

This publication was downloaded for exclusive use by: fanzhihe@enn.cn

24 August 2021

China/Australasia/Hong Kong

EQUITIES

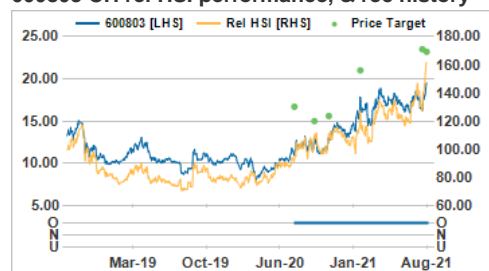
600803 CH Outperform
Price (at 06:50, 24 Aug 2021 GMT) Rmb19.47

Valuation	Rmb	23.20
- Sum of Parts		
12-month target	Rmb	23.20
Upside/Downside	%	+19.2
12-month TSR	%	+20.7
Volatility Index		Medium
GICS sector		Utilities
Market cap	Rmbm	55,409
Market cap	US\$m	8,524
Free float	%	45
30-day avg turnover	US\$m	49.6
Number shares on issue	m	2,846

Investment fundamentals

Year end 31 Dec		2020A	2021E	2022E	2023E
Revenue	bn	88.1	102.0	134.8	153.0
EBIT	bn	10.6	12.9	14.5	16.1
EBIT growth	%	724.2	21.3	12.7	10.5
Reported profit	bn	2.1	3.1	3.7	4.2
Adjusted profit	bn	2.1	3.1	3.7	4.2
EPS rep	Rmb	0.82	1.13	1.33	1.51
EPS rep growth	%	-17.8	38.9	17.4	13.9
EPS adj	Rmb	0.82	1.13	1.33	1.51
EPS adj growth	%	-17.7	38.7	17.4	13.9
PER rep	x	23.9	17.2	14.6	12.9
PER adj	x	23.8	17.2	14.6	12.9
Total DPS	Rmb	0.19	0.27	0.35	0.44
Total div yield	%	1.0	1.4	1.8	2.3
ROA	%	15.9	11.3	11.6	11.6
ROE	%	24.1	33.2	30.5	28.1
EV/EBITDA	x	5.6	4.2	3.8	3.4
Net debt/equity	%	35.8	19.8	6.6	0.4
P/BV	x	6.2	5.1	4.1	3.3

600803 CH rel HSI performance, & rec history



Note: Recommendation timeline - if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Research, August 2021
(all figures in Rmb unless noted, TP in CNY)

Analysts

Macquarie Securities (Australia) Limited



Mark Wiseman, CFA +61 418 375 283
mark.wiseman@macquarie.com

Macquarie Capital Limited



Kerry Cheng +86 21 2412 9025
kerry.cheng@macquarie.com

ENN Natural Gas Co (600803 CH)

1H21 as guided; LNG exposure a double-edged sword

Key points

- ▶ 1H21 NPAT of Rmb2.1bn, +186%yoy, in line with profit alert
- ▶ Gas demand growth on track; tightness in regional LNG markets is driving margin compression (alongside structurally strong gas volume growth).
- ▶ We lower 21-23E EPS by 1% p.a. Price target down 1% to Rmb23.2; Maintain Outperform.

1H21 +186%yoy to Rmb2.1bn; in line with profit alert

- The solid 1H21 result was mainly due to a) +26%yoy in gas sales volume; b) +55.5%yoy new connections of C&I department; c) low base; partly offset by d) dollar margin contraction on the back of surging LNG prices.

What was good...

- **~70% of the bottom line contributed by ENN Energy.** The gas distributors' business expansion is on track and the growth is mainly driven by C&I customers and recovery in new connections. Mgmt. guided strong C&I coal-to-gas conversion demand during 14th FYP and est. Shandong CTG scale is ~30bcm (vs. 17.5bcm of ENN Natural Gas' total gas sales in 1H21).

What was not so good...

- **Dollar margin compression larger than peers (LNG exposure).** We estimate ~14% of ENN's gas supply is imported LNG, higher than CRG's ~11%. Surging LNG prices (>4x YTD) increase blended gas procurement costs, lowering dollar margin 8%yoy to Rmb0.56/m³. Mgmt plans to further increase LNG into its mix in next 3 years (to 8mt in 23E vs. 2.55mt in 2020).

What we found interesting...

- **Carbon neutrality trend is likely to drive accelerating integrated energy (IE) demand.** ENN Group is working with industrial customers on both meeting their energy needs, but also reducing carbon footprint – increasingly we see the group providing a holistic integrated energy service (combinations of gas, solar & hydrogen, tailored to the customers requirement).

Earnings and target price revision

- We lower 21-23E EPS by -1%/-1%/-1% after factoring in thinner dollar margin partly offset by faster C&I connections on the back of accelerating coal-to-gas conversions. We lower our TP ~1% to Rmb23.20, based on unchanged 18x22E PER. Key risk is weaker-than-expected gas demand.

Price catalyst

- 12-month price target: Rmb23.20 based on a Sum of Parts methodology.
- Catalyst: 3Q results, LNG prices into winter heating season

Action and recommendation

- Maintain OP. ~70% of ENN Natural Gas's business is contributed by ENN. Despite ENN's pullback post-result (18x 22 PER), we still see better value in ENN Natural Gas Co (600803 CH, Rmb19.47, Outperform, TP: Rmb23.50) (15x 22E PE).

Analysis

Fig 1 1H result quick review

	1H20	1H21	YoY
Operation data (CNYmn)			
Revenue	38,446	51,836	35%
Gross profit	7,462	9,196	23%
EBITDA	6,581	7,912	20%
NPAT	728	2,078	186%
EPS	0.28	0.74	164%

Source: Company Data, Macquarie Research, August 2021

Fig 2 TP of Rmb23.2 implies 18x22E PER

Year Ending	FY2018	FY2019	FY2020	FY2021	FY2022	FY2023
(CNYm)	A	A	A	F	F	F
Net Sales	13,632	13,544	88,099	102,028	134,777	152,956
Gross Profit	2,936	2,382	16,316	19,720	23,547	26,284
Net Income	1,406	1,184	7,833	7,988	9,346	10,681
EPS	1.11	0.99	0.82	1.13	1.33	1.51
Implied PER				21x	18x	16x

Source: Company Data, Macquarie Research, August 2021

Fig 3 ENN Energy (2688.HK) PER; share price pulled back post 1H21 result, while we still prefer ENG

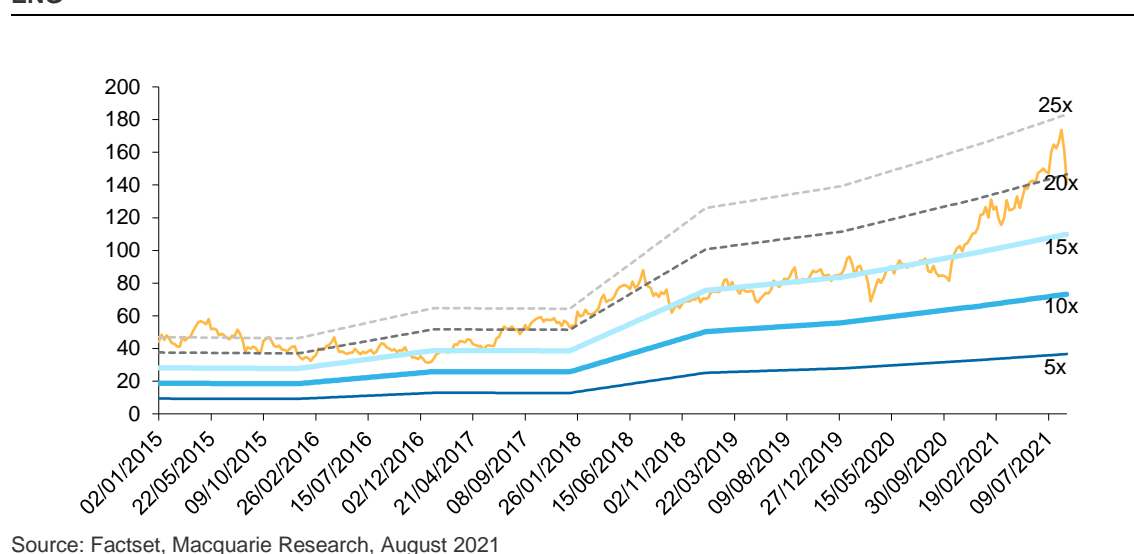


Fig 4 ENN Natural Gas financial summary

ENN Natural Gas 600803 CH							PT:		Rmb23.2				
Profit & Loss (Rmb mn)	18A	19A	20A	21E	22E	23E	Assumptions	18A	19A	20A	21E	22E	23E
Net Revenues	13,632	13,544	88,099	102,028	134,777	152,956	Revenue breakdown						
less COGS	10,697	11,162	71,782	82,309	111,229	126,672	Natural Gas			65,066	76,163	100,588	113,910
Gross Profits	2,936	2,382	16,316	19,720	23,547	26,284	Engineering construction and installation			9,614	7,167	7,166	7,211
General and Administrative Expenses	768	817	3,879	4,492	5,934	6,734	Integrated energy sales and services			5,713	9,043	16,036	20,119
Selling expenses	189	153	1,210	1,402	1,851	2,101	Self-produced coal			1,540	2,078	1,871	1,871
Others	1,979	1,412	11,227	13,826	15,762	17,448	Self-produced methanol			1,923	2,115	2,327	2,327
EBITDA	2,236	1,800	11,195	16,102	17,976	19,792	Trade product			2,051	2,667	3,467	3,744
less DD&A	403	509	553	3,194	3,427	3,720	Other products			1,667	2,191	2,629	3,023
EBIT	1,834	1,291	10,642	12,908	14,549	16,072	Others			526	605	695	751
less Total finance costs	467	575	1,039	3,251	3,079	2,897							
Other income/(expense)	254	681	832	792	794	795	Total new connection (.000 unit)						
Pretax Profit	1,621	1,397	10,435	10,449	12,264	13,970	Residential			2,293	2,476	2,377	2,282
less Tax Expense	215	213	2,602	2,605	3,058	3,483	Commercial & Industrial			28	28	32	37
Basic Net Income	1,321	1,205	2,107	3,138	3,683	4,195	Gas stations			0	0	0	0
Clean Net Income	1,321	1,205	2,107	3,138	3,683	4,195	Gross Sales volume (mn m3)			30,709	35,579	44,054	50,192
							Residential			5,075	5,897	6,765	7,681
Basic EPS (Rmb/sh)	1.11	0.99	0.82	1.13	1.33	1.51	Commercial & Industrial			16,878	20,477	24,052	28,039
Clean EPS (Rmb/sh)	1.11	0.99	0.82	1.13	1.33	1.51	Gas stations			1,140	1,207	1,242	1,276
DPS (Rmb/sh)	0.21	0.21	0.19	0.27	0.35	0.44	Wholesales			7,616	7,997	11,995	13,195
Cashflows (Rmb mn)	18A	19A	20A	21E	22E	23E	Ratio Analysis	18A	19A	20A	21E	22E	23E
EBITDA	2,236	1,800	11,195	16,102	17,976	19,792	Gearing (ND/E)	50%	61%	36%	20%	7%	0%
Tax Paid	-789	-800	0	0	0	0	Interest cover	4.7	3.0	9.3	4.7	5.5	6.3
Chgs in Working Cap	-656	224	-1,145	1,156	1,914	990	Effective tax rate	13%	15%	25%	25%	25%	25%
Net Interest Paid	-467	-575	-1,039	-3,251	-3,079	-2,897	ROA	6%	5%	7%	7%	7%	7%
Other	897	760	3,436	-1,813	-2,264	-2,688	ROE	15%	13%	26%	29%	27%	26%
Operating Cashflow	1,222	1,408	12,448	12,194	14,548	15,197	EBITDA margin	16%	13%	13%	16%	13%	13%
Capex	-1,342	-593	-6,922	-7,509	-8,802	-11,088	EBIT margin	13%	10%	12%	13%	11%	11%
Asset Sales	3	6	230	230	230	230							
Other	41	891	-518	60	60	60	Valuation Multiples	18A	19A	20A	21E	22E	23E
Investing Cashflow	-1,298	303	-7,209	-7,219	-8,512	-10,798	EV/EBITDA	38.1x	47.3x	7.6x	5.3x	4.7x	4.3x
Dividends Paid	-600	-778	-4,413	-770	-994	-1,258	Share Price	9.9	10.6	14.0	17.0	17.0	17.0
Debt Raised	-1,928	518	3,462	0	0	0	Share Price in CNY	9.9	10.6	14.0	17.0	17.0	17.0
Other	2,122	-882	-3,259	0	0	0	P/E	9.0x	10.7x	17.1x	15.1x	12.8x	11.3x
Financial Cashflow	-406	-1,142	-4,210	-770	-994	-1,258	P/B	1.3x	1.3x	1.0x	1.1x	1.0x	0.8x
Net exchange difference	-14	15	25	0	0	0	FCF yield	-1.0%	6.2%	15.2%	9.7%	11.9%	8.5%
Net Change in Cash	-496	585	1,054	4,206	5,041	3,140	Dividend yield	2.1%	2.0%	1.4%	1.6%	2.1%	2.6%
Balance Sheet (Rmb mn)	18A	19A	20A	21E	22E	23E	Implied ratio	18A	19A	20A	21E	22E	23E
Cash & Cash eqv.	1,957	2,495	12,629	16,834	21,876	25,016	Net Sales	13,632	13,544	88,099	102,028	134,777	152,956
Current assets	6,285	6,994	30,943	36,041	44,796	49,952	Gross Profit	2,936	2,382	16,316	19,720	23,547	26,284
Fixed assets	17,230	17,359	78,581	82,852	87,937	95,014	Net Income	1,321	1,205	2,107	3,138	3,683	4,195
Total assets	23,514	24,353	109,524	118,892	132,733	144,966	EPS	1.11	0.99	0.82	1.13	1.33	1.51
Current liabilities	9,323	8,186	51,055	53,103	58,731	61,737	BVPS	7.59	8.24	13.57	14.97	17.85	21.09
Total liabilities	14,178	14,225	74,252	76,301	81,929	84,934	TP			23.2	23.2	23.2	23.2
Shareholder equity	9,337	10,128	35,272	42,592	50,804	60,032	Implied PER			28	21	18	15
BVPS	7.6	8.2	13.6	15.0	17.9	21.1	Implied PB			1.7	1.6	1.3	1.1

Source: Company Data, Macquarie Research, Priced as of 24th August 2021

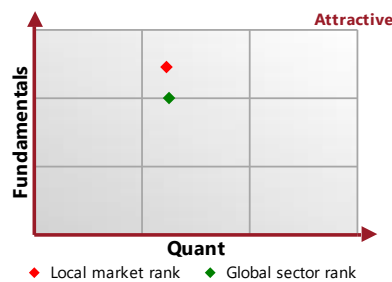
Macquarie Quant Alpha Model Views

The quant model currently holds a marginally negative view on ENN Natural Gas Co. The strongest style exposure is Growth, indicating this stock has good historic and/or forecast growth. Growth metrics focus on both top and bottom line items. The weakest style exposure is Valuations, indicating this stock is over-priced in the market relative to its peers.

266/455

Global rank in
Utilities

% of BUY recommendations	100% (9/9)
Number of Price Target downgrades	0
Number of Price Target upgrades	2



Displays where the company's ranked based on the fundamental consensus Price Target and Macquarie's Quantitative Alpha model.

Two rankings: Local market (China A) and Global sector (Utilities)

Macquarie Alpha Model ranking

A list of comparable companies and their Macquarie Alpha model score (higher is better).

Factors driving the Alpha Model

For the comparable firms this chart shows the key underlying styles and their contribution to the current overall Alpha score.



Macquarie Earnings Sentiment Indicator

The Macquarie Sentiment Indicator is an enhanced earnings revisions signal that favours analysts who have more timely and higher conviction revisions. Current score shown below.

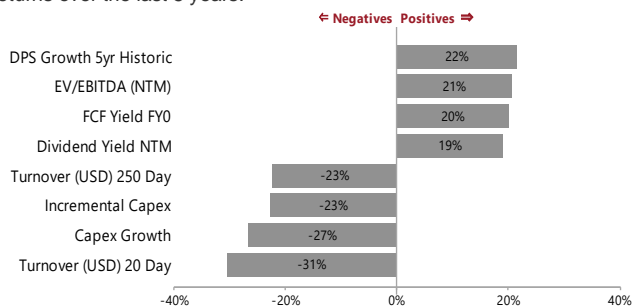
Drivers of Stock Return

Breakdown of 1 year total return (local currency) into returns from dividends, changes in forward earnings estimates and the resulting change in earnings multiple.



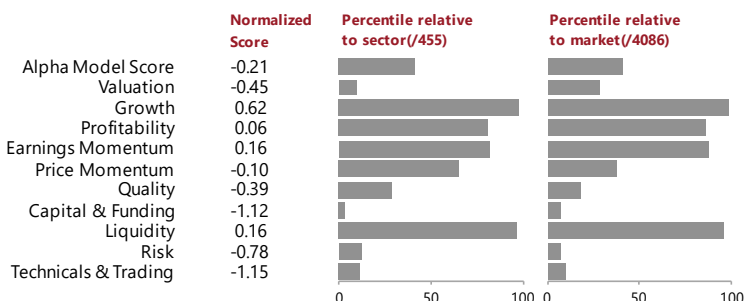
What drove this Company in the last 5 years

Which factor score has had the greatest correlation with the company's returns over the last 5 years.



How it looks on the Alpha model

A more granular view of the underlying style scores that drive the alpha (higher is better) and the percentile rank relative to the sector and market.



Source (all charts): FactSet, Thomson Reuters, and Macquarie Quant. For more details on the Macquarie Alpha model or for more customised analysis and screens, please contact the Macquarie Global Quantitative/Custom Products Group (cpg@macquarie.com)

ENN Natural Gas Co (600803 CH, Outperform, Target Price: Rmb23.20)

Interim Results						Profit & Loss					
		1H/21A	2H/21E	1H/22E	2H/22E			2020A	2021E	2022E	2023E
Revenue	m	51,836	50,193	44,049	90,727	Revenue	m	88,099	102,028	134,777	152,956
Gross Profit	m	9,196	10,523	8,158	15,389	Gross Profit	m	16,316	19,720	23,547	26,284
Cost of Goods Sold	m	42,640	39,669	35,891	75,338	Cost of Goods Sold	m	71,782	82,309	111,229	126,672
EBITDA	m	7,912	8,190	5,702	12,274	EBITDA	m	11,195	16,102	17,976	19,792
Depreciation	m	1,548	1,646	553	2,874	Depreciation	m	553	3,194	3,427	3,720
Amortisation of Goodwill	m	0	0	0	0	Amortisation of Goodwill	m	0	0	0	0
Other Amortisation	m	0	0	0	0	Other Amortisation	m	0	0	0	0
EBIT	m	6,363	6,544	5,149	9,400	EBIT	m	10,642	12,908	14,549	16,072
Net Interest Income	m	-462	-2,789	-281	-2,797	Net Interest Income	m	-1,039	-3,251	-3,079	-2,897
Associates	m	604	-196	38	375	Associates	m	404	408	413	417
Exceptionals	m	0	0	0	0	Exceptionals	m	0	0	0	0
Forex Gains / Losses	m	0	0	0	0	Forex Gains / Losses	m	0	0	0	0
Other Pre-Tax Income	m	526	-142	324	57	Other Pre-Tax Income	m	427	384	381	378
Pre-Tax Profit	m	7,031	3,418	5,229	7,035	Pre-Tax Profit	m	10,435	10,449	12,264	13,970
Tax Expense	m	-1,552	-1,053	-1,155	-1,903	Tax Expense	m	-2,602	-2,605	-3,058	-3,483
Net Profit	m	5,479	2,365	4,075	5,132	Net Profit	m	7,833	7,844	9,206	10,487
Minority Interests	m	-3,401	-1,305	-2,445	-3,079	Minority Interests	m	-5,726	-4,706	-5,524	-6,292
Reported Earnings	m	2,078	1,060	1,630	2,053	Reported Earnings	m	2,107	3,138	3,683	4,195
Adjusted Earnings	m	2,078	1,060	1,630	2,053	Adjusted Earnings	m	2,107	3,138	3,683	4,195
EPS (rep)		0.75	0.38	0.59	0.74	EPS (rep)		0.82	1.13	1.33	1.51
EPS (adj)		0.75	0.38	0.59	0.74	EPS (adj)		0.82	1.13	1.33	1.51
EPS Growth yoy (adj)	%	167.9	-28.7	-21.5	93.7	EPS Growth (adj)	%	-17.7	38.7	17.4	13.9
						PE (rep)	x	23.9	17.2	14.6	12.9
						PE (adj)	x	23.8	17.2	14.6	12.9
EBITDA Margin	%	15.3	16.3	12.9	13.5	Total DPS		0.19	0.27	0.35	0.44
EBIT Margin	%	12.3	13.0	11.7	10.4	Total Div Yield	%	1.0	1.4	1.8	2.3
Earnings Split	%	66.2	33.8	44.3	55.7	Basic Shares Outstanding	m	2,569	2,808	2,808	2,808
Revenue Growth	%	34.8	1.1	-15.0	80.8	Diluted Shares Outstanding	m	2,584	2,770	2,770	2,770
EBIT Growth	%	24.7	18.2	-19.1	43.6						
Profit and Loss Ratios						Cashflow Analysis					
		2020A	2021E	2022E	2023E			2020A	2021E	2022E	2023E
Revenue Growth	%	550.5	15.8	32.1	13.5	EBITDA	m	11,195	16,102	17,976	19,792
EBITDA Growth	%	522.1	43.8	11.6	10.1	Tax Paid	m	-2,602	-2,605	-3,058	-3,483
EBIT Growth	%	724.2	21.3	12.7	10.5	Chgs in Working Cap	m	-1,145	1,156	1,914	990
Gross Profit Margin	%	18.5	19.3	17.5	17.2	Net Interest Paid	m	-1,039	-3,251	-3,079	-2,897
EBITDA Margin	%	12.7	15.8	13.3	12.9	Other	m	6,038	792	794	795
EBIT Margin	%	12.1	12.7	10.8	10.5	Operating Cashflow	m	12,448	12,194	14,548	15,197
Net Profit Margin	%	2.4	3.1	2.7	2.7	Acquisitions	m	9,983	360	360	360
Payout Ratio	%	23.3	23.9	26.3	29.2	Capex	m	-6,922	-7,509	-8,802	-11,088
EV/EBITDA	x	5.6	4.2	3.8	3.4	Asset Sales	m	10,601	230	230	230
EV/EBIT	x	5.8	5.2	4.6	4.2	Other	m	-9,491	-300	-300	-300
Balance Sheet Ratios						Investing Cashflow	m	4,170	-7,219	-8,512	-10,798
ROE	%	24.1	33.2	30.5	28.1	Dividend (Ordinary)	m	-767	-1,174	-981	-1,242
ROA	%	15.9	11.3	11.6	11.6	Equity Raised	m	0	0	0	0
ROIC	%	49.0	20.2	21.4	22.3	Debt Movements	m	3,462	0	0	0
Net Debt/Equity	%	35.8	19.8	6.6	0.4	Other	m	11,491	0	0	0
Interest Cover	x	10.2	4.0	4.7	5.5	Financing Cashflow	m	14,185	-1,174	-981	-1,242
Price/Book	x	6.2	5.1	4.1	3.3	Net Chg in Cash/Debt	m	30,829	3,807	5,055	3,157
Book Value per Share		3.2	3.8	4.8	5.8	Free Cashflow	m	5,526	4,685	5,746	4,109
						Balance Sheet					
		2020A	2021E	2022E	2023E			2020A	2021E	2022E	2023E
						Cash	m	12,629	16,834	21,876	25,016
						Receivables	m	4,136	4,790	6,327	7,181
						Inventories	m	1,999	2,292	3,097	3,527
						Investments	m	5,883	5,329	5,329	5,329
						Fixed Assets	m	56,030	60,115	65,260	72,397
						Intangibles	m	8,713	9,013	9,313	9,613
						Other Assets	m	20,134	20,519	21,531	21,903
						Total Assets	m	109,524	118,892	132,733	144,966
						Payables	m	13,969	16,018	21,646	24,651
						Short Term Debt	m	9,605	9,605	9,605	9,605
						Long Term Debt	m	15,647	15,647	15,647	15,647
						Provisions	m	0	0	0	0
						Other Liabilities	m	35,031	35,031	35,031	35,031
						Total Liabilities	m	74,252	76,301	81,929	84,934
						Shareholders' Funds	m	8,132	10,746	13,434	16,371
						Minority Interests	m	27,140	31,846	37,370	43,662
						Other	m	0	0	0	0
						Total S/H Equity	m	35,272	42,592	50,804	60,032
						Total Liab & S/H Funds	m	109,524	118,892	132,733	144,966

All figures in Rmb unless noted.

Source: Company data, Macquarie Research, August 2021

Important disclosures:

Recommendation definitions

Macquarie – Asia and USA

Outperform – expected return >10%
 Neutral – expected return from -10% to +10%
 Underperform – expected return <-10%

Macquarie – Australia/New Zealand

Outperform – expected return >10%
 Neutral – expected return from 0% to 10%
 Underperform – expected return <0%

Note: expected return is reflective of a Medium Volatility stock and should be assumed to adjust proportionately with volatility risk

Volatility index definition*

This is calculated from the volatility of historical price movements.

Very high–highest risk – Stock should be expected to move up or down 60–100% in a year – investors should be aware this stock is highly speculative.

High – stock should be expected to move up or down at least 40–60% in a year – investors should be aware this stock could be speculative.

Medium – stock should be expected to move up or down at least 30–40% in a year.

Low–medium – stock should be expected to move up or down at least 25–30% in a year.

Low – stock should be expected to move up or down at least 15–25% in a year.

* Applicable to select stocks in Asia/Australia/NZ

Recommendations – 12 months

Note: Quant recommendations may differ from Fundamental Analyst recommendations

Financial definitions

All "Adjusted" data items have had the following adjustments made:

Added back: goodwill amortisation, provision for catastrophe reserves, IFRS derivatives & hedging, IFRS impairments & IFRS interest expense
 Excluded: non recurring items, asset revals, property revals, appraisal value uplift, preference dividends & minority interests

EPS = adjusted net profit / efpowa*

ROA = adjusted ebit / average total assets

ROA Banks/Insurance = adjusted net profit / average total assets

ROE = adjusted net profit / average shareholders funds

Gross cashflow = adjusted net profit + depreciation

*equivalent fully paid ordinary weighted average number of shares

All Reported numbers for Australian/NZ listed stocks are modelled under IFRS (International Financial Reporting Standards).

Recommendation proportions – For quarter ending 30 Jun 2021

	AU/NZ	Asia	USA	
Outperform	62.67%	68.26%	75.58%	(for global coverage by Macquarie, 5.24% of stocks followed are investment banking clients)
Neutral	31.00%	21.81%	24.42%	(for global coverage by Macquarie, 2.12% of stocks followed are investment banking clients)
Underperform	6.33%	9.94%	0.00%	(for global coverage by Macquarie, 0.00% of stocks followed are investment banking clients)

600803 CH vs HSI, & rec history



(all figures in CNY currency unless noted)

Note: Recommendation timeline – if not a continuous line, then there was no Macquarie coverage at the time or there was an embargo period.

Source: FactSet, Macquarie Research, August 2021

12-month target price methodology

600803 CH: Rmb23.20 based on a Sum of Parts methodology

Company-specific disclosures:

Important disclosure information regarding the subject companies covered in this report is available publicly at www.macquarie.com/research/disclosures. Clients receiving this report can additionally access previous recommendations (from the year prior to publication of this report) issued by this report's author at <https://www.macquarieinsights.com>.

Date	Stock Code (BBG code)	Recommendation	Target Price
11-Aug-2021	600803 CH	Outperform	Rmb23.50
03-Feb-2021	600803 CH	Outperform	Rmb21.00
30-Oct-2020	600803 CH	Outperform	Rmb15.60
16-Sep-2020	600803 CH	Outperform	Rmb15.00
17-Jul-2020	600803 CH	Outperform	Rmb16.70

Target price risk disclosures:

600803 CH: Any inability to compete successfully in their markets may harm the business. This could be a result of many factors which may include geographic mix and introduction of improved products or service offerings by competitors. The results of operations may be materially affected by global economic conditions generally, including conditions in financial markets. The company is exposed to market risks, such as changes in interest rates, foreign exchange rates and input prices. From time to time, the company will enter into transactions, including transactions in derivative instruments, to manage certain of these exposures.

Sensitivity analysis:

Clients receiving this report can request access to a model which allows for further in-depth analysis of the assumptions used, and recommendations made, by the author relating to the subject companies covered. To request access please contact insights@macquarie.com.

Analyst certification:

We hereby certify that all of the views expressed in this report accurately reflect our personal views about the subject company or companies and its or their securities. We also certify that no part of our compensation was, is or will be, directly or indirectly, related to the specific recommendations or views expressed in this report. The Analysts responsible for preparing this report receive compensation from Macquarie that is based upon various factors including Macquarie Group Ltd total revenues, a portion of which are generated by Macquarie Group's Investment Banking activities.

General disclaimers:

Macquarie Securities (Australia) Ltd; Macquarie Capital (Europe) Ltd; Macquarie Capital (USA) Inc; Macquarie Capital Limited, Taiwan Securities Branch; Macquarie Capital Securities (Singapore) Pte Ltd; Macquarie Securities (NZ) Ltd; Macquarie Capital Securities (India) Pvt Ltd; Macquarie Capital Securities (Malaysia) Sdn Bhd; Macquarie Securities Korea Limited and Macquarie Securities (Thailand) Ltd are not authorized deposit-taking

institutions for the purposes of the Banking Act 1959 (Commonwealth of Australia), and their obligations do not represent deposits or other liabilities of Macquarie Bank Limited ABN 46 008 583 542 (MBL) or MGL. MBL does not guarantee or otherwise provide assurance in respect of the obligations of any of the above mentioned entities. MGL provides a guarantee to the Monetary Authority of Singapore in respect of the obligations and liabilities of Macquarie Capital Securities (Singapore) Pte Ltd for up to SGD 35 million. This research has been prepared for the general use of the wholesale clients of the Macquarie Group and must not be copied, either in whole or in part, or distributed to any other person. If you are not the intended recipient you must not use or disclose the information in this research in any way. If you received it in error, please tell us immediately by return e-mail and delete the document. We do not guarantee the integrity of any e-mails or attached files and are not responsible for any changes made to them by any other person. MGL has established and implemented a conflicts policy at group level (which may be revised and updated from time to time) (the "Conflicts Policy") pursuant to regulatory requirements which sets out how we must seek to identify and manage all material conflicts of interest. Nothing in this research shall be construed as a solicitation to buy or sell any security or product, or to engage in or refrain from engaging in any transaction. In preparing this research, we did not take into account your investment objectives, financial situation or particular needs. Macquarie salespeople, traders and other professionals may provide oral or written market commentary or trading strategies to our clients that reflect opinions which are contrary to the opinions expressed in this research. Macquarie Research produces a variety of research products including, but not limited to, fundamental analysis, macro-economic analysis, quantitative analysis, and trade ideas. Recommendations contained in one type of research product may differ from recommendations contained in other types of research, whether as a result of differing time horizons, methodologies, or otherwise. Before making an investment decision on the basis of this research, you need to consider, with or without the assistance of an adviser, whether the advice is appropriate in light of your particular investment needs, objectives and financial circumstances. There are risks involved in securities trading. The price of securities can and does fluctuate, and an individual security may even become valueless. International investors are reminded of the additional risks inherent in international investments, such as currency fluctuations and international stock market or economic conditions, which may adversely affect the value of the investment. This research is based on information obtained from sources believed to be reliable but we do not make any representation or warranty that it is accurate, complete or up to date. We accept no obligation to correct or update the information or opinions in it. Opinions expressed are subject to change without notice. No member of the Macquarie Group accepts any liability whatsoever for any direct, indirect, consequential or other loss arising from any use of this research and/or further communication in relation to this research. Clients should contact analysts at, and execute transactions through, a Macquarie Group entity in their home jurisdiction unless governing law permits otherwise. The date and timestamp for above share price and market cap is the closed price of the price date. #CLOSE is the final price at which the security is traded in the relevant exchange on the date indicated. Members of the Macro Strategy team are Sales & Trading personnel who provide desk commentary that is not a product of the Macquarie Research department or subject to FINRA Rule 2241 or any other regulation regarding independence in the provision of equity research.

Country-specific disclaimers:

Australia: In Australia, research is issued and distributed by Macquarie Securities (Australia) Ltd (AFSL No. 238947), a participating organization of the Australian Securities Exchange. Macquarie Securities (Australia) Limited staff involved with the preparation of research have regular interaction with companies they cover. Additionally, Macquarie Group Limited does and seeks to do business with companies covered by Macquarie Research. There are robust information barriers in place to protect the independence of Macquarie Research's product. However, recipients of Macquarie Research should be aware of this potential conflict of interest. **New Zealand:** In New Zealand, research is issued and distributed by Macquarie Securities (NZ) Ltd, a NZX Firm. **United Kingdom and the EEA:** In the United Kingdom and the European Economic Area, research is distributed by Macquarie Capital (Europe) Ltd, which is authorised and regulated by the Financial Conduct Authority (No. 193905). **Hong Kong & Mainland China:** In Hong Kong, research is issued and distributed by Macquarie Capital Limited, which is licensed and regulated by the Securities and Futures Commission. In Mainland China, Macquarie Securities (Australia) Limited Shanghai Representative Office only engages in non-business operational activities excluding issuing and distributing research. Only non-A share research is distributed into Mainland China by Macquarie Capital Limited. **Japan:** In Japan, research is issued and distributed by Macquarie Capital Securities (Japan) Limited (Tokyo Branch), the Financial Instruments Business Operator, registered with the Financial Services Agency (Registration number: Kanto Financial Bureau (FIBO) No. 231), the member of the Tokyo Stock Exchange, Inc., Osaka Exchange, Inc. and the member of Japan Securities Dealers Association. Its Designated Dispute Resolution Institution is Financial Instruments Mediation Assistance Center ("FINMAC"). **India:** In India, research is issued and distributed by Macquarie Capital Securities (India) Pvt. Ltd. (CIN: U65920MH1995PTC090696), 92, Level 9, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai – 400 051, India, which is a SEBI registered Research Analyst having registration no. INH000000545. During the past 12 months, Macquarie Group Limited or one of its affiliates may have provided securities services to companies mentioned in this report for which it received compensation for Broking services. **Malaysia:** In Malaysia, research is issued and distributed by Macquarie Capital Securities (Malaysia) Sdn. Bhd. (Company registration number: 199801007342 (463469-W)) which is a Participating Organisation of Bursa Malaysia Berhad and a holder of Capital Markets Services License issued by the Securities Commission. Macquarie may be an Issuer of Structured Warrants on securities mentioned in this report. **Taiwan:** In Taiwan, research is issued and distributed by Macquarie Capital Limited, Taiwan Securities Branch, which is licensed and regulated by the Financial Supervisory Commission. No portion of the report may be reproduced or quoted by the press or any other person without authorisation from Macquarie. Nothing in this research shall be construed as a solicitation to buy or sell any security or product. The recipient of this report shall not engage in any activities which may give rise to potential conflicts of interest to the report. Research Associate(s) in this report who are registered as Clerks only assist in the preparation of research and are not engaged in writing the research. Macquarie may be in past one year or now being an Issuer of Structured Warrants on securities mentioned in this report. **Thailand:** In Thailand, research is produced, issued and distributed by Macquarie Securities (Thailand) Ltd. Macquarie Securities (Thailand) Ltd. is a licensed securities company that is authorized by the Ministry of Finance, regulated by the Securities and Exchange Commission of Thailand and is an exchange member of the Stock Exchange of Thailand. The Thai Institute of Directors Association has disclosed the Corporate Governance Report of Thai Listed Companies made pursuant to the policy of the Securities and Exchange Commission of Thailand. Macquarie Securities (Thailand) Ltd does not endorse the result of the Corporate Governance Report of Thai Listed Companies but this Report can be accessed at: <http://www.thai-iod.com/en/publications.asp?type=4>. Macquarie Securities (Thailand) Limited may be an issuer of derivative warrants on the securities mentioned in this report. **South Korea:** In South Korea, unless otherwise stated, research is prepared, issued and distributed by Macquarie Securities Korea Limited, which is regulated by the Financial Supervisory Services. Information on analysts in MSKL is disclosed at <http://dis.kofia.or.kr/websequare/index.jsp?w2xPath=/wg/fundMgr/DISFundMgrAnalystStut.xml&divisionId=MDIS03002001000000&serviceId=SDIS03002001000>. **Singapore:** In Singapore, research is issued and distributed by Macquarie Capital Securities (Singapore) Pte Ltd (Company Registration Number: 198702912C), a Capital Markets Services license holder under the Securities and Futures Act to deal in securities and provide custodial services in Singapore. Pursuant to the Financial Advisers (Amendment) Regulations 2005, Macquarie Capital Securities (Singapore) Pte Ltd is exempt from complying with sections 25, 27 and 36 of the Financial Advisers Act. All Singapore-based recipients of research produced by Macquarie Capital (USA) Inc. represent and warrant that they are institutional investors as defined in the Securities and Futures Act. Singapore recipients should contact Macquarie Capital Securities (Singapore) Pte Ltd at +65 6601 0888 for matters arising from, or in connection with, this report. **United States:** In the United States, research is issued and distributed by Macquarie Capital (USA) Inc., which is a registered broker-dealer and member of FINRA. Macquarie Capital (USA) Inc. accepts responsibility for the content of each research report prepared by one of its non-US affiliates when the research report is distributed in the United States by Macquarie Capital (USA) Inc. Macquarie Capital (USA) Inc.'s affiliate's analysts are not registered as research analysts with FINRA, may not be associated persons of Macquarie Capital (USA) Inc., and therefore may not be subject to FINRA rule restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. Information regarding futures is provided for reference purposes only and is not a solicitation for purchases or sales of futures. Any persons receiving this report directly from Macquarie Capital (USA) Inc. and wishing to effect a transaction in any security described herein should do so with Macquarie Capital (USA) Inc. Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/research/disclosures, or contact your registered representative at 1-888-MAC-STOCK, or write to the Supervisory Analysts, Research Department, Macquarie Capital (USA) Inc, 125 W.55th Street, New York, NY 10019. **Canada:** In Canada, research is distributed by Macquarie Capital Markets Canada Ltd., a (i) member of the Investment Industry Regulatory Organization of Canada (IIROC) and the Canadian Investor Protection Fund, and (ii) participating organisation of the Toronto Stock Exchange, TSX Venture Exchange & Montréal Exchange. Important disclosure information regarding the subject companies covered in this report is available at www.macquarie.com/research/disclosures. IIROC Rule 3400 Disclosures can be obtained by writing to Macquarie Capital Markets Canada Ltd., 181 Bay St. Suite 3100, Toronto, ON M5J2T3.

© Macquarie Group

Equities

Asia Research

Head of Equity Research

Jake Lynch (Asia)	(852) 3922 3583
Damian Thong (Japan)	(813) 3512 7877
Jayden Vantarakis (ASEAN)	(6221) 2598 8310

Strategy, Country

Viktor Shvets (Asia, Global)	(852) 3922 3883
David Ng (China, Hong Kong)	(852) 3922 1291
David Ching (China)	(852) 3922 1823
Erica Chen (China A)	(8621) 2412 9024
Damian Thong (Japan)	(813) 3512 7877
Daniel Kim (Korea)	(822) 3705 8641
Jeffrey Ohlweiler (Taiwan)	(8862) 2734 7512
Jayden Vantarakis (ASEAN, Singapore)	(6221) 2598 8310
Ari Jahja (Indonesia)	(6221) 2598 8366
Ben Shane Lim (Malaysia)	(603) 2059 8868
Gilbert Lopez (Philippines)	(632) 857 0892
Peach Patharavanakul (Thailand)	(662) 694 7753
Aditya Suresh (India)	(852) 3922 1265
Charles Yonts (Asia ESG)	(852) 3922 5832
John Conomos (APAC Quant)	(61) 412 621 678
Felix Rusli (Asia Product)	(852) 3922 4283

Digital Transformation

Han Joon Kim (Asia)	(852) 3922 5926
John Wang (Greater China)	(852) 3922 3578
Ellie Jiang (Greater China)	(852) 3922 4110
Dexter Hsu (Greater China)	(8862) 2734 7530
Hiroshi Yamashina (Japan)	(813) 3512 5968
Masahiro Mochizuki (Japan)	(813) 3512 7868
Andy Kim (Korea)	(822) 3705 8690
Zhiwei Foo (Singapore)	(65) 6601 0465
Abhishek Bhandari (India)	(9122) 6720 4088

Energy Transition

Mark Wiseman (Asia)	(612) 8232 8417
Kerry Cheng (Greater China)	(8621) 2412 9025
Masahiro Mochizuki (Japan)	(813) 3512 7868
Yasuhiro Nakada (Japan)	(813) 3512 7862
Anna Park (Korea)	(822) 3705 8669
Ben Shane Lim (Malaysia)	(603) 2059 8868
Yupapan Polpornprasert (Thailand)	(662) 694 7729
Aditya Suresh (India)	(852) 3922 1265

Lifestyle

Linda Huang (Asia)	(852) 3922 4068
Terence Chang (Greater China)	(852) 3922 3581
Sunny Chow (Greater China)	(852) 3922 3768
Leon Rapp (Japan)	(813) 3512 7879
Shentao Tang (Japan)	(813) 3512 7851
Akshay Sugandi (Indonesia)	(6221) 25988369
Karisa Magpayo (Philippines)	(632) 857 0899
Chaline Congmuang (Thailand)	(662) 694 7993
Avi Mehta (India)	(9122) 6720 4031

Technology

Nicolas Baratte (Asia)	(852) 3922 5801
Damian Thong (Asia)	(813) 3512 7877
Jeffrey Ohlweiler (Greater China)	(8862) 2734 7512
Cherry Ma (Greater China)	(852) 3922 5800
Erica Chen (Greater China)	(8621) 2412 9024
Kaylin Tsai (Greater China)	(8862) 2734 7523
Hiroshi Taguchi (Japan)	(813) 3512 7867
Yasuhiro Nakada (Japan)	(813) 3512 7862
Daniel Kim (Korea)	(822) 3705 8641
Sonny Lee (Korea)	(822) 3705 8678

Automation & Mobility

James Hong (Asia)	(822) 3705 8661
David Ching (Greater China)	(852) 3922 1823
Erica Chen (Greater China)	(8621) 2412 9024
Wendy Pan (Japan)	(813) 3512 7875
Anna Park (Korea)	(822) 3705 8669
Ashish Jain (India)	(9122) 6720 4063
Ajinkya Bhat (India)	(9122) 6720 4052

Health

David Ng (Greater China)	(852) 3922 1291
Ari Jahja (ASEAN, Indonesia)	(6221) 2598 8366
Alankar Garude (India)	(9122) 6720 4134

Commanding Heights

Jayden Vantarakis (ASEAN, Indonesia, Singapore)	(6221) 2598 8310
Derrick Heng (Singapore)	(65) 6601 0436
Ben Shane Lim (Malaysia)	(603) 2059 8868
Aiman Mohamad (Malaysia)	(603) 2059 8986
Ben Shane Lim (Malaysia)	(603) 2059 8868
Gilbert Lopez (Philippines)	(632) 857 0892
Peach Patharavanakul (Thailand)	(662) 694 7753
Suresh Ganapathy (India)	(9122) 6720 4078

Find our research at

Macquarie: www.macquarieinsights.com
 Refinitiv: www.refinitiv.com
 Bloomberg: MAC GO
 Factset: <http://www.factset.com/home.aspx>
 CapitalIQ: www.capitaliq.com
 Contact macresearch@macquarie.com for access requests.

Email addresses

FirstName.Surname@macquarie.com

Asia Sales

Regional Heads of Sales

Christina Lee (Head of Asian Sales)	(852) 3922 5854
Alan Chen (HK/China)	(852) 3922 2019
Amelia Mehta (Singapore)	(65) 6601 0211
Paul Colaco (US)	(1 415) 762 5003
Mothlib Miah (UK/Europe)	(44 20) 3037 4893
Anjali Sinha (India)	(9122) 6653 3229
Janeman Latul (Indonesia)	(6221) 2598 8303
Thomas Renz (Geneva)	(41 22) 818 7712
Leslie Hoy (Japan)	(813) 3512 7919

Regional Heads of Sales cont'd

Tomohiro Takahashi (Japan)	(813) 3512 7823
DJ Kwak (Korea)	(822) 3705 8608
Nik Hadi (Malaysia)	(603) 2059 8888
Gino C Rojas (Philippines)	(632) 857 0861
Richard Liu (Taiwan)	(8862) 2734 7590
Angus Kent (Thailand)	(662) 694 7601

Sales Trading

Mark Weekes (Asia)	(852) 3922 2084
Sacha Beharie (HK/China)	(852) 3922 2111
Susan Lin (Taiwan)	(8862) 2734 7583
Edward Jones (Japan)	(813) 3512 7822
Douglas Ahn (Korea)	(822) 3705 9990
Stanley Dunda (Indonesia)	(6221) 515 1555
Suhaida Samsudin (Malaysia)	(603) 2059 8888
Michael Santos (Philippines)	(632) 857 0813
Justin Morrison (Singapore)	(65) 6601 0288
Brendan Rake (Thailand)	(662) 694 7707
Alex Johnson (India)	(9122) 6720 4022
Mike Gray (New York)	(1 212) 231 2555
Mike Keen (UK/Europe)	(44 20) 3037 4905