

SECTOR UPDATE

Renewable Energy – China

Solar: Combined Power Capacities Of Solar And Wind To Surpass Coal in 2024; EU Mulls Protective Measures For Solar Manufacturers

China’s solar annual installation hit a new high in 2023 at 216.88GW, equivalent to the total for the past four years. CEC expects solar and wind power generating capacity to reach 780GW and 530GW respectively in 2024, with a combined capacity of 1,300GW by end-24 and surpassing thermal power plants’ capacities for the first time. European module manufacturers are facing an existential threat and on the brink of bankruptcy, and are petitioning for government aid and more aggressive protective measures. Maintain MARKET WEIGHT.

WHAT’S NEW

- **China added 216.88GW of new solar PV capacity in 2023, a new record high.** According to National Energy Administration (NEA), solar capacity expanded by 216.88GW in 2023 (+148.12% yoy), which is equivalent to the sum of annual installations of the past four years. China’s overall power generation capacity expanded by 351.67GW in 2023, with solar/wind contributing 61.7%/21.5% respectively.
- **CEC: Renewable energy installed capacity to surpass that of coal in 2024.** As of end-23, domestic power generation installed capacity had reached 2,919.65GW (+13.9% yoy). Solar/wind power installed capacity reached 609.49GW/441.34GW (+55.2%/+20.7% yoy) respectively. China Electricity Council (CEC) estimates domestic power generation installed capacity to reach 3,250GW (+12.5% yoy) by end-24. Another 300GW is expected to be added in 2024, of which renewable energy remains as the largest contributor at 200GW.
- Based on CEC’s forecasts, solar/wind energy’s installed capacity should reach 780GW/530GW by end-24. The combined capacity of about 1,300GW will make up 40% of overall capacity, surpassing coal power plant capacity for the first time (which is also expected to decline to 37% (2023: 39.9%)). This also means that China will achieve its targeted 1,200GW in combined wind and solar power capacity six years ahead of its initial target.
- **China exports 208GW of solar modules in 2023 (+34% yoy).** According to PV Infolink, China exported 208GW (+34% yoy) of solar modules in 2023, with Europe/Asia-Pacific/Americas accounting for 48.8%/25.9%/14.5% respectively. In Dec 23, China exported 16.2GW of solar modules (-8.6% mom/+50% yoy). Overall export volume remained resilient in 4Q23 despite the pace of growth being dragged by the high inventory level in Europe. 4Q23’s export volume was mainly supported by India and Brazil, where demand was frontloaded due to the upcoming implementation of Approved List of Models and Manufacturers (ALMM) in India and the expiration of Law 14.300 in Brazil.

MARKET WEIGHT

(Maintained)

SECTOR PICKS

Company	Rec	Target Price (Rmb)	Share Price (Rmb)
Longi	BUY	27.39	18.17

Source: UOB Kay Hian

ANALYST(S)

Ziv Ang Sze Champ  
+603 2147 1826  
zivang@uobkayhian.com

PEER COMPARISON

Company	Ticker	Rec	Price @	Target	Upside/ (Downside)	Market Cap (USD m)	PE		P/B		EV/EBITDA		ROE (%)
			5 Feb 24 (lcy)	Price (lcy)	to TP (%)		2023F (x)	2025F (x)	2023F (x)	2024F (x)	2023F (x)	2024F (x)	
<b>Polysilicon</b>													
Tongwei	600438 CH	NR	23.83	NR	NR	14,904.0	6.1	8.8	1.6	1.4	4.2	5.7	26.0
Xinjiang Daqo	688303 CH	NR	26.61	NR	NR	7,929.3	9.5	16.8	1.1	1.1	4.8	8.1	13.5
GCL Tech	3800 HK	NR	0.91	NR	NR	3,133.8	3.1	3.9	0.5	0.4	3.0	3.5	14.9
Xinte Energy	1799 HK	NR	8.92	NR	NR	1,630.6	2.1	4.2	0.3	0.3	3.2	4.6	15.6
<b>Wafer / Battery Cell / Module</b>													
Longi	601012 CH	BUY	18.17	27.39	50.7	19,128.8	9.1	8.9	1.9	1.6	6.6	6.3	20.8
TCL Zhonghuan	002129 CH	NR	10.89	NR	NR	6,116.7	6.0	5.1	1.0	0.8	7.1	6.5	15.7
Aiko Solar	600732 CH	NR	12.86	NR	NR	3,266.2	9.4	6.8	2.1	1.7	7.4	6.7	20.9
Jinko Solar	688223 CH	NR	7.70	NR	NR	10,702.7	9.7	9.3	2.3	1.9	7.3	7.0	24.3
JA Solar	002459 CH	NR	15.98	NR	NR	7,362.1	6.1	6.0	1.5	1.2	5.2	4.8	25.2
Trina Solar	688599 CH	NR	21.78	NR	NR	6,594.2	7.1	6.5	1.5	1.3	7.8	6.9	20.9

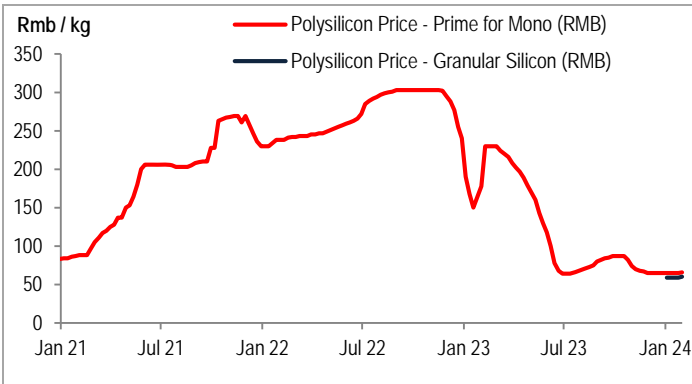
Source: Bloomberg, UOB Kay Hian

- **China exported 101.5GW of modules to Europe in 2023 (+17% yoy).** Module exports to Europe have been trending down after peaking in 2Q23, dragged by high inventory levels after import volume soared at the beginning of the year. Part of the inventory in Europe was diverted to other countries while the current Red Sea shipping crisis has also seen end-users resuming procurement. As some module manufacturers in Europe have halved their inventories as compared with end-Oct 23's level, the demand outlook may not be as pessimistic assuming that no additional trade protective measures are announced.
- **Potentially more aggressive trade protectionist measures from Europe.** The European Solar Manufacturing Council (ESMC) has requested the EU to launch emergency measures, including buying up excess inventories, giving financial aids and more aggressive trade protectionism, due to the risk of a wave of bankruptcies in the region in the coming weeks.
- **Fast-paced capacity expansion and fierce competition among Chinese players have led to an accelerated decline in solar module prices,** making it harder for manufacturers outside of China to compete. The production cost of solar modules in Europe is more than double that of the current spot price. We will monitor if the EU announces more aggressive measures to protect their local companies, including implementing additional sanctions/tariffs on Chinese-made modules, at the expense of their end-users' benefits.
- European Commissioner Mairead McGuinness has recently told the European Parliament that the EU was working on a vast set of instruments to support the solar industry, but she stressed that any potential measure have to be weighed against the energy transition target EU has set, which is to achieve 750GW solar power generation capacity by 2030 (2023: 260 GW).
- The EU installed a record 55.9GW of solar capacity in 2023, well above the 40GW added in 2022. However, SolarPower Europe estimates only less than 3% of Europe's solar demand was completely sourced locally. It is worth mentioning that the EU's Net Zero Industry Act (NZIA) has proposed a target of 30GW of solar manufacturing capacity in the EU by 2030, which means they will not be able to achieve the target without importing solar modules.
- **Polysilicon spot price sees first rebound since end-Nov 23.** Polysilicon spot price rebounded last week by about 2% w/w, the first rebound since end-Nov 23. The resilient demand was supported by the wafer segment which is still maintaining high capacity utilisation, betting on the post-CNY demand recovery, while also risking another collapse in prices if demand recovery falls short of expectations. With the CNY holidays approaching, module production output should slow further in the following weeks. Hence, we do not expect any major fluctuations in spot prices across the supply chain.

#### ESSENTIALS

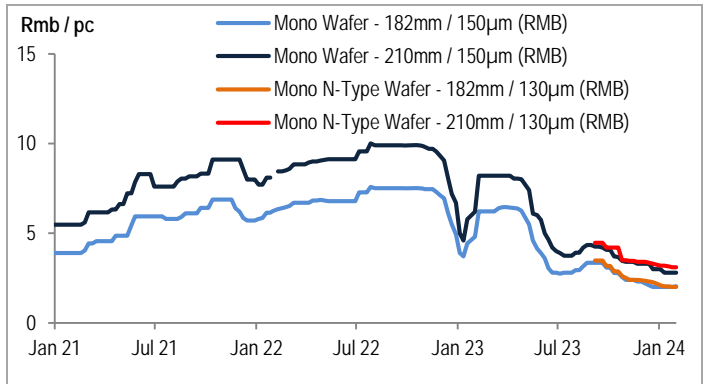
- **We maintain MARKET WEIGHT on the renewable energy sector (solar energy equipment).** Overcapacity concerns and increasing trade restrictions are still suppressing the valuation of solar energy equipment names despite robust global module installations. We believe the competitive landscape for solar module is unlikely to undergo significant changes in the short-to-medium term despite the supply chain localisation trend, as the technological advancement and cost-effective production of Chinese solar module manufacturers will enable them to continue dominating the industry. Industry consolidation seems to have started to accelerate while capacity growth should slow significantly in 2024. The top four vertically integrated players should be the key beneficiaries.
- **Maintain BUY on Longi Green Energy Technology with a target price of Rmb27.39, pegged to 11.5x 2024F PE (-1SD).** Longi is expected to remain as the largest vertically-integrated solar module manufacturer globally, backed by the considerable scale of its projects in the pipeline. Longi is set to be one of the first to ride on the valuation recovery momentum as the consolidation accelerates and demand recovers after the CNY holidays. Given the current undervalued share price, Longi has just announced a share buyback scheme of Rmb300m-600m, using the company's cash on hand.

### POLYSILICON PRICES



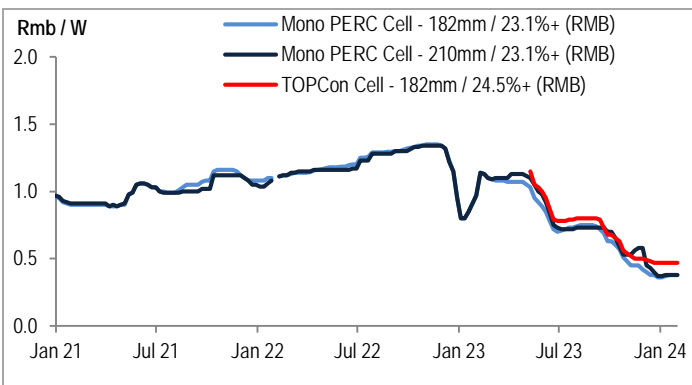
Source: PV Infolink, UOB Kay Hian

### WAFER PRICES



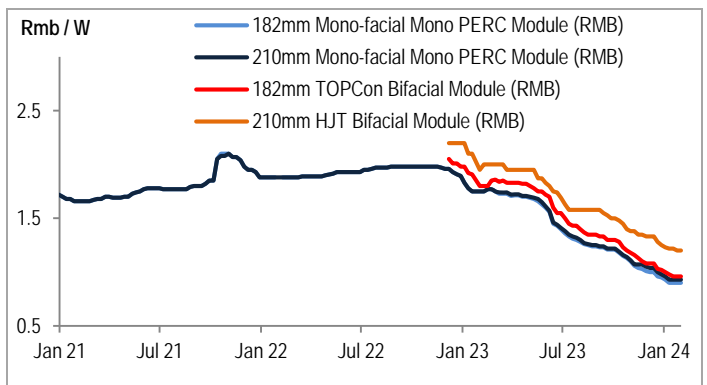
Source: PV Infolink, UOB Kay Hian

### BATTERY CELL PRICES



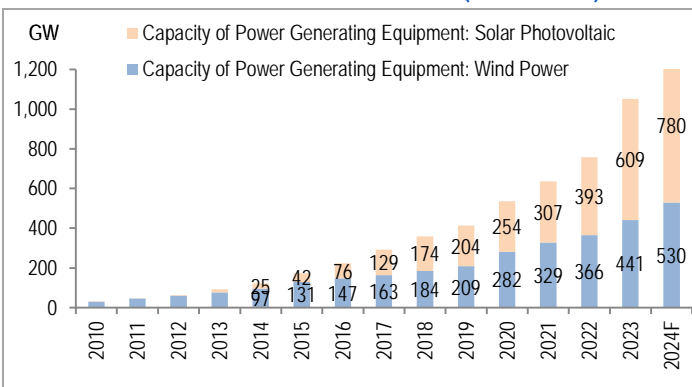
Source: PV Infolink, UOB Kay Hian

### MODULE PRICES



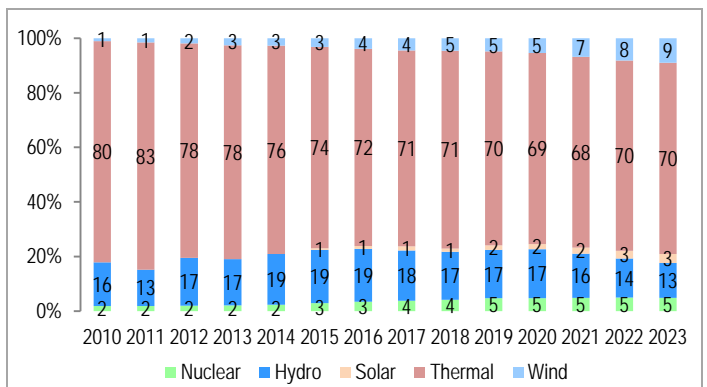
Source: PV Infolink, UOB Kay Hian

### CAPACITY OF POWER GENERATION EQUIPMENT (SOLAR+WIND)



Source: National Energy Administration, China Electricity Council, UOB Kay Hian

### CONTRIBUTION RATIO OF POWER SOURCE



Source: PV Infolink, UOB Kay Hian

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