



## FIRST SOLAR (NASDAQ: FSLR)

Recommendation: LONG

Current Price: 245.84 *(Closing Price on 20.11.2025)*

Blended Target Price: 359.12 (41.94%)

Team Members: Alex Brown, Fleur Brinkmann, Junhao He, Joe Xu, Michael Kerins, Yifei Wang

IC: Mias Erni

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# Long First Solar | Policy-Protected Market Leader With Multi-Year Margin Expansion Still Underpriced

We propose a long position in First Solar (FSLR), supported by structural policy tailwinds, a durable technology moat, and multi-year margin expansion

First Solar is the leading U.S.-based solar manufacturer with a fully domestic, FEOC-compliant supply chain and differentiated CdTe thin-film technology

Despite strong historic share performance, we believe key catalysts remain underpriced, providing further upside potential from current share price of \$245.9 (closing price 20.11.2025) to **\$359.1 by 2028 in our base case, representing a 46.13% upside**

## Narrative

### 1 Thesis 1 Undisputed Domestic Leader

Only **large-scale** US module manufacturer with **fully compliant** CdTe tech, insulated from polysilicon swings and China overcapacity

### 2 Thesis 2 Structural Regulatory Moat

**FEOC<sup>1)</sup>**, **AD/CVD<sup>2)</sup>**, **Section 232**, and **IRA<sup>3)</sup>** **45X** credits all tighten the gate on imports while boosting FSLR's unit economics. U.S. capacity is sold out through 2028

### 3 Thesis 3 Premium Margins + Visibility

**ASPs** are firming, **bookings** accelerating (record 2.1 GW month), and a multi-year **backlog** is expanding, while gross margins trend toward 50–55% as U.S. finishing capacity ramps and 45X credits scale

### Catalysts Policy + Production Catalysts Ahead

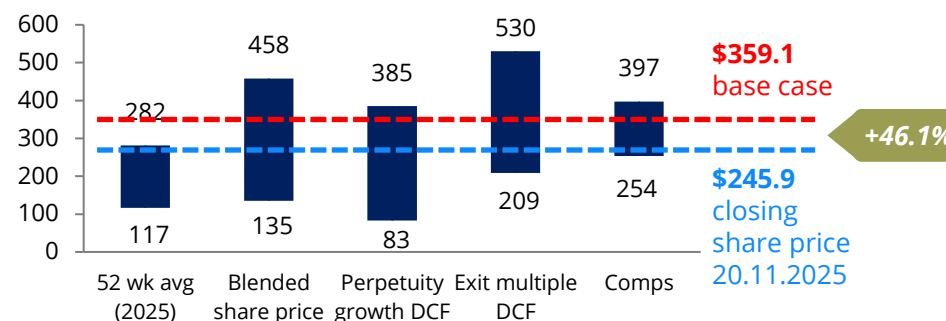
**Section 232** outcomes, **FEOC** restrictions, and a 45–50% **module ramp** through 2028 collectively reinforce higher U.S. ASPs, strengthen pricing power, and accelerate volume growth

## Valuation and Price Target



- Analysts **project 22.8%–42.4%** long-term growth (mean 32.6%) and a mean FY2025 **price target of \$274 by Q1 26**
- FSLR trades at an earnings multiple that does not reflect its **protected U.S. market position** or **multi-year margin expansion potential**
- With **Series 7 ramp**, **45X credit capture**, and a **>\$20bn contracted backlog**, earnings visibility is strong
- Our valuation framework supports continued **upside as regulatory catalysts crystallize**, and the efficiency roadmap delivers **margin accretion**

## Current Valuation vs. 2028E Base Case (\$)



Notes: 1) FEOC = Foreign Entity of Concern, 2) AD/CVD = Antidumping & Countervailing Duties, 3) IRA = Inflation Reduction Act.  
Source: CapIQ.

# First Solar | A Vertically-Integrated U.S. Manufacturer With Long-Term Contracted Revenue

## Business Snapshot

Leading US solar PV manufacturer founded in 1999. The world's largest CdTe solar module manufacturer with 8,100+ employees. 2006 IPO raised \$400M.

- **Utility-scale focus. Multi-year contracts** with major developers (e.g., Ørsted).
- Strong commercial position with **~32% U.S. share** and **multi-year visibility** from a **54.5 GW backlog** and **79.2 GW pipeline**
- **Strong financial trajectory with \$1.59B** quarterly revenue (~80% YoY) and \$589M normalized EBITDA (Q3'25). Public since **2006 (NASDAQ: FSLR)**; notable transaction includes the 2020 secondary sale of an 8.2% stake for ~\$592M
- Leadership: **CEO Mark Widmar** has been with the company 13 years. Other key executives: Alex Braddley (CFO) and Markus Gloeckler (CTO), and Caroline Stockdale (Chief People and Communications Officer)

### US Solar Market Share

~32% in Q2 2025

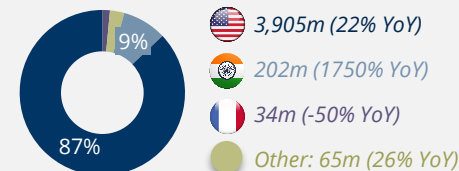


### 2025 Sales Guidance

\$4.95B - \$5.20B  
(18% - 24% YoY)



### Revenues (\$m)



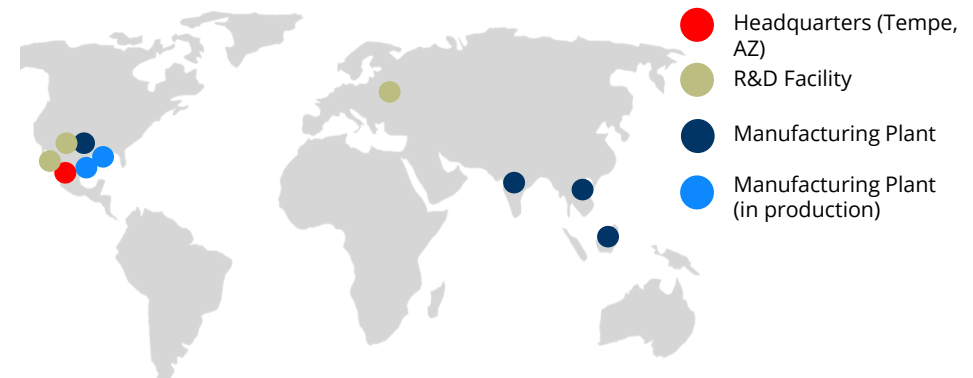
## Technology, Innovation & ESG Advantage

- **Innovation pipeline:** \$270m R&D Innovation Center, **28% cell efficiency target by 2030** (from ~22% today)
- Investigating Bifacial, Tandem, and larger Form-Factor modules reducing BOS costs. 2023 acquisition of Perovskite Specialist Evolar

CdTe	Low Degradation (0.3% p.a.)	Strong heat performance (-0.28%/°C)	Superior cloudy/low-light output	No Cell-Cracking	+5-9% Hot climate energy yield
c-Si	0.5-0.6% p.a. degradation	Weaker in heat (≥ -0.29%/°C)	Moderate low-light output	Micro-cracking risk	baseline energy yield

## Manufacturing Footprint & Supply Chain

- **Manufacturing Facilities** in Ohio, Alabama, Malaysia, India, Vietnam
- **Fully vertically integrated 4-hour process** (compared to multi-day and multi-site c-Si manufacturing)
- **Two new facilities under construction** in the US (additional ~7 GW), bringing total 2026 US capacity to ~11 GW and ~25 GW globally
- **Considerably less supply chain risk than c-Si modules.** Minor supply chain risk: 75% of global Tellurium from China



## Financial Profile & Geographic Mix

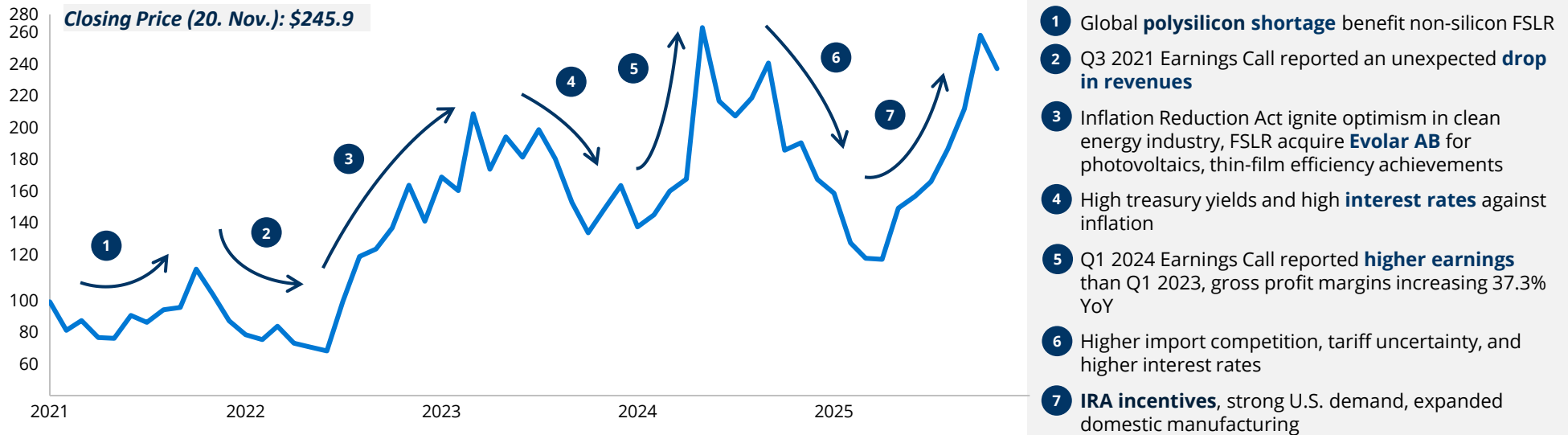
(\$ in millions)	20/11/2025
Share Price	245.84
NOSH (M)	107.3
Market Cap. (Equity Value)	26,380.6
(+) Gross debt	891.92
(-) cash & cash equivalents	(2039.9)
Total Enterprise Value (TEV)	25,232.6
2024A EBITDA	1817.2
EV / 2024A EBITDA	13.8x

Abbreviations: Cadmium Telluride (CdTe), c-Si (Crystalline Silicon), BOS (Balance of System). Sources: Market Share estimated as fraction of U.S. Q2 Installed Capacity covered by FSLR Q2 sales (in GWs). Data available at: <https://seia.org/research-resources/solar-market-insight-report-q3-2025/>; High-temperature performance data from First Solar whitepaper available at: [PVL\\_17\\_HighTemperaturePerformance\\_FirstSolar\\_PV\\_Plants\\_WhitePaper.pdf](https://www.firstsolar.com/-/media/first-solar/documents/corporate-collaterals/fs_corporate_factsheet.ashx); Product specifications from First Solar available here: [https://www.firstsolar.com/-/media/first-solar/documents/corporate-collaterals/fs\\_corporate\\_factsheet.ashx](https://www.firstsolar.com/-/media/first-solar/documents/corporate-collaterals/fs_corporate_factsheet.ashx)





# FSLR Story | Stock Performance Reflects Structural Advantages Over Global Competitors Across Technology, Supply Chain and Policy



## First Solar Historic Stock Price (\$)



## Competitor Analysis

Category	First Solar (FSLR)	Foreign Competitors    
<b>Technology</b>	<b>CdTe</b> thin-film modules, high-temp & low-light efficiency, 4–8% higher real-world yield, lowest carbon footprint, fully US-based R&D	<b>Crystalline silicon modules</b> (mono-PERC/TOPCon), weaker real-world performance in heat, higher carbon intensity (~600–900 gCO <sub>2</sub> e/Wp), R&D focused on incremental cell efficiency
<b>Cost &amp; Supply Chain</b>	Fully <b>vertically integrated</b> (glass → semiconductor → module), avoids polysilicon price volatility, module cost ↓ ~35% since 2020, >90% materials recycled, \$20B+ backlog	<b>Dependent</b> on global polysilicon & wafer supply, price volatility risk, heavily reliant on Chinese subsidies, exposure to US tariffs
<b>Geographic &amp; Policy</b>	<b>US-based</b> (Ohio & Alabama), 100% IRA-compliant (\$0.17/W tax credits), strong domestic sales (~80% in US), aligned with US reshoring	Majority of manufacturing in China, Malaysia, Vietnam, limited US IRA access, increasing <b>regulatory headwinds</b>
<b>Financials</b>	<b>Gross margin ~37%</b> FY 2024, strong cash position, long-term revenue visibility, capex offset by IRA credits	<b>Gross margins ~20%</b> , higher debt exposure, spot-market driven revenue, oversupply in China reduces module prices
<b>Strategic Positioning</b>	<b>America's solar champion</b> , unique US product, structural moat from policy + technology + manufacturing	Strong global volumes, commoditized technology, increasing <b>difficulty accessing US market</b>

Source: <https://investor.firstsolar.com/financials/quarterly-results/default.aspx>. <https://www.investopedia.com/news/solarcity-versus-first-solar-tsla-fslr/>

# Solar Energy Market | Structural Shifts in Electrification and Power Market Driving Sustained Industry Growth

## Global Energy Trends

- **Structural shift** towards **electrification**
- Demand driven by Heating, Transport, Automation, and Data Centre demand. Forecasted **Data Centre demand CAGR of 18% to 2030**
- **Energy Security** is a policy priority. Expand domestic generation, reduce fuel imports and supply chain risk
- Solar **LCOE has fallen rapidly** and is now leading in the US
- Global Solar **PV rollout surged 85% and 33% in 2023 and 2024** respectively, with Asia-Pacific contributing 70% of this
- **IRA 45X and ITC** create strong manufacturing + project-level incentives
- Solar offers a **premium return in wholesale markets**, where marginal price is most often set by higher LCOE Gas-fired generators

### Global Solar CAGR

2014 – 2024: 27%  
2025 – 2032 Forecast: 25%



### Module Efficiency 2014-2024

c-Si 16% → 24%  
CdTe 9% → 20%



## US Wholesale Power Market Opportunity

- 7 Wholesale Markets and 3 Regions with fractured or vertically integrated regulated monopolies
- Global oversupply from China/SEA but US regulatory barriers (FEOC, AD/CVD, Section 201, Section 232) **protect domestic ASPs**
- Solar uptake fastest in competitive wholesale markets due to **low LCOE**
- **Structural shift towards competition and deregulation**

### New Frontiers

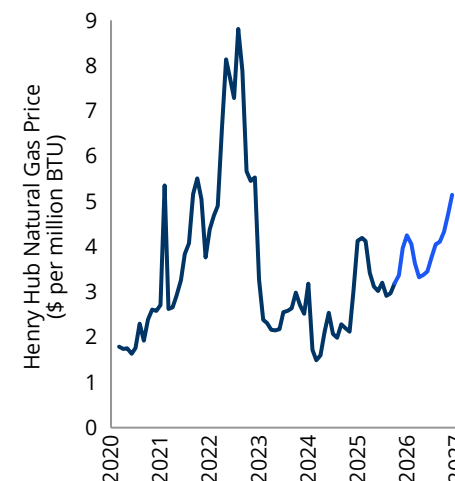
- ✓ 2026 **expansion of CAISO** day ahead market
- ✓ Nevada transmission **operators joining an RTO by 2030**
- ✓ North/South Carolina Gov examining RTO membership



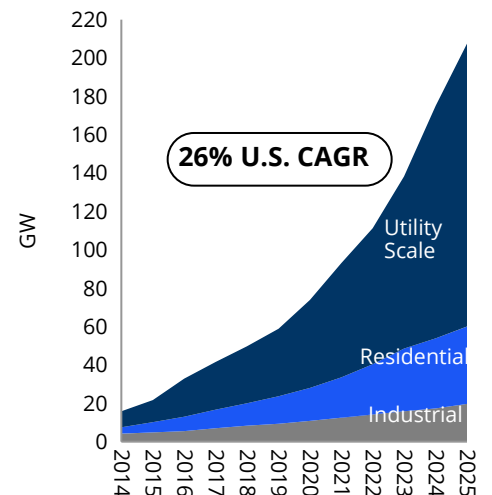
## Why Solar ... and Why CdTe?

- **Fastest energy development time** of any utility-scale technology.
- Low operating cost – **0 Marginal Cost, centrally re-dispatched**
- **NIMBYism reduced** in comparison to wind
- Silicone mono-crystalline (c-Si) modules comprise ~96% of global market
- Thin-film, and particularly CdTe, is challenging this dominance:
  - ✓ **Faster & simpler** manufacturing, fewer inputs (1-2% semiconductor material): Deposit layer(s) of non-crystalline PV material onto substrate
  - ✓ Thin-film technologies include CdTe, CIGS, and Perovskite
  - ✓ Perovskite remains Nascent with stability issues, and GIGS has largely been outperformed by CdTe
  - ✓ CdTe is a **mature technology in the US market**, with a stable third of market share since 2010. First Solar is the CdTe industry leader
  - ✓ **higher theoretical efficiency** than single-junction silicon (32% vs 36%)

## US Gas Price Outlook



## Total US Installed Solar Capacity



Source: Plots: Energy Information Administration - Gas forecast available at: [www.eia.gov/outlooks/steo/report/natgas.php](http://www.eia.gov/outlooks/steo/report/natgas.php) , Solar installed capacity available at: [www.eia.gov/outlooks/steo/data/browser](http://www.eia.gov/outlooks/steo/data/browser) ; Module Efficiency Data: Fraunhofer PV Report available at: [www.ise.fraunhofer.de/content/dam/ise/de/documents/publications/studies/Photovoltaics-Report](http://www.ise.fraunhofer.de/content/dam/ise/de/documents/publications/studies/Photovoltaics-Report) ; Energy Development Times: [https://thundersaidenergy.com/downloads/energy-development-times-first-consideration-to-full-production/?utm\\_source=chatgpt.com](https://thundersaidenergy.com/downloads/energy-development-times-first-consideration-to-full-production/?utm_source=chatgpt.com)

①

# Undisputed Domestic Leader | CdTe Delivers Superior Energy Yield & Integrated U.S. Supply Chain Enables a Structurally Lower Cost Per Watt



## 1. Technology Leadership: CdTe Solar Innovation

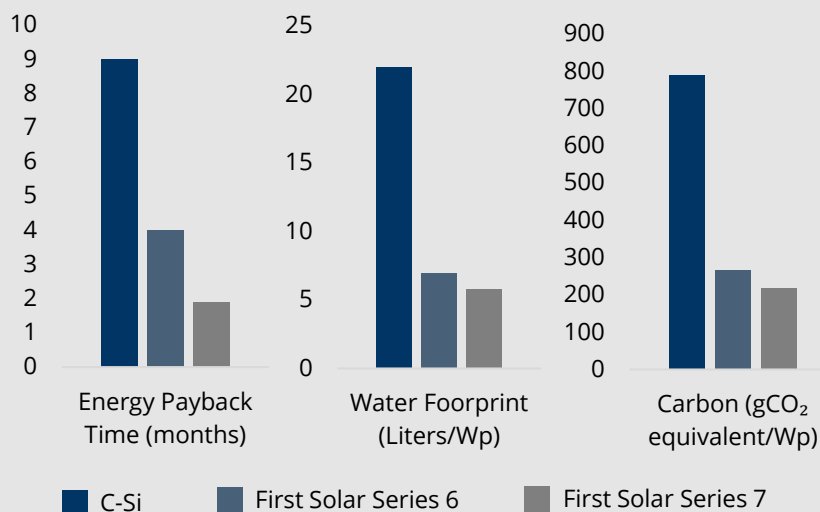
**CdTe modules deliver ~6% higher energy yield vs. c-Si** in hot, humid, and low-light conditions due to superior spectral response and a **-0.28%/°C temperature coefficient**

- **Thin-film CdTe architecture avoids silicon-specific failures** (cell cracking, LID/LETID, micro-fractures), improving reliability in harsh climates

**Lowest life-cycle emissions, water use, and energy-payback time** in the industry, supporting adoption by utilities with ESG mandates and Scope 3 goals

- **0.3% p.a. degradation rate** extends useful life by ~9 years relative to c-Si, reducing long-term **LCOE** for utility-scale assets
- **ESG advantage:** ~90% material recovery and reusable packaging

Environmental Footprints of First Solar Compared to C-Si



**CdTe's superior yield, stability and footprint give FSLR a performance edge that silicon competitors cannot replicate**

## 2. Cost Leadership: Vertical Integration & Efficiency

**Vertical integration shields FSLR from polysilicon price cycles**, wafer shortages, SEA tariff risks (support stable COGS and higher throughput yields)



- A **single-location continuous-flow process (~4 hours)** replaces the multi-stage, multi-country silicon chain, reducing logistics and quality-control costs

**Proprietary CdTe vapor deposition, glass sourcing, and recycling** have cut module cost per watt by **~35% since 2020**, despite c-Si price volatility

- Integrated operations support **higher gross margins (~40-55%)** and **stable ASPs (~\$0.28-0.30/W)**, outperforming c-Si peers even in volatile markets
- Margin resilience reflects **technology differentiation** and **U.S. policy support**, reinforcing strong pricing power

**Vertical integration delivers a structurally lower cost base and higher, more resilient margins through the cycle**

## 3. Domestic Leadership: Scaled U.S. Manufacturing

**FSLR is the only top-10 module producer outside China**, with **>14 GW U.S. capacity by 2026** from Ohio and Alabama expansions

- **U.S. footprint makes FSLR a preferred utility supplier** amid tariff risk, procurement uncertainty, and stricter grid reliability standards

**Fully FEOC-compliant operations** secure IRA 45X + Domestic Content bonuses and meet future U.S. federal procurement rules

- **Perrysburg R&D campus (> \$1bn)** supports a roadmap toward **23-24% efficiency**, reducing BOS and system-level costs

**FSLR's domestic scale and FEOC compliance uniquely position it as the preferred supplier in a tightening U.S. policy environment**

Source: First Solar Sustainability Report (2023). Available at: [https://www.responsibilityreports.com/HostedData/ResponsibilityReportArchive/f/NASDAQ\\_FSLR\\_2023.pdf](https://www.responsibilityreports.com/HostedData/ResponsibilityReportArchive/f/NASDAQ_FSLR_2023.pdf), First Solar Annual Report (2024). Available at: [https://s202.q4cdn.com/499595574/files/doc\\_financials/2024/ar/First-Solar-2024-Annual-Report-Web-Ready.pdf](https://s202.q4cdn.com/499595574/files/doc_financials/2024/ar/First-Solar-2024-Annual-Report-Web-Ready.pdf).



# ② Structural Regulatory Moat | FEOC, IRA & U.S. Trade Enforcement Restrict Silicon Imports and Sustain FSLR's Premium Pricing Power

## 1. Tax Credits

### FEOC: Foreign Entity of Concern

- Firm affiliated with governments of China, Russia, Iran, North Korea
- FSLR is one of the only fully FEOC-clean US manufacturers**, ensuring IRA eligibility

### IRA: Section 48 Energy Investment Tax Credit

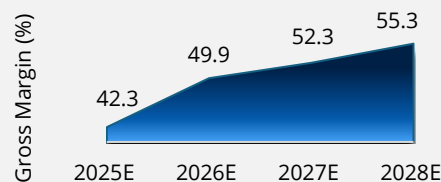
- 10% Domestic Content Bonus** for US-made equipment (on top of the 30% Investment Tax Credit).
- Only** for projects that are entirely **FEOC-free** (FSLR, unlike silicon competitors)

*FEOC rules + IRA create a structural, policy-driven advantage for First Solar vs. silicon importers*

## 2. Production Credits

### IRA: Section 45X Advanced Manufacturing Production Credit

- Shifting from SEA to US manufacturing earns a **\$0.07/W credit** (~25% of ASP)
- At 3.5GW output: **~\$245M** annual credits
- Direct COGS reduction drives **margin expansion** from ~42% to ~55% (2025E–2028E)



*High-visibility margin uplift independent of market pricing*

## 3. Tariffs for Competitors

### Trade Expansion Act: Section 232

- Authorizes the U.S. President to impose tariffs or quotas on imports tied to national-security concerns, including **solar supply chains**
- Introduces cost and policy **uncertainty** for foreign **silicon-module producers**.
- Potential tariffs **raise competitors' landed costs**, while FSLR remains unaffected due to its U.S.-based, FEOC-free supply chain
- Drives U.S. buyers to favor domestic modules to avoid regulatory risk

*Additional structural protection that hardens FSLR's competitive position*

## 4. Anti-dumping & Countervailing Duties (Pending)

### AD/CVD duties target Chinese and SE Asian silicon panels, raising import costs and offsetting subsidies

#### Consequences:



Competitors cannot undercut USA price. Sets a **floor**. Sustained pricing power



FSLR keeps ASPs high (~\$0.28–\$0.30/W)<sup>2</sup> while global prices collapse (to ~\$0.10–\$0.15/W)<sup>2</sup> from over-supply. FSLR sells at 2.5-3x global price. **Higher Pricing Power**



Gross margins stay elevated (40-55%) (see more in point 2)

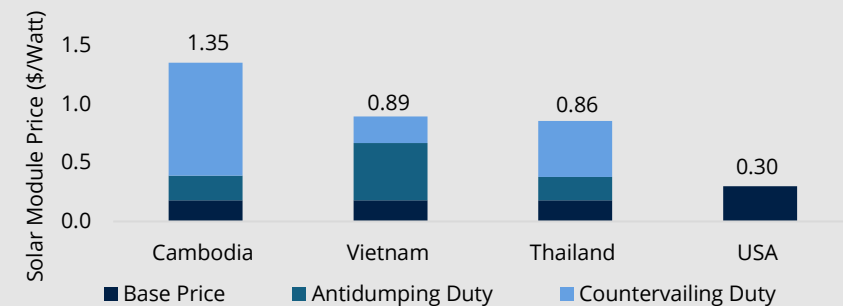
**Cambodia:**  
AD: 117%  
CV: 534%

**Vietnam:<sup>1)</sup>**  
AD: 271%  
CV: 125%

**Thailand:**  
AD: 111%  
CV: 264%

**USA:**  
AD: 0%  
CV: 0%

### Solar Module Price in US Market after AD & CVD<sup>3)</sup>



*Moat: Regulations effectively exclude low-cost silicon imports and preserve FSLR's pricing power*

Note: 1) FSLR does have some finishing-manufacturing steps in Vietnam, but AD/CVD not applicable, 2) Source: BofA (2025)  
Source: 3) US Trade Government (2025)

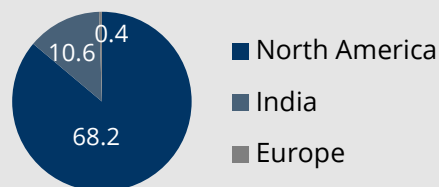
# Premium Margins + Visibility | A Contracted Backlog and rising U.S.

## Load Growth secure Demand, Pricing Stability and Cash Flow through 2030

### 1. Backlog Secures Multi-Year Revenue & Pricing

- FSLR's contracted backlog totals **53.7 GW (\$16.4bn)** through 2030, insulating it from spot-market volatility and global silicon oversupply
- U.S. factories **are fully booked through 2028**, ensuring fixed utilisation rates and predictable margin capture across the conversion cycle
- The **79.2 GW pipeline (90%+ North America)** gives optionality for repricing at higher ASPs as demand tightens and FEOC enforcement intensifies

Total Booking Opportunities (GW)

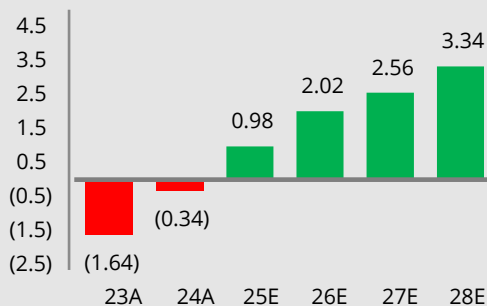


*Contracted volumes secure utilisation and margins, giving FSLR unmatched earnings visibility into the next decade*

### 3. Shifting From Capex to Cash Generation

- Heavy capex cycle is winding down, with 2025–28 growth funded largely via **45X credit monetisation** and operating cash flow
- Q3-25 results show a **maturing financial profile (GM 38.3%, \$456m net income)** even before new capacity and full 45X capture
- Transferability of tax credits (> \$2bn monetised so far) accelerates FCF, reducing reliance on debt or equity financing

FCF (\$Bn)

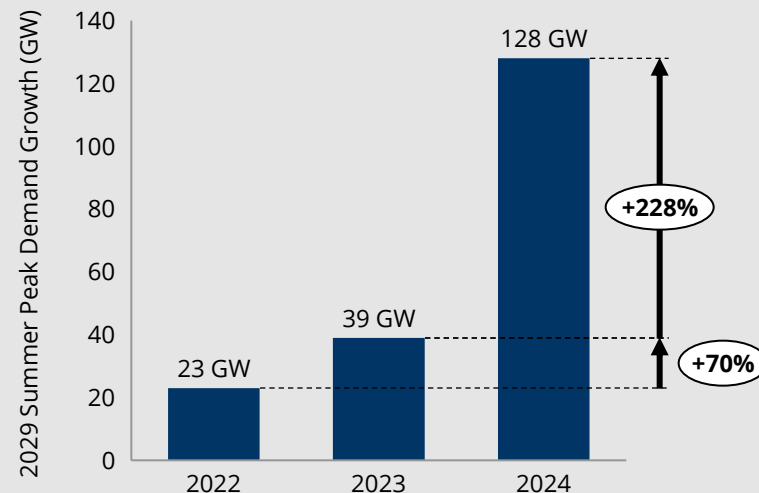


*FSLR is entering a high-margin, cash-generative phase with minimal financing needs and expanding free cash flow*

### 2. US Load Growth Supports Capacity Expansion

- 5-year load growth forecast has increased by almost **5x**, from **23 GW to 128 GW** driven by data centres, electrification, AI and industrial reshoring
- Data-centre-driven clusters** (TX, VA, OH) increasingly require utility-scale solar to meet 24/7 load obligations, expanding contracted demand for domestic modules
- U.S. capacity additions remain below required levels, keeping domestic module supply tight despite global oversupply
- FSLR's **3.7 GW U.S. expansion** (2026–27) is fully FEOC-compliant and 45X-eligible, adding profitable volume in a structurally undersupplied market

5-year US Nationwide Growth Forecast



*Structural demand growth ensures domestic module supply remains tight, supporting continued ASP and share gains*



# Valuation & Assumptions | DCF Points to Meaningful Upside Driven by ASP Strength and Volume Growth

## Scenario Analysis (FY25 – FY28)



FLSR maintains its ASP at \$0.30 per W based on its domestic advantage and increased demand for power. **Modules sold per year maintains at 38%**, which matches current management forecasts as of 2025 (**53.7GW backlog already in 2025**). FSLR maintains its tax rate of 7.40% with rate increasing till 2028



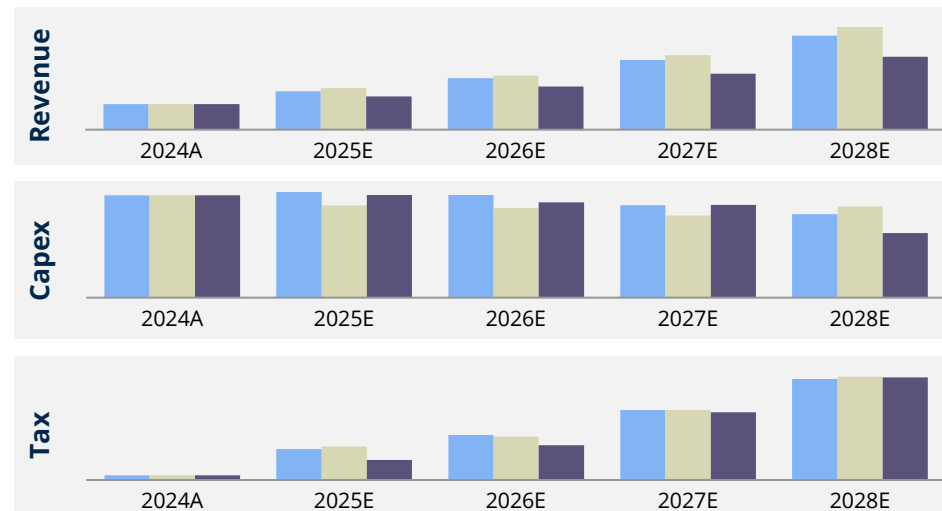
FSLR maintains the ASP per W at \$0.30. Modules sold growth rate flatlines at 35. Importantly, tax rate increases to 16% **based on less advantageous tax breaks and credits**



**FSLR experiences a substantial increase in tax rate to 21%.** This may be due to total change in the supporting tax credit structure for the green energy/solar industry **ASPs fall below the US rate to \$0.27**

## Case comparison

Base Case Bull Case Bear Case



## Key Drivers: Skewed Towards Conservatism

Case	Hist	Bear	Base	Bull
Sales CAGR	40.8%	30%	35%	38%
COGS %Rev.	44.7%	60%	50%	45%
Tax-Rate	7.4%	21%	16%	15%
ASP Per W	\$0.30	\$0.27	\$0.30	\$0.30

## Blended Target Price Scenario Analysis (\$)

	Target	Upside
Bear Case	148.40	-41.34%
Base Case	359.12	41.94%
Bull Case	457.20	80.71%

Notes: ASP sensitivity is based on 2028E projection using Base case scenarios. Exit multiple approach using a 9.0X multiple.

Source: ASP figures from BofA Global Research. Backlog figures from <https://investor.firstsolar.com/financials/quarterly-results/default.aspx>

# Valuation & Sensitivity Analysis | Valuation Supported Across Sensitivities With Conservative Assumptions

## Sensitivity Analysis (Base Case)

DCF Sensitivity Analysis: Upside / (Downside) - Exit Multiple Method								
		Exit Multiple						
		8.2x	8.7x	9.2x	9.7x	10.2x	10.7x	11.2x
WACC	7.7%	453	475	498	521	544	567	589
	8.2%	445	467	490	512	535	557	579
	8.7%	438	460	482	504	525	547	569
	11.9%	394	413	433	453	472	492	511
	9.7%	423	444	466	487	508	529	550
	10.2%	416	437	458	479	499	520	541
	10.7%	409	430	450	471	491	512	532

DCF Sensitivity Analysis: Upside / (Downside) - Perpetuity Growth Method								
		Perpetuity Growth						
		1.75%	2.00%	2.25%	2.5%	2.75%	3.00%	3.25%
WACC	7.7%	481	500	520	542	567	594	625
	8.2%	442	458	475	493	513	535	560
	8.7%	409	422	437	452	469	487	507
	11.9%	275	281	287	293	300	307	314
	9.7%	356	365	376	387	399	412	426
	10.2%	334	342	351	361	371	382	394
	10.7%	314	322	329	338	347	356	367

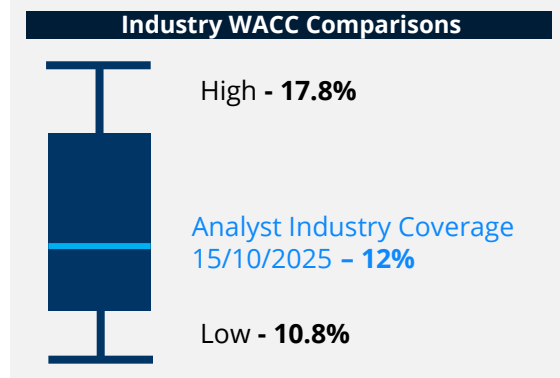
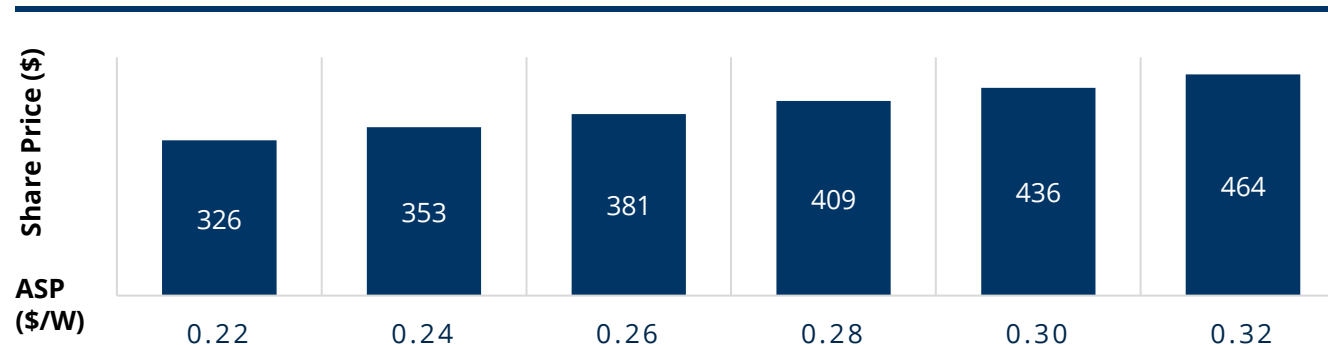
## WACC Calculation (\$m)

Cost of Debt Calculation	
Risk-Free Rate	4.15%
Credit Spread on [XXX] Rating	
<b>Pre-Tax Cost of Debt</b>	<b>4.47</b>
Effective Tax Rate (US Corp Tax 2025)	25.57%
<b>After-Tax Cost of Debt</b>	<b>5.61%</b>

Cost of Equity Calculation	
Risk-Free Rate	4.15%
Equity Risk Premium	5.00%
Beta	1.59
<b>Cost of Equity</b>	<b>12.10%</b>

WACC	Total Value	%	Cost
MV of Debt <sup>1)</sup>	\$891.9 <sup>2)</sup>	3.2%	5.6%
MV of Equity <sup>1)</sup>	\$27'146.9	96.8%	12.1%
<b>Total</b>	<b>\$28'038.8</b>	<b>100.0%</b>	<b>11.9%</b>

## ASP Sensitivity Analysis (Exit Multiple Method - Base)



Note: 1) MV = Market Value, 2) FSLR has a uniquely low gross debt. This is due to cash generated by selling ITC (investment tax credits) to Visa, entering as cash flow.  
Source: Beta: Yahoo finance 16/11/2025. US Corporate Tax Rate <https://kpmg.com/dk/en/services/tax/corporate-tax/corporate-tax-rates-table.html>. Debt Breakdown: BofA Global Research, CapIQ.  
Candlestick: High :Gurufocus, Low: ValueSense, Mid: BofA Global Research.

# Risks & Catalysts | High-Conviction Setup: Policy, Demand, and Technology Catalysts Ahead

## Risks

### Policy Exposure



Reliance on IRA 45X credits, Domestic Content rules and AD/CVD protections. A shift in U.S. trade or tax policy could weaken its cost advantage

### Demand and Project Timing



Utility-scale demand may slow due to interconnection bottlenecks. Trump presidency rolling back large-scale tax concessions for renewable projects

### Technology Competitiveness



Rapid efficiency gains in TOPCon or heterojunction silicon could narrow First Solar's real-world performance advantage

### Failure to Execute Roadmap



Scaling to ~25 GW capacity and improving Series 7 efficiency involves manufacturing, yield and supply chain risks

## Mitigants

### Policy Durability



**U.S.-China decoupling, national-security framing and bipartisan support** for domestic clean-energy manufacturing make a reversal unlikely

### Structural Demand Drivers



Data-center load growth, electrification and declining interest rates support multi-year utility-scale procurement due to solar offering a lower LCOE, even without tax credits

### Strengthened CdTe Roadmap



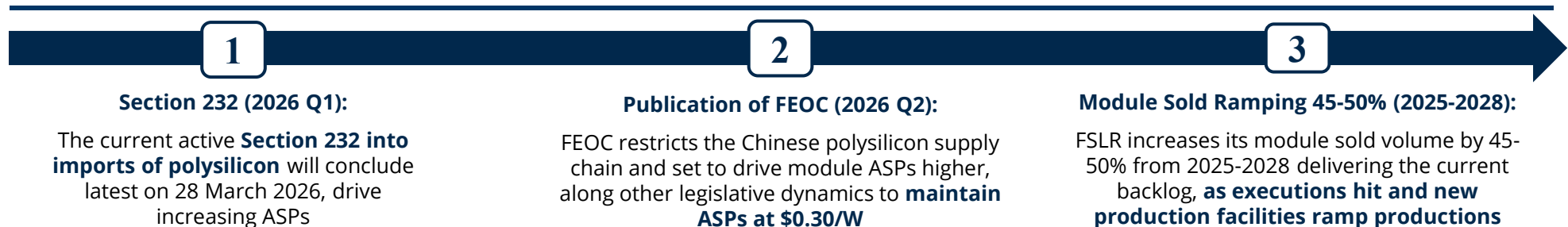
First Solar's R&D investments target >23% efficiency and maintain advantages in heat, low light and degradation that **silicon cannot replicate**

### Proven Build-out and Multiple Cushions



Multiple successful factory ramps, a long-term, **take-or-pay backlog**, and **low gearing** (negative \$1.8B net debt) provide execution cushion

## Events Path and Catalysts



Source: Section 232 investigation: Bureau of Industry and Security (2025); FEOC guideline: U.S. Department of Energy (2025); Roadmap and financials: FSLR 10Q (2025), CapIQ





Thank You

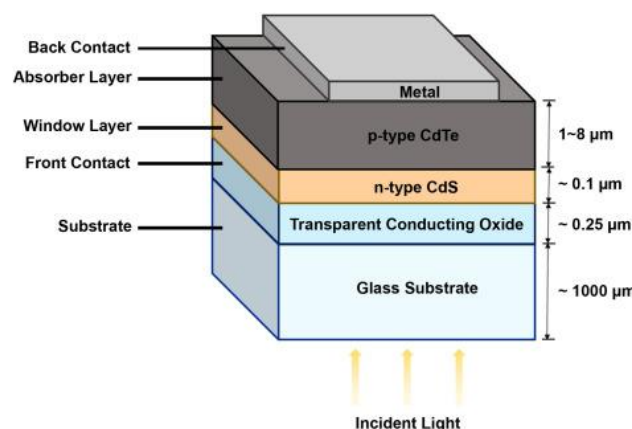
# Appendix A | Public Comparable Analysis

Valuation Metrics											
Company Name	Shares Outstanding		Market Capitalization	LTM Net Debt	Total Enterprise Value Latest	LTM Total Revenue	LTM EBITDA	LTM EBIT	EV / Revenue	EV / EBIT	NTM Forward PE (CapIQ)
	Day Close Price Latest	Latest									
Canadian Solar Inc. (NasdaqGS:CSIQ)	28.47	67.0	1,906.1	4,889.9	8,286.8	5,899.1	656.7	99.0	1.4x	83.7x	NM
Sunrun Inc. (NasdaqGS:RUN)	18.57	232.0	4,309.0	14,021.7	19,991.4	2,316.7	345.9	(357.6)	8.6x	-55.9x	30.47x
JinkoSolar Holding Co., Ltd. (NYSE:JKS)	30.58	51.7	1,579.5	2,561.4	5,965.7	9,657.6	106.9	(936.1)	0.6x	-6.4x	22.02x
JA Solar Technology Co., Ltd. (SZSE:002459)	1.95	3,267.3	6,376.1	3,138.0	9,529.8	7,398.1	422.0	(644.5)	1.3x	-14.8x	86.36x
LONGi Green Energy Technology Co., Ltd. (SHSE:601012)	2.98	7,557.9	22,490.2	(2,707.8)	19,847.7	10,538.7	(366.9)	(1,409.7)	1.9x	-14.1x	NM
Trina Solar Co., Ltd. (SHSE:688599)	2.92	2,160.7	6,301.9	3,919.3	10,970.4	9,441.4	24.8	(993.7)	1.2x	-11.0x	NM
Enphase Energy, Inc. (NasdaqGM:ENPH)	27.53	130.9	3,602.6	(244.3)	3,358.3	1,512.4	281.4	207.1	2.2x	16.2x	13.40x
Skyworks Solutions, Inc. (NasdaqGS:SWKS)	63.16	148.7	9,390.6	(185.3)	9,205.3	4,086.9	974.7	511.7	2.3x	18.0x	14.35x
Sanan Optoelectronics Co., Ltd (SHSE:600703)	1.89	4,867.6	9,197.6	603.9	9,811.9	2,542.1	538.1	(0.3)	3.9x	-	136.21x
ON Semiconductor Corporation (NasdaqGS:ON)	46.02	402.4	18,517.5	760.3	19,298.5	6,187.8	1,859.0	1,221.3	3.1x	15.8x	17.02x
<b>First Solar, Inc.</b>	<b>253.54</b>	<b>107.3</b>	<b>27,206.9</b>	<b>(1,148.0)</b>	<b>26,058.9</b>	<b>5,050.6</b>	<b>2,018.7</b>	<b>1,505.7</b>	<b>5.2x</b>	<b>17.3x</b>	<b>11.56x</b>
Minimum	\$ 1.89	\$ 51.70	\$ 1,579.50	(2,707.8)	3,358.3	1,512.4	(366.9)	(1,409.7)	0.6x	-55.9x	11.6x
25th Percentile	\$ 2.95	\$ 119.10	\$ 3,955.80	(214.8)	8,746.1	3,314.5	194.2	(790.3)	1.3x	-13.3x	16.3x
Mean	\$ 43.42	\$ 1,726.68	\$ 10,079.82	2,328.1	12,938.6	5,875.6	623.8	(72.5)	2.9x	4.9x	21.0x
Median	\$ 27.53	\$ 232.00	\$ 6,376.10	760.3	9,811.9	5,899.1	422.0	(0.3)	2.2x	4.7x	21.0x
75th Percentile	\$ 38.30	\$ 2,714.00	\$ 13,954.05	3,528.7	19,573.1	8,419.8	815.7	359.4	3.5x	17.0x	25.7x
Maximum	\$ 253.54	\$ 7,557.90	\$ 27,206.90	14,021.7	26,058.9	10,538.7	2,018.7	1,505.7	8.6x	83.7x	30.5x

## Appendix B | Cadmium Telluride (CdTe) Tech Advantage

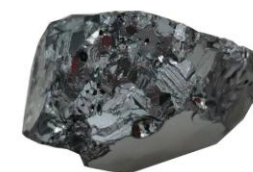
### Cadmium Telluride (CdTe) Panels

- CdTe cells have a nearly ideal band gap of **1.44 eV**.
- Band gap** determines the amount of energy that can be effectively converted into Electricity.
- Direct band gap** allows CdTe panels to be produced thinner, lowering production costs. 2-3 microns vs 150-200 microns.,
- \$500M** invested in R&D by FSLR in solar tech like research into CdTe-perovskite panels in the Perrysburg, OH plant and other initiatives in the Jim Nolan Center in OH.



### Material Sourcing

- CdTe solar modules are made primarily from Cadmium and Tellurium, rare earth metals that are obtained as byproducts of the mining of other minerals
- Though much of the world's supply of these minerals is controlled by China, FSLR does not get the bulk of their supply from them, and **is actively reducing their dependence on Chinese Te mines**



### CdTe Sustainability

Higher lifetime energy yield and less sensitive to weather



Not dependent on C-Si (reliant on China – UFLPA)



Lower CO2 and water footprint. Lasts 10 years longer than C-Si



## Appendix C | Leadership and Ownership

### Leadership



Michael J. Ahearn  
Non-Executive Chairman  
Founder, FSLR

*Co-founded the company  
in 1999, CEO until 2009*



Michael J. Ahearn  
Non-Executive Chairman  
Founder, FSLR

*Co-founded the company  
in 1999, CEO until 2009  
Owns 81k shares*



Alex Bradley  
Chief Financial Officer  
Part of Team since 2008

*FSLR's first internal CFO  
after 8 years of work*

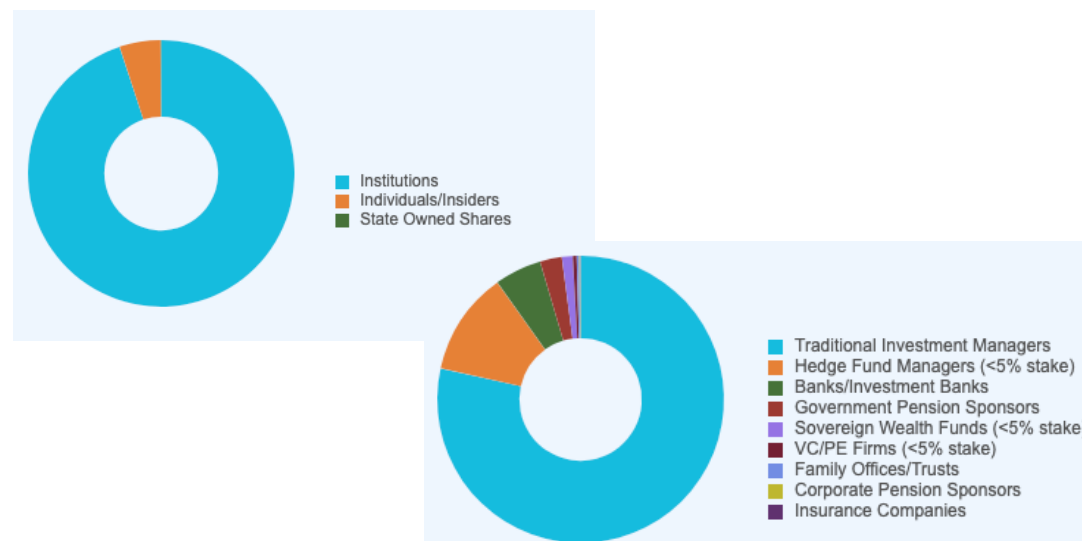


**Long Term Commitment to FSLR**



**Long share holdings**

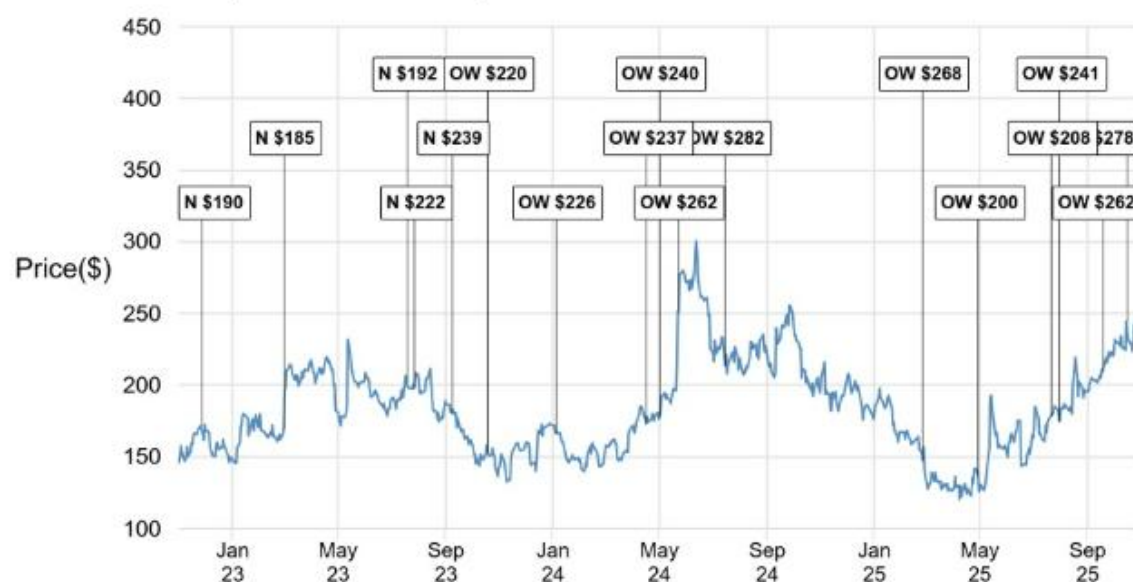
### Ownership



## Appendix D | Analyst Price Targets

JPMC

First Solar, Inc (FSLR, FSLR US) Price Chart



Source: Bloomberg Finance L.P. and J.P. Morgan; price data adjusted for stock splits and dividends. Initiated coverage Nov 18, 2008. All share prices are as of market close on the previous business day.

Date	Rating	Price (\$)	Price Target (\$)
28-Nov-22	N	171.43	190
01-Mar-23	N	169.14	185
19-Jul-23	N	201.57	192
28-Jul-23	N	198.80	222
08-Sep-23	N	180.50	239
19-Oct-23	OW	153.13	220
05-Jan-24	OW	166.31	226
17-Apr-24	OW	173.08	237
02-May-24	OW	177.58	240
23-May-24	OW	251.75	262
16-Jul-24	OW	213.42	282
26-Feb-25	OW	147.46	268
30-Apr-25	OW	137.24	200
22-Jul-25	OW	178.33	208
01-Aug-25	OW	174.73	241
19-Sep-25	OW	209.63	262
16-Oct-25	OW	244.40	278

The chart(s) show J.P. Morgan's continuing coverage of the stocks; the current analysts may or may not have covered it over the entire period. J.P. Morgan ratings or designations: OW = Overweight, N= Neutral, UW = Underweight, NR = Not Rated

Source:

## Appendix E | DCF Build – Base

### Discounted Cash Flow Analysis

\$ in millions, unless otherwise noted

21/11/2025



For Fiscal Year Ending	2025E	2026E	2027E	2028E
<b>Total Revenues</b>	<b>6,309.1</b>	<b>8,517.3</b>	<b>11,498.3</b>	<b>15,522.7</b>
% growth		35.0%	35.0%	35.0%
Cost of Goods Sold	3,154.5	4,258.6	5,749.2	7,761.4
<b>Gross Profit</b>	<b>3,154.5</b>	<b>4,258.6</b>	<b>5,749.2</b>	<b>7,761.4</b>
% margin	50.0%	50.0%	50.0%	50.0%
SG&A Expense	201.5	215.6	230.7	246.8
R&D Expense	220.8	298.1	402.4	543.3
D&A Expense	444.6	535.2	615.0	676.2
Other Operating Expense	122.2	205.0	276.8	373.7
<b>EBIT</b>	<b>2,165.4</b>	<b>3,004.7</b>	<b>4,224.2</b>	<b>5,921.3</b>
% margin	34.3%	35.3%	36.7%	38.1%
Taxes	757.1	1,107.2	1,724.7	2,483.6
% effective tax rate	12.0%	13.0%	15.0%	16.0%
<b>Net Operating Profit After Tax</b>	<b>1,408.4</b>	<b>1,897.5</b>	<b>2,499.5</b>	<b>3,437.7</b>
% margin	22%	22%	22%	22%
Plus: D&A Expense	444.6	535.2	615.0	676.2
Less: Capital Expenditures	1,577.3	1,533.1	1,379.8	1,244.9
Less: Change in Net Working Capital	(23.6)	302.7	408.6	534.9
Less: Stub Period				
<b>Unlevered Free Cash Flow</b>	<b>252.1</b>	<b>1,202.2</b>	<b>2,143.3</b>	<b>3,403.9</b>
% margin	4.0%	14.1%	18.6%	21.9%
<b>WACC</b>	11.9%	11.9%	11.9%	11.9%
Discount Period	1.00	2.00	3.00	4.00
Discount Factor	0.89	0.80	0.71	0.64
<b>Present Value of Unlevered Free Cash Flow</b>	<b>225.3</b>	<b>960.21</b>	<b>1,529.89</b>	<b>2,171.45</b>
<b>Sum of Present Value Cash Flows</b>	<b>4886.82</b>			



## Appendix F | ASP Sensitivity (2028E)

<i>Base</i>		ASP Sensitivity Analysis: 2028E Exit (EBITDA) Multiple Method						
CASE # (2028)	1	0.22	0.24	0.26	0.28	0.30	0.32	0.34
	REVENUE	11383	12418	13453	14488	15523	16558	17592
	EBIT	3852	4369	4886	5404	5921	6439	6956
	UFCF	2132	2566	3001	3436	3870	4305	4740
	EBITDA	1360	1637	1914	2192	2469	2746	3024
	EBITDA	4528	5045	5563	6080	6598	7115	7632
	SHARE PRICE	298	326	353	381	409	436	464

<i>Bull</i>		ASP Sensitivity Analysis: 2028E Exit (EBITDA) Multiple Method						
CASE # (2028)	2	0.22	0.24	0.26	0.28	0.30	0.32	0.34
	REVENUE	12429	13559	14689	15819	16949	18079	19209
	EBIT	5271	5892	6513	7135	7756	8378	8999
	UFCF	3413	3942	4470	4998	5526	6055	6583
	EBITDA	2178	2515	2851	3188	3525	3862	4199
	EBITDA	5769	6391	7012	7634	8255	8877	9498
	SHARE PRICE	381	414	447	480	513	547	580

<i>Bear</i>		ASP Sensitivity Analysis: 2028E Exit (EBITDA) Multiple Method						
CASE # (2028)	3	0.22	0.24	0.26	0.28	0.30	0.32	0.34
	REVENUE	9788	10678	11568	12458	13348	14238	15127
	EBIT	1769	2125	2481	2837	3193	3549	3904
	UFCF	772	1053	1335	1616	1897	2178	2459
	EBITDA	493	672	851	1031	1210	1390	1569
	EBITDA	2682	3038	3394	3750	4106	4462	4818
	SHARE PRICE	158	177	196	215	234	253	272

First Solar (FSLR)	1Q25A	2Q25A	3Q25E	4Q25E	2024A	2025E	2026E	2027E	2028E
(\$1,000s) expect per share figures	Mar-25	Jun-25	Sep-25	Dec-25	FY	FY	FY	FY	FY
MW Produced	3,850	4,223	4,661	5,014	15,495	17,748	20,746	24,900	24,900
MW Sold	2,910	3,554	5,484	6,267	14,145	18,215	20,746	24,900	24,900
Guidance						18,000			
ASPs \$/W	\$0.29	\$0.31	\$0.30	\$0.31	\$0.30	\$0.30	\$0.31	\$0.32	\$0.33

## Appendix G | Income Statement Base

Income Statement								
<i>All figures in USD Millions unless stated</i>								
	2021A	2022A	2023A	2024A	2025E	2026E	2027E	2028E
Total Revenue	2,932.40	2,619.30	3,318.60	4,206.30	6,309.09	8,517.27	11,498.32	15,522.73
Cost Of Goods Sold	-1,796.63	-2,011.50	-1,705.40	-1,880.37	-3,154.55	-4,258.64	-5,749.16	-7,761.36
<b>Gross Profit</b>	<b>1,135.77</b>	<b>607.80</b>	<b>1,613.20</b>	<b>2,325.93</b>	<b>3,154.55</b>	<b>4,258.64</b>	<b>5,749.16</b>	<b>7,761.36</b>
Selling General & Admin Exp.	170.30	164.70	197.60	188.30	201.48	215.58	230.68	246.82
R & D Exp.	99.10	112.80	152.30	191.40	220.82	298.10	402.44	543.30
Depreciation & Amort.	243.60	253.30	292.00	407.20	444.58	535.19	615.03	676.21
Other Operating Expenses	21.10	73.00	64.70	84.50	122.22	205.05	276.81	373.70
<b>Total Operating Expenses</b>	<b>534.10</b>	<b>603.80</b>	<b>706.60</b>	<b>871.40</b>	<b>989.10</b>	<b>1,253.93</b>	<b>1,524.95</b>	<b>1,840.02</b>
<b>EBIT (Operating Income)</b>	<b>601.67</b>	<b>4.00</b>	<b>906.60</b>	<b>1,454.53</b>	<b>2,165.45</b>	<b>3,004.71</b>	<b>4,224.21</b>	<b>5,921.34</b>
Interest Expense	-13.10	-12.20	-13.00	-38.90	-3.73	-2.83	-1.92	-1.01
Interest and Invest. Income	0.03	33.20	19.09	17.59	17.59	17.59	17.59	17.59 Flatline
Foreign Currency Loss	-16.40	-16.40	-21.50	-27.25	-40.87	-55.18	-74.49	-100.57 %Revenue
Net Interest Exp.	-29.47	4.60	-15.41	-48.57	-27.02	-40.42	-58.82	-83.99
<b>Earnings Before Taxes</b>	<b>572.20</b>	<b>8.60</b>	<b>891.19</b>	<b>1,405.96</b>	<b>2,138.42</b>	<b>2,964.29</b>	<b>4,165.38</b>	<b>5,837.35</b>
Taxes	103.50	52.80	60.55	114.30	757.09	1,107.25	1,724.75	2,483.64
<b>Net Income</b>	<b><u>468.70</u></b>	<b><u>-44.20</u></b>	<b><u>830.64</u></b>	<b><u>1,291.66</u></b>	<b><u>1,381.33</u></b>	<b><u>1,857.04</u></b>	<b><u>2,440.63</u></b>	<b><u>3,353.72</u></b>
Dividends	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

# Appendix H | Balance Sheet Base

All figures in USD Millions unless stated								
	2021A	2022A	2023A	2024A	2025E	2026E	2027E	2028E
<b>Assets</b>								
Cash And Equivalents	1,450.7	1,481.3	1,947.3	1,621.4	1,802.84	2,268.51	3,444.99	5,604.32
Short Term Investments	375.4	1,096.7	155.5	171.6	171.60	171.60	171.60	171.60 Flatline
Trade and Other Receivables	474.7	324.3	660.8	1,261.8	777.83	1,050.07	1,417.60	1,908.53
Inventory	778.4	735.8	968.1	1,298.6	1,709.73	2,308.13	3,115.98	4,195.07
Prepaid Exp.	28.2	43.3	62.5	75.3	70.00	70.00	70.00	70.00 Flatline
Restricted Cash	-	1.03	8.3	1.49	1.49	1.49	1.49	1.49
Other Current Assets	102.4	101.6	107.6	127.1	127.1	127.1	127.1	127.1 Flatline
<b>Total Current Assets</b>	<b>3,209.8</b>	<b>3,784.03</b>	<b>3,910.1</b>	<b>4,557.29</b>	<b>4,660.59</b>	<b>5,996.91</b>	<b>8,348.75</b>	<b>12,078.12</b>
Gross Property, Plant & Equipment	4,370.3	5,092.9	6,192.9	7,648.4				
Accumulated Depreciation	(1,295.9)	(1,462.8)	(1,694.1)	(2,091.2)				
<b>Net Property, Plant &amp; Equipment</b>	<b>3,074.40</b>	<b>3,630.10</b>	<b>4,498.80</b>	<b>5,557.20</b>	<b>6,689.90</b>	<b>7,687.81</b>	<b>8,452.59</b>	<b>9,021.30</b>
Investments and Long-Term Assets	986.8	705.5	994.6	1,091.9	1,091.9	1,091.9	1,091.9	1,091.9 Flatline
<b>Total Assets</b>	<b>7,271.00</b>	<b>8,119.63</b>	<b>9,403.50</b>	<b>11,206.39</b>	<b>12,442.39</b>	<b>14,776.62</b>	<b>17,893.24</b>	<b>22,191.32</b>
<b>Liabilities</b>								
Accounts Payable	193.3	341.4	207.2	482.2	388.92	525.04	708.80	956.88
Accrued Exp.	192.1	223.3	308.7	310.3	31.55	42.59	57.49	77.61
Curr. Port. of LT Debt	14.42	0.16	68.1	90.8	90.8	90.8	90.8	90.8
Def Tax Liability	257.5	345.4	661.6	857.6	857.6	857.6	857.6	857.6 Flatline
Unearned Revenue, Curr	201.1	263.2	413.6	524.23	786.31	1,061.51	1,433.05	1,934.61 % of Revenue
Curr. Port. of Leases	-	0.52	0.58	2.22	2.22	2.22	2.22	2.22
<b>Total Current Liabilities</b>	<b>858.42</b>	<b>1,173.98</b>	<b>1,659.77</b>	<b>2,267.36</b>	<b>2,157.39</b>	<b>2,579.76</b>	<b>3,149.96</b>	<b>3,919.73</b>
Long-Term Debt	236.0	184.3	464.1	373.3	282.50	191.70	100.90	10.10
Unearned Revenue Non-Curr	426.38	607.16	389.92	360.63	416.06	561.68	758.27	1,023.66 % of Revenue
Other Non-Current Liabilities	221.8	178.5	219.3	217.7	217.7	217.7	217.7	217.7
<b>Total Liabilities</b>	<b>1,742.60</b>	<b>2,143.94</b>	<b>2,733.09</b>	<b>3,218.99</b>	<b>3,073.65</b>	<b>3,550.84</b>	<b>4,226.83</b>	<b>5,171.19</b>
<b>Equity</b>								
Common Stock	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Additional Paid In Capital	2,871.4	2,887.5	2,890.4	2,898.4	2,898.4	2,898.4	2,898.4	2,898.4
Comprehensive and Others	(61.7)	(96.4)	(191.8)	(174.1)	(174.1)	(174.1)	(174.1)	(174.1)
Retained Earnings	2,718.5	3,184.5	3,971.71	5,263.0	6,644.33	8,501.38	10,942.01	14,295.73
<b>Total Common Equity</b>	<b>5,528.30</b>	<b>5,975.70</b>	<b>6,670.41</b>	<b>7,987.40</b>	<b>9,368.73</b>	<b>11,225.78</b>	<b>13,666.41</b>	<b>17,020.13</b>
<b>Total Liabilities And Equity</b>	<b>7,270.90</b>	<b>8,119.64</b>	<b>9,403.50</b>	<b>11,206.39</b>	<b>12,442.39</b>	<b>14,776.62</b>	<b>17,893.24</b>	<b>22,191.32</b>
	(0.10)	0.00	0.00	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)



# Appendix I | Cash Flow Base

All figures in USD Millions unless stated

	2021A	2022A	2023A	2024A	2025E	2026E	2027E	2028E
<b>Cash Flows from Operating Activities</b>								
<b>Net Income</b>	<b>468.70</b>	<b>(44.20)</b>	<b>830.64</b>	<b>1,291.66</b>	<b>1,381.33</b>	<b>1,857.04</b>	<b>2,440.63</b>	<b>3,353.72</b>
Depreciation & Amort., Total	243.60	253.30	292.00	407.20	444.58	535.19	615.03	676.21
Change in Acc. Receivable	118.72	118.70	(304.20)	601.00	483.97	(272.24)	(367.53)	(490.93)
Inventories	16.69	16.70	(205.10)	(276.80)	(411.13)	(598.40)	(807.85)	(1,079.10)
Government Grants Receivable	-	-	(659.75)	270.30	5.30	-	-	-
Change in Acc. Payable	49.00	5.60	79.30	268.70	(93.28)	136.12	183.76	248.08
Deferred Revenue Total	912.90	783.20	912.90	0.70	317.50	420.83	568.12	766.96
Change in Accrued Expenses	(86.60)	165.00	223.00	371.90	(278.75)	11.04	14.91	20.12
Change in Other Net Operating Assets	(773.19)	(215.70)	556.60	(17.80)	-	-	-	-
<b>Cash flow from Operating Activities</b>	<b>237.52</b>	<b>873.50</b>	<b>602.75</b>	<b>1,218.00</b>	<b>1,849.51</b>	<b>2,089.58</b>	<b>2,647.07</b>	<b>3,495.06</b>
<b>Investing Activities</b>								
Capital Expenditure (Including PPE Acquisition)	(540.30)	(903.60)	(1,386.30)	(1,526.00)	(1,577.27)	(1,533.11)	(1,379.80)	(1,244.92)
Divestitures & Equity Security	448.00	(286.00)	9,522.80	(24.20)	-	-	-	-
<b>Cash flows from Investing Activities</b>	<b>(7.46)</b>	<b>85.09</b>	<b>114.13</b>	<b>(30.24)</b>	<b>(1,577.27)</b>	<b>(1,533.11)</b>	<b>(1,379.80)</b>	<b>(1,244.92)</b>
<b>Financing Activities</b>								
Total Debt Issued	129.20	397.40	368.00	258.50	-	-	-	-
Total Debt Repaid	(72.70)	(75.90)	-	(205.80)	-	-	-	-
Net Increase/(Decrease) in Debt	56.50	321.50	368.00	52.70	(90.80)	(90.80)	(90.80)	(90.80)
Issuance of Common Stock	-	-	-	-	-	-	-	-
Repurchase of Common Stock	(16.00)	(12.10)	(31.10)	(20.20)	-	-	-	-
Net Increase/(Decrease) in Common Stock	(16.00)	(12.10)	(31.10)	(20.20)	-	-	-	-
Total Dividends Paid	-	-	-	-	-	-	-	-
Other Financing Activities	-	-	(7.60)	(0.60)	-	-	-	-
<b>Cash from Financing</b>	<b>40.50</b>	<b>309.40</b>	<b>336.90</b>	<b>32.50</b>	<b>(90.80)</b>	<b>(90.80)</b>	<b>(90.80)</b>	<b>(90.80)</b>
Initial Cash Balance					1,621.40	1,802.84	2,268.51	3,444.99
<b>Net Change in Cash</b>	<b>270.57</b>	<b>1,267.99</b>	<b>1,053.78</b>	<b>1,220.27</b>	<b>181.44</b>	<b>465.67</b>	<b>1,176.47</b>	<b>2,159.33</b>
Ending Cash Balance				1,621.4	1,802.84	2,268.51	3,444.99	5,604.32

## Depreciation Schedule

All figures in USD Millions unless stated

	2021A	2022A	2023A	2024A	2025E	2026E	2027E	2028E
<b>Capex</b>	<b>540.30</b>	<b>903.60</b>	<b>1,386.30</b>	<b>1,526.00</b>	<b>1,577.27</b>	<b>1,533.11</b>	<b>1,379.80</b>	<b>1,244.92</b>
Beginning: Existing Assets					5,557.20	6,689.90	7,687.81	8,452.59
Depreciation					(444.58)	(535.19)	(615.03)	(676.21)
Capex					1,577.27	1,533.11	1,379.80	1,244.92
Ending: Existing Assets				5,557.20	6,689.90	7,687.81	8,452.59	9,021.30

## Appendix J | Satellite Map of Louisiana Facility Ramp Progress

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Figure 1: Louisiana Facility at 19/3/2024



Figure 2: Louisiana Facility at 1/5/2025  
Full roof coverage, structural construction complete, paving close to complete, a fit-out or pre-commissioning phase

# Appendix K | Ratios and Debt Structure

Ratios (Fiscal Year)	FY 2024	FY 2023	FY 2022	FY 2021
Amounts in thousands, EUR (except Ratios, Multiples & share items)	End: 31-Dec-2024	End: 31-Dec-2023	End: 31-Dec-2022	End: 31-Dec-2021
<input type="text" value="Search for data point"/>				
<b>Profitability</b>				
Return on Invested Capital (ROIC)	15.66%	11.40%	-1.00%	
Normalized Return on Invested Capital	15.99%	12.32%	-3.48%	
Return on Equity (ROE)	17.73%	13.52%	-0.76%	
Normalized Return on Equity	18.09%	14.50%	-3.38%	
Return on Asset (ROA)	11.59%	9.08%	-0.59%	
Normalized Return on Assets	11.83%	9.74%	-2.61%	
<b>Efficiency</b>				

## First Solar, Inc. (NasdaqGS:FSLR) | Semiconductors (Primary)

<input type="checkbox"/>  <u>Company Name</u>	<u>LTM Gross Margin %</u>	<u>LTM EBITDA Margin %</u>	<u>LTM EBIT Margin %</u>	<u>LTM Net Income Margin %</u>	<u>LTM Total Revenues, 1 Yr Growth %</u>
<input type="checkbox"/>  <b>Canadian Solar Inc. (NasdaqGS:CSIQ)</b>	19.5%	11.1%	1.7%	0.27%	(4.46%)
<input type="checkbox"/>  <b>Sunrun Inc. (NasdaqGS:RUN)</b>	24.1%	14.9%	(15.4%)	(106.50%)	13.79%
<input type="checkbox"/>  <b>JinkoSolar Holding Co., Ltd. (NYSE:JKS)</b>	3.1%	1.1%	(9.7%)	(4.99%)	(34.27%)
<input type="checkbox"/>  <b>JA Solar Technology Co., Ltd. (SZSE:002459)</b>	(1.7%)	5.7%	(8.7%)	(14.69%)	(30.74%)
<input type="checkbox"/>  <b>LONGi Green Energy Technology Co., Ltd. (SHSE:601012)</b>	(5.4%)	(3.5%)	(13.4%)	(7.39%)	(20.31%)
<input type="checkbox"/>  <b>Trina Solar Co., Ltd. (SHSE:688599)</b>	2.1%	0.3%	(10.5%)	(10.13%)	(29.69%)
<input type="checkbox"/>  <b>Enphase Energy, Inc. (NasdaqGM:ENPH)</b>	31.9%	18.6%	13.7%	12.93%	20.97%
<input type="checkbox"/>  <b>Skyworks Solutions, Inc. (NasdaqGS:SWKS)</b>	41.2%	23.8%	12.5%	11.67%	(2.18%)
<input type="checkbox"/>  <b>Sanan Optoelectronics Co.,Ltd (SHSE:600703)</b>	11.9%	21.2%	(0.0%)	0.52%	14.70%
<input type="checkbox"/>  <b>ON Semiconductor Corporation (NasdaqGS:ON)</b>	40.2%	30.0%	19.7%	5.16%	(16.13%)

## Debt Type

	Sep 2025	Jun 2025	% Change
Commercial Paper	0	0	–
Revolving Credit	61 045	21 444	▲ 184.78%
Term Loans	577 485	808 140	▼ -28.51%
Bond and Notes	0	0	–
Leases	122 001	80 647	▲ 51.34%
Other Debt	0	0	–
<b>Total Debt</b>	<b>760 530</b>	<b>910 232</b>	<b>▼ -16.41%</b>