

# CR Power (836 HK)

## Unlock potential value

In 2023, CR Power aims to achieve newly-added attributable installed capacity of 7,000MW in wind and solar power. We estimate CRP will achieve 3850 MW newly-added attributable installed capacity of solar power and 3150 MW of wind power, as lower upstream costs increase installation willingness. Additionally, CRP's announcement on the spin-off of its new energy business to A shares will unlock the CR Power's valuation. Besides, we regard the segment profit of thermal power will improve in 2023 as well, driven by: 1) active signing of long-term coal contracts with higher implementation rate; 2) lower imported coal prices; 3) better thermal power tariff based on electricity market reforms. **CR power is trading at 0.90x/0.81x PB for FY23/24E, which is lower than its peers hist. avg. PB of 1.4/1.2x. The valuation is attractive. We initiate coverage and arrive at a SOTP-based TP of HK\$23.2 with BUY rating, based on 1.4x FY23E PB of renewable segment and 0.7x FY23 forward PB of thermal segment.**

- **CR Power's new energy business is expected to grow rapidly, and the spin-off of the new energy business to A-shares will be beneficial to the overall valuation.** CR Power's target for newly-added installed capacity of wind and solar power in 2023 is 7,000MW, with an expected higher installation willingness in solar power due to the decrease in upstream costs. We anticipate the Company's newly-added attributable installed capacity of solar power to be 3,850 MW and 3,150MW of wind power in 2023. For 2025, CR Power targets to reach total wind and solar attributable installed capacity of 40GW. In order to better achieve this goal, CR power announced its spin-off of the new energy business to A-shares to acquire more funds, which will also help improve the overall valuation and obtain more capital to invest in the new energy construction.
- **The recent drop in thermal coal prices is expected to improve the Company's thermal power business profits and lower costs.** In 2023, we estimate the average unit fuel cost decrease by 5% YoY to RMB322.1/MWh, and the thermal power tariff expect to increase 2%YoY to RMB436/kWh, leading to better profit improvement in CR Power's thermal power business. The improvement can be attributed to active signing of long-term coal contracts with higher fulfilment rates, benefitting from lower imported coal prices to manage coal cost fluctuations, electricity market reforms and optimized electricity price policies to divert coal costs.
- **We initiate coverage of CR Power and arrive at a SOTP-based TP of HK\$23.2 with BUY rating.** CR power is trading at 0.90x/0.81x PB for FY23/24E, which is lower than its peer's avg. PB of 1.4x/1.2x. The valuation is attractive. We arrive at a SOTP-based TP of HK\$23.2 with BUY rating, based on 1.4x FY23E PB of renewable segment (~peers avg. PB of 1.4x in FY23E) and 0.7x FY23 forward PB of thermal segment (~peers avg. PB of around 0.8x in FY23E).

### Earnings Summary

(YE 31 Dec)	FY21A	FY22A	FY23E	FY24E	FY25E
Revenue (HK\$ mn)	89,800	103,305	112,940	121,074	129,603
Net profit (HK\$ mn)	1,592.7	7,042.5	12,299.3	14,803.9	17,634.0
EPS (Reported) (HK\$)	0.33	1.46	2.56	3.08	3.67
YoY growth (%)	(79.0)	342.2	74.6	20.4	19.1
Consensus EPS (HK\$)	na	1.46	2.45	2.94	3.31
P/E (x)	6.2	5.4	7.0	5.9	5.1
P/B (x)	0.8	0.7	0.9	0.8	0.7
ROE (%)	1.8	8.3	14.1	15.3	16.4

Source: Company data, Bloomberg, CMBIGM estimates

## BUY

**Target Price** HK\$23.20  
**UP/Downside%** 35.4%  
**Current Price** HK\$17.14

### China Energy

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### Stock Data

Mkt Cap (HK\$ mn)	82,451
Avg 3 mths t/o (HK\$ mn)	253.90
52w High/Low (HK\$)	18.77/10.98
Total Issued Shares (mn)	4,810

Source: FactSet

### Shareholding Structure

CRH Power Ltd	62.9%
First Seafront Fund	4.2%

Source: HKEx

### Share Performance

	Absolute	Relative
1-mth	-0.5%	-0.7%
3-mth	6.8%	7.0%
6-mth	30.7%	30.3%

Source: FactSet

### 12-mth Price Performance

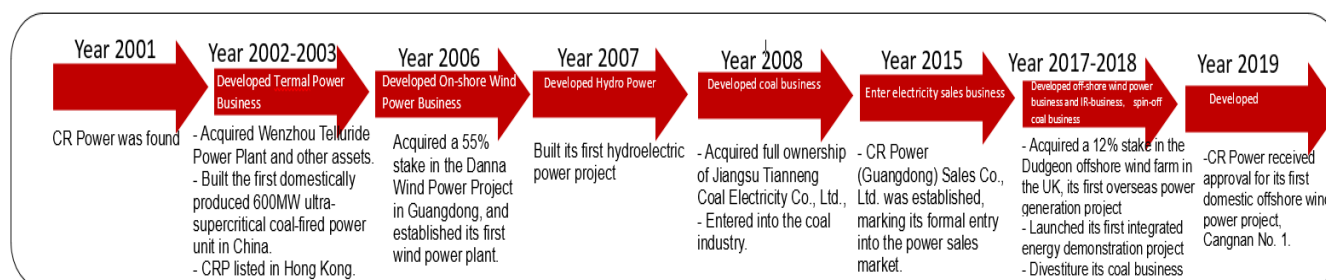


Source: FactSet

## CR power's company background

China Resources Power Holdings Co., Ltd. (CRP) was established in 2001 and listed on the main board of the SEHK in 2003. CR Power is a company under China Resources Group and is one of the most efficient and profitable integrated energy companies in China, with business covering renewable power, thermal power, hydropower, electricity sales, comprehensive energy services and others. From 2003 to 2022, CR Power's total assets, operating profit increased several times.

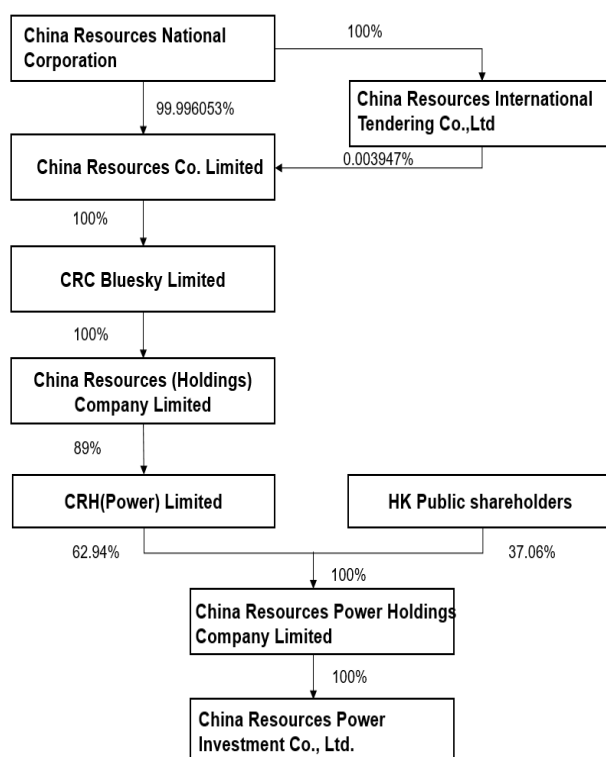
**Figure 1: CRP's development process**



Source: Company data, CMBIGM estimates

China Resources Group (CRG) is the parent company of CRP and was founded in Hong Kong in 1938. Over the past 80 years, it has become a diversified enterprise with businesses in consumer goods, energy, construction, healthcare, and several areas. Through comprehensive development and mutual assistance, CRG has achieved synergies among its business areas, offering solid support for the CR Power's development.

**Figure 2: CRP's shareholding structure**



Source: Company data, CMBIGM estimates

By 2022, CR Power had 246 power plants in operation, including 42 coal-fired plants, 159 wind farms, 38 photovoltaic plants, 2 hydroelectric plants, and 5 gas-fired plants.

Additionally, CRP's primary assets are located in provinces with fast-growing areas. Its power plants are mainly situated in regions with developed economies, such as East China, Central China, and South China. The Company's operations cover all 31 provinces, autonomous regions, municipalities, and special administrative regions in China.

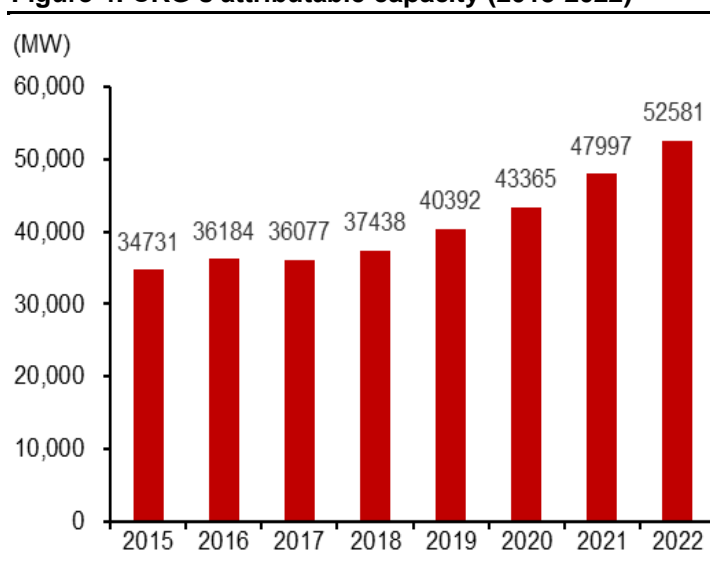
The Company's total operational generation capacity was 52,581MW, with 28.7% of the total attributable operational generation capacity located in Central China, 26.9% in Eastern China, 15.5% in Southern China, 14.7% in Northern China, 5.8% in Northwestern China, 5.0% in Northeastern China, and 3.4% in Southwestern China. Moreover, CR Power's wind, hydroelectric, and photovoltaic plants had an attributable operational generation capacity of 17,004MW, which accounted for approximately 32.3% of its total attributable operational generation capacity.

**Figure 3: CR Power's service area(2020-25E)**



Source: Company data, CMBIGM estimates

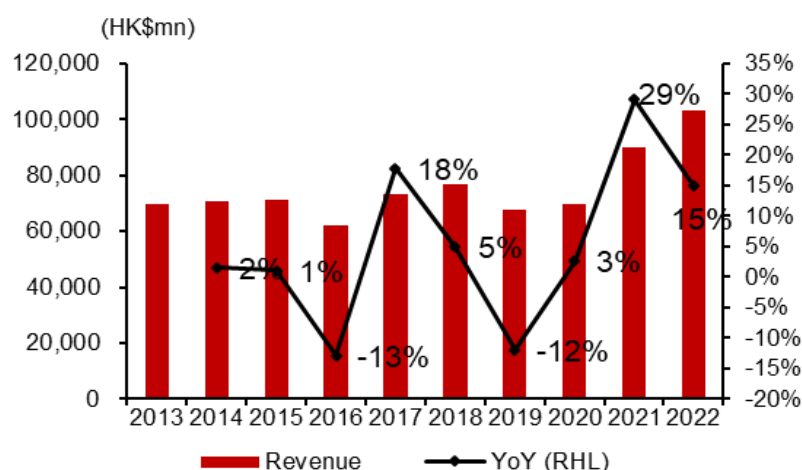
**Figure 4: CRG's attributable capacity (2015-2022)**



Source: Company data, CMBIGM estimates

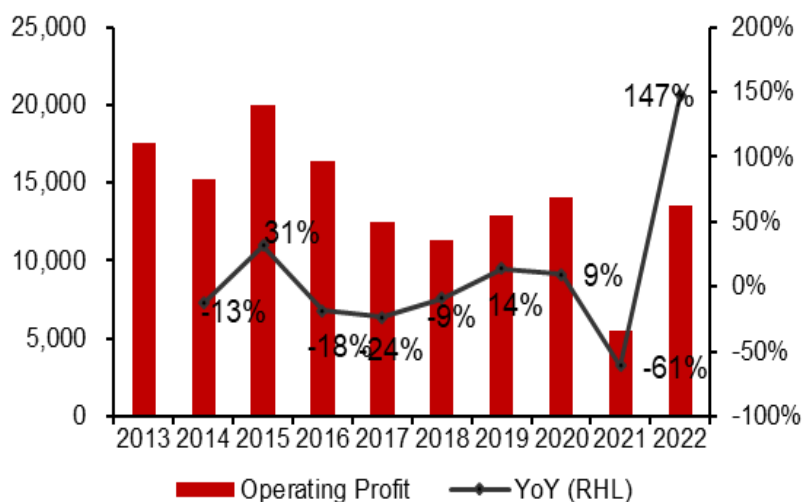
## Business brief of CR Power

Although CRP's revenue has experienced some volatility due to fluctuations in thermal power prices and foreign exchange rates, it has shown a steady growth trend over the past several years. Between 2013 and 2022, revenue increased from HK\$ 68.92 bn to HK\$ 103.3 bn. However, revenue declined in 2016 and 2019, with a 5.99% YoY decrease in 2016 due to lower thermal power prices and foreign exchange rates, and an 11.93% YoY decrease in 2019 due to the spin-off of the coal business.

**Figure 5: CRP's revenue (2013-2022)**

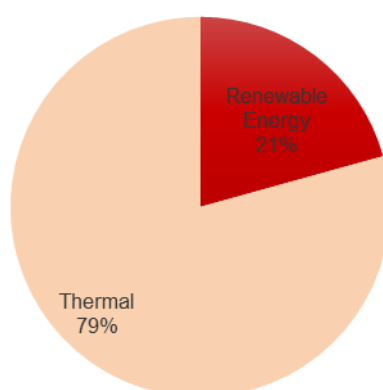
Source: Company data, CMBIGM estimates

In 2022, CRP's revenue increased by 15% YoY. Such increase was mainly attributable to :1) the 20.2% YoY rise in average on-grid tariff (ex-tax) of consolidated coal-fired power plants; 2) the 4.1% YoY increase in net generation volume of consolidated power plants ; 3) a 13.8% YoY increase in the average price (ex-tax) of the sales of heat supply of consolidated power plants, and 6.4% YoY rise in the sales of heat supply of consolidated power plants. However, the revenue increase was partially offset by depreciation of RMB against the Hong Kong dollar.

**Figure 6: CRP's operating profit (2013-2022) (HK\$mn)**

Source: Company data, CMBIGM estimates

At present, CR power is mainly engaged in two business segments – thermal power segment (inclusive of coal-fired power plants and gas-fired power plants) and renewable energy segment (inclusive of wind, photovoltaic and hydro power).

**Figure 7: Composition of CRP's revenue (FY22)**

Source: Company data, CMBIGM estimates

For 2022, CRP's thermal power business revenue recorded HK\$69.5bn while its segment recorded loss of HK\$7.16, mainly due to (1) 10.6% YoY rise in the unit cost of standard coal; (2) the 2.4% YoY increase in net generation volume of thermal power plants; and (3) the 6.4% YoY increment in heat sales volume of consolidated power plants. In particular, the increase was partially offset by the depreciation of RMB against Hong Kong dollar.

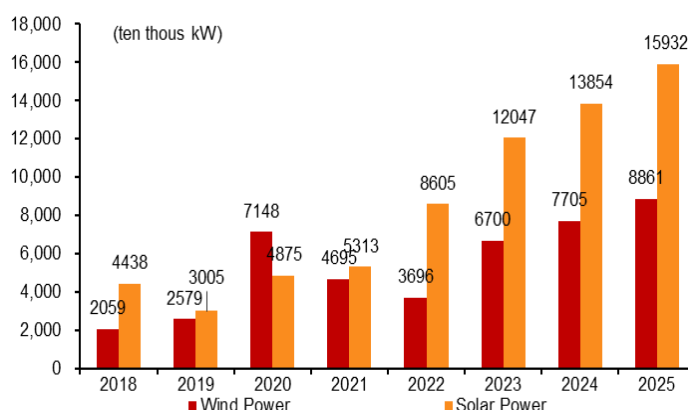
Additionally, the revenue from CR Power's renewable energy business reached HK\$20.8bn, showing significant growth, and the profit was HK\$9.982bn. The profit from the renewable energy business helped offset the losses from the thermal power business, resulting in a total profit of HK\$2.823bn for CR Power in 2022. The pre-tax profit was HK\$2.391bn.

## CRP's renewable energy business

### ▪ Industry analysis

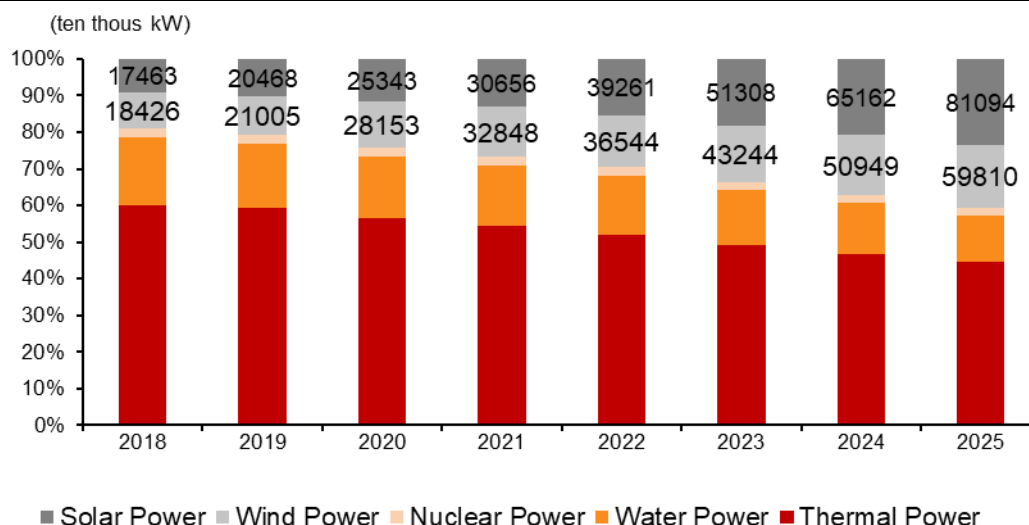
#### (1) National energy policy targets to support the future high-speed growth of the wind power and solar power generation industry

In 2022, China's cumulative installed wind power capacity reached 37GW, with a CAGR of 16.17% from 2016 to 2022. The wind and solar power installation plans for different regions in China during the 14th Five-Year Plan period are clear. We estimate China's wind power installed capacity to reach 620mn kW by 2025, with a CAGR of 17% from 2021 to 2025.

**Figure 8: Newly-added wind power and solar power installed capacity in China (2018-25E)**


Source: NBS, NEA, CMBIGM estimates

According to the data of Wind Daily and NEA, in 2022, wind power bidding exceeded 103.27 GW in China, and newly-added installed capacity of wind power achieved 37 GW. Most of the bidding capacity are expected to be grid-connected in 2023, resulting in an estimated 67 GW of newly-added installed capacity and an increase of around 81% YoY. Thus, in 2023, we predict the cumulative installed wind power capacity to be around 432 GW in China. Additionally, the newly-added installed wind power capacity in 2024 and 2025 will be up by 15% YoY and reach 77 GW and 89 GW respectively, with a predicted cumulative installed wind power capacity of 509 GW and 598 GW, maintaining around 20% YoY growth each year.

**Figure 9: Accumulated power installed capacity in China (2018-25E)**


Source: NBS, NEA, CMBIGM estimates

For solar power, China's solar power installed capacity was 392 GW in 2022, and the solar bidding capacity for 2022 was about 155 GW. Based on the views of CPIA, China's conservative prediction for newly-added installed capacity of solar power in 2023 will be 95GW, and the optimistic prediction will be 120 GW. Meanwhile, according to data from the NEA, the newly-added installed capacity of solar power in 1Q23 was 33.66 GW, up by 154.81% YoY. As of Apr 2023, domestic PV component bids have exceeded approximately 82 GW.

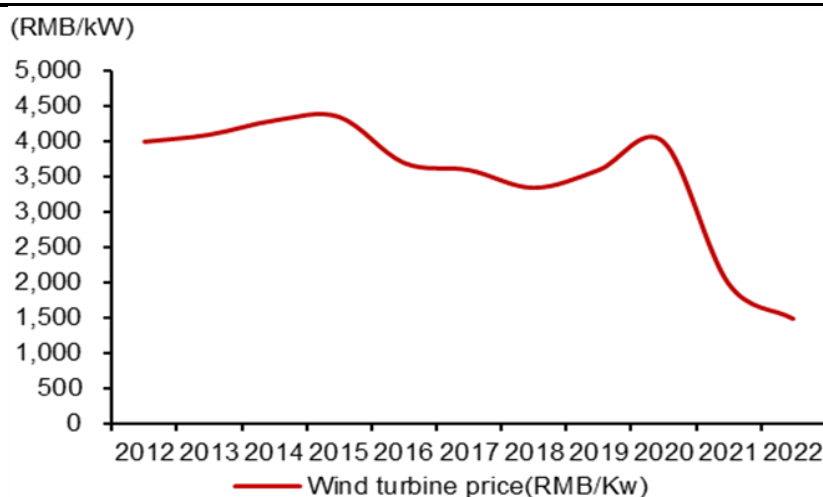


Thus, we are positive that the newly-added installed capacity of solar power in 2023 may reach 120 GW, with a total accumulative installed capacity of 513 GW for the year. Additionally, solar power will continue to maintain high growth in 2024 and 2025, and we estimate cumulative solar power installed capacity will reach 652 GW and 811 GW. By 2025, the cumulative installed capacity of wind and solar power will reach 1,409 GW, exceeding the national 14th Five-Year Plan target of 1,200 GW.

## (2) Lower upstream cost leads to higher IRR of the wind farm project, prompting CRP's investment willingness

The wind power industry in China has entered the Grid Parity Era since 2021, leading to a reduction in upstream costs and a decline in wind turbine prices. According to Wind Power Headlines, the highest price for onshore wind turbines reached RMB4,200/kW in mid-2020 and fell to the lowest at RMB1,150/kW in Feb 2023, dropping by -73%. Therefore, lower upstream costs have resulted in an increase in the IRR of wind power projects, making more projects suitable for investment by Suntien. As a result, Suntien is expected to show a higher willingness to invest in wind power installation in 2023.

**Figure 10: Wind turbine price (2012-2022)**



Source: Wind news, CMBIGM estimates

**Figure 11: Onshore wind power tariff**

Date	I Resources Area	II Resources Area	III Resources Area	IV Resources Area	Embodiment
2015	0.51	0.54	0.58	0.61	Benchmark
2016	0.49	0.52	0.56	0.61	Benchmark
2017	0.47	0.50	0.54	0.60	Benchmark
2018	0.40	0.45	0.49	0.57	Benchmark
2019(after 1st Jan)	0.34	0.39	0.43	0.52	Benchmark
2019(after 1st Jul)	0.34	0.39	0.43	0.52	Bid
2020	0.29	0.34	0.38	0.47	Bid
2021			Grid Parity		Grid Parity

Source: NDRC, CMBIGM estimates

The optimization of the industrial chain in the wind power sector reduces cost and increases efficiency, which drives the long-term growth in IRR of the wind power project. For example, if the average tariff (ex-tax) for the project is RMB0.45/kWh, the construction cost of a 100MW onshore wind power project falls from RMB4,500/kWh to RMB4,000/kWh, the IRR of the project will increase from 11% to 14.3%. Additionally, if the construction cost decreases further to RMB3,800/kWh, the IRR will increase to 15.5%.

Figure 12: Sensitivity analysis of IRR

		capital cost (RMB/watt)				
		3.5	4.0	4.5	5.0	5.5
Tariff (RMB, Incl. VAT)	0.35	9%	7%	4%	2%	1%
	0.40	14%	11%	8%	6%	4%
	0.45	18%	14%	11%	9%	7%
	0.50	22%	18%	15%	12%	10%
	0.55	26%	21%	18%	15%	13%

Assuming utilization hours of 1400

Source: CMBIGM estimates

As the IRR for wind farm projects increases thanks to lower upstream cost, more projects will meet CR Power's investment criteria IRR. Therefore, a higher IRR of the wind power project is likely to boost CR Power's investment willingness in newly-added wind power installations.

### ▪ CR Power's renewable business develops rapidly

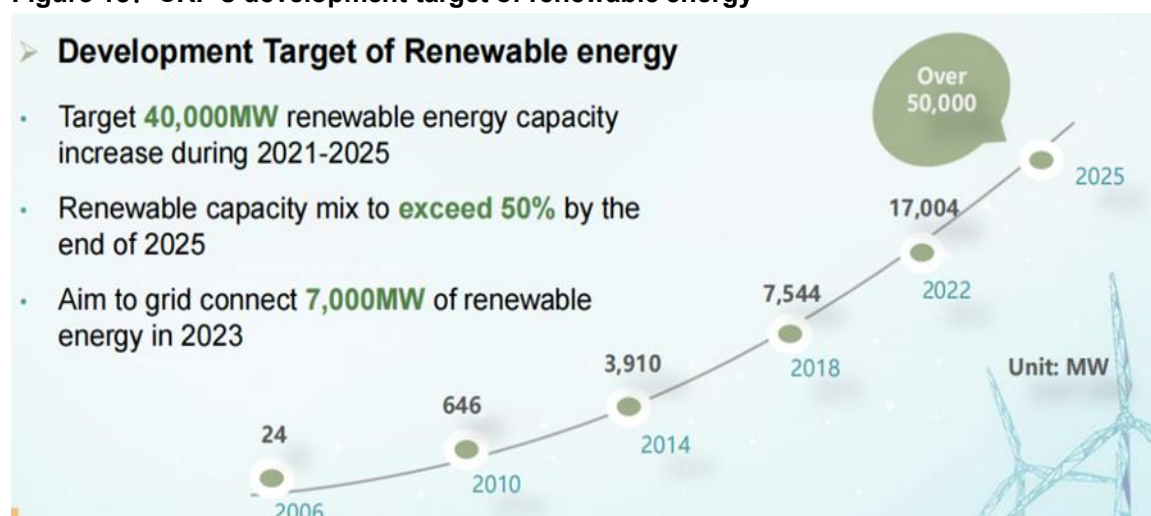
CR Power's total attributable operational generation capacity of wind, photovoltaic and hydro power projects amounted to 17,004MW, up by 0.2% YoY.

In terms of wind power generation segment, CR Power's wind power projects maintain steady growth. As the wind power enters into the parity era, the lower cost of upstream wind power components will benefit the downstream wind power operators. CR Power's wind power accumulated operational installed capacity was 15,512MW by 2022, and the newly-added installed capacity was 1,175MW. In particular, the total designed capacity of wind power projects under construction was 4,857MW.

For solar power segment, the attributable operational generation capacity of PV projects was 1,212MW in 2022, and the newly-added attributable installed capacity was 387MW. The total designed capacity of wind power projects under construction was 5,604MW.

Additionally, the Chinese government has set a goal for central enterprises to increase their proportion of renewable energy installed capacity to over 50% by 2025, as part of efforts to achieve the national "Carbon peaking and carbon neutrality goals". Major power operators have been investing more heavily in renewable energy projects. In 2023, CR power targets to add 7,000 MW of wind and PV power attributable generation capacity.

Figure 13: CRP's development target of renewable energy

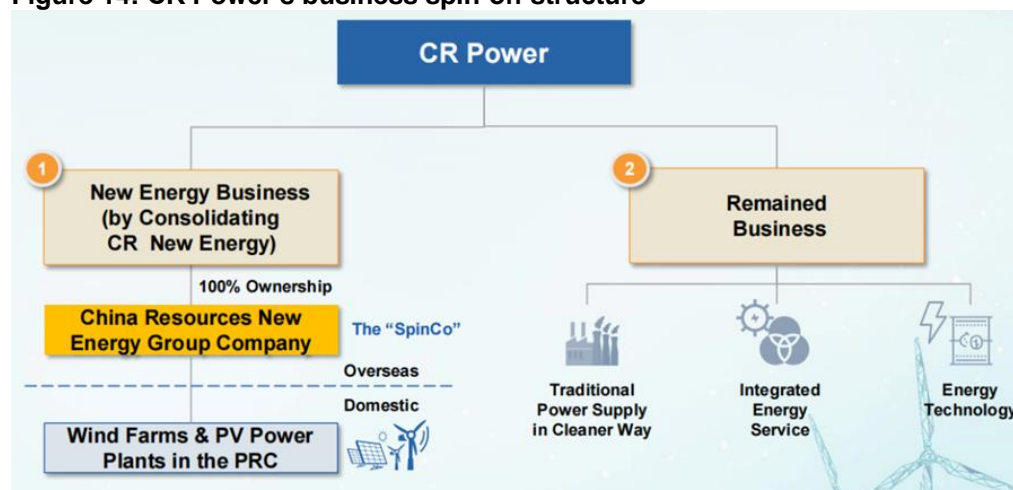


Source: Company data, CMBIGM estimates



Besides, CRP plans to accelerate the development of wind and PV projects and aims to add 40mn kW of renewable energy installed capacity by 2025. The Company will invest HK\$ 45bn in 2023, mainly in wind and PV power plants, thermal power units, and coal mine construction. Next, it plans to spin off CR New Energy and list on the A-share market in these two years.

**Figure 14: CR Power's business spin-off structure**



Source: Company data, CMBIGM estimates

#### ▪ CR Power announces spin-off and A-Share listing of subsidiary CR New Energy to unlock potential value

- CR Power plans to spin off CR New Energy and list on A-share market, issuing new A-shares of the subsidiary via public offer. The spin-off will dilute the parent company's ownership in the subsidiary to not less than 70%. The net proceeds of the spin-off will fund the construction of over 30 wind farms and photovoltaic power plant projects in China over the next three to five years, with 70% of the proceeds allocated for this purpose and 30% for general working capital.

- The SpinCo Group (CR New Energy) focuses on wind and photovoltaic power plants, while the Retained Group operates in the thermal power business, including coal-fired and gas-fired power plants, sales of electricity, and other businesses. The proposed spin-off will not result in one business supporting two listing statuses, and the Retained Group will retain sufficient operations and assets to support its separate listing status.

- The spin-off is expected to increase the market influence and brand value of SpinCo, attract strategic investors, and provide resources and collaboration opportunities to expand its renewable energy projects and promote sustainable growth. While the move will increase the cash reserves and total assets of the Group, it will not affect its liabilities. Nonetheless, it will raise funds and increase the net asset value of the Group, enabling it to further expand its business.

#### 1. Uncertainty factor elimination brings positive impact to the CR Power's stock price.

Early 2022, there were an uncertain news reported that CR Power would spin off its new energy business and list it on the Hong Kong stock market. Due to the valuations of power operator companies in the HK market were relative lower than

in A-share market, the related uncertainty caused CR Power's stock price dropped and remained under pressure.

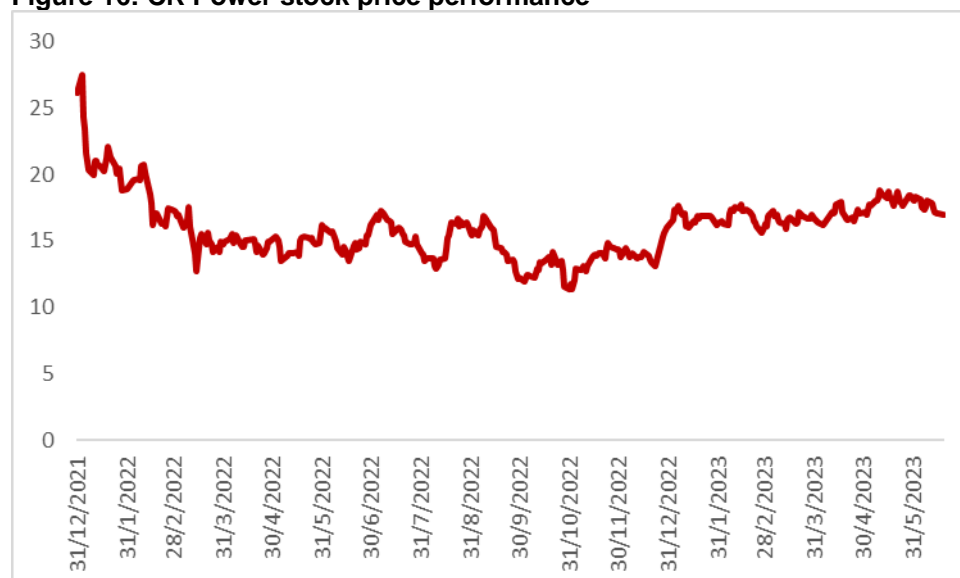
The recent announcement of the plan for the spin-off of its subsidiary, CR New Energy, to list in the A-share market has alleviated related concerns and uncertainties, which is positive for CR Power's stock price performance in short-term.

**Figure 15: Power operators comparisons (A/H-market)**

Figure 10-1 Power operators' companies (PWT market)														
Company	Ticker	Closing Price		Mkt cap	EPS			23-25E CAGR	PER			PBR		
		(HK\$/RMB)	(HK\$/mm/RMBmm)		23E	24E	25E		23E	24E	25E	23E	24E	25E
CHINA LONGYUAN-H	916 HK	8.60	144236.54	0.94	1.13	1.29	17.2%	8.32	6.95	6.06	0.88	0.78	0.70	
DATANG INTL PO-H	991 HK	1.47	53187.33	0.20	0.30	0.37	36.0%	6.70	4.46	3.62	0.37	0.34	0.31	
HUANENG POWER-H	902 HK	4.53	123863.06	0.56	0.65	0.78	18.6%	7.42	6.38	5.28	0.67	0.63	0.48	
HUADIAN POWER-H	1071 HK	3.66	63992.98	0.51	0.66	0.73	19.5%	6.51	5.05	4.56	0.63	0.58	0.52	
CHINA LONGYUAN-A	001289 CH	20.88	131454.29	0.92	1.10	1.25	16.2%	22.60	19.05	16.74	2.31	2.09	1.89	
HUADIAN POWER-A	600027 CH	6.18	58321.92	0.50	0.63	0.70	17.7%	12.26	9.76	8.85	1.09	0.96	0.92	
HUANENG POWER-A	600011 CH	8.50	112886.31	0.62	0.74	0.89	19.3%	13.64	11.49	9.58	1.14	1.10	0.98	
DATANG INTL PO-A	601991 CH	3.25	48473.86	0.20	0.28	0.34	32.0%	16.67	11.82	9.56	0.92	0.87	0.81	
Average								9.4	7.7	6.6	1.0	0.9	0.8	

Source: Company data, BBG, CMBIGM estimates

**Figure 16: CR Power stock price performance**



Source: Company data, wind, CMBIGM estimates

## 2. Financial impact of the proposed spin-off and A-share listing on the CR Power

### a) Impacts on P/L:

The proposed spin-off and share listing of SpinCo will not result in any expected gain or loss on the consolidated statement of P/L of the CR Power, but the proportion of the CR Power's shareholding in SpinCo will be diluted, resulting in dropped earnings for the CR Power's shareholders and increased earnings for non-controlling interests.

Additionally, CR New Energy may raise more funds to develop new energy business in mid-long term, which will result in better financial performance to the CR New Energy. Its financial performance will also be reflected in CR Power. CR Power considers the proposed spin-off and share listing to be fair and reasonable and in the interest of the Company and its shareholders as a whole.

**b) Impacts on B/S:**

The proposed spin-off and A-share listing of SpinCo is expected to generate funds and increase the number of shares, cash reserves, and total assets of the Group. However, it will not affect the Group's liabilities, and will only increase its net asset value.

**3. The spin-off of CR New Energy and listed in A-share market makes CR Power's business development more clearly, which enable investors to re-evaluate CR New Energy and CR Power's stock value**

The spinoff of CR New Energy and listing in A-share market can increase the equity value of the CR Power. When the new energy segment is independently spun off and listed, CR Power's business development can be more clearly and completely reflected, which is beneficial for investors to re-evaluate CR New Energy and CR Power's value and may lead to a higher premium.

**4. The spin-off of CR New Energy and A-share listing are conducive to better financing in domestic capital market, helping CR Power to achieve its new energy capacity installation goal by 2025.**

CR Power positively respond to the national carbon neutrality policy and aim to achieve the target of 40GW of new energy installed capacity by 2025 (both solar and wind power). The new energy segment spin-off and list on A-share market will enable new energy segment raise more capital to help CR Power to achieve the target of 2025.

**5. The spin-off of CR New Energy and A-share listing deliver positive Impacts on corporate governance improvement and increase transparency of SpinCo**

The proposed spin-off and share listing will improve SpinCo's corporate governance and increase transparency, allowing investors to appraise its performance and potential. The capital structure of the Company will be optimized, reducing its debt asset ratio.

**6. The spin-off of CR New Energy and A-share listing boost market influence and attract strategic investors for sustainable growth of SpinCo**

CR Power's intention to spin-off and list its subsidiary, CR New Energy, as a separate entity is expected to increase the brand value and market influence of SpinCo. This move is also expected to attract strategic investors from the industry and local institutions, offering SpinCo with additional resources and collaboration opportunities to expand its renewable energy projects further and promote sustainable growth.

## CRP's Thermal Power Segment

▪ **CR Power's thermal power business has been affected by fluctuations in coal prices**

CR Power's profits rebounded in 2019-2020 due to declining coal prices and the expansion of its new energy business, while the thermal power business suffered losses in 2021-2022 due to the highest coal prices in history. In 2022, coal prices remained high, resulting in an

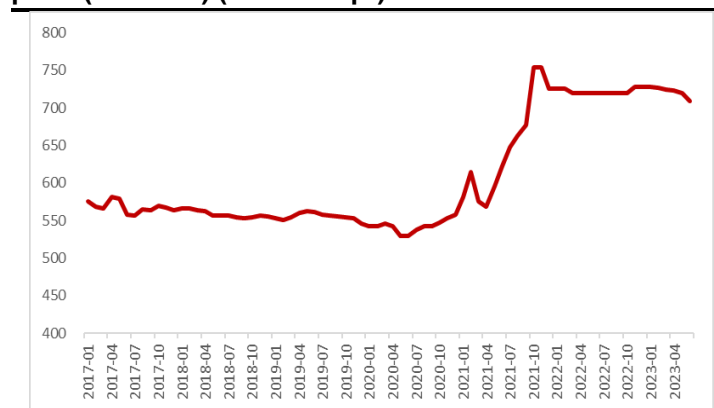
overall loss for the thermal power business. However, coal prices are expected to decline in 2023, benefiting CRP's thermal power business.

- **Global coal prices dropped from historical highs, due to higher coal production and inventory**

The international energy market in 2022 was characterized by volatility. Geopolitical conflicts and abnormal weather conditions led to a rapid increase in demand for coal, causing a supply-demand imbalance that drove coal prices to historical highs. In 2022, China's coal price benchmark Qinhuangdao 5,500kcal/kg price climbed unexpectedly from around RMB1,300/ton to RMB1,600/ton during Sep-Oct before mildly dropping to RMB1,550/ton.

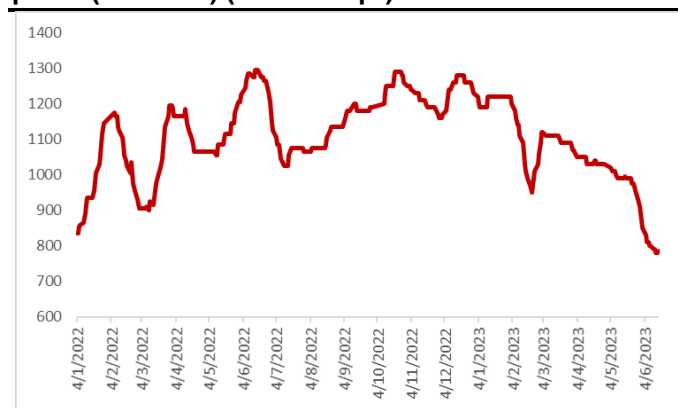
In 2023, the price of thermal coal has been declining since 1Q23 due to high production and inventory levels, with major ports having historically high inventory levels.

**Figure 17: Qinhuangdao 5,500 kcal/kg thermal coal price (RMB/ton) (2017-23 Apr)**



Source: wind, Company data, CMBIGM estimates

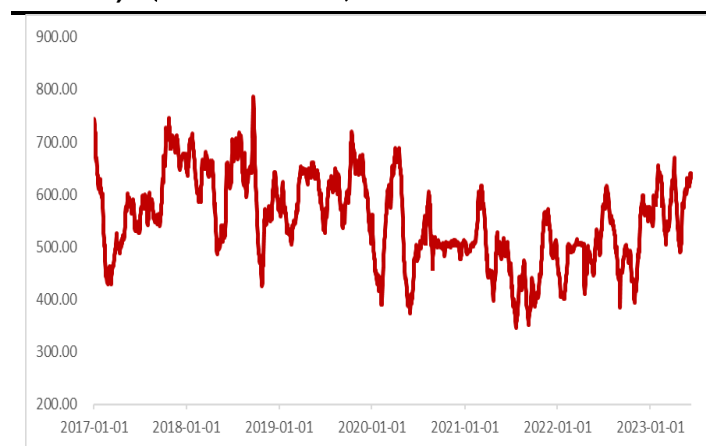
**Figure 18: Qinhuangdao imported thermal coal prices(RMB/ton) (2022-23 Apr)**



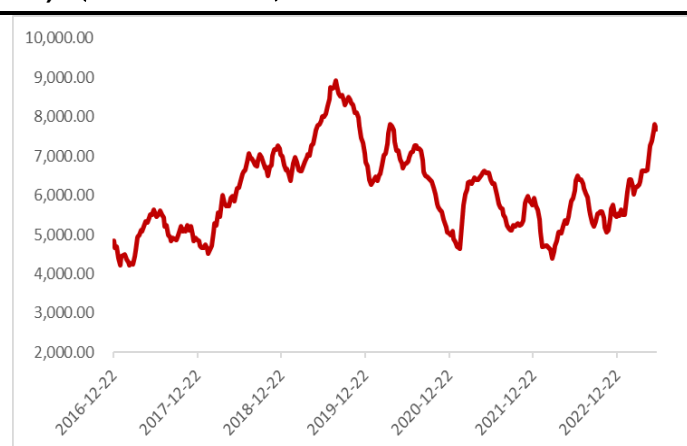
Source: wind, Company data, CMBIGM estimates

Since 1Q23, coal prices in China have been falling, with prices for Qinhuangdao 5,500 kcal/kg thermal coal dropping to below RMB800/ton. This is due to high coal production and inventory levels, which have put pressure on coal prices. The downward trend has continued into 2Q23, with the spot price of 5,500 kcal/kg thermal coal at the Bohai Rim ports being RMB1000/ton at the end of April and dropping to below RMB 900/ton at Qinhuangdao Port by the end of May.

Based on the data of Mysteel, as of the end of April, coal inventory went up by 8.5mn tons to 168mn tons at power plants across, with coal inventory available for about 29 days. Coal inventory has reached its highest level in history for the same period, and some power plants have a low willingness to unload thermal coal. As for coal inventory in ports, the amount in China was 66.42mn tons in April, up 5.9% from March and up 31.6% YoY. By May, the coal inventory at major ports in the Bohai Rim had reached 29.22 mn tons, rising by 11.4% from April, reaching its highest level in history.

**Figure 19: Qinghuangdao port's coal inventory (2017-Jan2023) (ten thous tons)**


Source: Company data, CMBIGM estimates

**Figure 20: CCTD main ports' coal inventory (2015-2023 Mar) (ten thous tons)**


Source: Company data, CMBIGM estimates

Recently, end-user power operators mainly rely on long-term coal transportation contracts, with imported coal serving as supplementary purchases. Both power plant and national port's coal inventories have reached their highest levels in two years. According to Mysteel's data, the inventory of power coal at 55 ports across the country was 75.064mn tons as of June 2023, an increase of 32.61mn tons compared to the previous month and up 223.04mn tons YoY. This may indicate a relative high supply of thermal coal.

On the other hand, international coal prices have been decreasing this year. The prices of coal at three major international ports - Newcastle Port, Europe's three ports, and Richards Bay Port - have been continuously decreasing. Although the average price is still higher than in previous years, it has significantly fallen compared to the coal price surge in 2022.

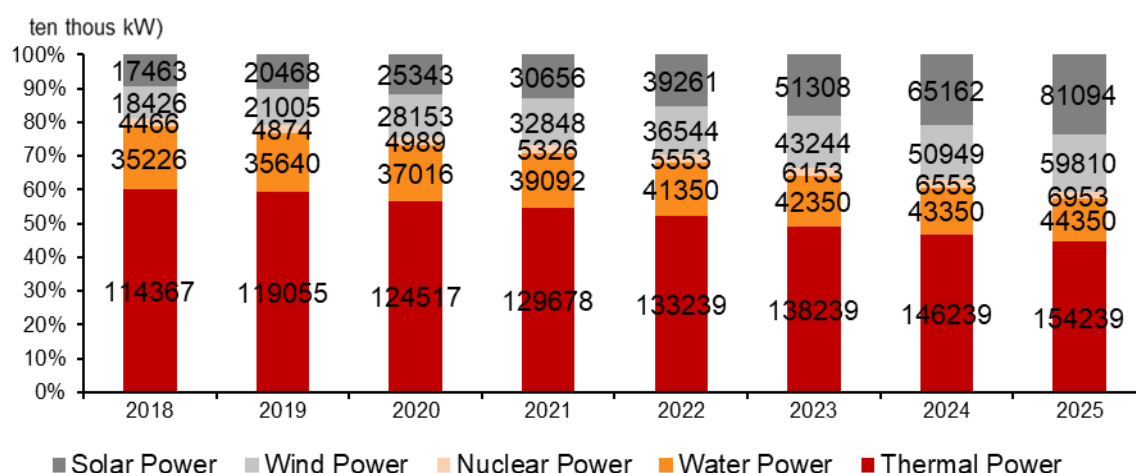
We expected that the overall price of thermal power coal in China will drop to around RMB900-1,100/ton in 2023, benefiting the thermal power operators.

- **The demand for thermal power tends to be weak in 2023, dragging down the thermal coal price further down**

The recent increase in electricity load due to rising temperatures in various regions has not yet had a significant impact on the coal market. However, the drop in coal prices has reduced costs for thermal power operators.

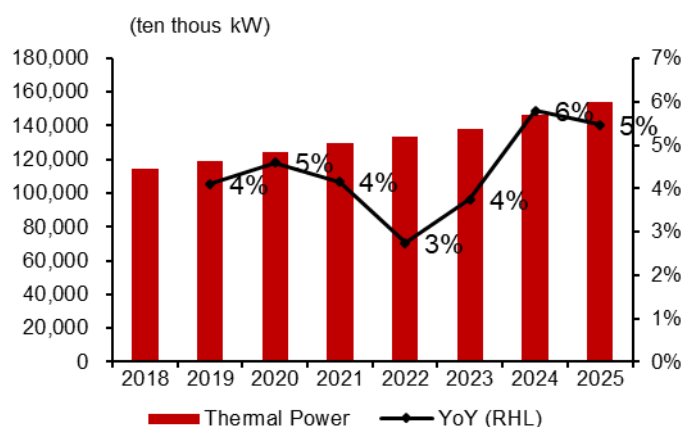
- **The prospects for thermal power business' profitability are expected to gradually improve**

The thermal power industry has always been an important basic industry for the development of China's national economy. It still plays a vital role in ensuring the overall stable energy supports and stable power generation. From 2012 to 2022, the share of thermal power installed capacity in China's total power installed capacity decreased from 71.49% to 52.07%, but the total installed capacity of thermal power has continued to grow, from 818.68 GW in 2012 to 1,332.39 GW in 2022, with a growth CAGR of about 5.23% from 2012 to 2022.

**Figure 21: China's electricity installed capacity structure (2018-25E)**

Source: CMBIGM estimates

In the future, as the installed capacity of renewable energy continues to increase in China's total power installed capacity, the peak-shaving effect of thermal power will become more prominent. Thermal power will still be the main source of power generation for a mid-long time and will continue to play a vital role for energy supply. According to data from the China Electricity Council (CEC), it is estimated that China's total installed power capacity will reach about 3,000 GW by 2025, and the installed capacity of thermal power is expected to maintain an average annual growth rate of about 2%, surpassing 1,400 GW by 2025.

**Figure 22: Thermal power installed capacity (2018-25E)**

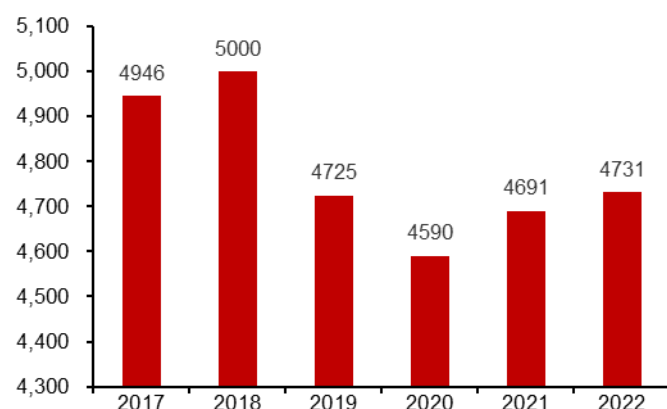
Source: CEC, CMBIGM estimates

- **The annual average utilization hours of coal-fired units are expected to gradually increase**

CR Power has been focusing on large coal-fired power units' investment and operation. Most of the power units have been in operation since 2004 and their annual average utilization hours are significantly higher than the national average, indicating CRP's high operating efficiency in thermal power segment.

During 2009-2014, the company's utilization hours of coal-fired units were 5,000-6,000 hours annually, exceeding the national average by 600-900 hours. Afterwards, the utilization hours of thermal power gradually declined to 4,500-5,000 hours due to lower electricity consumption growth. As the new energy's installed capacity grows rapidly, and the demand for grid peak-shaving goes up, the utilization hour of thermal power will rebound.



**Figure 23: Utilization hours of CRP's thermal power**

Source: CMBIGM estimates

- **CR Power effectively controls coal cost with long-term coal contract and high implementation rate; CRP expects to add 1,500MW thermal power installed capacity for 2023**

For 2022, CRP has signed a long-term contract to purchase 90.88mn tons of thermal coal, with a full-year expected implementation rate of over 80%, and has effectively controlled the coal cost. In 2023, CRP actively signed the long-term contract and expected the implementation rate will further lift to ensure the coal supply and cost controls.

In addition, in 2023, CRP also aimed at purchasing more imported Indonesia coal and using in coastal Guangdong and Guangxi power plants. CRP plans to have a total of 1,544.2MW of attributable installed capacity of thermal power units in 2023, including one unit in Shanxi Ningwu, one unit in Fuyang Phase 2 project in Anhui, Guangdong Yunfu power plant, and natural gas distributed projects.

In 2022, the core profit of CR Power's renewable energy business was HK\$ 8.645bn, while the core loss of its thermal power business was HK\$2.582bn. We expected thermal power segment will achieve a small turnaround of its profit in 2023.

- **Continued optimization of electricity pricing policies expected to benefit thermal power operators, but caution needed regarding tariff policy adjustments due to potential downward shifts in Coal Prices**

In 2022, several provinces responded to the NDRC's announcement of an improved coal-fired power pricing mechanism to deepen market-oriented reform. The fluctuation range of market-based electricity transaction prices was adjusted to a range of 20% in either direction, compared to the current range of 10% for the ceiling and 15% for the floor from the benchmark price. High energy-consuming enterprises are not restricted by the 20% upward fluctuation ceiling for market transaction prices of coal-fired electricity.

Based on the Polaris power grid data, the annual long-term transaction prices for thermal power in Guangdong and Jiangsu in 2023 are expected to lift by nearly 20% based on the coal benchmark price (with only a 7% increase in Guangdong in 2022). We believe that better electricity pricing mechanisms is an important measure to help the thermal power operators to digest the coal cost and ensure electricity supply in 2023.

Recently, some province like Yunnan has implemented a "capacity payments" policy to alleviate the operational difficulties of thermal power companies. We believe more province will introduce such policies and power operators will benefit from it.

However, we also stay cautious against the potential risks of tariff policy adjustment if the thermal coal price continuous to drop.

## Key assumption and valuation

### ▪ Key assumption

In 2023, CRP guided its newly-added wind power and solar power installed capacity will be 7,000MW. Based on the mgmt.'s guidance, the solar power installation plan will be positive as the upstream cost goes lower, thus we expect an increase of 3,850MW as solar power's newly-added installed capacity in 2023. Moreover, we predict the newly-added installed capacity for wind power to be 3,150MW in 2023.

For power generation, we estimate CRP's expected gross power generation of wind power will be 38,450GWh, up by 4% YoY. For average tariff, we predict the wind power tariff to slightly drop to RMB463.47/kWh as the coal price continued to drop and the higher proportion of electricity trading.

Additionally, we predict CRP's gross power generation of solar power will be 2,930/GWh in 2023. Based on the CRP's mgmt's target of newly added new energy installed capacity of 7,000MW in 2023, we estimated solar power's newly-added installed capacity was around 3,850MW. We expected solar segment will achieve a rapid growth.

**Figure 24: Key assumption table of renewable power segment**

	2019	2020	2021	2022	2023E	2024E	2025E
Wind attributable installed capacity -MW	8,687	10,396	14,337	15,512	18,662	22,262	25,862
% YoY	27%	20%	38%	8%	20%	19%	16%
Newly added installed capacity -MW	1,871	1,709	3,941	1,175	3,150	3,600	3,600
Gross power generation-k/GWh	17.39	21.14	33.33	36.89	38.45	45.02	52.94
% YoY	19%	22%	58%	11%	4%	17%	18%
Utilization hours	2,201	2,236	2,464	2,398	2,250	2,200	2,200
% YoY	-5%	2%	10%	-3%	-6%	-2%	0%
	2019	2020	2021	2022	2023E	2024E	2025E
Solar attributable installed capacity -MW	453	562	824	1,212	5,062	9,462	14,137
% YoY	1%	24%	47%	47%	318%	87%	49%
Newly added	5	109	262	388	3850	4400	4675
Gross power generation-k /GWh	0.71	0.77	1.25	1.47	2.93	8.62	14.78
% YoY	31%	8%	62%	18%	99%	194%	71%
Utilization hours	1,501	1,424	1,510	1,510	1,480	1,450	1,421
% YoY	30%	-5%	6%	-2%	-2%	-2%	-2%

Source: Company data, CMBIGM estimates

In 2023, in terms of thermal power segment, we expect: (1) newly-added attributable installed capacity of thermal power will be around 1,500MW, according to the mgmt.'s guidance; 2) the unit cost of standard coal will drop by 8% YoY to RMB1,040/ton, based on the CRP's steady long-term thermal contract amount, higher implementation rate, and lower imported thermal coal cost; 3) thermal power tariff(excl. vat) will slightly up by 2%YoY to RMB436/kWh due to the optimization of tariff policies. Overall, we estimate CRP's thermal power revenue and profit will continue to improve.

**Figure 25: Key assumption table of thermal power segment**

	2019	2020	2021	2022	2023E	2024E	2025E
Attributable operational generation capacity- M	30,972	32,127	32,556	35,577	37,077	40,077	43,077
% YoY	4%	4%	1%	9%	4%	8%	7%
Newly added capacity-MW	1,157	1,155	429	3,021	1,500	3,000	3,000
Power generation-k /GWh	136	137	148	151	157	162	166.93
Utilization hours	4,725	4,590	4,691	4,731	4,731	4,684	4,637
% YoY	-6%	-3%	2%	1%	0%	-1%	-1%
Reported Tariff (excl. vat) -Rmb/kWh	337	331	356	428	436	436	436
% YoY	1%	-2%	7%	20%	2%	0%	0%

	2019	2020	2021	2022	2023E	2024E	2025E
Avg. unit fuel cost - Rmb/MWh	204	191	306	339	322	322	322
% YoY	3.1%	-6.4%	60.4%	10.9%	-5.0%	0.0%	0.0%
Avg. unit cost of standard coal -Rmb/ton	680	641	1,022	1,130	1,040	1,040	1,040
% YoY	-6.7%	-5.8%	59.5%	10.6%	-8.0%	0.0%	0.0%
Avg. coal consumption -g/kWh-	297	296	297	297	298	298	299
% YoY	-1.0%	-0.2%	0.3%	0.2%	0.2%	0.2%	0.2%

Source: Company data, CMBIGM estimates

#### ▪ Valuation

CR power is trading at 0.90x/0.81x PB for FY23/24E, which is lower than its renewable peer's avg. PB of 1.4x/1.2x. The valuation is attractive. We believe present valuation of CR Power did not fully reflected its new energy business value. As the new energy business develop rapidly in the following years, the spin-off of CR New Energy and A-share listing will enable CR Power further unlock its new energy business value.

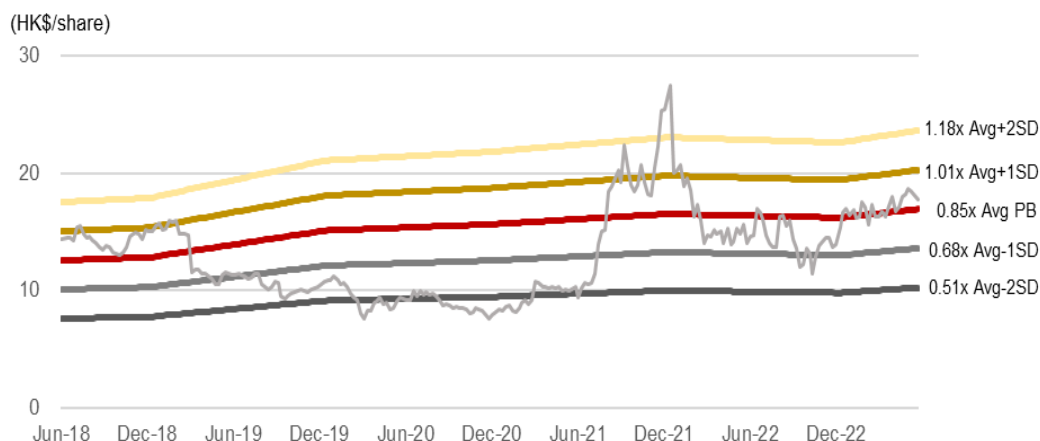
**We arrive at a SOTP-based TP of HK\$23.2 with BUY rating**, based on 1.4x FY23E PB of renewable segment (~peers avg. PB of 1.4x in FY23E) and 0.7x FY23 forward PB of thermal segment (~peers avg. PB of around 0.8x in FY23E). In addition, the ROE of 23E/24E of CR Power were relative high, we believe CR Power still has great growth potentials.

**Figure 26: SOTP-based target price**

	Bookvalue (HK\$mn)- FY23E	Target PB	Per share (HKD)
<b>Thermal power segment</b>	17,427	0.7x	2.4
<b>Renewable power segment</b>	74,292	1.4x	20.9
<b>Total</b>			23.2

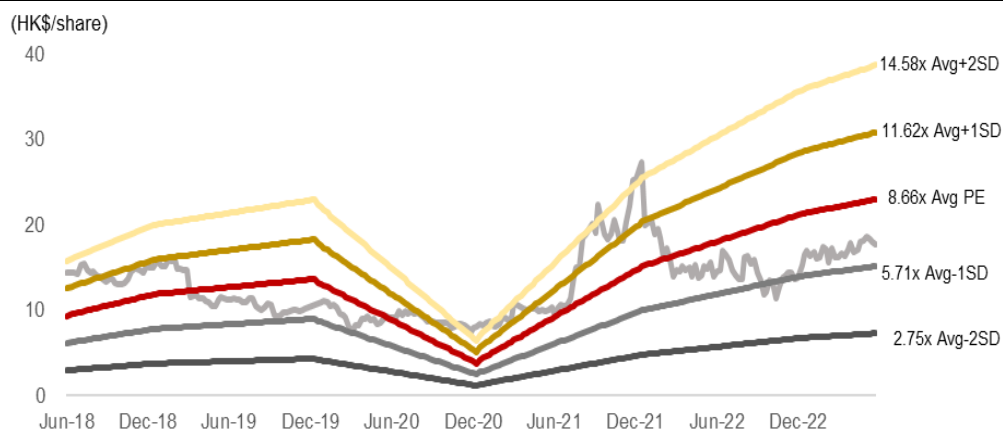
Source: Company data, CMBIGM estimates

Figure 27: CR Power's PB band



Source: Company data, CMBIGM estimates

Figure 28: CR Power's PE band



Source: Company data, CMBIGM estimates

Figure 29: Peers tables (Renewable power)

Company	Ticker	Closing Price (HK\$)	Mkt cap (HK\$m)	EPS			23-25E CAGR	PER			PBR		
				23E	24E	25E		23E	24E	25E	23E	24E	25E
CHINA RES POWER	836 HK	17.16	82547.21	2.46	2.90	3.32	16.1%	6.97	5.92	5.17	0.90	0.81	0.73
CGN NEW ENERGY H	1811 HK	2.22	9525.63	0.05	0.06	0.07	16.6%	5.35	4.50	3.94	na	na	na
CHINA LONGYUAN-H	916 HK	8.17	140557.59	0.94	1.13	1.29	17.2%	7.95	6.64	5.79	0.84	0.75	0.67
CHINA DATANG C-H	1798 HK	2.69	19566.26	0.38	0.43	0.50	15.5%	6.56	5.79	4.91	0.98	0.85	0.73
CHINA LONGYUAN-A	001289 CH	20.55	128631.66	0.92	1.10	1.25	16.2%	22.24	18.75	16.48	2.27	2.06	1.86
CHINA THREE GO-A	600905 CH	5.26	150849.11	0.32	0.38	0.45	18.2%	16.47	13.76	11.79	1.78	1.60	1.40
Average								10.9	9.2	8.0	1.4	1.2	1.1

Source: Company data, CMBIGM estimates

Figure 30: Peers tables (Thermal power)

Company	Ticker	Closing Price (HK\$)	Mkt cap (HK\$m)	EPS			23-25E CAGR	PER			PBR		
				23E	24E	25E		23E	24E	25E	23E	24E	25E
CHINA POWER INTE	2380 HK	2.77	34265.32	0.31	0.42	0.54	33.4%	8.32	6.12	4.68	0.67	0.62	0.59
CHINA RES POWER	836 HK	17.16	82547.21	2.46	2.90	3.32	16.1%	6.97	5.92	5.17	0.90	0.81	0.73
HUANENG POWER-H	902 HK	4.65	126612.13	0.56	0.65	0.78	18.6%	7.67	6.59	5.45	0.69	0.65	0.50
HUADIAN POWER-H	1071 HK	3.80	65209.94	0.51	0.66	0.73	19.5%	6.80	5.27	4.76	0.66	0.61	0.54
Average								7.4	6.1	5.1	0.8	0.7	0.6

Source: Company data, CMBIGM estimates

## Financial Summary

INCOME STATEMENT	2020A	2021A	2022A	2023E	2024E	2025E
YE 31 Dec (HK\$ mn)						
Revenue	69,551	89,800	103,305	112,940	121,074	129,603
Cost of goods sold	(32,494)	(58,444)	(64,283)	(61,824)	(63,654)	(65,538)
Gross profit	37,057	31,356	39,022	51,116	57,420	64,065
Operating expenses	(12,621)	(13,999)	(15,207)	(16,456)	(17,850)	(19,112)
Staff costs	(6,001)	(6,355)	(6,632)	(7,241)	(8,033)	(8,732)
Others	(6,620)	(7,644)	(8,575)	(9,215)	(9,818)	(10,380)
Operating profit	24,436	17,357	23,815	34,660	39,570	44,953
Other income	2,460	2,812	1,982	1,982	1,982	1,982
EBITDA	26,896	20,169	25,797	36,642	41,551	46,935
Depreciation	(11,468)	(14,598)	(14,245)	(14,543)	(16,040)	(17,454)
Other amortisation	(245)	0	(185)	(162)	(124)	(91)
EBIT	15,184	5,571	11,367	21,937	25,387	29,389
Interest income	349	301	192	192	192	192
Interest expense	(3,771)	(4,061)	(4,083)	(4,340)	(4,210)	(4,169)
Foreign exchange gain/loss	0	0	0	0	0	0
Other income/expense	799	122	(199)	122	122	122
Others	(1,090)	(92)	2,184	0	0	0
Pre-tax profit	11,470	1,841	9,461	17,911	21,491	25,535
Income tax	(2,794)	(958)	(1,906)	(4,478)	(5,373)	(6,384)
After tax profit	8,676	884	7,556	13,433	16,118	19,151
Minority interest	(1,094)	709	(513)	(1,134)	(1,314)	(1,517)
Net profit	7,583	1,593	7,042	12,299	14,804	17,634

BALANCE SHEET	2020A	2021A	2022A	2023E	2024E	2025E
YE 31 Dec (HK\$ mn)						
Current assets	40,638	53,940	48,631	34,142	34,014	30,754
Cash & equivalents	5,036	7,934	7,721	8,628	9,271	4,454
Account receivables	31,428	37,769	35,616	20,329	19,372	20,736
Inventories	2,912	6,748	4,582	4,406	4,537	4,671
Contract assets	1,262	1,489	712	778	834	893
Non-current assets	218,994	233,415	234,757	251,674	267,131	281,207
PP&E	180,817	192,953	191,356	208,313	223,773	237,819
Deferred income tax	861	1,041	1,075	1,075	1,075	1,075
Goodwill	745	664	622	460	335	244
Other non-current assets	28,367	29,997	32,654	32,654	32,654	32,654
Total assets	259,632	287,355	283,388	285,815	301,145	311,962
Current liabilities	65,065	68,059	82,671	74,652	79,557	78,017
Short-term borrowings	20,158	23,186	38,383	29,417	32,459	28,899
Account payables	33,587	34,136	30,248	29,091	29,952	30,838
Other current liabilities	11,320	10,737	14,039	16,144	17,146	18,279
Non-current liabilities	88,617	112,245	100,164	99,997	99,225	98,357
Long-term borrowings	82,109	105,310	93,322	93,155	92,383	91,515
Other non-current liabilities	6,507	6,935	6,842	6,842	6,842	6,842
Total liabilities	153,682	180,304	182,835	174,648	178,782	176,374
Share capital	22,317	22,317	22,317	22,317	22,317	22,317
Retained earnings	46,580	44,390	49,783	59,263	69,144	80,852
Other reserves	16,906	21,681	10,139	10,139	10,139	10,139
Total shareholders equity	85,803	88,388	82,239	91,719	101,600	113,308
Minority interest	20,148	18,663	18,315	19,449	20,763	22,280
Total equity and liabilities	259,632	287,355	283,388	285,816	301,145	311,962

<b>CASH FLOW</b>	<b>2020A</b>	<b>2021A</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
<b>YE 31 Dec (HK\$ mn)</b>						
<b>Operating</b>						
Profit before taxation	11,470	211,048	9,461	17,911	21,491	25,535
Depreciation & amortization	11,713	14,598	14,430	14,705	16,164	17,546
Change in working capital	(6,339)	(10,599)	(595)	16,343	2,635	462
<b>Net cash from operations</b>	<b>20,702</b>	<b>7,400</b>	<b>24,167</b>	<b>44,359</b>	<b>34,796</b>	<b>37,036</b>
<b>Investing</b>						
Capital expenditure	(30,529)	(25,118)	(32,580)	(31,500)	(31,500)	(31,500)
Others	1,905	5,720	(1,267)	0	0	0
<b>Net cash from investing</b>	<b>(28,624)</b>	<b>(19,398)</b>	<b>(33,847)</b>	<b>(31,500)</b>	<b>(31,500)</b>	<b>(31,500)</b>
<b>Financing</b>						
Dividend paid	(2,756)	(3,155)	(1,226)	(2,819)	(4,923)	(5,926)
Net borrowings	(33,590)	(27,753)	(43,383)	(38,383)	(29,417)	(32,459)
Others	44,397	45,804	54,077	29,250	31,688	28,031
<b>Net cash from financing</b>	<b>8,051</b>	<b>14,896</b>	<b>9,468</b>	<b>(11,952)</b>	<b>(2,653)</b>	<b>(10,353)</b>
<b>Net change in cash</b>						
<b>Cash at the end of the year</b>	<b>129</b>	<b>2,898</b>	<b>(213)</b>	<b>907</b>	<b>643</b>	<b>(4,817)</b>
<b>GROWTH</b>	<b>2020A</b>	<b>2021A</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
<b>YE 31 Dec</b>						
Revenue	2.6%	29.1%	15.0%	9.3%	7.2%	7.0%
Gross profit	7.6%	(15.4%)	24.4%	31.0%	12.3%	11.6%
Operating profit	19.0%	(29.0%)	37.2%	45.5%	14.2%	13.6%
EBITDA	15.1%	(25.0%)	27.9%	42.0%	13.4%	13.0%
EBIT	19.1%	(63.3%)	104.0%	93.0%	15.7%	15.8%
Net profit	15.1%	(79.0%)	342.2%	74.6%	20.4%	19.1%
<b>PROFITABILITY</b>	<b>2020A</b>	<b>2021A</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
<b>YE 31 Dec</b>						
Gross profit margin	53.3%	34.9%	37.8%	45.3%	47.4%	49.4%
Operating margin	35.1%	19.3%	23.1%	30.7%	32.7%	34.7%
EBITDA margin	38.7%	22.5%	25.0%	32.4%	34.3%	36.2%
Return on equity (ROE)	9.6%	1.8%	8.3%	14.1%	15.3%	16.4%
<b>GEARING/LIQUIDITY/ACTIVITIES</b>	<b>2020A</b>	<b>2021A</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
<b>YE 31 Dec</b>						
Current ratio (x)	0.6	0.8	0.6	0.5	0.4	0.4
<b>VALUATION</b>	<b>2020A</b>	<b>2021A</b>	<b>2022A</b>	<b>2023E</b>	<b>2024E</b>	<b>2025E</b>
<b>YE 31 Dec</b>						

Source: Company data, CMBIGM estimates. Note: The calculation of net cash includes financial assets.



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**BUY** : Stock with potential return of over 15% over next 12 months  
**HOLD** : Stock with potential return of +15% to -10% over next 12 months  
**SELL** : Stock with potential loss of over 10% over next 12 months  
**NOT RATED** : Stock is not rated by CMBIGM

**OUTPERFORM** : Industry expected to outperform the relevant broad market benchmark over next 12 months  
**MARKET-PERFORM** : Industry expected to perform in-line with the relevant broad market benchmark over next 12 months  
**UNDERPERFORM** : Industry expected to underperform the relevant broad market benchmark over next 12 months

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