

Utilities - HK/China (H)

Watt's Up #9: Post-CNY solar update, Trina 4Q miss, NEA on low carbon

Industry Overview

Power: NEA on accelerating low-carbon transition

Head of NEA Zhang Jianhua stated that greater-than-expected energy demand growth, faltering progress on decarbonization, and limitations on new energy capacity installation have become the major obstacles in achieving China's climate goals (per South China Morning Post, Feb 19). For instance, the average annual growth in energy consumption in 2021-23 was 1.8 times that of the previous five years, and the rigorous growth is expected to persist, making it more difficult to coordinate energy security and achieve a low-carbon transition. Also, China's energy consumption intensity is 1.5 times the world average, with six major industries accounting for 75% of the national total. The progress in reducing energy consumption per unit of GDP during the 14th FYP is lagging expectations. In addition, resources constraints limit major projects constructions.

Zhang suggested: 1) 70% of new energy consumption be supplied by non-fossil sources before 2030. He mentioned hydro power development, nuclear power construction, offshore wind power base, and lastly distributed RE projects.; 2) Expanding green power consumption, promoting the orderly connection of power market, green certificate market, and carbon market, and enhance full coverage of green certificate issuance.

We believe the rally in renewables could be related to these comments. However, we think the policy support may not come soon and the renewables tariff may still be under pressure in the near term.

Wind: Top 3 WTG makers dominate the domestic market

BloombergNEF reported on Feb 19 that China's top 3 wind turbine generator (WTG) manufacturers Goldwind, Envision Energy and Windey took 53% of the total wind addition of 77GW in China in 2023. The surge in renewable energy (RE) installations, including 217GW of solar, was driven by the end of pandemic curbs and RE addition in deserts and interior regions. With more than 12 domestic WTG producers, Vestas was the only overseas maker in China (<1% market share) in the past 2 years.

Solar: Module utilization hit 23% in February

Hxny.com quoted InfoLink data on Feb 20, that the overall Chinese module utilization rate hit 23% in Feb, and the utilization rate for the Top 9 module makers was 49%. Shanghai Metals Market (SMM) forecasts that Feb domestic module output < 30GW, or - c.20% MoM compared to 35.5GW in Jan. Solar cell added 151GW of new capacity in 2023, but current utilization was only at c.50% for large producers. InfoLink data shows 58GW of PERC capacity had been shut down by early Feb, and 86GW are scheduled to be upgraded to N-type capacity. Industry forecasts Feb cell output may hit below 40GW as leading cell makers lowered operating rate and some small-scale companies have been "washed out" due to lack of cash. Utilization rate for upstream segment, such as silicon and wafer, are better than that of downstream. (more on next page)

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NEA: National Energy Administration

FYP: Five-Year Plan

RE: renewable energy

EIA: US Energy Information
AdministrationBNEF: Bloomberg New Energy
Finance

PV: Photovoltaic

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Solar: Post-CNY largely stable but quotes look to rise

InfoLink released weekly prices on Feb 22, prices remained stable after the Spring Festival holidays throughout the solar supply chain. Silicon price was stable at RMB68/kg. N-type wafer price remained at RMB2-3.1/piece vs RMB2.05-2.8/piece of P type. InfoLink predicts Feb N-type wafer output will reach 43GW with 73% market share. TOPCon/PERC (Tunnel Oxide Passivated Contact / Passivated Emitter and Rear Cell) cell price gap was steady at RMB0.08-0.09/W, and tier-1 cell producers can sell at a premium, with high efficiency product price at RMB0.39-0.4/W. PERC module priced at RMB0.88-0.9/W, TOPCon module price averaged at RMB0.95-0.98/W, and HJT module price ranged at RMB1.04-1.25/W.

Other channel checks suggest resellers are hearing module price quotes from top manufacturers at RMB2-3c/W but whether the price hike can stay remains to be seen.

Global February output is expected to be 37-38GW, and better demand forecast in March will likely boost scheduled production to 50GW+.

Solar: India suspends reimposition of ALMM

India Ministry of New and Renewable Energy announced on Feb 15 that the planned reinstatement of Approved List of Models & Manufacturers (ALMM) from Apr 1, 2024, will be paused for further notice. The ALMM will apply to all government subsidized projects, but projects in late stages of construction, with solar modules procured before Mar 31 will be exempted. Effectively Chinese solar products can continue to export to the India market.

Solar: EIA sees US to add 36.4GW solar power in 2024

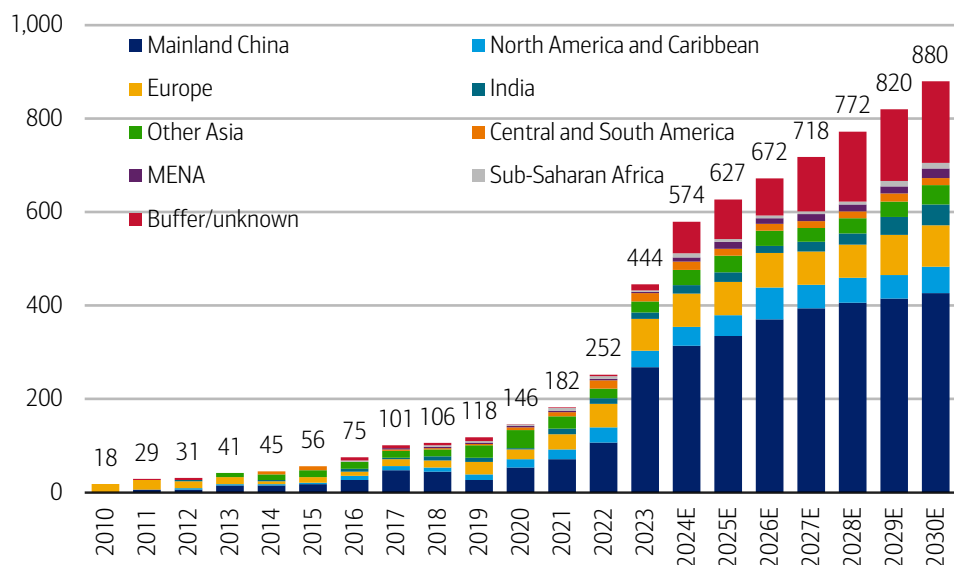
US Energy Information Administration's (EIA) estimates US will add 62.8GW power capacity in 2024, among which solar will account for 58% or 36.4GW. EIA forecasts 470 new solar projects and 220 energy storage projects will come online in 2024, the surging capacity will mainly be supported by some large-scale project portfolios, such as the 515MW of Renegade Renewables' Dawn project in Texas and the 690MW solar power plus 380MW/1.4GWh of energy storage capacity of Primergy's Gemini project in Nevada. EIA also expects US to add 14.3GW new battery capacity, which is the second largest capacity addition other than solar, and the total operational energy storage capacity to double in 2024.

Solar: BNEF new solar forecast of 574GW(dc) in 2024

On Feb 19, BloombergNEF updated the forecast of global solar installation to 574GW (dc) in 2024, an YoY increase of 29% compared to 444GW(dc) in 2023 and increase by 12% from the previous forecast of 511GW (dc). BNEF raised forecast of Chinese PV installation to 314GW(dc), up by 23% compared to previous forecast of 256GW(dc). They revised down India forecast by 1%, the only downward adjustment of the TOP 5 countries.

Exhibit 1: Global PV Market Outlook (GWdc)

BNEF historical and forecast for global PV installations



Source: BloombergNEF, BofA Global Research

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Solar: Drinda H-share IPO and PERC impairment

On Feb 21, Hainan Drinda New Energy Technology (Drinda) released FY23 profit alert and booked Rmb 900mn impairment related to its 9.5GW PERC capacity. Drinda is planning H-share IPO to support its overseas capacity expansion and R&D expenses.

ZhihuiPV estimates P-type product market share below 35% in 2024, with demand at 210GW (total module demand at 600GW). This would lead to c.500GW PERC impairment given YE23 PERC capacity at 800GW. ZhihuiPV estimates that the impairment of PERC capacity for the whole industry will reach RMB50bn in 2024 based on Drinda's per GW impairment.

Solar: 10GW wafer expansion suspended on price concern

PV-tech reported on Feb 18, US manufacturer CubicPV announced that it is terminating the expansion of 10GW solar wafer in the US and instead focusing on perovskite solar cell research. CubicPV explains the termination was due to the wafer price slump and construction cost spike. CubicPV was one of the first US companies to give up their expansion plan because of price pressure and the Inflation Reduction Act (IRA) mainly stimulate investment to modules instead of upstream segment like wafer.

Solar: 9GW TOPCon cell & module expansion approved

On Feb 20, Jiangxi provincial government released the environmental impact assessment of 3GW TOPCon cell and 6GW module capacity expansion from Jiangxi Zhuosen New Energy. The project investment is RMB4bn.

Renewables: Capacity addition targets by province

According to Electric Power, China needs to install at least 378GW of wind & solar capacity in 2024-25 to meet the provincial 14th Five-Year Plan targets. For wind, the high growth provinces include Inner Mongolia (+19GW), Gansu, Hebei and Guangxi (each +10GW), Guangdong and Jilin (+9GW each). For solar, installations could be led by Yunnan (+47 GW), Shanxi and Guangxi (over 25GW each).

Exhibit 2: Provincial solar & wind installation during 14th Five-Year Plan

31 provinces solar & wind installations

GW	14th FYP solar		2024-25 solar &		2024-25 wind target gap
	2020-23 solar & wind addition	target	wind target gap	target gap	
Anhui	22	18	-3	-4	1
Beijing	1	2	2	1	0.1
Chongqing	2	4	2	0.4	1
Fujian	9	7	-2	-4	1
Gansu	28	57	29	16	12
Guangdong	28	40	12	3	9
Guangxi	15	31	16	4	12
Guizhou	6	25	19	15	5
Hainan	3	8	5	2	3
Hebei	41	52	11	-0.2	12
Heilongjiang	7	21	14	n.a.	n.a.
Henan	32	20	-12	n.a.	n.a.
Hubei	21	20	-1	-3	2
Hunan	12	14	3	0.5	2
Inner Mongolia	42	84	41	22	19
Jiangsu	30	31	1	-4	5
Jiangxi	13	18	5	4	1
Jilin	8	21	13	3	9
Liaoning	10	23	13	n.a.	n.a.
Ningxia	10	24	14	11	3
Qinghai	13	38	25	20	5
Shaanxi	16	38	22	15	7
Shandong	42	53	11	8	3
Shanghai	2	5	3	1	2
Shanxi	17	47	30	25	5
Sichuan	7	26	19	16	3
Tianjin	4	5	1	1	0.3
Xinjiang	26	38	12	6	6
Xizang	1	9	7	8	-1
Yunnan	23	73	50	47	3
Zhejiang	22	17	-5	-6	1
Total	516	869	354	208	130

Source: BofA Global Research, Wind Mango

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BofA Utilities events takeaways

We highlight our takeaways notes from our recent events below:

[Solar - China: New norm with low price, no turnaround before 2025/26 – expert call takeaways](#)

[Solar - China: Capacity exit could drive a recovery in solar module prices in 2H24E](#)

[Solar - China: Wood Mackenzie solar expert call takeaways](#)

[Solar - China: European solar channel checks with Huasun Energy](#)

[Solar - China: Key takeaways from solar expert call with Rystad Energy](#)

[Wind - China: Longyuan conference call takeaways](#)

[Wind - China: Key takeaways from expert call with China Wind Energy Association](#)



Gas - CR Gas call takeaways: gas cost is lower YoY and connection volume is well supported

Power - Huadian Power International call takeaways

Power - China: Key takeaways from call with Oxford Institute for Energy Studies

Power - China: Key takeaways from power tariffs & reforms expert call with Ms Peng Peng

Power - China: Takeaways from power expert call with former Director at China Electricity Council

Water - Beijing Enterprises Water: Call takeaways: saw better cash collection rate and water supply tariff

Exhibit 3: Valuation comparison table for China Utilities and Renewable companies

Selected valuation metrics for utility and renewable sector companies in 2023-25E

		Prices (LCY)			PE		PB		EPS Growth			ROE			Dividend yield		
		2023E	2024E	2025E	2023E	2024E	2025E	2023E	2024E	2025E	2023E	2024E	2025E	2023E	2024E	2025E	
Wind																	
Longyuan -H	916 HK	5.5	6.2	4.7	3.5	0.6	0.5	0.5	38%	32%	33%	10%	12%	14%	3%	4%	6%
Datang Renewables	1798 HK	1.9	5.1	5.4	4.7	0.4	0.4	0.3	-16%	-5%	15%	8%	7%	7%	2%	2%	3%
Goldwind-H	2208 HK	3.0	4.6	4.5	3.5	0.3	0.3	0.3	10%	4%	28%	8%	8%	10%	6%	7%	9%
IPPs																	
China Resources Power	836 HK	17.3	7.7	6.2	5.7	0.9	0.9	0.8	53%	24%	9%	13%	15%	15%	5%	9%	7%
Huaneng-H	902 HK	4.5	6.0	5.7	5.2	1.0	0.8	0.7	n.a.	4%	11%	18%	16%	15%	8%	9%	10%
Huadian-H	1071 HK	3.8	7.1	6.5	5.9	0.8	0.7	0.6	n.a.	9%	11%	12%	12%	11%	7%	8%	9%
CPID	2380 HK	3.2	11.0	7.0	6.2	0.9	0.8	0.8	20%	58%	12%	8%	12%	13%	5%	8%	9%
Gas																	
ENN Energy	2688 HK	62.0	9.4	10.3	9.9	1.5	1.4	1.3	17%	-9%	4%	18%	14%	13%	5%	4%	4%
China Resources Gas	1193 HK	23.5	8.8	8.9	8.1	1.2	1.2	1.1	27%	-1%	11%	15%	13%	14%	6%	6%	6%
China Gas	384 HK	7.2	10.0	7.6	7.1	0.7	0.6	0.6	-10%	31%	7%	7%	8%	9%	7%	8%	9%
Beijing Enterprises Holding	392 HK	30.9	5.5	5.2	4.6	0.4	0.4	0.4	-7%	6%	12%	8%	8%	8%	5%	6%	8%
Environmental protection																	
Everbright Environment	257 HK	3.0	4.3	4.3	4.4	0.4	0.4	0.3	-5%	-2%	0%	9%	8%	8%	8%	7%	7%
Beijing Enterprises Water	371 HK	1.9	8.7	8.7	8.1	0.6	0.6	0.6	70%	0%	7%	7%	7%	7%	8%	8%	8%
HK Utilities																	
CK Infrastructure	1038 HK	46.6	16.0	14.7	14.2	1.0	1.0	1.0	-6%	9%	3%	6%	7%	7%	6%	6%	6%
CLP Holdings	2 HK	64.5	14.7	12.8	12.4	1.5	1.4	1.4	1103%	14%	4%	10%	11%	11%	5%	5%	5%
Guangdong Investment	270 HK	4.8	7.8	7.1	5.9	0.7	0.7	0.7	-15%	9%	21%	9%	10%	12%	13%	13%	13%

Source: BofA Global Research estimates

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Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

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