

China Hongqiao (1378 HK)

A key beneficiary of tight aluminum supply trading at attractive valuation

Resume coverage with BUY. On the back of tight global aluminum (Al) supply (capacity control in China & disruption of bauxite supply) but rising demand (growth of EV & solar power + stabilisation of construction demand following China's U-turn on property policy), we forecast Al / alumina price to increase 4.5%/10% in 2024E and to stay high in 2025E. We believe Hongqiao (~9% global market share in terms of Al output in 2023) is set to benefit from unit margin expansion, thanks to its vertically integrated model with overseas bauxite equity interest, captive power plant and high percentage of molten Al products. We forecast Hongqiao to deliver earnings growth of 61%/5% in 2024E/25E (6%/4% above Bloomberg consensus). We estimate every 1% increase in Al price will boost Hongqiao's earnings by 4%. Despite the rally since early this year, Hongqiao is still trading at mid-cycle valuation (<6x 2024E P/E) and deep discount to peers across the globe. The current price offers an attractive yield of >7%. Our TP of HK\$17.9 is based on 8.5x 2024E P/E (1SD above the historical average).

- **Strict control on capacity.** China (~60% of global Al supply) has put a cap on the Al capacity at ~45mt since the launch of supply-side reform back in 2017. The industry utilisation rate reached ~97% in Sep 2023 (the highest over the past decade) and stood at ~96% in May 2024. In May 2024, the State Council released the "2024-2025 Energy saving and carbon reduction action plan" ([link](#)), which reiterated the implementation of capacity swap scheme for Al. With the current high utilisation rate, the policy implies very limited upside to China's Al output over the coming years.
- **Upside on the demand side.** Automotive accounts for ~1/4 of Al demand in both China and the rest of world. We expect the lightweighting trend will boost the segment demand faster than the total Al demand. For solar, we forecast the fast-growing installation will boost the Al demand from solar module to increase from 2.1%/3.3% in 2022/23 to 4.1%/4.5% in 2024E/25E, making it incrementally important in the mix of Al demand.
- **Global balance to turn from surplus to deficit starting from 2024E.** We forecast the global Al demand to grow by 3.2% / 2.2% in 2024E/25E, versus our supply growth projection of 2.3%/1.7%. We expect the global balance to turn from surplus in 2023 to deficit in 2024E-25E.
- **Key risks.** (1) Slowdown of global economy that affects the Al and alumina price; (2) sharp increase in input costs such as bauxite, coal and power tariff.

Earnings Summary

(YE 31 Dec)	FY22A	FY23A	FY24E	FY25E	FY26E
Revenue (RMB mn)	131,699	133,624	142,329	145,867	146,251
YoY growth (%)	15.0	1.5	6.5	2.5	0.3
Adjusted net profit (RMB mn)	8,702.0	11,460.7	16,110.0	16,943.5	17,089.6
EPS (Reported) (RMB)	0.94	1.21	1.95	2.05	2.07
YoY growth (%)	(47.2)	29.3	61.5	5.2	0.9
Consensus EPS (RMB)	na	na	1.85	1.97	2.12
P/E (x)	11.8	9.1	5.7	5.4	5.3
P/B (x)	1.2	1.1	1.0	0.9	0.9
Yield (%)	4.2	5.2	7.2	7.6	7.7
Net gearing (%)	35.3	34.3	26.0	16.6	9.0

Source: Company data, Bloomberg, CMBIGM estimates

BUY (Maintain)

Target Price HK\$17.90
Up/Downside 50.4%
Current Price HK\$11.90

China Materials

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Stock Data

Mkt Cap (HK\$ mn)	112,758.9
Avg 3 mths t/o (HK\$ mn)	584.9
52w High/Low (HK\$)	13.38/5.28
Total Issued Shares (mn)	9475.5

Source: FactSet

Shareholding Structure

Shipping Trust Company (Zhang's family)	64.2%
CITIC Group	9.0%

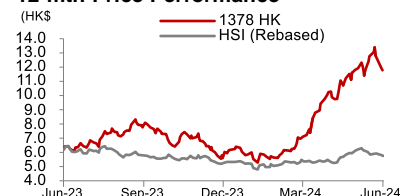
Source: HKEx

Share Performance

	Absolute	Relative
1-mth	0.8%	7.2%
3-mth	67.4%	58.2%
6-mth	107.7%	89.9%

Source: FactSet

12-mth Price Performance



Source: FactSet

Earnings sensitivity

Figure 1: Earnings sensitivity (annualized) to 5% change in Al ASP & coal cost

2024E net profit (RMB mn)		Al ASP (RMB/t)				
		15,485	16,346	17,206	18,066	18,927
Coal cost RMB/t	792	10,409	14,012	17,614	21,217	24,820
	836	9,657	13,259	16,862	20,465	24,067
	880	8,905	12,507	16,110	19,713	23,315
	924	8,152	11,755	15,358	18,961	22,563
	968	7,400	11,003	14,606	18,208	21,811

Source: CMBIGM estimates

Figure 2: Earnings sensitivity (annualized) to 5% change in Al ASP & external tariff

2024E net profit (RMB mn)		Al ASP (RMB/t)				
		15,485	16,346	17,206	18,066	18,927
External tariff RMB/kWh	0.41	10,246	13,848	17,451	21,054	24,656
	0.43	9,575	13,178	16,781	20,383	23,986
	0.45	8,905	12,507	16,110	19,713	23,315
	0.47	8,234	11,837	15,439	19,042	22,645
	0.50	7,563	11,166	14,769	18,372	21,974

Source: CMBIGM estimates

Figure 3: Earnings sensitivity (annualized) to 5% change in alumina ASP & bauxite cost

2024E net profit (RMB mn)		Alumina ASP (RMB/t)				
		2,534	2,675	2,816	2,957	3,098
Bauxite RMB/t	540	16,602	17,224	17,846	18,468	19,090
	570	15,734	16,356	16,978	17,600	18,222
	600	14,866	15,488	16,110	16,732	17,354
	630	13,998	14,620	15,242	15,864	16,486
	660	13,130	13,752	14,374	14,996	15,618

Source: CMBIGM estimates

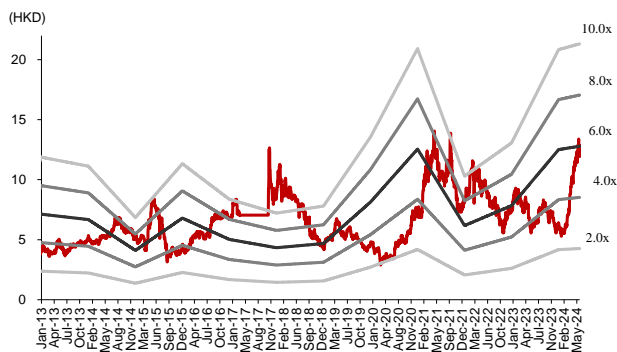
Valuation

We apply P/E as our valuation methodology given the cyclical nature of the industry. Over the past decade, Hongqiao traded at an average forward P/E of 6x. The stock normally peaked at 10x (except in 2017) and bottomed out at ~3x during the trough cycles (except 2020 due to outbreak of COVID-19).

Our TP of HK\$17.9 is based on 8.5x 2024E P/E, equivalent to 1SD above the historical average of 6x. Our above-average assumption is to reflect the potential industry upcycle.

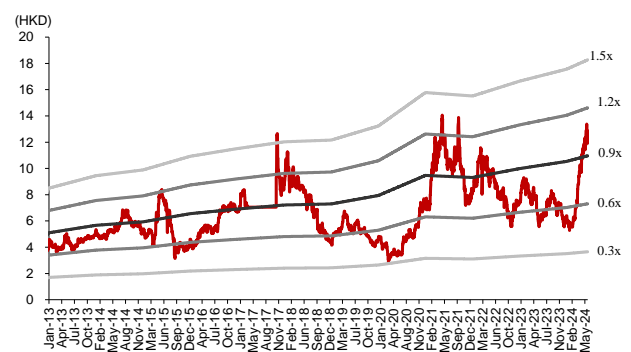
To cross check, our target P/E of 8.5x is still below the 9.7x of **Chalco-H (2600 HK, NR)**, 11x of the A-share average and 16x of the global average. We believe our target valuation is not excessive.

Figure 4: Hongqiao's 12M forward P/E band



Source: Bloomberg, company data, CMBIGM estimates

Figure 5: Hongqiao's 12M forward P/B band



Source: Bloomberg, company data, CMBIGM estimates

Figure 6: Peers comp table

Ticker	Company	Price	Market cap	PE (x)		PB (x)		EV/EBITDA (x)		Yield (%)
		(local currency)	(US\$ m)	2024E	2025E	2024E	2025E	2024E	2025E	2024E
A share										
601600 CH Equity	ALUMINUM CORP-A	7.73	16,872	14.4	13.6	1.8	1.6	6.4	6.5	1.7
000807 CH Equity	YUNNAN ALUM-A	14.34	6,855	10.5	9.1	1.5	1.3	6.5	5.9	1.3
002532 CH Equity	TIANSHAN ALUMI-A	7.91	5,072	11.2	9.5	1.3	1.2	7.9	7.2	4.2
000933 CH Equity	HENAN SHENHUO-A	22.72	7,045	8.2	7.7	2.0	1.7	6.5	6.1	3.8
	Average			11.1	10.2	1.5	1.3	6.3	6.0	2.7
Hong Kong listed										
2600 HK Equity	ALUMINUM CORP-H	5.53	16,873	9.7	9.0	1.3	1.1	6.9	6.6	2.4
1378 HK Equity	CHINA HONGQIAO	11.90	14,439	5.7	5.4	1.0	0.9	4.6	4.4	7.2
486 HK Equity	RUSAL	2.57	5,000	4.3	3.4	0.4	0.4	7.9	7.3	3.0
	Average			6.5	5.9	0.9	0.8	6.5	6.1	4.2
Overseas										
HNDL IN Equity	HINDALCO	683.40	18,384	11.6	10.8	1.2	1.1	6.8	6.3	0.6
VEDL IN Equity	VEDANTA	449.65	20,008	12.3	10.5	4.9	4.4	5.5	5.0	7.2
AA US Equity	ALCOA CORP	38.54	6,920	n/a	17.0	1.6	1.5	8.9	6.1	1.0
CENX US Equity	CENTURY ALUMINUM	15.35	1,423	11.6	11.3	n/a	n/a	9.8	6.6	n/a
Rio AU Equity	RIO TINTO	120.20	112,676	10.8	10.7	3.0	2.8	4.7	4.6	5.6
S32 AU Equity	SOUTH32	3.66	10,984	27.5	11.9	1.6	1.5	7.3	5.3	1.4
AWC AU Equity	ALUMINA LTD	1.65	3,163	24.7	18.8	3.0	2.7	31.0	23.4	1.5
NHY NO Equity	NORSK HYDRO	66.58	12,761	13.5	9.0	1.2	1.1	6.2	4.9	4.4
	Average			16.0	12.5	2.4	2.1	10.0	7.8	3.1

Source: Bloomberg, Company data, CMBIGM estimates (for Hongqiao)

Aluminum industry: Tight supply underpinned by capacity cap and bauxite supply

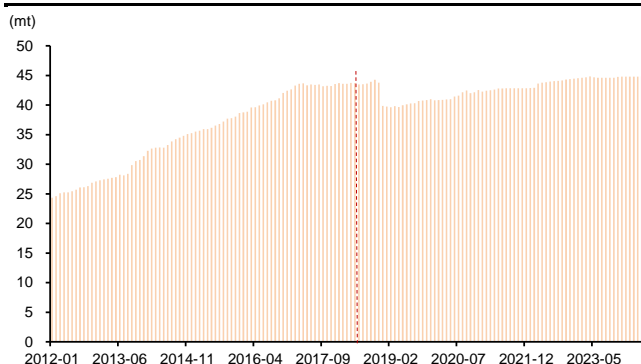
Strict control on capacity in China

The global aluminum production was 70.6mt in 2023 (+2.2% YoY), with China accounting for 59% of the total output. China has put a cap on the aluminum capacity at 45mt since the launch of supply-side reform back in 2017. The cap has effectively limited the capacity growth and boosted the utilisation rate. As at end-May 2024, the total aluminum capacity in China was 44.8mt, while the operating capacity was 42.9mt. The utilisation rate has reached >95% since mid-2023, the highest over the past decade and is approaching the maximum capacity.

In May 2024, the State Council released the “2024-2025 Energy saving and carbon reduction action plan” ([link](#)). The plan reiterated the implementation of capacity swap scheme for aluminum. With the utilisation rate reaching a high level, the strict policy implies very limited upside to China’s aluminum output over the coming years.

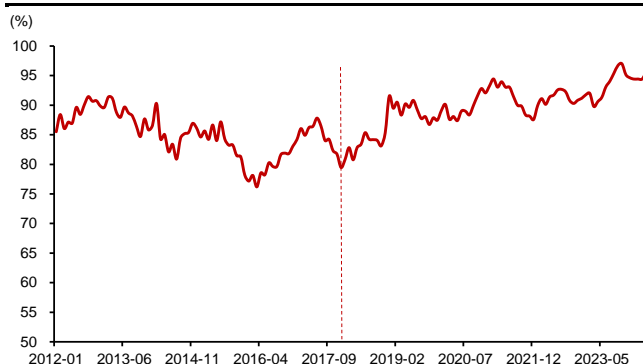
Besides, the circular mentioned a strict control on the new capacity of alumina (the major raw material for the production of aluminum), which we believe is an important move to further improve the industry landscape along the supply chain.

Figure 7: China aluminum annual capacity



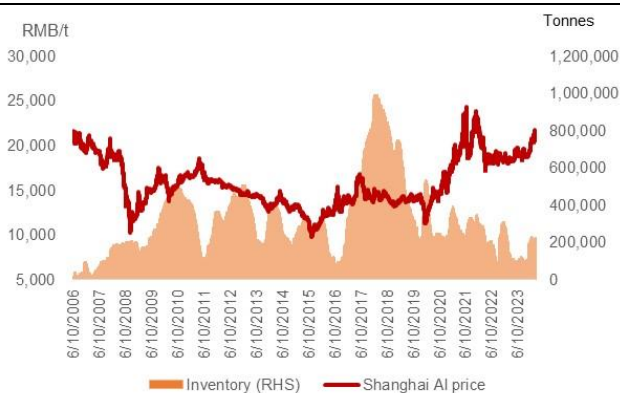
Source: Wind, CMBIGM

Figure 8: China aluminum capacity utilisation rate (%)



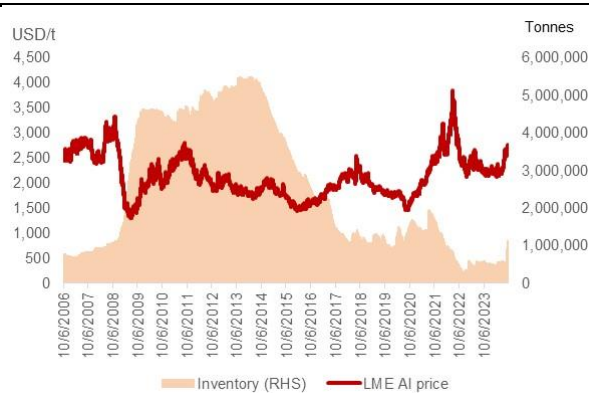
Source: Wind, CMBIGM

Figure 9: Shanghai aluminum price and inventory

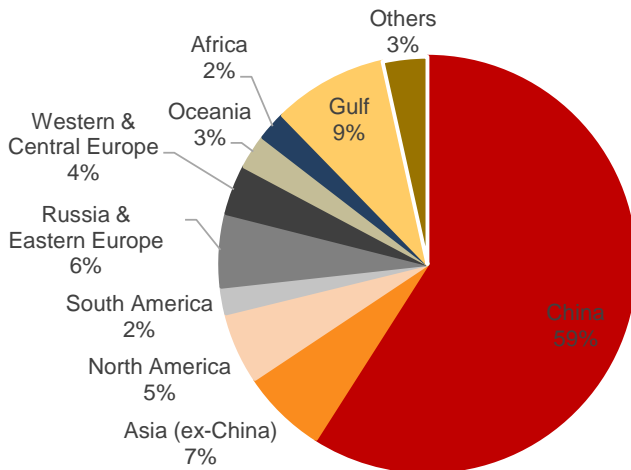


Source: Bloomberg, CMBIGM

Figure 10: LME aluminum price and inventory



Source: Bloomberg, CMBIGM

Figure 11: Global aluminum production in 2023

Source: Wind, IAI, CMBIGM

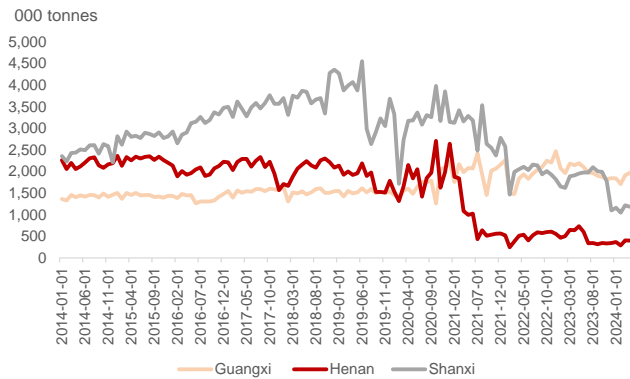
China is highly reliant on import of bauxite

For bauxite (the major raw material for the production of alumina), China has been increasingly relying on the import, due to difficulties in domestic mining process, low ore grade as well as strict environmental protection measures. China's bauxite output peaked in 2019 and has been gradually declined since then. The import dependency ratio substantially increased from 46% in early 2018 to 75% in Apr 2024.

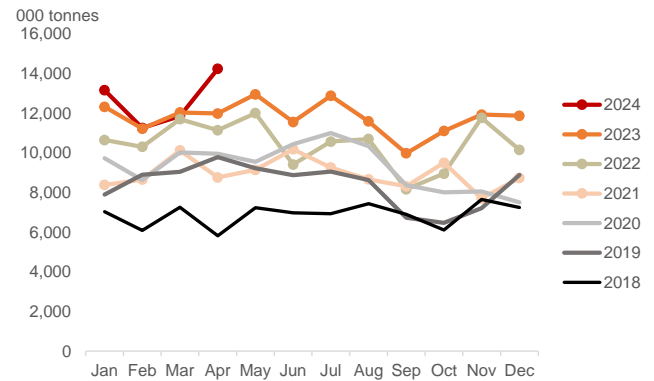
Since early this year, the global output of bauxite has been disrupted due to different incidents, including labour strike in Guinea (a major bauxite producing country) as well as suspension of mines in Shanxi and Henan, China, due to safety inspection and environmental issues. In 4M24, production of bauxite in China dropped 20% YoY, while import from overseas increased by 6% YoY. Such disruption resulted in higher price of both bauxite and alumina.

Going forward, we expect the structural decline of China's bauxite output to continue, making the country even more reliant to overseas supply, in particular Guinea (74% of total bauxite import in Apr). We believe smelters with fully integrated supply chain with overseas bauxite interest will be in a better position over the coming years.

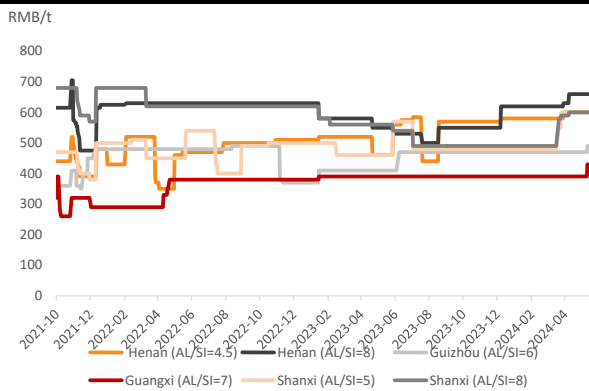
On the other hand, on and off supply disruption such as extreme weather, labour strike and unexpected export ban in overseas countries, could bring uncertainties to the upcoming supply, which we believe will continue to support the bauxite price.

Figure 12: Bauxite output in China has been declined since 2019


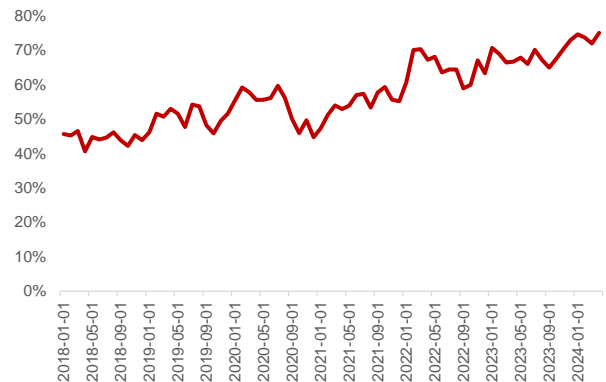
Source: Wind, CMBIGM

Figure 13: Monthly import volume of bauxite on the rise


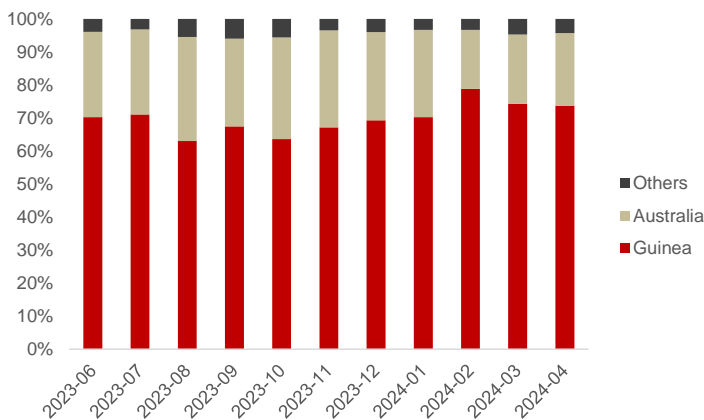
Source: Wind, CMBIGM

Figure 14: Bauxite price in China


Source: Wind, CMBIGM

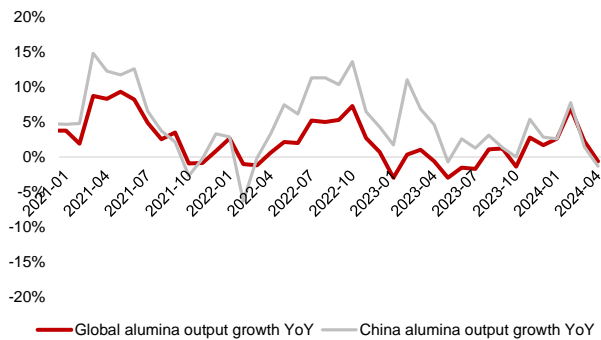
Figure 15: Bauxite import dependency marks a decade high


Source: Wind, CMBIGM

Figure 16: Bauxite import breakdown


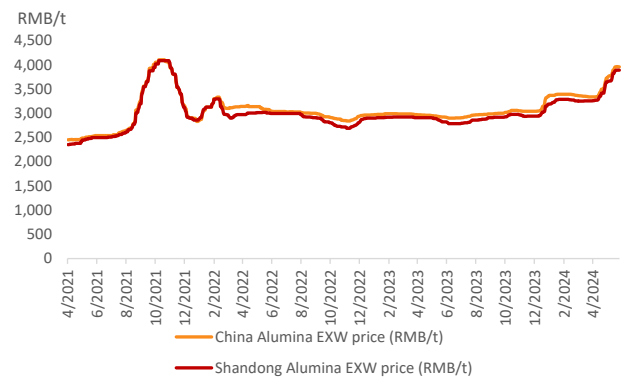
Source: Wind, CMBIGM

Figure 17: Alumina production dropped (YoY) in China and the world in Apr 2024



Source: Wind, CMBIGM

Figure 18: Alumina EXW price in China has moved up since early this year



Source: Wind, CMBIGM

Demand side: Lightweighting trend of auto & fast-growing solar power

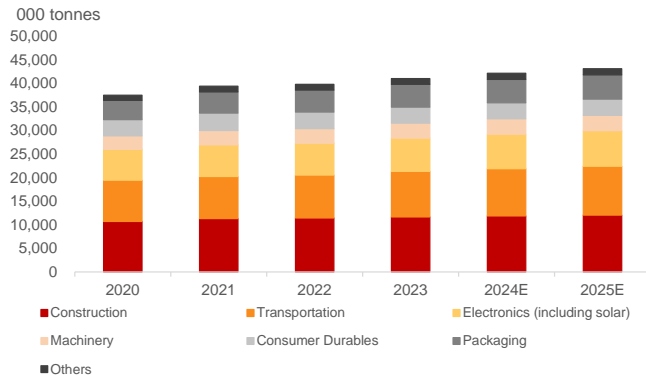
Global aluminum demand was ~70mt in 2023 (+0.9% YoY), according to Antaike.

In China, construction is the largest source of demand for aluminum, accounting for ~30% of total. On the back of China's U-turn on property policy, we expect the construction demand to stabilize in 2024E/25E.

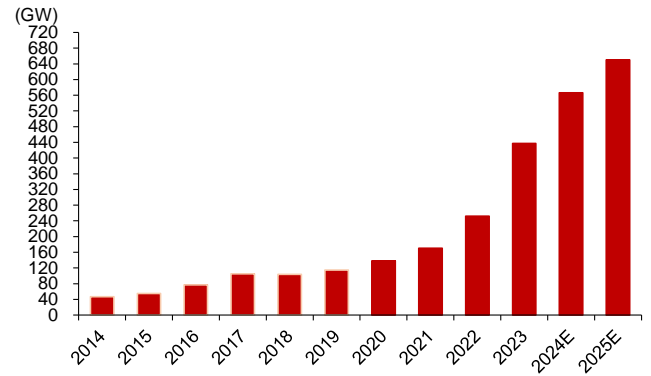
Automotive accounts for ~1/4 of aluminum demand in both China and the rest of world. Taking Europe as an example, it is estimated that the average aluminum content per vehicle will increase from 205kg/unit 2022 to 256kg/unit in 2030E (according to Ducker Carlisle), driven by the trend of lightweighting and EV's higher aluminum consumption.

Besides, aluminum is a key component of solar module frames. We believe the fast-growing global solar power installed capacity will serve as a new growth driver for aluminum. We estimate the aluminum demand from solar module to increase from 2.1%/3.3% in 2022/23 to 4.1%/4.5% in 2024E/25E, making it incrementally important in the mix of aluminum demand.

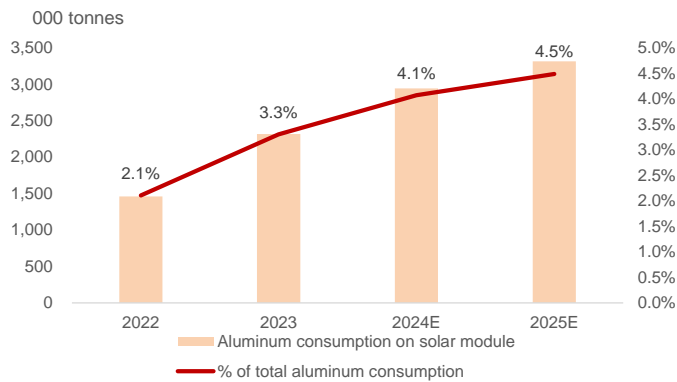
We forecast the global aluminum demand to grow by 3.2%/2.2% in 2024E/25E, versus our supply growth projection of 2.3%/1.7%. We expect the global balance to turn from surplus in 2023 to deficit in 2024E-25E.

Figure 19: Breakdown of China's aluminum demand

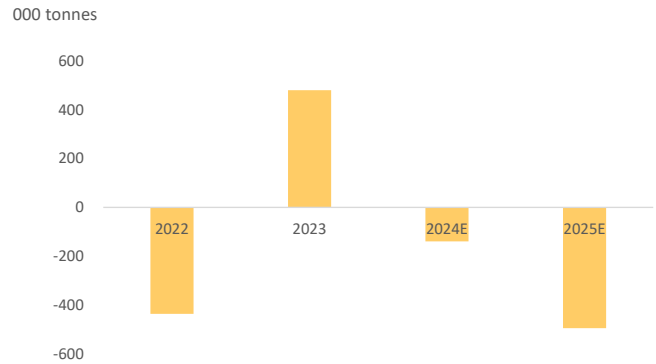
Source: Bloomberg, Wind, CMBIGM estimates

Figure 20: Global solar installed capacity addition

Source: CPIA, Bloomberg, CMBIGM estimates

Figure 21: Aluminum demand from solar module

Source: CPIA, Bloomberg, CMBIGM estimates

Figure 22: Global aluminum surplus / (deficit)

Source: Bloomberg, Wind, CMBIGM estimates

Company Overview

Background

Founded in 1994, Hongqiao is a large-scale aluminum product manufacturer based in China. Hongqiao was the second largest aluminum manufacturer in China in terms of annual aluminum production capacity in 2023. In terms of production volume of aluminum, Hongqiao had global market share of ~9% in 2023. Hongqiao has vertically integrated operations that encompass the entire aluminum industry value chain consisting of production facilities for alumina, molten aluminum alloy and aluminum alloy ingots, aluminum fabrication production facilities, as well as captive power plants.

Vertically integrated operating model

Hongqiao currently has 12 manufacturing bases located in Wenshan, Honghe, Weihai, Zouping, Zhanhua District, Beihai New District, Weiqiao, Binzhou, Boxing, Yangxin and Huimin in China, as well as one in Indonesia.

- **Aluminium:** The annual production capacity is ~6.46mt. The majority of aluminum manufacturing facilities are located in Shandong Province, China. The principal equipment includes 400 kA smelting pots and 600 kA smelting pots, holding furnaces, casting machines and continuous casting and rolling lines. Hongqiao is in progress to transfer some capacities from Shandong to Yunnan (currently 1mt capacity in Yunnan), in order to enjoy preferential tax rate there (15%).
- **Alumina:** The annual capacity in China is ~17.5mt. Hongqiao also owns 2mt capacity in Indonesia, although it is a JV with Winning Investment, PT Cita Mineral Investindo (CITA JK) and PT Danpac Resources Kalbar. Hongqiao has 61% interest in the JV. In theory, Hongqiao's total capacity of alumina is enough to satisfy the production of aluminum (assuming an alumina / aluminum production ratio of ~2x). In operation, Hongqiao procures some alumina externally for Yunnan's aluminum plants, while sells the excess alumina produced in Shandong to external customers.
- **Captive power plant:** Hongqiao owns captive power plants with total installed capacity of 10GW, which helps reduce electricity costs. The in-house power generation accounted for ~57% of the total power needed in 2023.
- **Bauxite:** Hongqiao imports bauxite from overseas countries such as Indonesia, Australia, as well as the Company's own bauxite mining project in Guinea. In 2015, Hongqiao entered into JV arrangements with China Yantai Port Group, United Mining Supply of Guinea (a French-invested company in Guinea) and Winning Singapore International Group, for the development of a bauxite mining project in Guinea. The project involved the development of the local bauxite mine as well as investment in the port and local logistics, including construction of barges and docks on either side of the Rio Nunez River. The project currently has annual bauxite capacity of 45mt, with ~30mt supplying to Hongqiao.

Sales of molten aluminum alloy sales to save costs

Sales of molten aluminum alloy accounted for >60% of Hongqiao's revenue in 2023. By focusing on molten aluminum alloy as compared to aluminum alloy ingots, significant molding costs and associated electricity, labor, storage and other relevant costs can be saved. Besides, the molten aluminum alloy customers are in close proximity to Hongqiao's manufacturing bases, making it able to deliver the molten aluminum alloy directly from smelters to customers' manufacturing sites immediately after it is ordered and produced. This allows Hongqiao to maintain close to zero inventory of molten aluminum alloy and enjoy low transportation costs. For the customers, purchasing molten aluminum alloy can benefit from cost savings of approximately RMB500 / tonne, according to Antaike.

Figure 23: Molten aluminum alloy



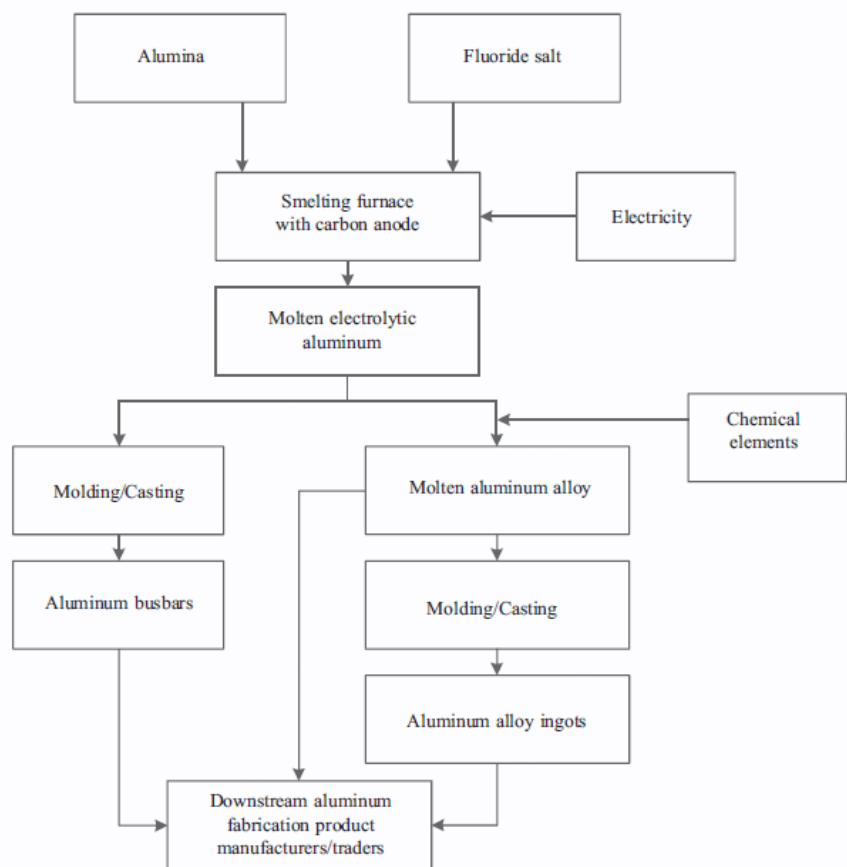
Source: Company, CMBIGM

Figure 24: Aluminum alloy ingots



Source: Company, CMBIGM

Figure 25: Production process of Hongqiao's aluminium products



Source: Company, CMBIGM

Segment analysis and forecast

Aluminum

We forecast Hongqiao to maintain a relatively high utilisation rate (~97%) in 2024E-26E. We expect Hongqiao to deliver production volume of 6.26mt in 2024E, largely similar to that in 2023. We expect the sales/production ratio to maintain at ~92%, as part of the aluminum output will be used for the manufacturing of fabrication products.

We forecast Aluminum ASP (ex-VAT) to increase 4.5%/2.0% YoY in 2024E/25E to RMB17,206 / RMB17,550 per tonne, as we expect the global demand to be resilient.

We forecast unit cost to increase by 3%/2% in 2024E/25E due to higher alumina cost and moderate increase in coal cost. We estimate that the internal electricity cost is currently at ~RMB0.40/kWh. For the external tariff (mainly for Yunnan's operation), the hydro power tariff ranges from RMB0.35/kWh to RMB0.45/kWh.

We forecast unit margin of RMB3,138/t and RMB3,257/t in 2024E and 25E respectively.

Alumina

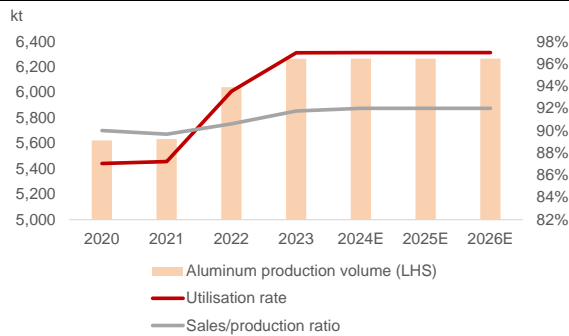
Hongqiao produces alumina for both internal use and external sales. We forecast external sales volume to slightly increase 1% per year as we expect the external sales ratio to be largely stable.

We forecast alumina ASP to increase 10% YoY to >RMB2,800/t in 2024E and slightly increase 1% in 2025E. We forecast 95% YoY increase in unit gross profit (to RMB556/t) in 2024E.

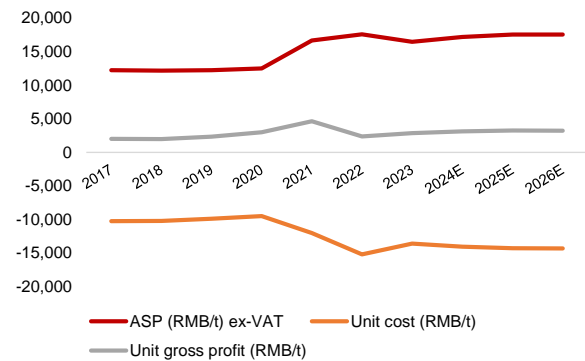
Figure 26: Key operating assumptions

	2021	2022	2023	2024E	2025E	2026E
Sales volume (000 tonnes)						
Aluminum alloy products	5,052	5,473	5,748	5,764	5,764	5,764
Alumina	7,163	8,298	10,374	10,502	10,626	10,626
Aluminum fabrication products	657	609	580	610	636	649
Change YoY						
Aluminum alloy products	-0.2%	8.3%	5.0%	0.3%	0.0%	0.0%
Alumina	6.4%	15.8%	25.0%	1.2%	1.2%	0.0%
Aluminum fabrication products	9.3%	-7.3%	-4.8%	5.1%	4.3%	2.0%
ASP (RMB/t) ex-VAT						
Aluminum alloy products	16,689	17,582	16,465	17,206	17,550	17,550
Alumina	2,369	2,580	2,560	2,816	2,844	2,844
Aluminum fabrication products	19,062	21,843	19,835	20,529	20,940	20,940
Change YoY						
Aluminum alloy products	33.5%	5.4%	-6.4%	4.5%	2.0%	0.0%
Alumina	18.3%	8.9%	-0.8%	10.0%	1.0%	0.0%
Aluminum fabrication products	30.5%	14.6%	-9.2%	3.5%	2.0%	0.0%
Unit cost (RMB/t)						
Aluminum alloy products	-12,035	-15,212	-13,602	-14,068	-14,293	-14,307
Alumina	-1,812	-2,186	-2,275	-2,260	-2,281	-2,281
Aluminum fabrication products	-14,160	-17,930	-17,016	-17,039	-17,171	-17,171
Change YoY						
Aluminum alloy products	26.7%	26.4%	-10.6%	3.4%	1.6%	0.1%
Alumina	8.2%	20.6%	4.1%	-0.6%	0.9%	0.0%
Aluminum fabrication products	24.3%	26.6%	-5.1%	0.1%	0.8%	0.0%
Unit gross profit (RMB/t)						
Aluminum alloy products	4,654	2,370	2,863	3,138	3,257	3,243
Alumina	556	394	285	556	563	563
Aluminum fabrication products	4,902	3,913	2,819	3,490	3,769	3,769
Change YoY						
Aluminum alloy products	55.1%	-49.1%	20.8%	9.6%	3.8%	-0.4%
Alumina	69.6%	-29.2%	-27.6%	94.9%	1.3%	0.0%
Aluminum fabrication products	52.3%	-20.2%	-28.0%	23.8%	8.0%	0.0%

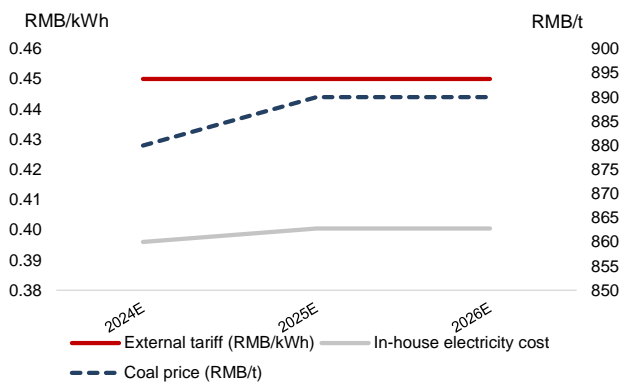
Source: Company data, CMBIGM estimates

Figure 27: Aluminum production volume, utilisation rates & sales/production ratios

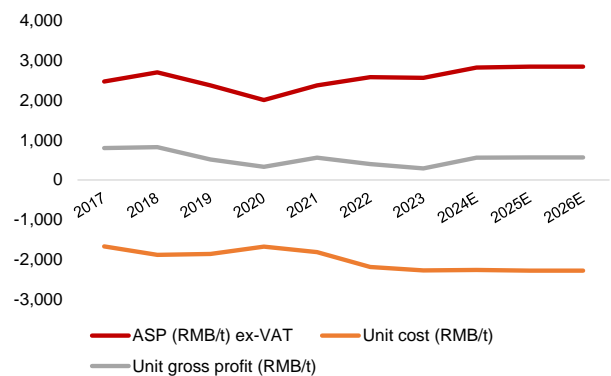
Source: Company data, CMBIGM estimates

Figure 28: Aluminum ASP, unit cost & margin

Source: Company data, Wind, CMBIGM

Figure 29: Electricity and coal cost

Source: Company data, CMBIGM estimates

Figure 30: Alumina ASP, unit cost & margin

Source: Company data, Wind, CMBIGM

Figure 31: Segment revenue and margin projection

(RMB mn)	2021	2022	2023	2024E	2025E	2026E
Revenue						
Aluminum alloy products	84,313	96,227	94,641	99,175	101,159	101,159
Alumina	16,967	21,405	26,557	29,575	30,221	30,221
Aluminum fabrication products	12,524	13,302	11,500	12,516	13,317	13,584
Steam	687	765	925	1,064	1,170	1,287
Total	114,491	131,699	133,624	142,329	145,867	146,251
Revenue growth						
Aluminum alloy products	33.3%	14.1%	-1.6%	4.8%	2.0%	0.0%
Alumina	25.8%	26.2%	24.1%	11.4%	2.2%	0.0%
Aluminum fabrication products	42.6%	6.2%	-13.5%	8.8%	6.4%	2.0%
Steam	10.9%	11.4%	20.8%	15.0%	10.0%	10.0%
Average	32.9%	15.0%	1.5%	6.5%	2.5%	0.3%
Gross profit						
Aluminum alloy products	23,512	12,974	16,456	18,090	18,775	18,692
Alumina	3,986	3,269	2,960	5,839	5,984	5,984
Aluminum fabrication products	3,221	2,383	1,634	2,128	2,397	2,445
Steam	-266	-386	-95	11	12	13
Total	30,453	18,239	20,955	26,067	27,168	27,134
Gross margin						
Aluminum alloy products	27.9%	13.5%	17.4%	18.2%	18.6%	18.5%
Alumina	23.5%	15.3%	11.1%	19.7%	19.8%	19.8%
Aluminum fabrication products	25.7%	17.9%	14.2%	17.0%	18.0%	18.0%
Steam	-38.6%	-50.4%	-10.3%	1.0%	1.0%	1.0%
Blended gross margin	26.6%	13.8%	15.7%	18.3%	18.6%	18.6%

Source: Company data, CMBIGM estimates

Figure 32: Major cost assumptions

	2024E	2025E	2026E
Cost assumptions			
Aluminum alloy			
Alumina			
Alumina externally sourced (000 tonnes)	4,320	4,443	4,443
External cost of alumina (RMB/t)	2,816	2,844	2,844
External cost of alumina (RMB mn)	12,165	12,637	12,637
Alumina production volume for internal use (000 tonnes)	8,023	7,899	7,899
Estimated internal cost (RMB/t)	2,260	2,281	2,281
Internal cost of alumina (RMB mn)	18,131	18,018	18,018
Total alumina used (000 tonnes)	12,343	12,343	12,343
Blended cost (RMB/t)	2,455	2,484	2,484
Total cost of alumina (RMB mn)	30,296	30,656	30,656
External / total volume needed	35.0%	36.0%	36.0%
Power			
Total electricity consumed (mn kWh)	91,150	91,331	91,517
Self-sufficiency ratio	56.0%	55.9%	55.8%
External			
External purchase of electricity (mn kWh)	40,073	40,255	40,440
External tariff (RMB/kWh)	0.45	0.45	0.45
External power cost (RMB mn)	18,033	18,115	18,198
Internal			
Installed capacity (MW)	10,015	10,015	10,015
Electricity self-generated (mn kWh)	51,077	51,077	51,077
Utilisation hours	5,100	5,100	5,100
Coal price (RMB/t)	880	890	890
Internal power cost (RMB mn)	20,226	20,456	20,456
Tariff (RMB/kWh)	0.40	0.40	0.40
Total electricity cost (RMB mn)	38,259	38,571	38,654
Average tariff (RMB/kWh)	0.42	0.42	0.42
Anode carbon block			
Volume needed (000 tonnes)	3,133	3,133	3,133
Price (RMB/t)	4,000	4,200	4,200
Total cost of anode carbon block (RMB mn)	12,530	13,157	13,157
Total aluminum alloy cost (RMB mn)	81,086	82,383	82,467
Alumina			
Bauxite			
Bauxite volume needed (000 tonnes)	38,903	38,903	38,903
Price per tonne (RMB/t)	600	610	610
Total bauxite cost (RMB mn)	23,342	23,731	23,731
Cost for internal	10,109	10,119	10,119
Cost for external	13,233	13,612	13,612
Others			
Other costs (external only) (RMB mn)	10,502	10,626	10,626
Total alumina cost (for external sales) (RMB mn)	23,735	24,237	24,237

Source: Company data, CMBIGM estimates

Financial Summary

INCOME STATEMENT	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (RMB mn)						
Revenue	114,491	131,699	133,624	142,329	145,867	146,251
Cost of goods sold	(84,038)	(113,460)	(112,669)	(116,262)	(118,699)	(119,117)
Gross profit	30,453	18,239	20,955	26,067	27,168	27,134
Selling expense	(526)	(598)	(755)	(712)	(729)	(731)
Admin expense	(5,708)	(5,934)	(4,953)	(4,982)	(5,105)	(5,119)
R&D expense	(1,691)	(329)	(945)	(712)	(729)	(731)
Other income	3,473	3,736	3,405	3,558	3,647	3,656
Other gains/(losses)	(117)	(185)	(49)	(71)	(73)	(73)
Share of (losses)/profits of associates/JV	62	503	1,193	1,409	1,448	1,617
EBITDA	32,483	21,836	24,619	30,416	31,673	31,833
Depreciation	6,482	6,721	6,912	7,196	7,422	7,624
EBIT	26,001	15,115	17,707	23,221	24,251	24,209
Interest income	234	193	308	498	561	637
Interest expense	(3,626)	(3,020)	(3,268)	(3,286)	(3,291)	(3,296)
Net Interest income/(expense)	(3,392)	(2,826)	(2,960)	(2,788)	(2,730)	(2,659)
Pre-tax profit	22,554	12,607	15,890	21,770	22,897	23,094
Income tax	(5,705)	(2,798)	(3,393)	(4,354)	(4,579)	(4,619)
Minority interest	(775)	(1,107)	(1,037)	(1,306)	(1,374)	(1,386)
Adjusted net profit	16,073	8,702	11,461	16,110	16,944	17,090
Gross dividends	8,449	4,386	5,465	7,572	7,963	8,032

BALANCE SHEET	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (RMB mn)						
Current assets	103,528	87,568	87,395	99,321	103,427	115,620
Cash & equivalents	49,227	27,385	31,721	36,905	45,017	52,877
Account receivables	7,285	4,611	5,489	4,650	5,741	4,677
Inventories	22,705	37,268	33,958	40,577	36,171	40,847
ST bank deposits	1,624	1,720	1,827	1,827	1,827	1,827
Other current assets	22,687	16,585	14,400	15,363	14,671	15,393
Non-current assets	84,892	98,174	112,925	116,653	119,694	121,703
PP&E	63,442	68,061	70,200	72,513	74,100	74,488
Deferred income tax	2,617	2,605	2,990	2,990	2,990	2,990
Investment in JVs & assos	6,065	10,297	11,034	12,443	13,891	15,508
Intangibles	33	34	43	50	55	59
Goodwill	278	278	278	278	278	278
Financial assets at FVTPL	1,059	1,543	13,127	13,127	13,127	13,127
Other non-current assets	11,399	15,356	15,253	15,253	15,253	15,253
Total assets	188,421	185,742	200,320	215,974	223,121	237,323
Current liabilities	63,067	71,373	74,029	78,226	74,803	78,524
Short-term borrowings	29,377	43,434	49,118	49,218	49,318	49,418
Account payables	18,735	14,911	11,648	15,745	12,223	15,843
Tax payable	2,720	618	2,586	2,586	2,586	2,586
Other current liabilities	12,234	12,410	10,677	10,677	10,677	10,677
Non-current liabilities	32,915	18,063	20,035	20,035	20,035	20,035
Long-term borrowings	30,973	16,236	13,792	13,792	13,792	13,792
Other non-current liabilities	1,942	1,827	6,243	6,243	6,243	6,243
Total liabilities	95,982	89,436	94,064	98,260	94,838	98,559
Total shareholders equity	81,308	84,499	92,245	102,396	111,591	120,687
Minority interest	11,131	11,807	14,012	15,318	16,692	18,077
Total equity and liabilities	188,421	185,742	200,320	215,974	223,121	237,323

CASH FLOW	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec (RMB mn)						
Operating						
Profit before taxation	22,554	12,607	15,890	21,770	22,897	23,094
Depreciation & amortization	6,482	6,721	6,912	7,196	7,422	7,624
Tax paid	(5,001)	(6,148)	(1,686)	(4,354)	(4,579)	(4,619)
Change in working capital	376	(8,660)	(983)	(2,646)	484	(712)
Others	20,697	20,693	11,647	21,574	19,570	20,801
Net cash from operations	28,650	7,622	22,402	23,345	27,504	26,429
Investing						
Capital expenditure	(4,178)	(8,798)	(5,662)	(9,500)	(9,000)	(8,000)
Acquisition of subsidiaries/ investments	(2,207)	(3,550)	(3,700)	0	0	0
Others	921	(4,425)	(8,526)	483	546	622
Net cash from investing	(5,463)	(16,773)	(17,889)	(9,017)	(8,454)	(7,378)
Financing						
Dividend paid	(7,184)	(8,226)	(3,786)	(5,959)	(7,748)	(7,994)
Net borrowings	(14,488)	(681)	3,240	100	100	100
Proceeds from share issues	1,972	0	0	0	0	0
Others	305	(3,884)	347	(3,286)	(3,291)	(3,296)
Net cash from financing	(19,396)	(12,790)	(200)	(9,145)	(10,939)	(11,190)
Net change in cash						
Cash at the beginning of the year	45,465	49,227	27,385	31,721	36,905	45,017
Exchange difference	(28)	98	22	0	0	0
Cash at the end of the year	49,227	27,385	31,721	36,905	45,017	52,877
GROWTH	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec						
Revenue	32.9%	15.0%	1.5%	6.5%	2.5%	0.3%
Gross profit	57.3%	(40.1%)	14.9%	24.4%	4.2%	(0.1%)
EBITDA	38.8%	(32.8%)	12.7%	23.5%	4.1%	0.5%
EBIT	54.6%	(41.9%)	17.1%	31.1%	4.4%	(0.2%)
Adj. net profit	53.1%	(45.9%)	31.7%	40.6%	5.2%	0.9%
PROFITABILITY	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec						
Gross profit margin	26.6%	13.8%	15.7%	18.3%	18.6%	18.6%
EBITDA margin	28.4%	16.6%	18.4%	21.4%	21.7%	21.8%
Adj. net profit margin	14.0%	6.6%	8.6%	11.3%	11.6%	11.7%
GEARING/LIQUIDITY/ACTIVITIES	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec						
Net debt to equity (x)	0.1	0.4	0.3	0.3	0.2	0.1
Current ratio (x)	1.6	1.2	1.2	1.3	1.4	1.5
Receivable turnover days	28.1	16.5	13.8	13.0	13.0	13.0
Inventory turnover days	92.1	96.5	115.4	117.0	118.0	118.0
Payable turnover days	69.7	54.1	43.0	43.0	43.0	43.0
VALUATION	2021A	2022A	2023A	2024E	2025E	2026E
YE 31 Dec						
P/E	6.2	11.8	9.1	5.7	5.4	5.3
P/B	1.2	1.2	1.1	1.0	0.9	0.9
Div yield (%)	8.4	4.2	5.2	7.2	7.6	7.7

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

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