China / Hong Kong Industry Focus

China Gas Sector

Refer to important disclosures at the end of this report

DBS Group Research . Equity 2 Aug 2022

Which stock offers most value and lowest risk to ESG investors?

- **Improving visibility of decarbonisation along with transformation into integrated energy plays**
- **Maintaining energy affordability is the highest social risk**
- **Stronger economic growth in 2H to drive gas consumption**
- **Top pick: ENN (2688 HK) for its stronger growth outlook and better visibility in decarbonisation**

ENN has the lowest risk in our assessment of key sustainability factors. Our assessment of key sustainability factors of gas distributors under our coverage indicates that 1) ENN (2688 HK) and Towngas Smart Energy (TSE) (1083 HK) have better visibility of their decarbonisation pathway with slightly faster progress in transforming into an integrated energy player; 2) lower spending on operation safety has relatively less impact on cashflow of ENN and Tian Lun Gas (TLG) relative to China Gas Holdings (CGH) and TSE; 3) maintaining energy affordability imposes the highest social risk on China Resources Gas (CRG) and CGH with higher downward pressure on dollar margins, particularly given the high volatility in LNG prices, while ENN outperformed on this front; and 4) ENN has better governance practice than its peers.

Better gas volume growth expected in 2H. Gas consumption growth was flat in China in 6M2022, due to COVID lockdowns. Thus, we expect gas distributors to report lower earnings in 1H2022 with <10% growth in gas volume and dollar margin squeeze of Rmb0.04 to Rmb0.105 per cubic meter (cm). However, the government's stimulus policies will drive economic growth and we expect to see a rebound in gas consumption in 2H. This could partly offset downside risk on dollar margin from high LNG prices amid the Russia-Ukraine crisis.

ENN as our sector top pick. After integrating the above analysis on key sustainability factors into our financials, we have fine-tuned our assumptions on dollar margin, cashflow and valuation. ENN is our sector top pick and we have raised our TP as we expect ENN to deliver the highest growth in gas volume and core earnings with good visibility in its decarbonisation roadmap. We have downgraded our rating on CRG to HOLD because of its weaker outlook in dollar margin and gas volume growth. We maintain our BUY rating for TSE and CGH as we see improving ESG performance with attractive valuation.

HSI: 20,670

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Recommendation & valuation

Company	Price HK$	Target Price HK$	Recom	Mkt Cap US$m
China Gas (384 HK)	12.26	14.20	BUY	8,498
China Resources Gas (1193 HK)	33.75	36.00	HOLD	9,951
ENN Energy (2688 HK)	126.8	153.0	BUY	18,265
Tian Lun Gas (1600 HK)	4.16	5.00	BUY	535
Towngas Smart Energy (1083 HK)	3.88	4.80	BUY	1,610

Source: Thomson Reuters, DBS Bank (Hong Kong) Limited ("DBS HK")

Closing price as at Jul 27, 2022

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Key sustainability factors

With tightening regulatory requirements and increasing attention from investors in ESG, we have evaluated the performance of gas distributors under our coverage based on four key ESG factors and assessed the possible impact on financial statements and valuation.

We have listed the four key ESG factors and reasons we believe they are material:

Decarbonisation plan: Although natural gas has much lower carbon emissions than coal, it is also a kind of fossil fuel which is subject to high carbon pricing risk and transition risk. Without a decarbonisation plan, a gas distributor will be subject to high downside risk in both revenue and net profit on rising carbon prices in the long run.

Operation safety: Following a few serious gas explosions in 2021, the China government has issued an action plan to upgrade aging gas pipelines totaling 100,000 km during the 14th Five Year Plan on a total investment estimated at around Rmb50bn. This will increase capex of gas distributors. In addition, poor track record in safety issues would de-rate a stock's valuation.

Affordability of energy: This often conflicts with gas distributors' profitability. A public hearing is required before raising gas tariffs for residential users in China. Cost pass-through mechanism is not well executed, this negatively affecting dollar margin of gas distributors.

Governance: Companies with poor governance will be de-rated by investors. We base our assessment on the structure of board of directors, greenwashing risk and corporate behaviour (such as connected transactions, transparency, etc).

Decarbonisation plan: switching to become an integrated energy player

On one hand, gas distributors are actively securing new city gas projects to ride on an increasing percentage of gas consumption in the energy mix in China from 8% in 2020 to >15% in 2030. On the other hand, they need to formulate a decarbonisation plan for their gas distribution business, as well as new business development plans, along with China government's dual carbon targets.

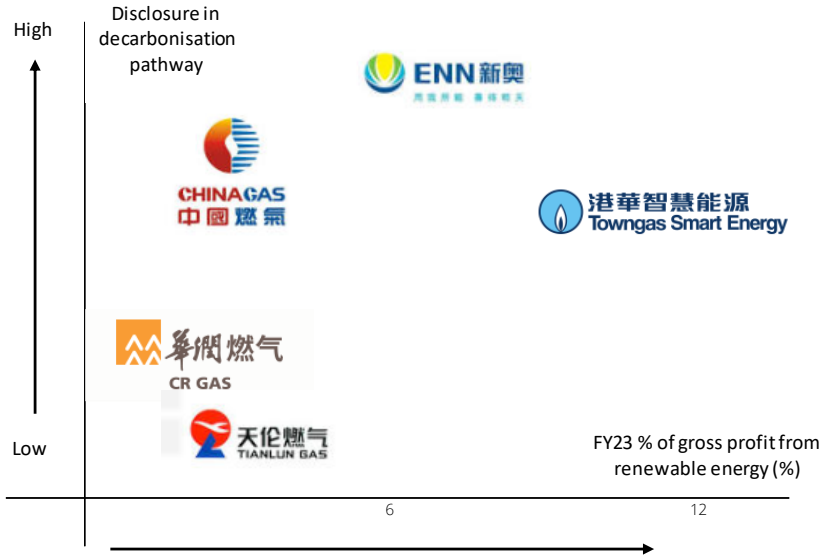
Most gas distributors are undertaking new business opportunities in renewable energy through integrated energy (IE) projects (fuelled by gas, distributive solar power, biomass, or geothermal power) as well as offering total energy solutions. We reckon ENN and Towngas Smart Energy have the highest visibility as they have made faster progress and are expected to have a higher percentage of gross profit coming from these new businesses in the next few years. ENN has the first mover advantage with the highest exposure to IE operations, offering low carbon solutions and energy management systems. It is also the first gas distributor under our coverage to disclose a detailed decarbonisation roadmap with concrete targets. With 150 operational integrated projects and 19,065m kWh of sales volume, IE operation accounted for 9.7% of gross profit in FY21, and rising to around 15% in FY23 on our estimates. In FY21, around 20% of sales volume of these IE projects utilised renewable energy, and ENN targets to raise this to 36% by 2030. We estimate renewable based projects will account for 5-6% of gross profit in FY23. Towngas Smart Energy (TSE) has also made a maiden move in distributive rooftop solar power projects where installations will reach 8GW in FY25. We have conservatively assumed new installations of 1GW in FY22 and 1.5GW p.a. in FY23 to FY25. If this materialises, gross profit of smart energy will account for >10% of total gross profit in FY23. In addition, it will also offer services such as energy storage, energy management systems, etc.

Tian Lun Gas (TLG) has also announced its green low-carbon business strategy by entering into various strategic partnership to provide low carbon services, including solar power, wind power, biomass energy, energy storage. TLG targets these new businesses to account for 10% of total revenue by 2024. As pilot projects of these low carbon services are currently ongoing, we expect minimum profit contribution in these two years.

China Gas Holdings (CGH) has recently announced its decarbonisation targets, but details on the action plan has yet to be disclosed. CGH has over 360 IE projects which mainly utilises gas as a fuel, accounting for less than 10% of total revenue. Those projects that utilise renewable power is even less. While these projects help its clients to decarbonise, CGH's own GHG emissions will increase. Hence, we expect more disclosure on CGH's interim targets for its decarbonisation pathway as it grows its IE business.

China Resources Gas (CRG) has made minimum disclosure in terms of its decarbonisation targets and pathway although it has various internal measures to control carbon emissions (such as Carbon Emission Control Goals and Measures for CRG during the 14th Five Year Period, Performance Assessment Measures for Low-carbon Development of CRG).

Decarbonisation progress of gas distributors



Source: Companies, DBS HK

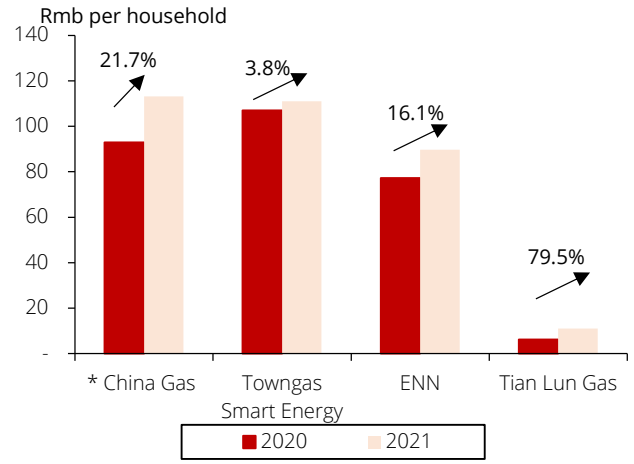
In the medium term, all gas distributors under our coverage plan to tap into the carbon market by offering various kinds of services, such as carbon management, carbon trading, etc. However, China's national carbon market is still at its infancy stage where only power generators are allowed to participate. The voluntary carbon market in China is also very illiquid. Thus, **we have not factored in any potential revenue from the carbon market in our forecasts, which implies there is earnings upside risk**.

Green hydrogen and the use of other innovative green technology, such as carbon capture, usage, and storage, are key solutions for the energy transition of gas distributors in the long run. However, production cost of these new technologies is still too high for mass applications currently. In the meantime, there are R&D efforts directed towards hydrogen blending applications, aging / safety issues of pipelines, hydrogen energy storage / transportation, etc. Nevertheless, **we believe these R&D expenses are at a manageable level and will not have a significant negative impact on financials.** Note that TSE's parent company, Hong Kong & China Gas, has extensive experience in hydrogen blending applications as the gas mix in Hong Kong's network contains 49% hydrogen. This advantage has put TSE ahead of its peers.

Operation safety: high investment required

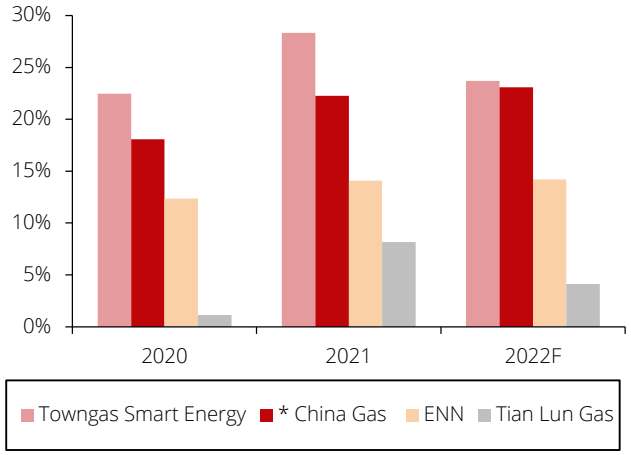
According to the newly released "Action Plan for the Upgrade of Old Pipeline for City Gas Supply (2022-2025)" <城市燃气管道等老化更新改造实施方案(2022-2025 年)>, certain types of gas pipelines are required to be replaced before 2025, including all grey cast iron pipes, ductile iron pipes that do not meet the requirements for safe operation, steel pipes and polyethylene pipes that have been in operation for more than 20 years with potential safety hazards, etc. The total length of city gas pipelines is estimated to be around 935,600km in China as of end of 2021, of which around 4% was >20 years old. However, lack of repair and maintenance could lead to safety issues, and we could see replacement of up to 100,000 km of pipelines. A series of gas explosions has triggered gas distributors under our coverage to increase investment in safe production processes and pipeline upgrades, particularly CGH. These investments would also include digitalisation / Internet of Things for monitoring and detection systems.

Safety expenses per residential household



Source: Companies, DBS HK
** 2020 = FY3/21, 2021 = FY3/22*

Safety expenses as percentage of operating cashflow



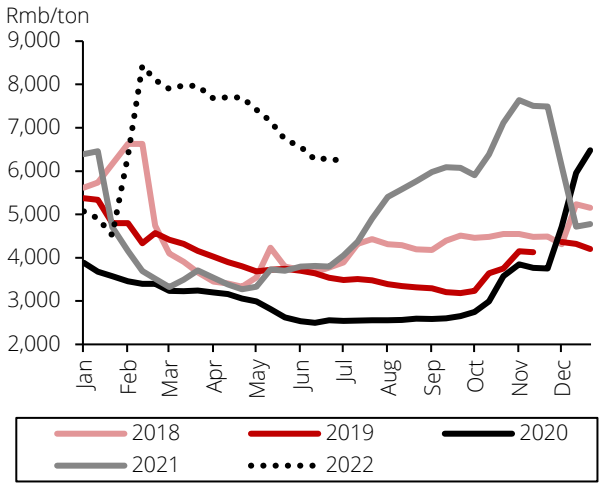
Source: Companies, DBS HK
** 2020 = FY3/21, 2021 = FY3/22, 2022F = FY3/23F*

CGH's safety expenses jumped substantially by 47% in 2021 and we estimate that its average safety expenses per residential household was the highest in 2021, as it had under-invested in the past. The government has set high standards on safe operations, hence we expect gas distributors to increase safety spending per household 10-20% p.a. in the next few years. We also look at the safety expenses as a percentage of operating cashflow. Both CGH and TSE have the highest percentages at >20%. Hence, a significant increase in safety expenses would put higher pressure on their cashflows.

Energy affordability: dollar margin under pressure

Energy affordability, particularly for residential users, is the major social risk for gas distributors in China where gas tariffs in the residential market is still highly regulated. This risk is particularly critical when natural gas supply is tight and LNG prices are high. To ensure sufficient gas supply for residential users, especially in winter when piped gas is inadequate, gas distributors have to procure LNG from the spot market where the premium to city gate prices could be significant. As the additional procurement costs cannot be passed on to residential users, dollar margin of gas distributors will be squeezed.

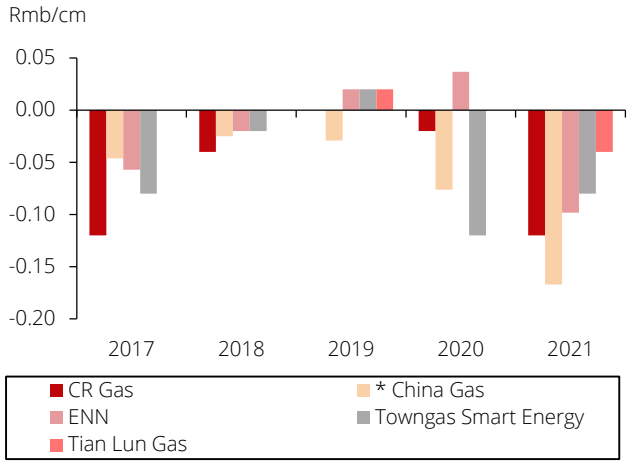
Domestic LNG prices



Source: CEIC, DBS HK

Gas distributors' dollar margins were relatively stable and less volatile during 2018 and 2019 when LNG prices were at a low level, as shown in the LNG price chart above. However, dollar margins were affected when LNG prices headed higher in 4Q2017, 4Q2020 and 2H2021. We have compared the h-o-h change in dollar margins of the gas distributors under our coverage (see the chart on the right). CRG has consistently suffered higher squeeze on dollar margins than its peers. Note that CGH has a different financial year-end and 2H of its financial year (i.e. September to March) captures the entire winter season. Thus, its dollar margin in 2H is always lower than 1H. We have also looked at other factors that will affect dollar margin, such as percentage of residential gas volume to total city gas volume (excluding wholesale volume), procurement mix, and procurement arrangement.

Comparison of h-o-h change in dollar margin



Source: Companies, DBS HK
** 2017 = FY3/18, 2018 = FY3/19, 2019 = FY3/20, 2020 = FY3/21, 2021 = FY3/22*

Due to exposure to rural areas, CGH has the highest percentage of gas volume from the residential market, although imported LNG as a percentage of procurement is relatively low. Nevertheless, its success in securing long term supply of imported LNG should help alleviate part of the risk. ENN has the lowest exposure to residential market. In addition, it has long term contracts for imported LNG, allowing ENN to lock in more competitive procurement prices than buying from the spot market. Thus, even though the company has the highest percentage in procurement of non-piped gas, we reckon ENN has relatively lower dollar margin risk than its peers.

We have revised our dollar margin assumptions after our energy affordability analysis. Specifically, **we have raised our dollar margin assumption for ENN with its good track record in cost pass-through and diversified procurement strategy**. But we have turned more conservative for the other gas distributors. (see "Revision in earnings assumptions" table on page 8)

Evaluating downside risk to dollar margins

	CR Gas 1193 HK	China Gas 384 HK	ENN 2688 HK	Towngas Smart 1083 HK	Tian Lun Gas 1600 HK
% of residential gas volume (2021)	22.5%	33.6%	18.6%	22.3%	28.6%
Non-piped gas in procurement mix (2021)	13-14%	8%	20%	8%	15%
Any long term contract for imported LNG in 2021	No	No	Yes	No	No
Remarks		New long term contracts were signed with LNG started to be delivered in 2027		Long term LNG contract of 1m tons will be executed by end of 2022; Jintan gas storage tank is also used to store up lower cost LNG	Source LNG mainly from domestic market, instead of imports, for the shortfall in gas supply for residential market

Source: Companies, DBS HK

Governance: increasing disclosure

Although it is difficult to quantify the financial impact of the governance factor on a company, we reckon the long-term revenue growth rate and valuation will be affected. In particular, **investors are paying more attention on the diversity of the board of directors**, in terms of independency, experience, and gender. TSE has appointed Dr. Christine Loh, who has extensive experience in sustainability and environmental protection, as an Independent Non-Executive Director. This has significantly enhanced the creditability of TSE's board of directors.

The increasing greenwashing risk is high on regulators' agenda as disclosure requirements are being enhanced. We reckon that **it is more effective to assess the overall intent of a company by looking at its track record than to scrutinise individual activities for signs of greenwashing**. We assess greenwashing risk by looking at:

- How the remuneration package of senior management is linked to ESG performance:
- Whether any ESG targets are set with specific action plans without being vague;
- Whether data in ESG reports can be verified by qualified third parties; and
- Whether internal cost of carbon is used for project evaluation.

We have also looked at the track record of corporates in the past five years, such as the amount of connected transactions, how stock options are granted, how transparency management is, etc. We reckon that TLG and CRG have relatively less amount of connected transactions, although their transparency is not as high as its peers.

We also note that **CGH, ENN and TSE have shown improvement in information disclosure** in the latest ESG report. For example, in addition to a separate report on decarbonisation roadmap, ENN has obtained 3rd party verification on carbon emission data. Both CGH and ENN have linked remuneration package of the board of directors to ESG performance. While CGH has revealed more details in the enhancement in management policies and operational systems, particularly for operational safety, TSE has improved disclosure on its action plans in sustainable development and performance statistics. We also expect further details in its decarbonisation pathway from both companies.

Evaluation of governance factors

	China Gas (384 HK)	CR Gas (1193 HK)	ENN (2688 HK)	Tian Lun Gas (1600 HK)	Towngas Smart Energy (1083 HK)
Structure of Board of directors	👍👍	👍	👍👍	👍👍	👍👍👍
Remuneration package	👍👍👍		👍👍👍		
ESG targets / action plans	👍👍	👍	👍👍👍	👍	👍
3rd party verification	👍		👍		👍👍👍
Setting of internal cost of carbon					👍
Corporate behaviour	👍	👍👍	👍👍	👍👍	👍

Source: Companies, DBS HK

Earnings adjustment

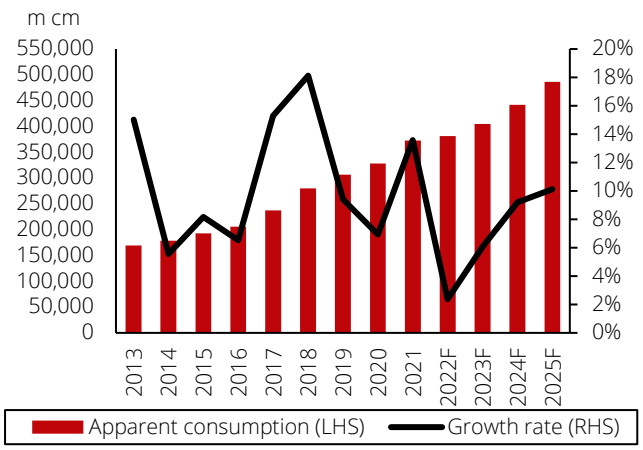
In 6M2022, natural gas consumption nudged down by 0.1% y-o-y amid COVID lockdowns in various places in China. Average LNG price was up >70% in 1H2022. Thus, **we project most gas distributors will deliver <10% gas volume growth with y-o-y declines in dollar margin ranging Rmb0.04 to Rmb0.105 per cm in 1HFY22**. We estimate CR Gas to suffer the highest dollar margin pressure, followed by TSE. With weak gas volume growth and dollar margin pressure, we project all gas distributors under our coverage will report lower earnings in 1HFY22.

However, **we are optimistic that gas consumption will recover in China by a high single digit rate in 2H2022**, translating to 3.5% growth for the full year. This is on the back of various stimulus packages introduced by the government to support the overall economic growth. In particular, China's economy realized positive growth in Q2 despite the lockdown in Shanghai in April- May, reflecting positive impact from stimulus policies.

The uncertainty in dollar margin in 2H2022 is largely due to the Ukraine-Russia crisis, extreme weather, overall supply of piped gas particularly from Russia, as well as cost pass through ability.

We have fine-tuned our assumption of gas volume growth of most gas distributors under our coverage in view of the weak gas consumption in 6M2022. Coupled with adjustment to our dollar margin assumptions, we have revised our FY22F core earnings, as shown in the table on page 8. After the earnings revision, **we expect ENN to exhibit the highest growth of 5.5% in core earnings for FY22**, followed by CGH (4.1%). We expect the rest to report a decline in core earnings of 2-9% in FY22.

Gas consumption in China



Source: CEIC, DBS HK

Revision in earnings assumptions

Company	Stock code	FY22 Gas volume growth Old	FY22 Gas volume growth New	FY22 Dollar margin (Rmb/cm) Old	FY22 Dollar margin (Rmb/cm) New	FY22 Dollar margin (Rmb/cm) % change	FY22 core earnings (Rmb m) Old	FY22 core earnings (Rmb m) New	FY22 core earnings (Rmb m) % change
China Resources Gas *	1193 HK	10.4	9.0	0.480	0.470	(2.1)	6,822.8	6,290.6	(7.8)
China Gas * #	384 HK	11.6	11.6	0.480	0.480	-	8,381.1	8,381.1	-
ENN Energy	2688 HK	13.0	9.9	0.480	0.489	2.0	7,847.5	7,547.7	(3.8)
Towngas Smart Energy *	1083 HK	74.0	8.2	0.485	0.460	(5.2)	1,680.2	1,470.5	(12.5)
Tian Lun Gas	1600 HK	21.3	12.1	0.468	0.465	(0.6)	1,009.0	916.3	(9.2)

Source: Companies, DBS HK

** HK$m for FY22 core earnings*
 # FY22 = FY3/23

1HFY22 results preview

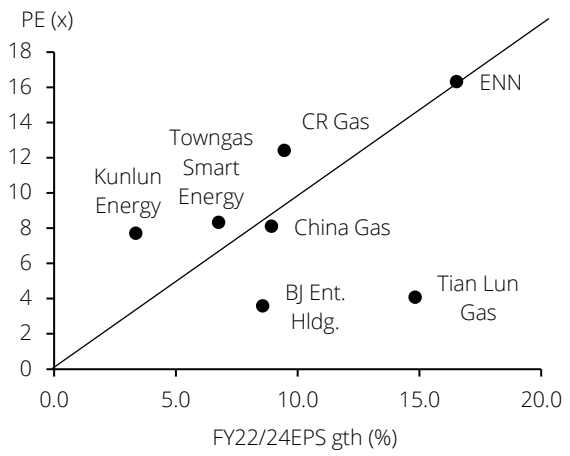
Company	Cur	Turnover (m)	yoy growth (%)	Core profit (m)	yoy growth (%)	Gas volume growth (%)	Dollar margin (Rmb / cm)	Remarks
China Resources Gas 1193 HK	Rmb	36,936.5	7.3	2,910.2	(10.5)	5-6	0.475	Expect weak gas volume growth due to COVID lockdowns; dollar margin pressure from high gas cost
ENN Energy 2688 HK	Rmb	47,576.8	15.4	3,629.5	(1.5)	6-7	0.495	Stronger gas volume growth underpinned by ramp up of new projects and strong growth in industrial users. 50% growth in IE turnover expected.
Towngas Smart Energy 1083 HK	HK$	9,204.4	18.4	681.7	(13.0)	4-5	0.455	Slow cost pass through puts pressure on dollar margin; expect high finance expenses due to loan for acquisition of SH Gas; contract for 500MW of rooftop solar PV signed, on track to achieve 1GW of installed capacity.
Tian Lun Gas 1600 HK	Rmb	3,866.8	7.4	382.0	(14.9)	9-10	0.468	Relatively higher gas volume growth due to stronger growth in customer base through M&A

Source: Companies, DBS HK

Top picks

Both ENN and CRG had a good run since our upgrade in March 2022. In fact, with the exception of TLG, the whole sector has outperformed HSI since March 2022. Despite this, the sector's valuation is still not demanding. Most counters under our coverage are still trading below their 2-year historical average PE. We expect the sector to continue to re-rate along with recovery of gas volume growth and dollar margin.

Valuation comparison



Source: Thomson Reuters, DBS HK

ENN (2688 HK, BUY) is our sector top pick as (i) it can deliver the highest growth in core earnings in FY22; 2) it has the least risk in dollar margin with a good procurement strategy; 3) there is higher visibility in its decarbonisation pathway and 4) governance is improving. As we roll-over our valuation, we raise our TP to HK$153.00, based on around 17x 12-month rolling PE, which implies 1.15x PEG. The target PE is equivalent to +1SD from the stock's 2-year historical average. We believe ENN is in the best position to weather through the current challenging business environment amid government's restrictive COVID measures and Russia-Ukraine crisis.

CRG (1193 HK, Downgrade to HOLD) We have lowered our gas volume growth estimate and dollar margin assumption of CRG to reflect the impact of COVID lockdowns and higher pressure on dollar margin. These result in around 7.8% cut to our FY22 earnings estimate. Our TP is accordingly cut to HK$36.00, based on 12.5x 12-month rolling PE, implies 1.4x PEG. Despite its large market share and solid balance sheet, we set our target PE at around -1SD of its 2-year historical average to reflect its higher risk in dollar margin and low visibility in decarbonisation pathway. We downgrade our rating on CRG to HOLD.

TSE (1083 HK, BUY) Given the lockdowns in Shanghai in 2Q2022, we see a possibility of TSE extending the transition period of the Shanghai Gas transaction. Hence, we have stripped out Shanghai Gas' contribution and lowered gas volume growth from 74% to 8.2%, compared with management's guidance of low-teens organic growth. As such, we have lowered our FY22 earnings estimate by around 12%. Our TP for TSE is also lowered to HK$4.80, based on 10x 12-month rolling PE, equivalent to 1.5x PEG. TSE's relatively low gas volume growth and high pressure on dollar margin have prompted us to set the target PE valuation at around its 2-year historical average. We maintain our BUY rating on improving visibility in its decarbonisation roadmap and governance.

CGH (384 HK, BUY) We have not made any revision in CGH's earnings assumptions. Our TP remains unchanged at HK$14.20, based on 1.2x PEG or 9x 12-month rolling PE. Such target PE is equivalent to less than -1SD of its 2-year historical PE. We have used a deeper discount to reflect its relatively weaker cashflow and high volatility in dollar margin. We maintain our BUY rating on trough valuation and improving visibility in decarbonisation roadmap.

TLG (1600 HK, BUY) We have lowered our FY22/23 core earnings estimates by 9-12% for TLG. We have revised down our target valuation from 6.5x 12-month rolling PE (0.95x PEG) to 4.5x 12-month rolling PE (0.30x PEG) to reflect the low visibility of its decarbonisation roadmap and relatively weaker governance. The target PE is equivalent to -1.5SD from 2-year historical average. Our new TP is set at HK$5.00. We maintain our BUY rating on TLG for its attractive valuation and high dividend yield of >7%.

Valuation comparison

Company Name	Code	Price HK$	Mkt Cap HK$m	Fiscal Yr	PE 22F x	PE 23F x	Yield 22F %	Yield 23F %	P/Bk 22F x	P/Bk 23F x	EV/EBITDA 22F x	EV/EBITDA 23F x	ROE 22F %	ROE 23F %	FY21-23 Earnings CAGR %	YTD share Perf. %	Net gearing 22F %	Net gearing 23F %
Gas - Hong Kong																		
Beijing Enterprises	392 HK	25.35	31,973	Dec	3.6	3.3	5.6	6.2	0.3	0.3	5.4	5.4	8.8	8.9	(1.4)	(5.8)	29.6	26.5
China Gas*#^	384 HK	12.26	66,699	Mar	8.1	7.6	4.5	4.5	1.0	0.9	7.7	7.3	12.6	12.3	7.7	(24.3)	64.0	62.8
China Resources Gas*	1193 HK	33.75	78,098	Dec	12.4	11.2	3.7	4.2	1.6	1.5	6.7	6.3	14.2	14.0	4.3	(23.4)	Cash	Cash
Tian Lun Gas*^	1600 HK	4.16	4,202	Dec	4.1	3.6	7.8	8.9	0.6	0.5	4.9	4.6	15.9	15.7	2.0	(50.6)	74.2	73.7
Enn Energy*^	2688 HK	126.80	143,352	Dec	16.3	14.3	2.0	2.3	2.8	2.5	10.2	8.8	19.1	18.7	3.6	(13.6)	18.0	13.6
Kunlun Energy	135 HK	5.98	51,780	Dec	7.7	7.4	4.5	4.8	0.7	0.7	3.0	3.2	9.8	9.5	16.5	(18.2)	Cash	Cash
Towngas Smart Energy*	1083 HK	3.88	12,638	Dec	8.3	8.1	3.9	3.9	0.4	0.5	8.3	9.3	5.6	5.8	18.2	(42.8)	58.5	75.8
					9.5	7.9	4.4	5.0	1.2	1.0	6.8	6.4	12.9	12.1	7.3		48.8	50.5

 # FY23: FY24; FY24: FY25, ^Core EPS

*Source: Thomson Reuters, *DBS HK*

Closing price as at Jul 27, 2022

DBS HK recommendations are based on an Absolute Total Return* Rating system, defined as follows:

STRONG BUY (>20% total return over the next 3 months, with identifiable share price catalysts within this time frame)

BUY (>15% total return over the next 12 months for small caps, >10% for large caps)

HOLD (-10% to +15% total return over the next 12 months for small caps, -10% to +10% for large caps)

FULLY VALUED (negative total return, i.e., > -10% over the next 12 months)

SELL (negative total return of > -20% over the next 3 months, with identifiable share price catalysts within this time frame)

**Share price appreciation + dividends*

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Sources for all charts and tables are DBS HK unless otherwise specified.

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