grams per watt produced in 2022.
2-5	BP-1	External Assurance	About this Report
2-6	SBM-1	Activities, value chain, and other business relationships	Annual Report and 10-K; Supply Chain Overview
2-7	SBM-1, S1-6	Employees	Working at First Solar
2-9	GOV-1	Governance structure and composition	Governance; Proxy Statement
2-10		Nomination and selection of the highest governance body	Proxy Statement
2-11	GOV-1	Chair of the highest governance body	Proxy Statement
2-12	GOV-2	Role of the highest governance body in overseeing the management of impacts	ESG Strategy and Risk Management
2-13	GOV-2	Delegation of responsibility for managing impacts	ESG Strategy and Risk Management
2-14	GOV-5	Role of the highest governance body in sustainability reporting	ESG Strategy and Risk Management
2-15		Conflict of interest	Proxy Statement
2-16	S1-3; S2-3	Communication of critical concerns	Ethics Hotline
2-17	GOV-1	Collective knowledge of the highest governance body	Proxy Statement; Governance
2-18	GOV-2	Evaluation of the performance of the highest governance body	Proxy Statement
2-19	GOV-3	Remuneration Policies	Proxy Statement
2-20	GOV-3	Process to determine remuneration	Proxy Statement
2-21	S1-16	Annual Total Compensation Ratio	Proxy Statement
2-22	SBM-1	Statement on Sustainable Development Strategy	Message from the CEO

GRI Standards	CSRD	General Disclosures	Cross-Reference
2-23	GOV-4	Policy commitments	Human Rights Standards and Commitments; Ethical Business Conduct
2-24	GOV-2	Embedding policy commitments	Human Rights Standards and Commitments; Ethical Business Conduct
2-25	S1-S4	Processes to remediate negative impacts	Responsible Sourcing
2-26	S1-3; S2-3	Mechanisms for seeking advice and raising concerns	Engagement and Inclusion; Responsible Sourcing; Ethics Hotline
2-27	SBM-3	Compliance with laws and regulations	Ethical Business Conduct
2-28		Membership Associations	CDP Climate Change Response
2-29	SBM-2	Approach to stakeholder engagement	Stakeholder Engagement
2-30	S1-8	Collective bargaining agreements	Collective Bargaining and Freedom of Association
3-1	IRO-1	Process to determine material topics	Materiality Assessment; ESG Strategy; ESG Risk Management
3-2	SBM-3	List of material topics	Materiality Assessment
3-3	IRO-2	Management of material topics	ESG Strategy; ESG Risk Management
	DC-P	Policies adopted to manage material sustainability matters	https://www.firstsolar.com/en/Resources/Sustainability-Documents?ty=Policies&re=&ln=
	DC-A	Actions and resources in relation to material	Environmental Metrics; Social Responsibility; Responsible Supply Chain Management
	DC-M	Metrics in relation to material sustainability matters	Environmental Metrics
	DC-T	Tracking effectiveness of policies and actions through targets	Environmental Targets; Proxy Statement

GRI Standards	CSRD	Material Topics	Cross-Reference
3-3	E1-1	Transition plan to reach climate neutrality by 2050	Path to Net Zero
305-5	E1-4	GHG emission reduction targets	Environmental Targets; Path to Net Zero
302-1	E1-5	Energy consumption within the organization	Key Performance Indicators
305-1	E1-6	Direct Scope 1 GHG Emissions	Key Performance Indicators
305-2	E1-6	Energy indirect (Scope 2) GHG emissions	Key Performance Indicators
305-3	E1-6	Other indirect (Scope 3) GHG emissions	Key Performance Indicators
305-4	E1-6	GHG Emissions Intensity	Environmental Metrics and Targets; Key Performance Indicators
	E1-7	GHG Emissions Reductions	Key Performance Indicators; Key Performance Indicators
	E1-9	Exposure of the benchmark portfolio to climate-related physical risks	ESG risk management; CDP Climate Change Response
306-2	E2-5	Waste by type and disposal method	Key Performance Indicators
301-2	E5-2	Sustainable Products and Innovation	About First Solar
301-2	E5-2	Circular Economy	About First Solar
303-3	E3-1	Water Withdrawal	Environmental Metrics; Key performance Indicators
308-1 414-1	S2-1	Responsible Sourcing and human rights	Responsible Supply Chain Management
415-1	GOV-4	Public Policy	Public Policy
403	S1-14	Health and Safety	Occupational Health and Safety
405-2	S1-16	Remuneration metrics	Key Performance Indicators; Proxy Statement
401	S1-1	Talent Attraction	Working at First Solar
418	S4	Data Security and Privacy	Data Security and Privacy
	SBM-3	Product Quality and Reliability	
308, 414	S2	Supply Chain Resilience	Responsible Supply Chain Management
	E2, E1-1	Environmental compliance and eco efficiency	Design for Sustainability
413	S3	Community Impact	Social Responsibility
403-2	E5-5	Hazardous materials	Environmental Metrics and Targets
405	S1-9	Diversity, Inclusion and Belonging	Inclusion, Diversity & Belonging
404	S1-13	Talent Development	Working at First Solar
402	S1-1	Labor Practices	Working at First Solar



First Solar

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