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19 November 2018

Outperform
Initiation of coverage

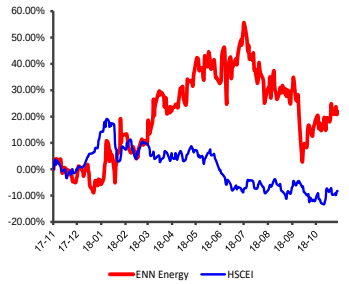
气动未来

ENN Energy (02688:HK)

Market Data: November 16, 2018

Closing Price (HK$)	68.85
Price Target (HK$)	79.05
HSCEI	10,584
HSCCI	4,311
52-week High/Low (HK$)	92.35/50.45
Market Cap (RMB Mn)	64,571
Market Cap (HK$m)	77,485
Shares Outstanding (m)	1,125
Exchange Rate (Rmb-HK$)	1.20

Price Performance Chart:



Source: Bloomberg

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Financial summary and valuation

	2016	2017	2018E	2019E	2020E
Revenue (Rmbm)	34,103	48,269	59,230	71,615	86,989
YoY (%)	6.36	41.54	22.71	20.91	21.47
Net income (Rmbm)	2,151	2,802	3,933	5,221	5,881
YoY (%)	5.65	30.26	40.35	32.76	12.64
EPS (Rmb)	1.99	2.59	3.49	4.64	5.23
Diluted EPS (Rmb)	1.82	2.59	3.49	4.64	5.23
ROE (%)	14.37	16.53	20.16	22.80	22.01
Debt/asset (%)	65.25	65.86	63.02	62.23	60.71
Dividend Yield (%)	2.19	1.89	1.95	2.59	2.92
PE (x)	28.9	22.2	16.4	12.4	11.0
PB (x)	4.1	3.7	3.3	2.8	2.4
EV/Ebitda (x)	12.2	10.4	7.9	6.1	5.4

Note: Diluted EPS is calculated as if all outstanding convertible securities, such as convertible preferred shares, convertible debentures, stock options and warrants, were exercised.

新奥能源是国内规模最大的燃气分销商之一，经过持续的战略升级，形成了天然气销售、综合能源服务、能源贸易、能源输配四大核心业务，致力于成为综合能源服务商。受益于“十三五”期间“煤改气”加速大范围推广，我们预计公司在 2018-20 年期间平均每年将录得同比 20%的销气量增长，提振整体业绩。长远来看，我们看好公司综合能源业务在 2020 年之后提速，打开长期发展空间。

工业”煤改气”机遇。我们认为工业“煤改气”是拉动公司未来三年销气量增长的主要动力。在新奥的经营区范围内，有 2 万蒸吨的燃煤小锅炉还未完成改造，如果在 2018-21 年期间完成改造并顺利通气，我们预计将为公司带来约 64 亿方气的增量，占 17 年总销气量的 32.5%。基于此，我们预测 2018-20 年期间新增工商业用户日开口气量将达 1900 万方/1925 万方/1950 万方，拉动总销气量达 240.1 亿方（同比增长 22.0%）/287.9 亿方（同比增长 19.9%）/341.64 亿方（同比增长 18.7%）。

综合能源业务愿景。我们认为综合能源业务将打开公司长期发展空间。一方面，我们预计天然气供给在 2020 年之后将趋于宽松，多气源竞争的格局将形成，进口 LNG 降价可期。对有能力接收大量国际 LNG 的新奥而言，低气价将利好综合能源业务的利润率提升。根据我们的测算，如果年平均国际 LNG 到岸价低于 7.2 美元/百万英热，使用 LNG 供气将使新奥所有的综合能源项目实现盈利。另一方面，综合能源大发展也将拉动销气量稳步提升，基于新奥在综合能源市场份额（约 30%）来测算，我们预计 2020-25 年期间公司将实现年化 10.9%的管道气销量增长。

毛差压力隐现。我们认为 18 年城燃商的成本压力巨大。我们注意到非供暖季的天然气需求依旧强劲，第三季度与第一季度的天然气表观消费量差值由 17 年的 72 亿方进一步下降至 21 亿方，受此影响，非供暖季气价依然高企。相较 17 年的 0.05 美元/千立方英尺，中石油 18 年一至三季度平均可实现天然气销售价格较一季度仅微幅下降 0.03 美元/千立方。此外，中石油大幅提高了 18-19 年供暖季期间的管道气销售价格来平抑需求，加剧了成本压力。虽然受低价 LNG 长约保护，我们预计新奥的毛差压力小于同行，但我们对潜在负面影响保持谨慎。我们预计 18 年新奥毛差将与 17 年持平为人民币 0.63 元/方。

首次覆盖给予“增持”评级。我们预测公司 18/19/20 年摊铺每股收益预测为人民币 3.49 元（同比增长 34.7%）/4.64 元（同比增长 33%）/ 5.23 元（同比增长 12.7%）。我们给予目标价 79.05 港币，相当于 18 年 19 倍 PE 和 19 年 14 倍 PE。现价距目标价仍有 14.8%的上行空间，首次覆盖给予“增持”评级。

ENN Energy has become one of China's largest gas distributors, focusing on city gas pipeline construction and operation, as well as natural gas sales to commercial, industrial, and residential users. Given the Chinese government's push to accelerate coal-to-gas conversions, we expect the company to record c.20% YoY growth in gas sales in the coming years. Moreover, we are positive on the growth prospects of the firm's integrated energy services (IES) business. We forecast diluted EPS of Rmb3.49 in 18E (+34.7% YoY), Rmb4.64 in 19E (+33.0% YoY), and Rmb5.23 in 20E (+12.7% YoY). We derive a target price of HK$79.05, representing 14.2x 19E PE. With 14.8% upside, we initiate coverage of the company with an Outperform rating.

Gas-fuelled expansion. Given China's increasing demand for industrial gas amid policy-driven coal-to-gas conversions, we expect the gas sales segment to be ENN's main growth driver over the next three years. Within its business district alone, coal-fuelled boilers requiring gas conversion represent a total capacity of 20,000t, translating into 6.4bcm of potential incremental gas sales for the firm in 2018-21E. We expect the company's daily pipeline capacity for commercial and industrial users to increase by 19.0m m^3 in 18E, 19.3m m^3 in 19E, and 19.5m m^3 in 20E, resulting in total gas sales of 24.0bcm in 18E (+22.0% YoY), 28.8bcm in 19E (+19.9% YoY), and 34.2bcm in 20E (+18.7% YoY).

Integrated energy services. We believe integrated energy services will be the key growth driver for the firm after 2020. We expect China's gas supply to be sufficient to meet the country's demand after 2020, resulting in decreasing liquefied natural gas (LNG) prices, thus improving the profitability of ENN's IES projects. According to our calculation, all the company's IES projects would become profitable if the average cost, freight, and insurance (CIF) price of LNG decreased to less than US$7.2/mmbtu. In addition, we believe the incremental gas consumption brought by the firm's IES business will further boost gas demand. Given ENN's market share in the IES market as of end-2017 (c.30%), we expect its piped gas sales to grow at a Cagr of at least 10.9% in 2020-25E.

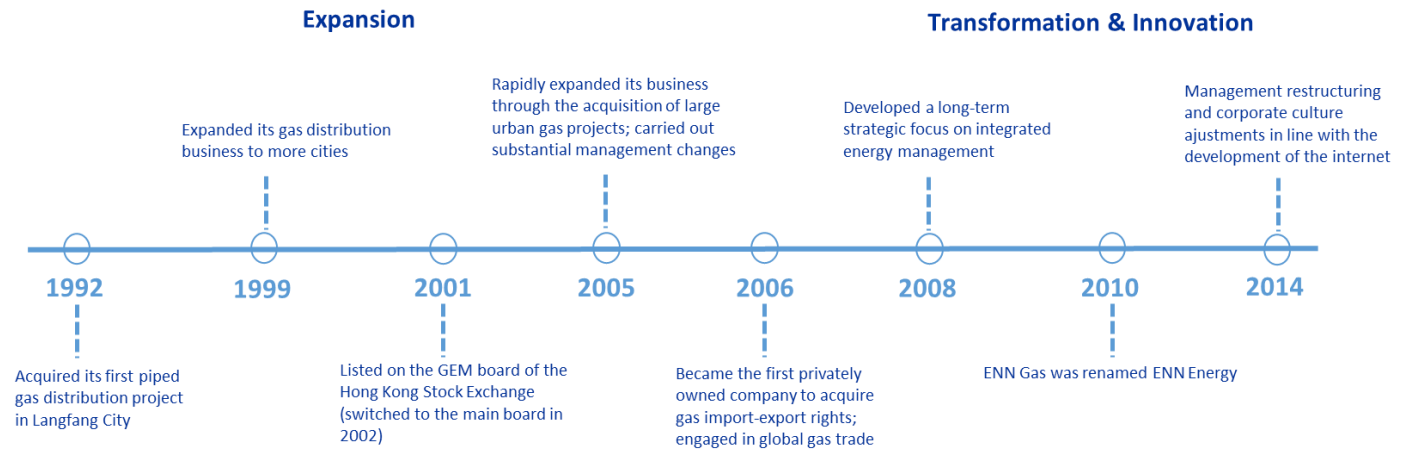
Margin pressure. We expect gas cost pressure to further rise in yearend 2018 for local distributors. We note gas demand remained strong during the 2018 non-heating season. The difference in natural gas apparent consumption between 1Q and 3Q narrowed from 7.2bcm in 2017 to 2.1bcm in 2018. As a result, gas prices remained strong in 3Q18. PetroChina (00857:HK – Not rated) only recorded a slightly lower average gas selling price in 9M18 than in 1Q18 (-US$0.03/m ft^3, vs -US$0.05/m ft^3 between 9M17 and 3Q17). Despite ENN's access to cheaper LNG than some of its competitors', we remain cautious about the pressure exerted by increasing gas prices on the company's margins. As such, we expect the dollar margin of ENN's gas sales segment to remain flat at Rmb0.63/m^3 in 18E.

Initiate with an Outperform. We forecast diluted EPS of Rmb3.49 in 18E (+34.7% YoY), Rmb4.64 in 19E (+33.0% YoY), and Rmb5.23 in 20E (+12.7% YoY), vs Bloomberg consensus: Rmb3.84 in 18F (+48% YoY), Rmb4.50 in 19F (+17% YoY), and Rmb5.20 in 20F (+16% YoY). With 14.8% upside to our target price of HK$79.05 (14.2x 19E PE), we initiate coverage of the company with an Outperform rating.

ENN Energy at a glance

After 26 years of rapid business expansion, ENN Energy has become one of China's largest gas distributors, focusing on city-gas pipeline construction and operation, as well as natural gas sales to commercial, industrial, and residential users, with the ambition of transforming itself into an integrated energy provider, supplying gas, electricity, and heating solutions.

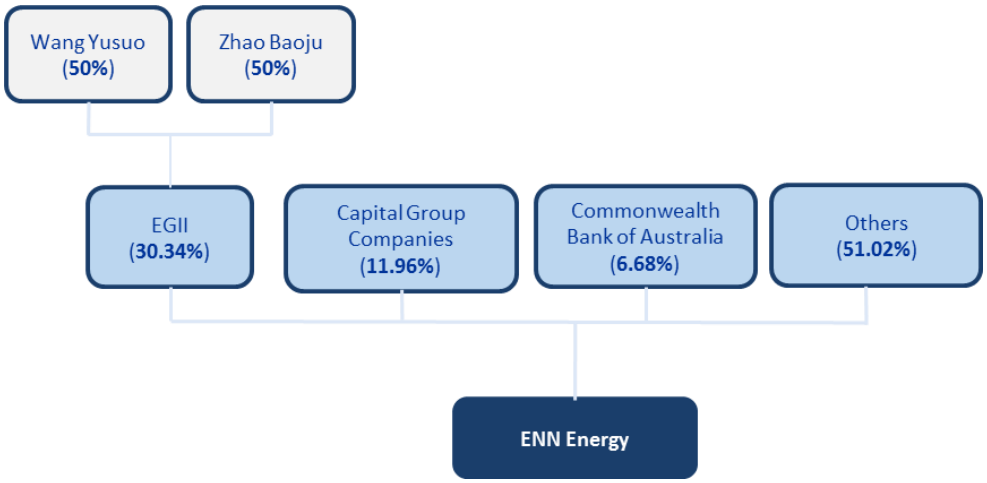
Fig 1: Company history



Source: Company website, SWS Research

ENN Group's chairman Wang Yusuo and its spouse Zhao Baoju jointly control 30.3% of ENN Energy, while Capital Group and Commonwealth Bank of Australia (CBA:AU) also hold significant stakes in the company.

Fig 2: Shareholding structure as of June 2018



Source: 2018 semi-annual report, SWS Research

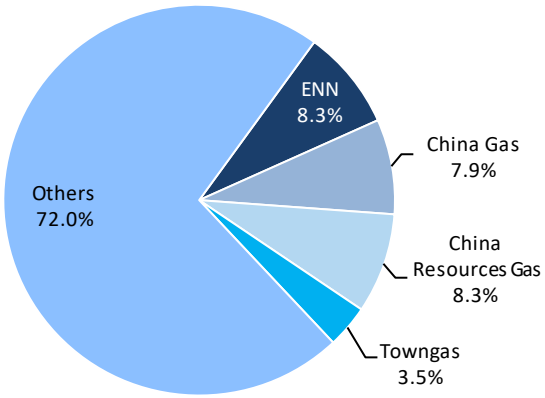
ENN Energy's business can be divided into three segments: gas sales, customer services, and integrated energy services.

The gas sales segment can be further divided into piped gas sales, wholesale gas, and vehicle refuelling gas sales. Wholesale gas refers to the gas trade business in which ENN purchases compressed natural gas (CNG)/LNG from domestic or overseas producers and sells it to end users or other gas distributors. Producers include domestic liquefaction plants, LNG receiving terminals, and overseas LNG producers. Gas sales contributed 80.6% of ENN's revenue and 52.7% of its gross profit in 2017. As one of the largest gas distributors in China, ENN accounted for 8.3% of the domestic gas sales market in 2017.

The customer services segment covers gas connection services, connection materials sales, and gas appliance sales. Gas connection refers to the service of connecting households or commercial and industrial users to distributors' public pipeline network. For households, the connection fee is normally charged to real estate developers. In case of coal-to-gas conversion, the fee is directly charged to households, but most of it is subsidised by the government. Connection services accounted for 12.3% of ENN's revenue and 44.3% of its gross profit in 2017, while materials and appliances sales accounted for 6.4% of revenue and 0.9% of gross profit.

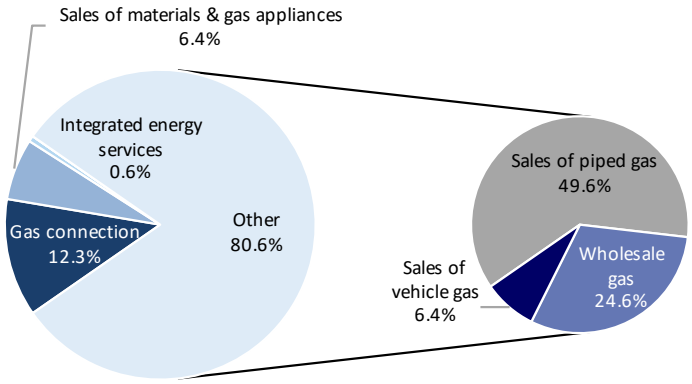
Within its integrated energy services (IES) segment, ENN purchases gas from other distributors (or uses its own gas) to generate other forms of energy, such as electricity, heat, and cold, through its self-developed gas-fuelled system. The company then sells the produced energy to end users, mostly large commercial and industrial clients. The IES segment contributed 0.6% of ENN's revenue and 2.3% of its gross profit in 2017.

Fig 3: China's natural gas sales breakdown in 2017



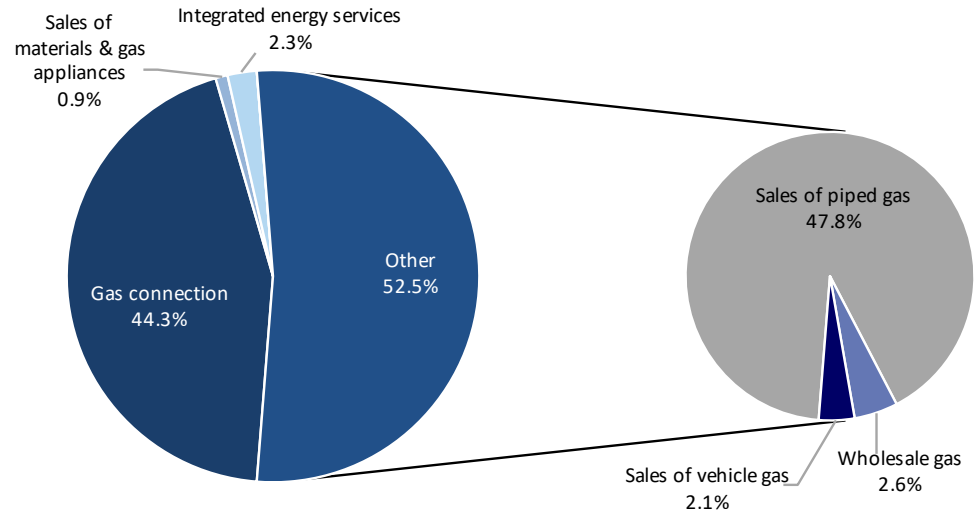
Source: 2017 annual report, NDRC, SWS Research

Fig 4: ENN's revenue breakdown in 2017



Source: 2017 annual report, SWS Research

Fig 5: ENN's gross profit breakdown in 2017



Source: 2017 annual report, SWS Research

China's natural gas market

Natural gas value chain

Local distribution companies, such as ENN, purchase both piped gas and LNG from suppliers and distribute them to end users. Depending on the type of gas, the value chain and regulatory framework differ.

Piped gas comes from domestic gas production and piped gas imports. It is transported through pipelines to local distribution companies, which then distribute and sell the gas to end users through their distribution network. China's three "oil majors", PetroChina (00857:HK – Not rated), China Petroleum & Chemical Corp (Sinopec; 00386:HK – Not rated), and CNOOC (00883:HK – Not rated), are the main piped gas suppliers of local distribution companies. Moreover, they own and operate interprovincial pipelines, while also operating some of the intraprovincial pipelines, the other ones being owned and operated by local state-owned enterprises (SOEs).

The National Development and Reform Commission (NDRC) regulates gas prices at provincial city gates, located at the junction of interprovincial and intraprovincial pipelines, by setting the reference price (of "base price") for price negotiations between gas suppliers and local distributors. The base price is based on a formula taking into account the price of alternative energy sources, such as fuel oil. Interprovincial and intraprovincial transportation services are separate from gas sales, while their pricing is also subject to regulations. We note transportation fees are based on approved costs plus a predetermined return cap (expected to be reviewed by 2020).

For local gas distributors, the cost of piped gas is equal to the provincial city gate price charged by the three oil majors plus intraprovincial transportation fees, which amount to Rmb0.2/m^3 on average. The NDRC used to set a lower provincial city gate base price for residential users than for industrial and commercial users. However, the situation changed in 2018 as the NDRC raised the residential gas city gate base price to match the one for industrial and commercial users. The actual price paid by local distributors at the provincial city gate level depends on both the base price and the contract terms negotiated by each distributor with the three oil majors. We note the provincial city gate price paid by local distributors is usually equal to the base price during the non-heating season, and 10-15% higher than the base price during the winter heating season.

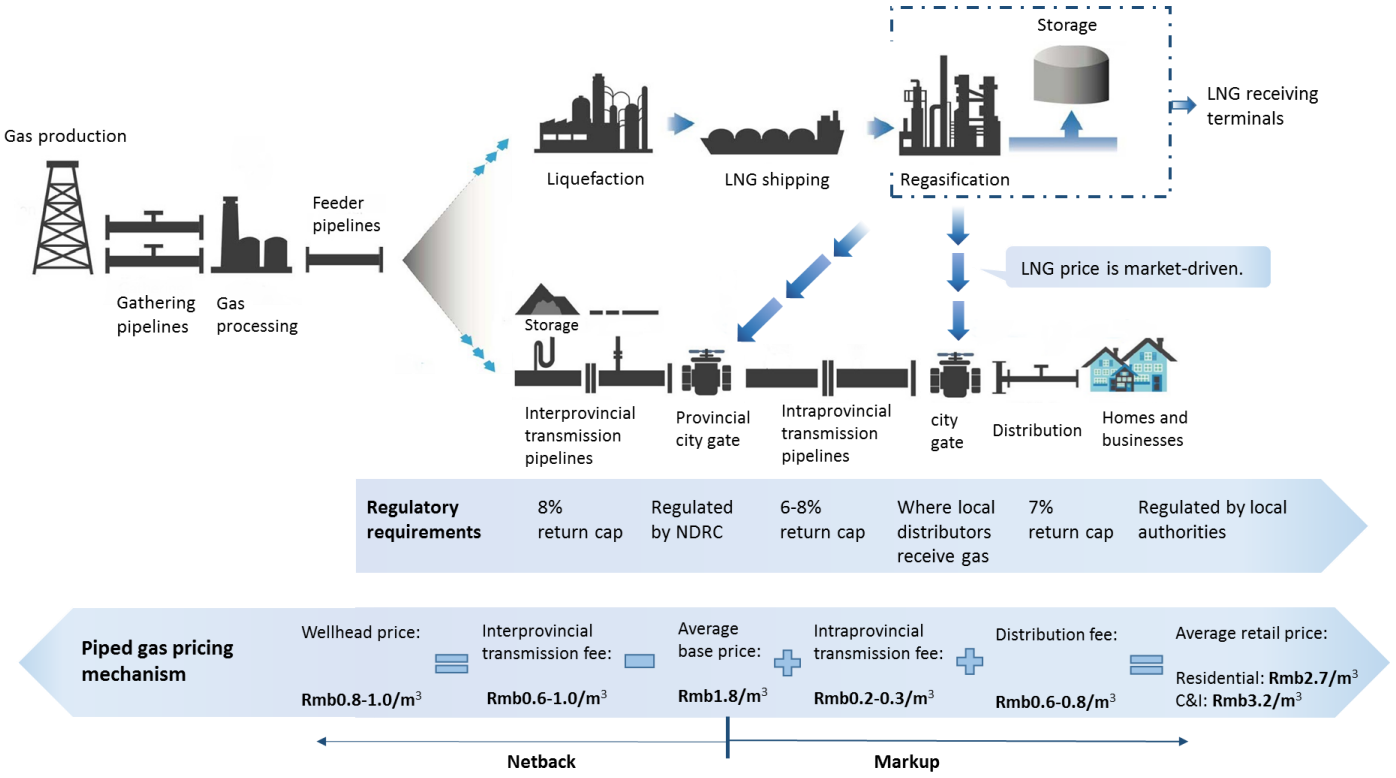
LNG comes from domestic liquefaction plants, LNG receiving terminals, and overseas LNG producers. LNG is distributed to end users either by trailers or through pipelines after being gasified. We note the cost of LNG for local distributors is not subject to government regulation, making it more market-driven.

Local distributors have been given exclusive rights to distribute natural gas in dedicated geographical areas, as well as perform services, such as billing, safety inspection, and new connections. Gas distributors' activities are closely monitored to ensure that consumers do not suffer from their monopolistic situation (e.g. abnormally high distribution costs). Residential, commercial, and industrial gas selling prices are strictly regulated; however, exceptions apply for large industrial users.

Local distributors usually offer bundled services (combining gas transportation and sales), which local governments are authorised to regulate. In most provinces, local authorities impose a return cap of 7% for local distribution, although the actual return achieved by local distributors on gas distribution tends to be lower than 7%. The return cap is expected to be reviewed by 2021. Gas selling prices tend to be lower for residential users than for commercial and industrial users, due to lower residential city gate gas prices. However, we expect the price gap to narrow gradually after the NDRC raised residential city gate prices, as distributors are allowed to pass on the price increase to end users.

Looking at other countries, we see the separation of gas transportation and sales as a long-term trend. Since the early 1990s, gas customers in the US and the UK may choose different suppliers for natural gas sales and distribution, although in practice most residential and small commercial customers continue to purchase both services from the same utility company. We do not expect the separation of gas transportation and sales to take place in China in the short term, given the difficulties associated with the withdrawal of local distributors' exclusive distribution rights, while a separation of services is unlikely to result in lower gas prices for end users over the next three years due to tight supply.

Fig 6: China's natural gas value chain and pricing regulatory framework



Source: SWS Research

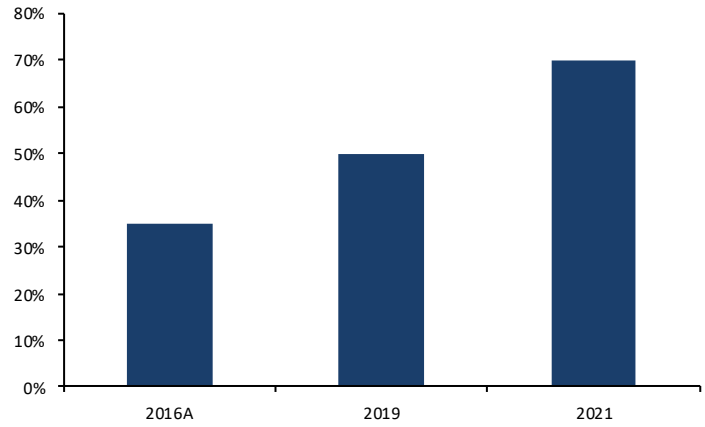
Market outlook

Driven by accelerating coal-to-gas conversions in northern China, natural gas apparent consumption grew 14.2% YoY to 2,372bcm in 2017 (vs +7.5% YoY in 2016) and 15.9% YoY in 9M18. The NDRC expects the percentage of clean energy in China's total energy consumption to increase from 35% in 2016 to 70% in 2021, and the proportion of natural gas in the clean energy mix to climb from 11% in 2016 to 14% in 2021.

Both residential and industrial users that do not meet the appropriate environmental standards are required to undergo coal-to-gas conversion. The NDRC targets 12m households to undergo coal-to-gas conversion in Beijing, Tianjin, and 26 cities in nearby provinces during the 2016-21 period. According to the Ministry of Ecology and Environment, 3.5m households converted to natural gas in 2017, with a target of 3.6m households for 2018. With only 40% of the targeted conversion to be carried out in 2019-21, we expect coal-to-gas conversions for residential users in northern China to gradually slow down over the next three years. Moreover, given relatively higher prices than coal, as well as weak purchasing power in rural areas, we believe gas consumption growth among existing rural gas users will remain weak. As such, we do not see residential coal-to-gas conversion as a key growth driver in the coming three years.

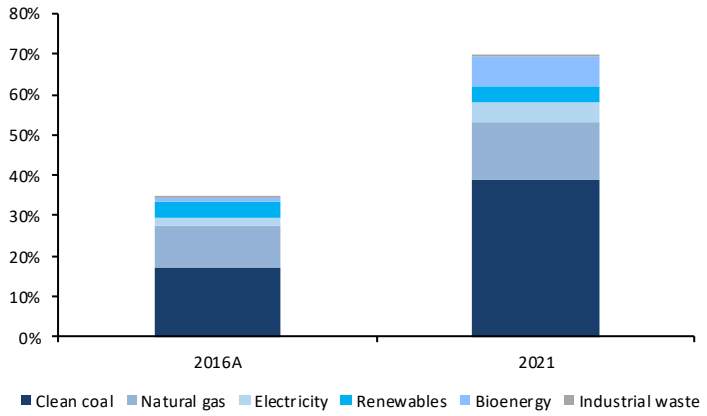
By contrast, we believe industrial coal-to-gas conversion will be a key gas demand growth driver in coming years. The 13th Five-Year Plan (2015-2020) requires coal-fired boilers (representing a total capacity of 0.189mt/h) to be replaced by gas-fuelled boilers. In Beijing and Hebei provinces, where the substitution progress was the fastest, only 0.05mt/h of capacity was replaced in 2017. Given the slow progress also witnessed in 2016, we note that more than 50% of the targeted conversion still needs to be completed in 2018-20. Moreover, we highlight a number of gas-fired boilers did not reach their designed capacity after conversion amid the 2017 gas shortage. As a result, we see substantial gas demand growth potential for industrial users.

Fig 7: NDRC's clean energy proportion targets (heating)



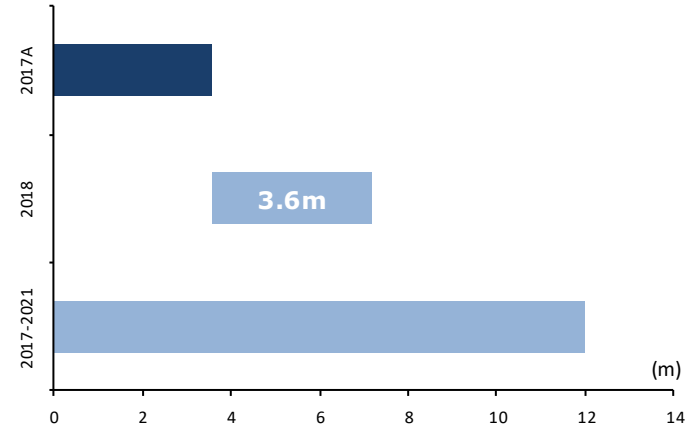
Source: NDRC, SWS Research

Fig 8: NDRC's clean energy breakdown target (heating)



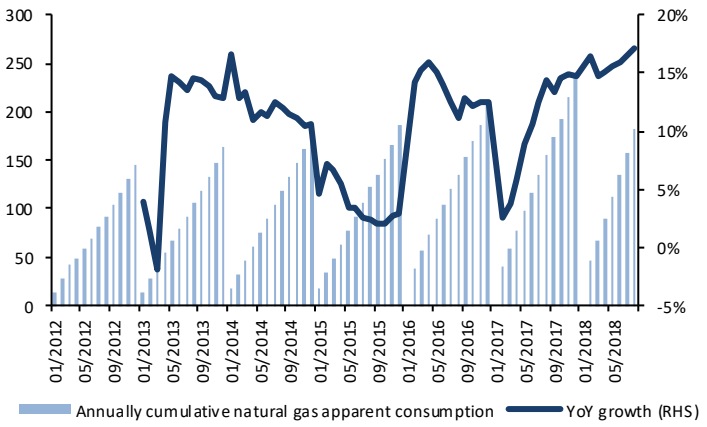
Source: NDRC, SWS Research

Fig 9: NDRC's residential coal-to-gas converted households targets



Source: NDRC, SWS Research

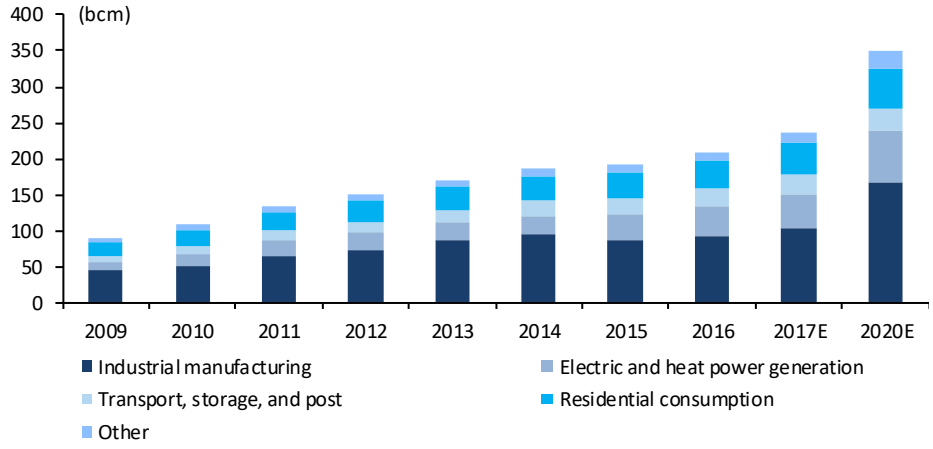
Fig 10: China's natural gas apparent consumption



Source: NDRC, SWS Research

Assuming 3,000 utilisation hours on average for gas-fuelled boilers by 20E, we expect the industrial coal-to-gas conversion to result in 50.3bcm of incremental gas consumption in 2018-20E, bringing total gas demand to 350.1bcm by 20E (14.1% Cagr in 2015-20E). The detailed calculation is given in the appendix.

Fig 11: Natural gas demand forecast

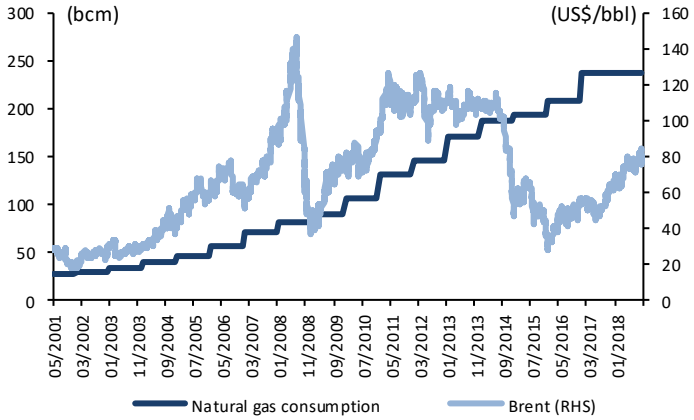


Source: National Bureau of Statistics, SWS Research

Potential oil price slumps are the main threat to sustainable gas consumption growth, with industrial and vehicle gas consumption being the most sensitive to oil price changes. During the 2014-2016 oil downturn, ENN's industrial and vehicle gas sales Cagrs slowed down to 9.2% and 4.1%, respectively (vs Cagrs of 26.1% and 31.7% in 2010-13), dragging down the firm's core profit Cagr from 23.9% to 14%, with a negative impact on its long-term stock performance.

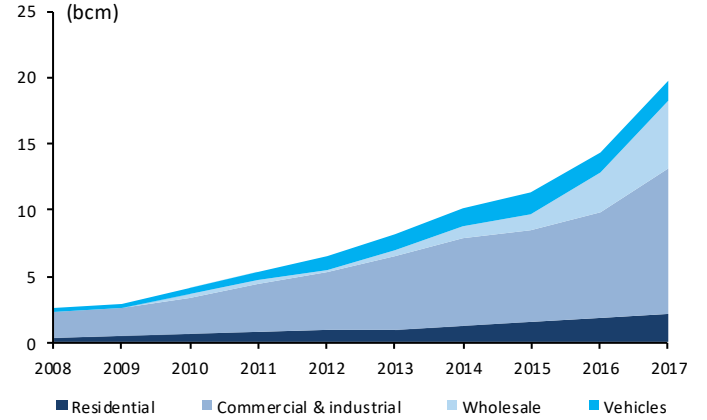
However, we believe the impact of potential oil price slumps would be weaker this time for two main reasons. Firstly, despite the oil recovery, we note vehicle gas demand remained sluggish (-8% YoY in 1H18 for ENN), due to concerns about a potential gas shortage during the winter season and the rapid development of new-energy vehicles (NEVs). Secondly, widespread coal-to-gas conversions are expected to alleviate the substitution effect of coal, enhancing industrial users' stickiness to natural gas.

Fig 12: China's natural gas consumption vs oil prices



Source: Wind, SWS Research

Fig 13: ENN's natural gas sales breakdown



Source: Annual report, SWS Research

Despite the flourishing natural gas demand, the tight supply limits the growth potential of China's gas consumption. In 2017, 60% of the country's gas supply came from domestic production, 16% from piped gas imports, and 27% from LNG imports. Domestic production amounted to 148.7bcm, while piped gas and LNG imports totalled 40.4bcm and 57bcm, respectively.

Based on the 2018-2020 plans released by the Changqing, Tarim, and southwestern gas fields, which jointly accounted for 50.5% of China's total gas production in 2017 and enjoy the strongest development potential among domestic gas fields, we expect their natural gas output to increase by 16.1bcm in 2018-20E, leading total gas production to 185.2bcm by 20E (7.6% Cagr). However, we doubt the feasibility of the State Council and NDRC's aggressive 2020 target of 200bcm, given oil majors' economic concerns, as well as geological restrictions.

Looking at piped gas imports, we expect the Russia-China Eastern Line, with a designed capacity of 38bcm, to contribute the most to incremental piped gas imports in the coming three years. However, we note the new pipeline won't be connected until late 2019, while only 4bcm of gas is expected to be imported in 2020, accounting for less than 5% of our total incremental gas consumption forecast. As such, we believe the new Russia-China Eastern Line won't have a significant impact on China's tight supply before 2020.

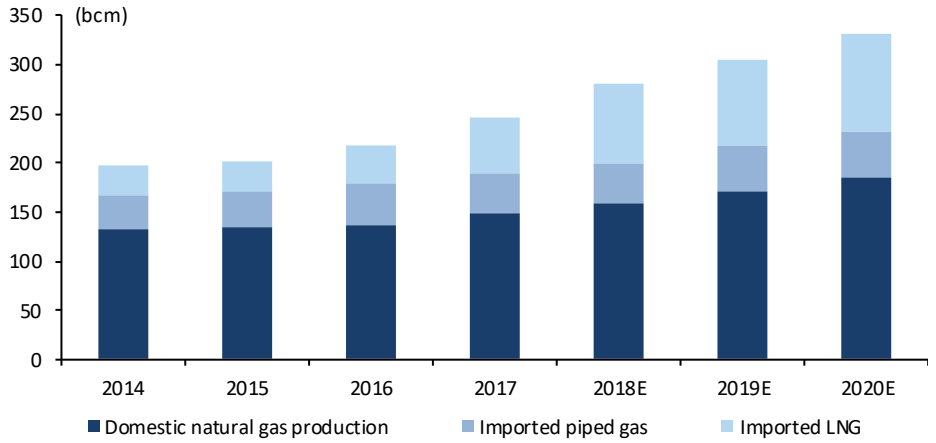
Given China's current LNG import capacity and ample global supply, we believe LNG imports will be the easiest and most flexible way for China to gain access to large volumes of incremental gas over the next three years. Based on the development plans released by the three oil majors as well as other energy groups, we expect LNG terminals' receiving capacity to increase from 91.9bcm in 17A to 132.2bcm in 20E. Conservatively assuming the growing demand drives utilisation up from 62% to 75%, we forecast LNG imports to grow from 57bcm in 17A to 99.1bcm in 20E.

Driven by the rapid growth of LNG imports, we expect China's total gas supply to increase at a Cagr of 6.2% to 335.5bcm in 20E, albeit falling short of our gas demand forecast of 351bcm. As a result, we expect gas prices to remain under upward pressure in 2018-20E. We see the price

pressure as likely to rise in 2019 and 2020 if the government maintains its coal-to-gas conversion efforts.

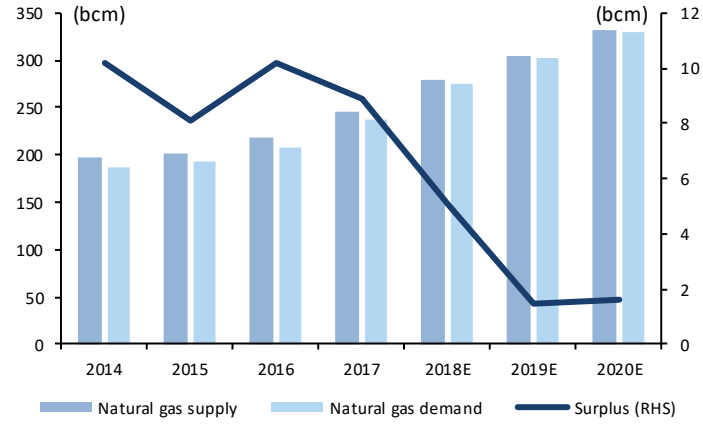
We believe local gas distributors are squeezed between, on one side, the government, which aims to offer affordable and stable regulated gas prices, and, on the other side, the three oil majors, which are looking to pass on their increasing costs amid the continued tight supply. As a result, we expect the dollar margin of local distributors to remain under pressure in 2018-20E.

Fig 14: Natural gas supply forecast



Source: National Bureau of Statistics, SWS Research

Fig 15: Natural gas supply and demand



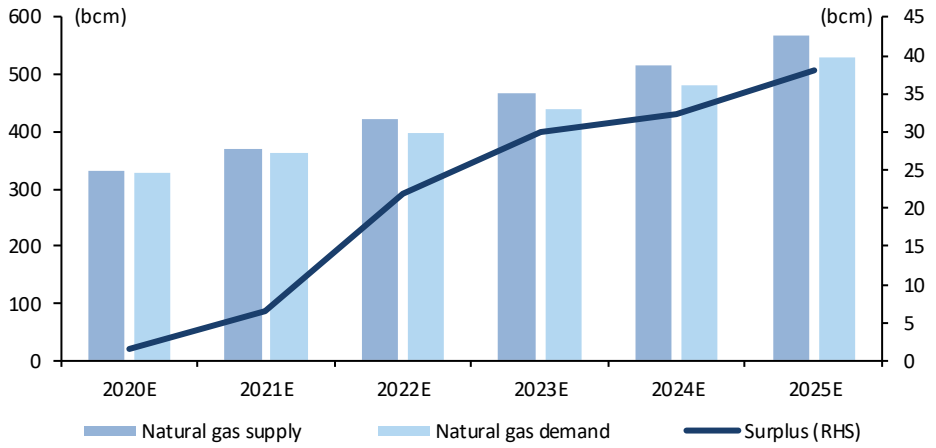
Source: NDRC, SWS Research

Fig 16: China's LNG receiving capacity

Source: NDRC, SWS Research

As the Russia-China Eastern Line gradually reaches its designed capacity after 2020, along with new imported gas pipelines coming on stream and an increasing LNG import capacity, we expect gas supply to improve steadily in 2020-25E. In our model, we assume gas demand will grow at the same average annual rate as in 2011-17 (+10% YoY, which we see as conservative given the variable control of short-term coal-to-gas conversions), domestic production will increase 5% YoY, and LNG capacity will expand 15% YoY. Amid improved supply, we expect piped gas to compete directly with LNG imports to win end users, thus exerting downward pressure on gas prices.

Fig 17: Natural gas supply and demand forecast



Source: NDRC, SWS Research

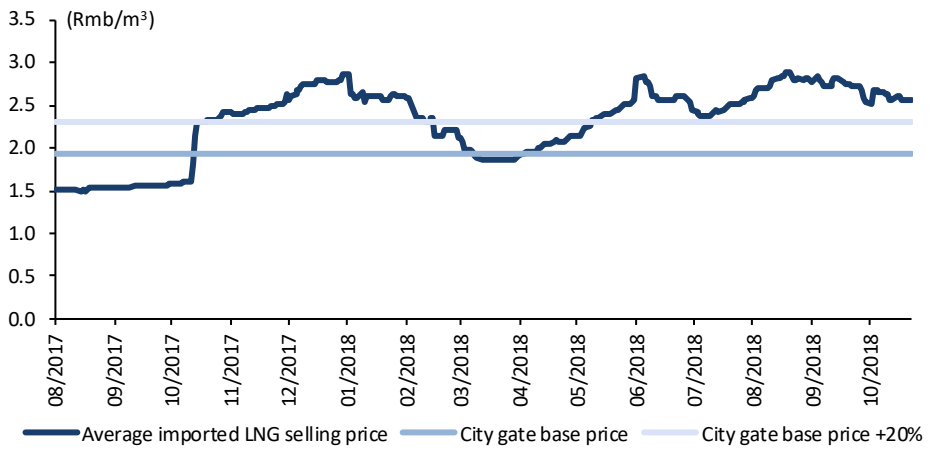
Fig 18: China's imported gas pipelines

Imported from	Pipeline name	Status	Designed annual capacity (bcm)	Annual imported volume (bcm)
Central Asia	Central Asia A/B/C Line	In operation	55	40
	Central Asia D Line	To be put into operation by 2022	30	-
Myanmar	Myanmar Line	In operation	120	45
Russia	Eastern Line	To be put into operation by late 2019	380	-
	Western Line	Planning	300	-

Source: NDRC, SWS Research

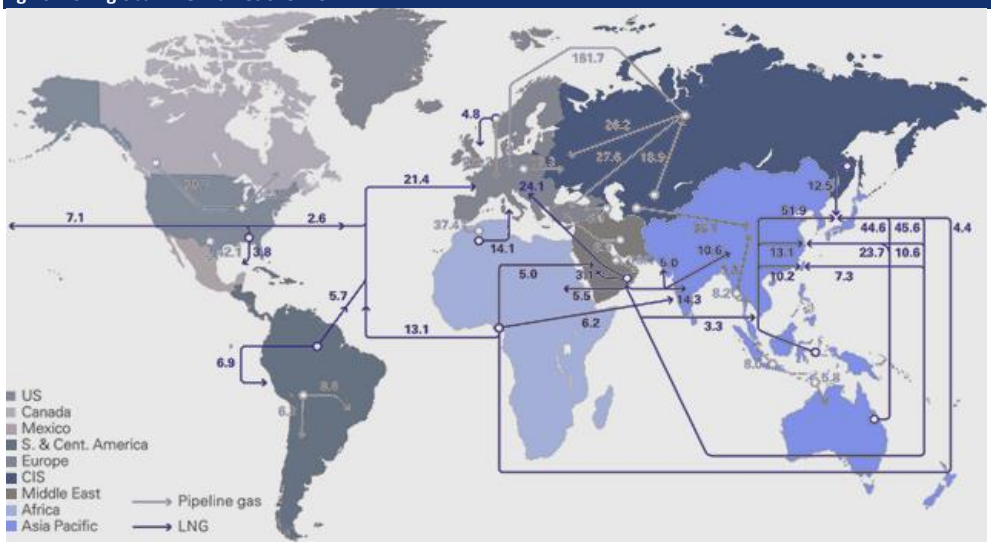
We note the current oil price recovery, combined with flourishing demand, has driven up selling prices of imported LNG in China. We calculated the average imported LNG selling price by adding up the average LNG CIF price and average port operating fee, and compared it with the city gate base price and the maximum price the three oil majors are able to charge (1.2x the base price). We note that LNG is currently more expensive than piped gas. We estimate that LNG would become more competitive than piped gas if the average LNG CIF price decreased to less than US$7.5/mmbtu. With the pressure on domestic gas supply gradually easing after 2020, as the Russia-China Eastern Line comes online, we expect demand for LNG to become less elastic, giving Chinese buyers stronger bargaining power.

Fig 19: Imported LNG selling prices vs city gate base price



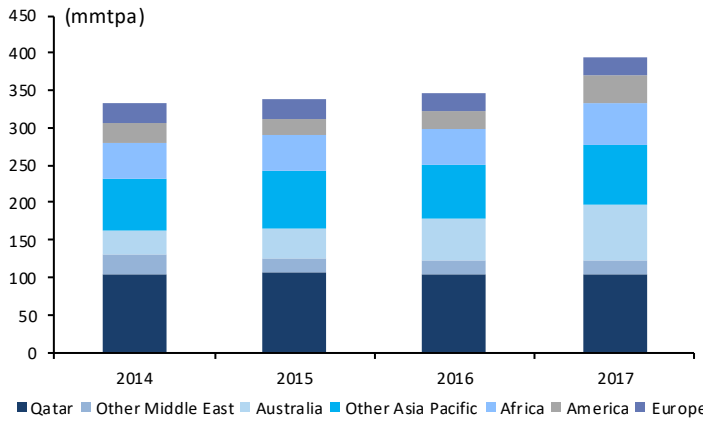
Source: Wind, SWS Research

Fig 20: 2017 global LNG market overview



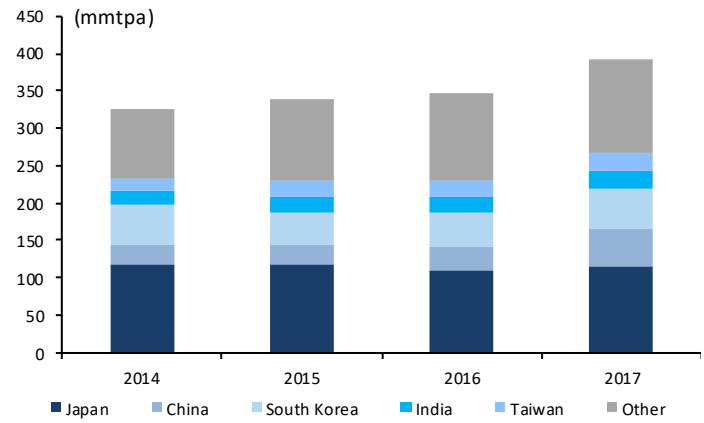
Source: Wind, SWS Research

Fig 21: Global LNG supply breakdown



Source: IGU, SWS Research

Fig 22: Global LNG demand breakdown



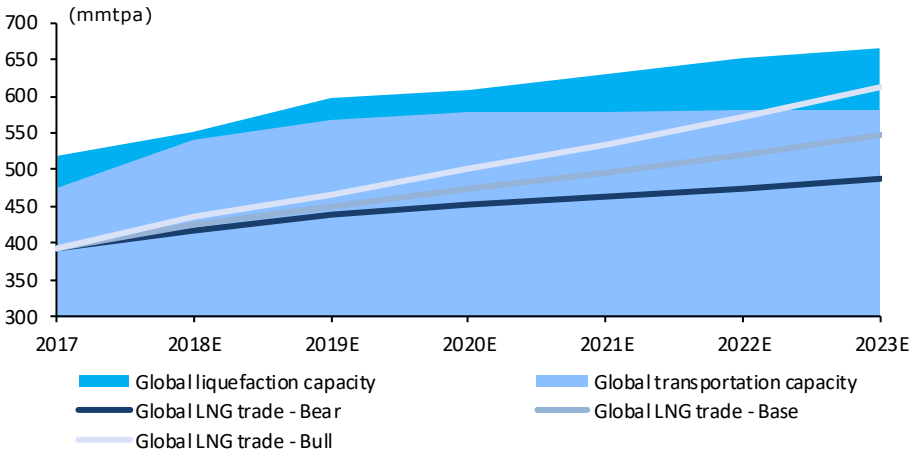
Source: IGU, SWS Research

We believe future ample global supply is an important condition for sellers to cut LNG prices. We note Qatar and Australia were the world's two largest LNG exporting countries in 2017, while Japan, South Korea, and China contributed 74.4% of global consumption.

We ran a scenario analysis on the global LNG market. Under our bull-case scenario, we assume Japan continues to import large amounts of LNG, amid limited nuclear power production, while China maintains high-double-digit growth, resulting in an LNG trade Cagr of 7.0%. Under our base-case scenario, we assume Japan decreases its LNG imports, while China maintains low-double-digit growth, resulting in an LNG trade Cagr of 5.0%. Under our bear-case scenario, we assume China's demand slows down, while both Japan and South Korea turn to nuclear power to a large extent to reduce their reliance on LNG imports, resulting in an LNG trade Cagr of 3%.

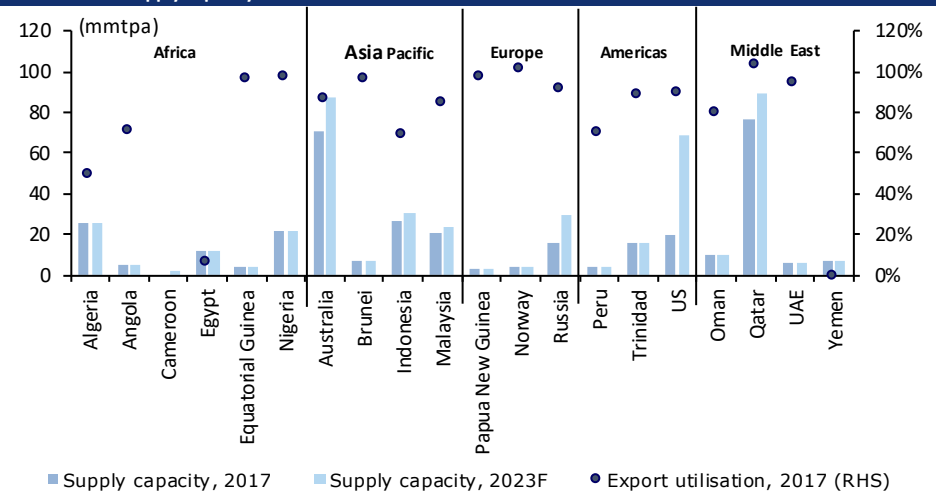
Given China's LNG terminal and vessel construction plans, our model suggests that global exports and transportation capacity are sufficient to support the country's demand growth under both the base-case and bear-case scenarios. Although LNG trade under our bull-case scenario exceeds current transportation capacity, we believe the bottleneck would be addressed shortly, given idle construction capacity. Moreover, given a high base, we believe China would be unlikely to maintain its current high-double-digit growth after 2020, as coal-to-gas conversion campaigns eventually slow down. Overall, we expect global LNG supply to become less tight in the long term, thus exerting pressure on sellers.

Fig 23: Sensitivity analysis on the global LNG market



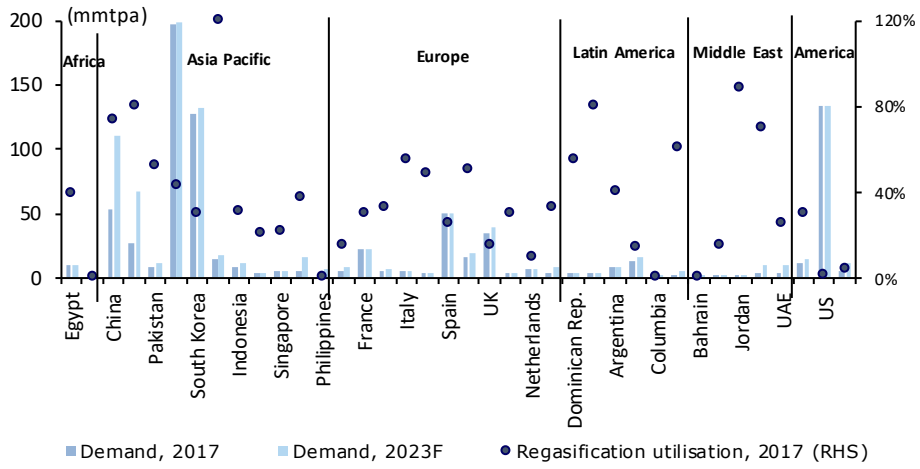
Source: BP, IGU, SWS Research

Fig 24: Global LNG supply capacity breakdown



Source: IGU, SWS Research

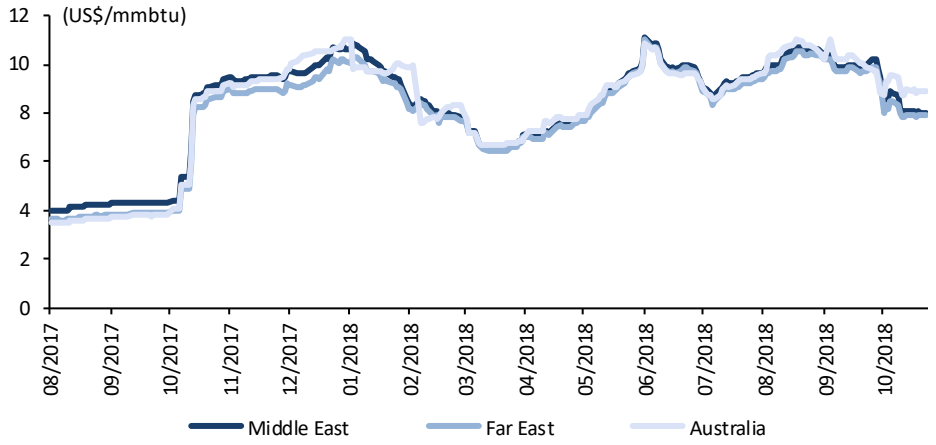
Fig 25: Global LNG demand breakdown



Source: IGU, SWS Research

We see lower-cost LNG imports as an important catalyst to facilitate the LNG price decrease. According to the International Gas Union (IGU), Australia is the largest LNG exporter to China, accounting for 45.1% of 2017 China LNG imports, while its LNG export terminal construction costs, such as those of the Gorgon Project, are among the highest, thus making its free on board (FOB) price the highest among exporters. However, we note an increasing number of lower-cost LNG export terminals are coming online in other countries, such as the Sabine terminal in the US and the Sakhalin-2 terminal in Russia. According to the Moscow-based Skolkovo think tank, the average production and transportation costs of LNG exports from Sakhalin-2 to Shanghai will slightly top US$4/mmbtu by 2025F, vs a stabilised cost of less than US$8/mmbtu for US LNG exports, which is linked to the market-driven Henry Hub price (current level in the winter: US$10/mmbtu). Given a likely increase in lower-cost LNG imports from the US and Russia in the future, we anticipate stronger downward pressure on China's LNG selling prices, especially during the winter season.

Fig 26: China's average LNG FOB price per origin



Source: Wind, SWS Research

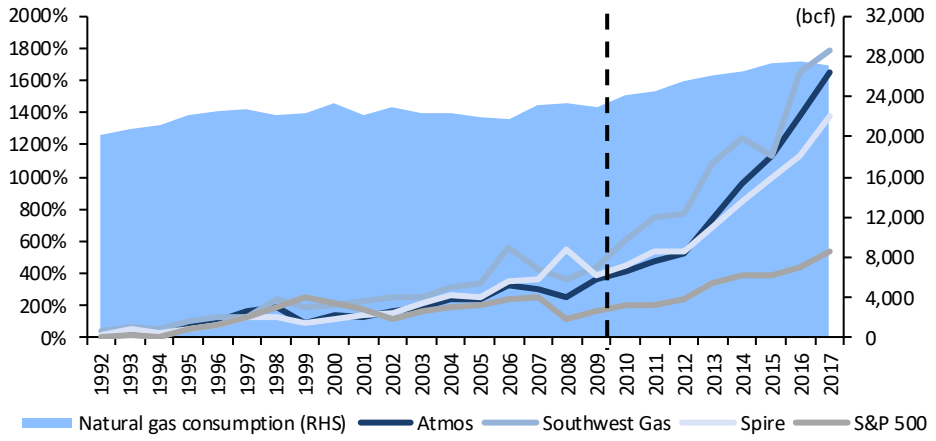
Besides, given ample US shale oil supply, we forecast stronger downward pressure on global oil prices after US oil transportation bottlenecks have been addressed in late 2019. Coupled with ample global LNG supply and lower LNG export costs, we expect imported LNG prices to go down in the future. We believe local gas distribution companies with access to global LNG will be key beneficiaries from 2020 onwards.

US example

Looking at the US, we note power and industrial gas consumption increased at a 3.0% Cagr in 2009-17, on the back of cheaper gas after US shale gas exploitation started, contributing to a total consumption Cagr of 2.1% (vs 0.8% in 1992-2008). For local gas distributors, the solid top-line performance amid flourishing demand, and decreasing gas costs led to a significant margin expansion. For instance, the net margin of market leader Atmos Energy (ATO:US) increased from 3.8% in 2009 to 14.4% in 2017, vs 2-3% before the exploitation of US shale gas. As a result, US gas distributors' share price grew at a 16.7% Cagr on average in 2009-17, outperforming the S&P 500 index by 5.1ppts.

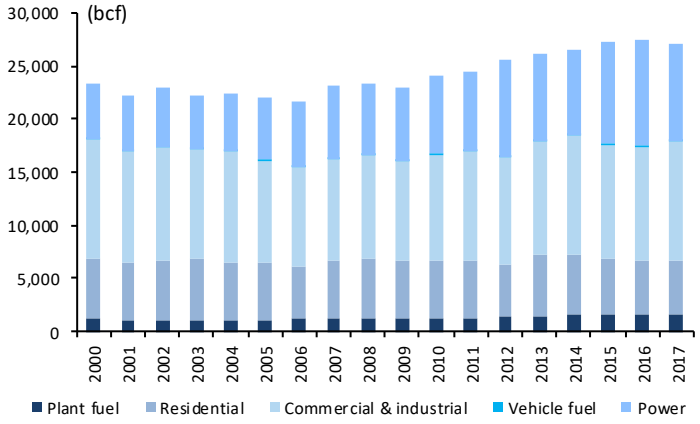
However, unlike US gas distributors, which strongly benefited from the exploitation of shale gas, we believe Chinese gas distributors will need to capture new gas demand as coal-to-gas conversions slow down, in order to maintain solid growth in the future.

Fig 27: US local gas distributors' share price growth and natural gas consumption



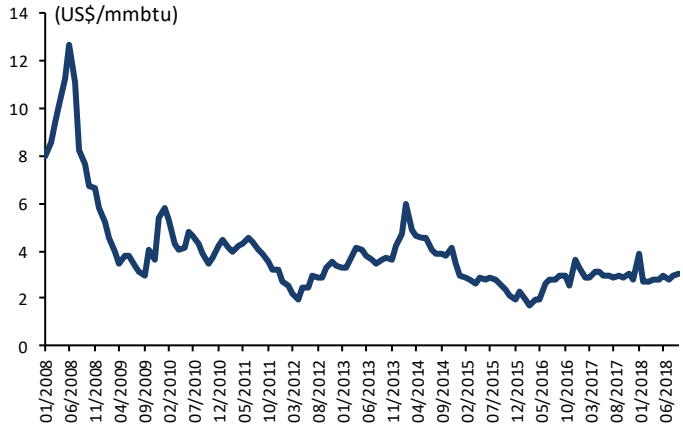
Source: Bloomberg, SWS Research

Fig 28: US natural gas consumption breakdown



Source: EIA, SWS Research

Fig 29: Henry Hub's spot price



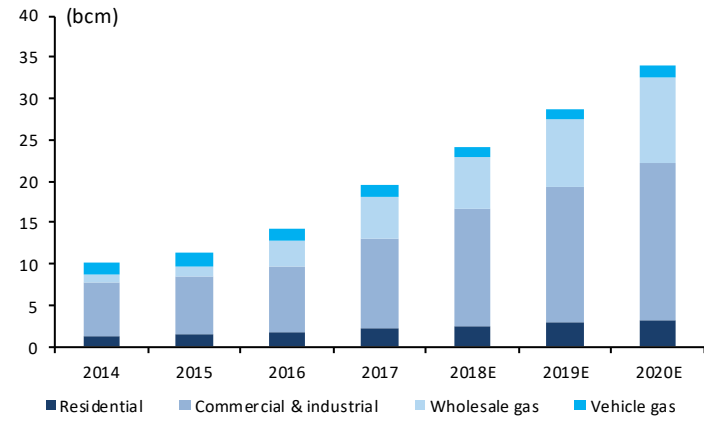
Source: EIA, SWS Research

ENN Energy's growth drivers

Natural gas sales

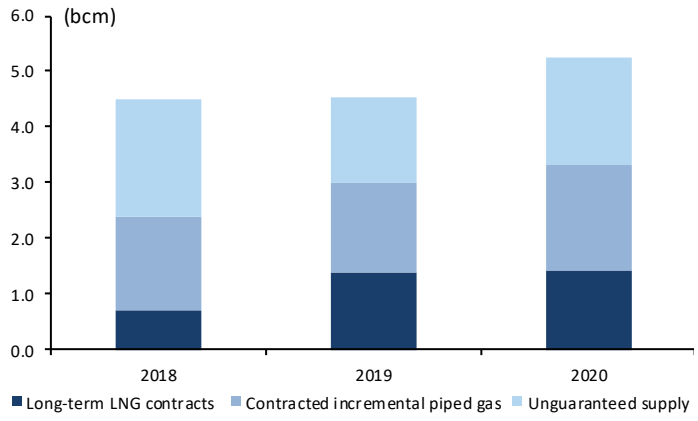
Given China's increasing demand for industrial gas amid policy-driven coal-to-gas conversions, we expect the gas sales segment to be ENN's main growth driver over the next three years. Within its business district alone, coal-fuelled boilers requiring gas conversion represent a total capacity of 20,000t, translating into 6.4bcm of potential incremental gas sales for the firm in 2018-21E. We note ENN signed a number of long-term overseas LNG supply contracts, as well as piped gas contracts with the three oil majors, improving the company's top-line growth visibility. According to its development plan, ENN forecasts LNG imports of 0.7bcm in 2018, 2.1bcm in 2019, and 3.5bcm in 2020, secured by long-term contracts, while expecting 10% YoY growth in gas supply from the three oil majors, the sum of which accounts for 53.3%/66.0%/72.6% of total incremental gas sales in 18E/19E/20E. As such, we believe the company will be able to realise its full growth potential. We expect the company's daily pipeline capacity for commercial and industrial users to increase by 19.0m m^3 in 18E, 19.3m m^3 in 19E, and 19.5m m^3 in 20E, leading total gas sales of 24.0bcm in 18E (+22.0% YoY), 28.8bcm in 19E (+19.9% YoY), and 34.2bcm in 20E (+18.7% YoY).

Fig 30: ENN's natural gas sales volume breakdown



Source: Annual report, SWS Research

Fig 31: ENN's incremental natural gas supply

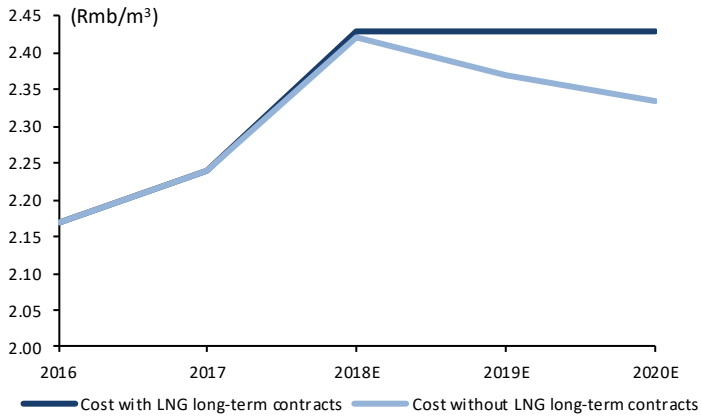


Source: Annual report, SWS Research

Local gas distributors face increased dollar margin pressure given growing gas sales amid tight supply. However, we see ENN as less vulnerable to the growing margin pressure than its competitors as the firm has secured long-term LNG contracts for 2.1bcm per annum at the price of Rmb2.4/m³. We believe this cost advantage cannot be easily replicated by peers as it is the only privately held company to own a full-size LNG terminal able to receive large quantities of LNGs. In addition, we note no other privately owned company will put into operation full-size LNG terminals in the coming three years. Thanks to its long-term LNG contracts, we expect ENN's gas cost to gradually decrease to Rmb2.42/m³ in 18E, Rmb2.37/m³ in 19E, and Rmb2.33/m³ in 20E (vs Rmb2.43/m³ without long-term LNG contracts).

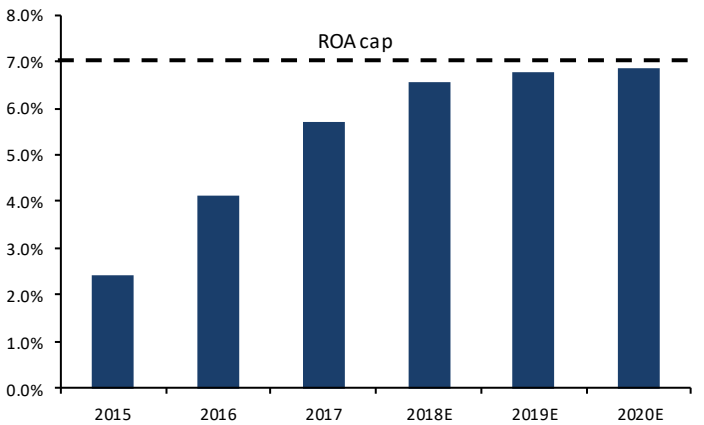
Gas selling prices are comprised of gas costs and distribution fees. For the distribution fee, our model suggests that ENN will not reach its 7% return on asset (ROA) cap in the coming three years, given continuous pipeline construction. Nonetheless, we believe ENN's margin will remain solid on the distribution side, although the firm may face some margin pressure from rising costs. As a result, we expect ENN's average gas selling price to reach Rmb3.11/m³ in 18E and Rmb3.12/m³ in 2019-20E.

Fig 32: ENN's natural gas cost with and without LNG long-term contracts



Source: Annual report, SWS Research

Fig 33: ENN's distribution fee vs ROA cap



Source: Annual report, SWS Research

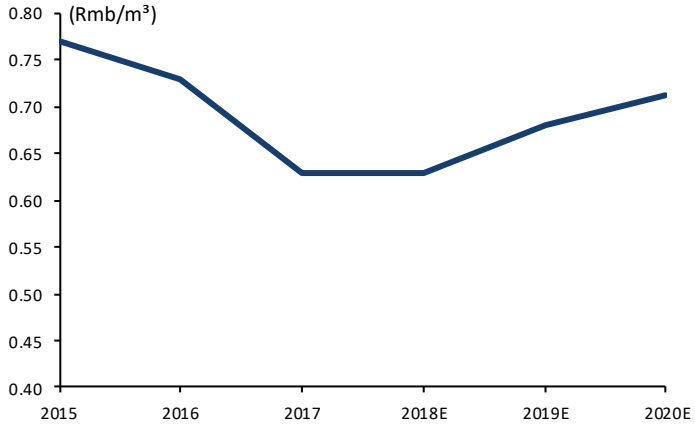
Moreover, we believe ENN's strong volume growth is a good hedge against the potential dollar margin squeeze. According to our sensitivity analysis, if the company sells 0.6bcm of additional gas in 18E, it will mitigate the margin squeeze by Rmb0.01/m³. Under the current favourable coal-to-gas conversion environment, we expect the firm's high-double-digit gas sales growth to help stabilise bottom-line fluctuations. Thanks to its long-term LNG contracts, we forecast ENN's gas sales dollar margin to remain flat at Rmb0.63/m³ in 18E, before gradually picking up to Rmb0.68/m³ in 19E and Rmb0.71/m³ in 20E, leading to stable gross margin recovery.

Fig 34: Sensitivity analysis on ENN's natural gas sales gross margin in 2018E

(bcm)		Total natural gas sales volume (bcm)					
		Base	Base +0.6	Base +1.2	Base +1.8	Base +2.5	Base +3.2
Dollar margin (Rmb)	Base	5.5	5.7	5.9	6.0	6.2	6.4
	Base -0.01	5.4	5.5	5.7	5.9	6.1	6.3
	Base -0.02	5.2	5.4	5.5	5.7	5.9	6.1
	Base -0.03	5.1	5.2	5.4	5.5	5.7	5.9
	Base -0.04	4.9	5.0	5.2	5.4	5.5	5.7
	Base -0.05	4.7	4.9	5.0	5.2	5.4	5.5

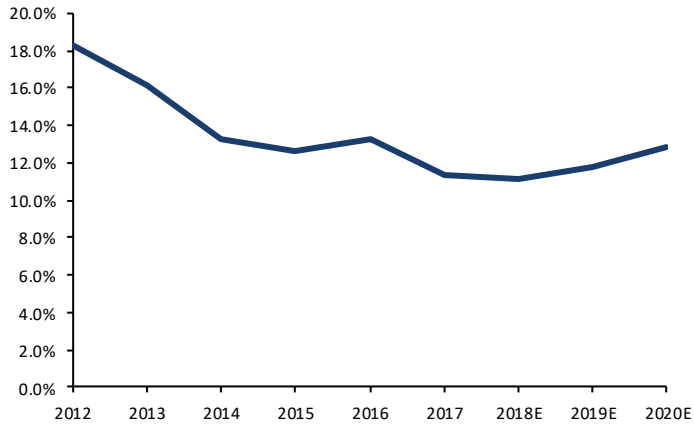
Source: SWS Research

Fig 35: ENN's average gas sales dollar margin



Source: Annual report, SWS Research

Fig 36: ENN's average gas sales gross margin



Source: Annual report, SWS Research

Integrated energy services

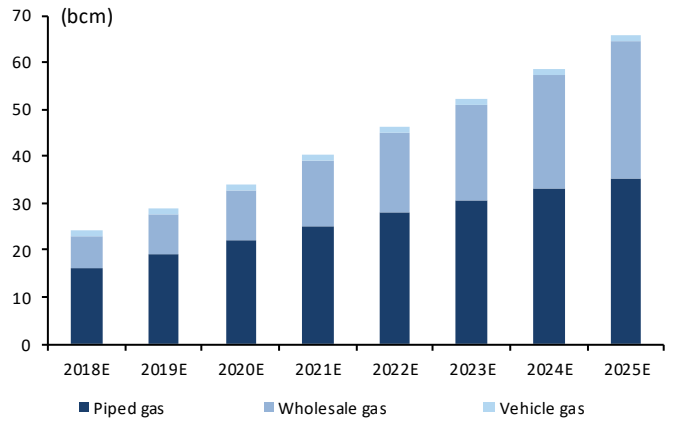
We believe integrated energy services (IES) will be the key growth driver for the firm after 2020. Under the IES model, ENN purchases gas from other distributors (or uses its own gas) to generate other forms of energy, such as electricity, heat, and cold, through its self-developed gas-fuelled system. The company then sells the produced energy to end users, mostly large commercial and industrial clients. We note ENN is able to quote competitive prices for large commercial and industrial users, given cost advantages amid improved energy utilisation. We estimate that its power price could go below Rmb0.60/kWh for projects whose gas utilisation reaches 85% (vs an average price of Rmb0.65/kWh for commercial and industrial users in 2017).

High gas prices have been a strong barrier to the development of integrated energy services. According to our calculation, if the cost of natural gas for IES projects tops Rmb3.0/m³, then fuel costs account for more than 75% of total sales, exceeding IES projects' breakeven point. We note that gas selling prices for commercial and industrial users are currently higher than Rmb3.0/m³. However, as natural gas supply increases, we expect LNG prices to decline after 2020, with a positive impact on the profitability of IES projects and, therefore, on the development of ENN's IES segment. We estimate that if the average LNG CIF price decreases below US$7.2/mmbtu, all the firm's IES projects will become profitable.

Moreover, we believe the incremental gas consumption brought by the IES business will boost gas demand, and therefore gas sales. ENN estimates that the current 1,606TWh of annual energy demand represents 200bcm of potential annual gas demand for IES clients, mostly industrial parks. According to the "Implementation Opinions on the Integration and Optimisation of Demonstration Project Construction", the NDRC and National Energy Administration (NEA) target an IES adoption rate of 30% among existing industrial parks and 50% for newly constructed parks by 2020. However, we note ENN, China Resources Gas (01193:HK – Not rated), and China Gas' (00384:HK – Not rated) combined IES users only consumed 217m m³ of natural gas as of end-2017, indicating that less than 0.1% of the total potential IES demand has been satisfied. If the percentage increases from 0.1% to 40% by 2025E, we expect IES services to generate c.10bcm of incremental gas consumption every year. Given ENN's c.30% share in the IES market as of end-2017, we expect its piped gas sales to grow at a Cagr of at least 10.9% in 2020-25E.

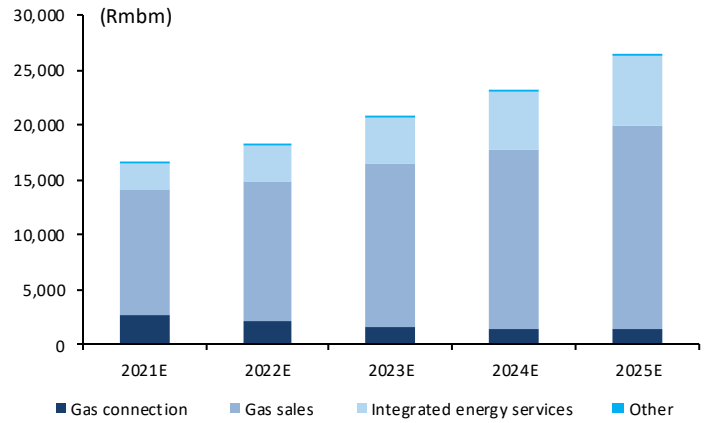
Thanks to its early strategic focus on IES and favourable long-term LNG contracts, we expect ENN's IES segment to record revenue of Rmb2.4bn in 18E, Rmb4.5bn in 19E, and Rmb9.0bn in 20E, and the segment's gross margin to pick up from 5.1% in 2017 to 12% in 2020E. Assuming 40% of industrial parks adopt IES services by 2025E, we forecast the IES segment to achieve a revenue Cagr of 36.6% in 2020-25E, resulting in total gross profit of Rmb26.4bn (13.8% Cagr) and EPS of Rmb9.72 (13.2% Cagr) in 2025E.

Fig 37: ENN's gas sales forecast



Source: Company data, SWS Research

Fig 38: ENN's gross profit forecast



Source: Company data, SWS Research

Fig 39: IES market overview

Potential users	Number	Annual energy demand per user (GWh)	Total annual energy demand (TWh)	Corresponding gas demand (bcm)
Industrial parks				
- National	555	1,000	387	48
- Provincial	1,166	500	583	73
- Other	5,000	100	500	63
Other potential users				
- Airports	229	131	3	0
- Large hospitals	2,683	142	38	5
- High schools	2,596	69	18	2
- Hotels	3,163	139	44	6
- Shopping malls	4,700	70	33	4
Total		149	1,606	200

Source: Company data, SWS Research

Fig 40: Example of CHP project (based on our estimates)

	Price (Rmb/kWh)	Output per m³ (kWh)	Sales (Rmb)	Percentage
Power	0.6	4.0	2.4	64%
Steam (Rmb/kWh)	0.34	2.2	0.8	20%
Hot water (Rmb/kWh)	0.26	2.3	0.6	16%
Total energy			3.75	
Gas cost (Rmb/m³)			2.80	
Sales %			75%	
Dollar margin (Rmb)			0.95	

Source: Company data, SWS Research

Fig 41: Example of heating project (based on our estimates)

	Price (Rmb/kWh)	Output per m³ (kWh)	Sales (Rmb)	Percentage
Power	-	-	-	0%
Steam (Rmb/kWh)	0.34	9.0	3.1	82%
Hot water (Rmb/kWh)	-	-	-	0%
Total energy			3.1	
Unit cost (Rmb/m³)			2.80	

Sales %	91%
Dollar margin (Rmb)	0.29

Source: Company data, SWS Research

Fig 42: Example of cooling project (based on our estimates)

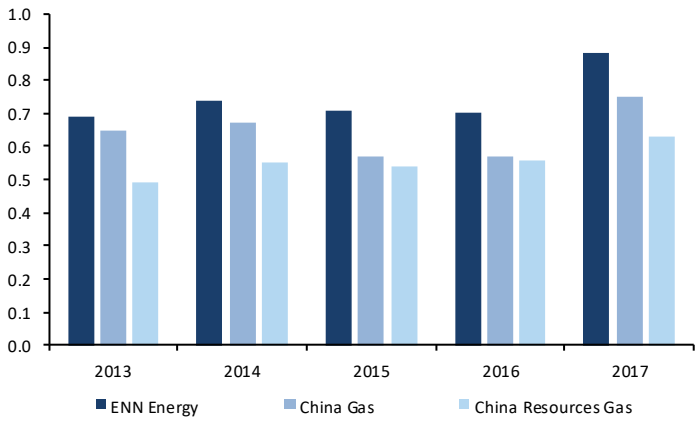
	Price (Rmb/kWh)	Output per m³ (kwh)	Sales (Rmb)	Percentage
Power	-	-	-	0%
Steam (Rmb/kWh)	-	-	-	0%
Cooling (Rmb/kWh)	0.25	12.0	3.0	80%
Total			3.00	
Unit cost (Rmb/m³)			2.80	
Sales %			93%	
Dollar margin (Rmb)			0.20	

Source: Company data, SWS Research

Strategic advantages

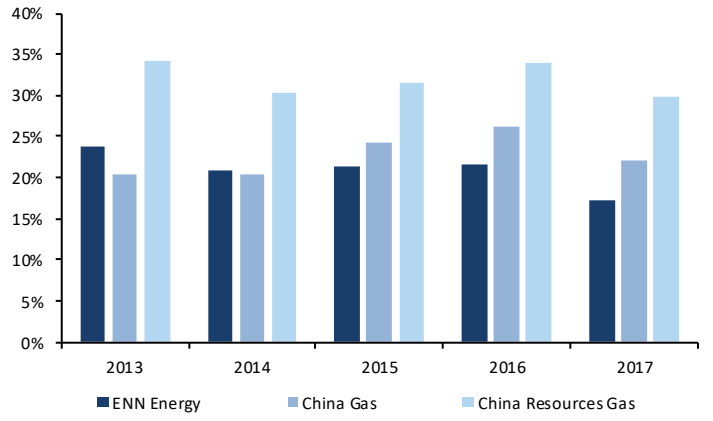
Hong Kong-listed gas distributors ENN Energy, China Gas, and China Resources Gas (CR Gas) follow different strategies. ENN focuses on volume-driven growth, especially from commercial and industrial users, willing to share the rising gas costs with end users in order to maintain long-term business relationships. As such, the company has the highest asset turnover among the three distributors. By contrast, China Gas capitalises on China's fast growing urbanisation to fuel its expansion. As such, China Gas' connection fee revenue, which is highly correlated with real estate sales, represented Rmb5.3bn in gross profit in end-FY17, vs Rmb3.7bn for ENN and Rmb4.0bn for CR Gas. As for the latter, it focuses more on project quality and profitability. As a result, CR Gas enjoys the highest gross margin (29.9%) among the three gas distributors.

Fig 43: Asset turnover comparison



Source: Annual report, SWS Research

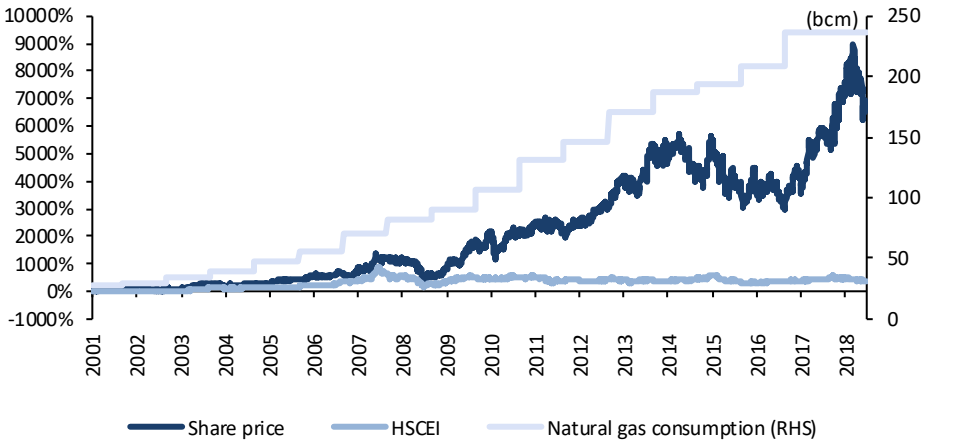
Fig 44: Gross margin comparison



Source: Annual report, SWS Research

We consider ENN's long-term focus as its main strategic advantage over competitors. Looking at the past, we note the company's share price usually grew in synch with its sales volume growth, while gas sales slowed down amid oil downturns. Given the company's lower sensitivity to oil prices, underpinned by its long-term business relationships with commercial and industrial clients as well as its future IES development, we believe ENN's sales volume growth will be more sustainable in the future, generating long-term value for the firm.

Fig 45: ENN's stock performance vs HSCEI



Source: Wind, SWS Research

Risk exposures

Policy changes

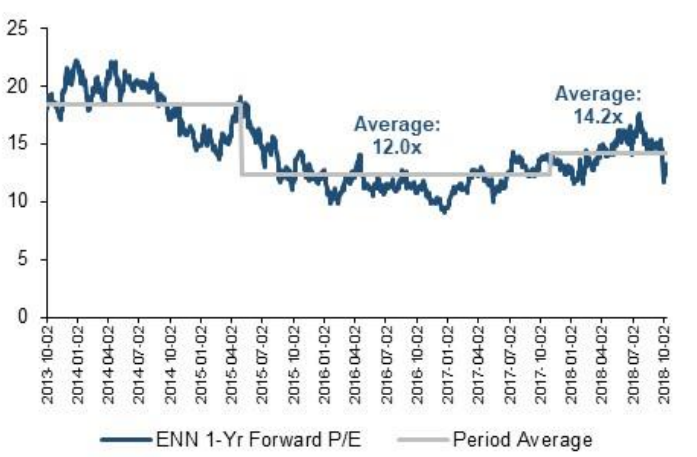
Following market rumours about a potential connection fee cut in 2020, Hong Kong-listed Chinese gas distributors' stocks slumped, as connection fees account for c.50% of their gross profit (ENN: 44%; CR Gas: 51%; China Gas: 46%). ENN's connection fees averaged Rmb2,775 in 2017, with 62.7% gross margin. However, we believe the impact of a connection fee cut on the company would be weaker than expected by the market. We ran a scenario analysis about the impact of various fee cuts on the firm's bottom line. According to our analysis, ENN's 20E EPS would remain at an acceptable level (forward PE < 12.0x), thanks to the increasing gross profit contribution from gas sales. In our model, we forecast ENN's average connection fee to decrease to Rmb2,300 in 20E, dragging down connection segment's gross profit from Rmb3.7bn in 18E to Rmb3.1bn in 20E.

Fig 46: Scenario analysis of the impact of connection fee cuts on ENN's EPS

Connection fee (Rmb)	20E EPS(Rmb)	20E PE (x)
Base	6.03	9.3
Base -200	5.63	10.0
Base -400	5.25	10.7
Base -500	5.08	11.1
Base -600	4.92	11.4
Base -700	4.76	11.8

Source: SWS Research

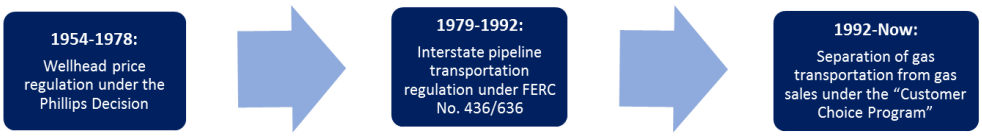
Fig 47: ENN's 1-year forward PE



Source: Bloomberg, SWS Research

Based on the US experience, we see the separation of gas transportation from gas sales as a long-term regulatory goal. However, it will be a lengthy process, coupled with numerous legal and economic challenges. Moreover, given the current tight supply in China and the potential negative impact on purchasing prices for end users, we do not expect Chinese regulators to implement such reform in the near future.

Fig 48: US natural gas regulation history



Source: SWS Research

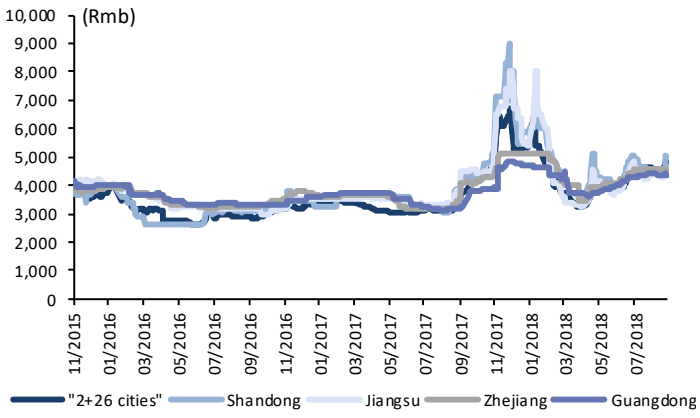
Margin pressure

We expect gas cost pressure to continue to rise in yearend 2018 for local distribution companies. We note gas demand remained strong during the 2018 non-heating season. The difference in natural gas apparent consumption between 1Q and 3Q narrowed from 7.2bcm in 2017 to 2.1bcm in 2018. As a result, gas prices remained strong in 3Q18. PetroChina (857:HK – Not rated) only recorded a slightly lower average gas selling price in 9M18 than in 1Q18 (-US$0.03/m ft^3, vs -US$0.05/m ft^3 between 9M17 and 3Q17). Moreover, LNG prices increased earlier than usual amid robust demand, reaching Rmb4,225/t in 3Q18 (+38.2% YoY). To lower the gas shortage risk during the 2019 heating season, oil majors further raised the price of piped gas for local distributors, aiming to shave peak demand in the winter. Given the released contract terms, we expect the price of piped gas for local distributors to be much higher in 2H18 than in 1H18. As such, we forecast ENN's piped gas cost to reach Rmb2.19/m^3 in 18E, vs Rmb2.12/m^3 in 1H18.

As gas selling prices are regulated by local governments, there is usually a lag between gas cost changes and adjusted gas selling prices. Furthermore, a number of cities limit the extent of upward adjustments for gas retail prices to protect end users. As such, we see the rising gas costs as likely to increase the pressure on gas distributors' dollar margin during the 2019 heating season. We have already noticed an impact on several gas distributors' 3Q18 results, such as Shenzhen Gas (601139:CH – BUY), whose 3Q18 EPS decreased 7.4% YoY. Despite ENN's access to cheaper LNG than some of its competitors', we remain cautious about the pressure exerted by increasing gas costs on the company's margins.

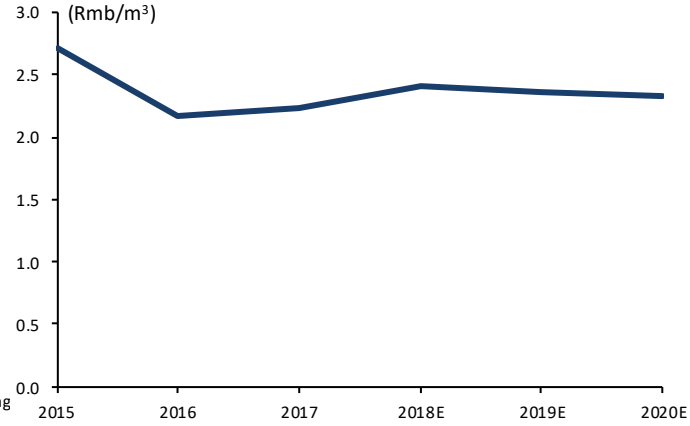
Due to the rising dollar margin pressure, the likelihood of weaker-than-expected 2018 results increases for local distributors. However, we expect their dollar margin to recover after 2018. Given expectations of downward pressure on oil prices in 2H19, amid the exploitation of US shale gas, we think LNG prices in Asia are unlikely to soar in coming years, and thus believe Chinese oil majors are unlikely to further raise their piped gas prices during the 2019 and 2020 heating seasons. Meanwhile, we expect ENN to continue to benefit from cheaper imported LNG, secured through long-term contracts.

Fig 49: LNG prices in different provinces



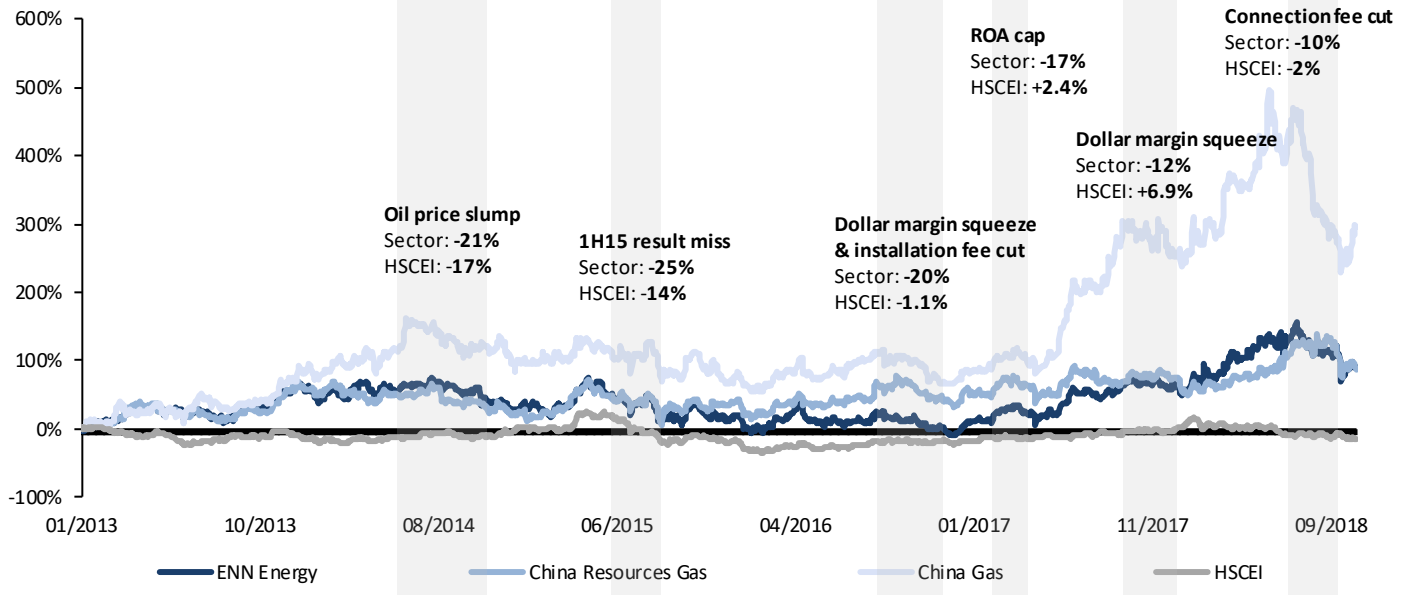
Source: Wind, SWS Research

Fig 50: ENN's average gas cost



Source: Annual report, SWS Research

Fig 51: The impact of historical shocks on the stock price of China's Hong Kong-listed local gas distributors

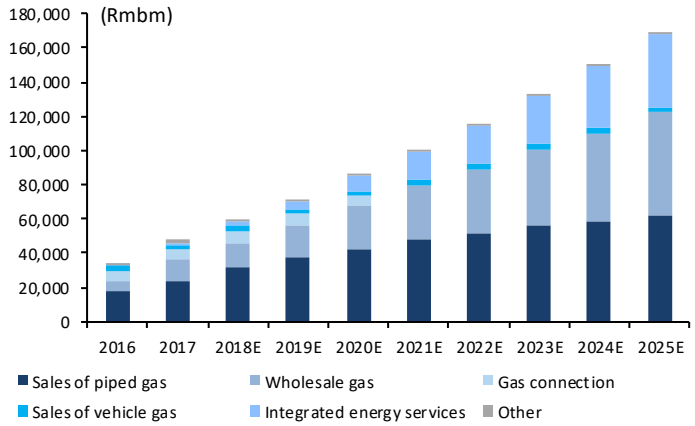


Source: Wind, SWS Research

Financial analysis

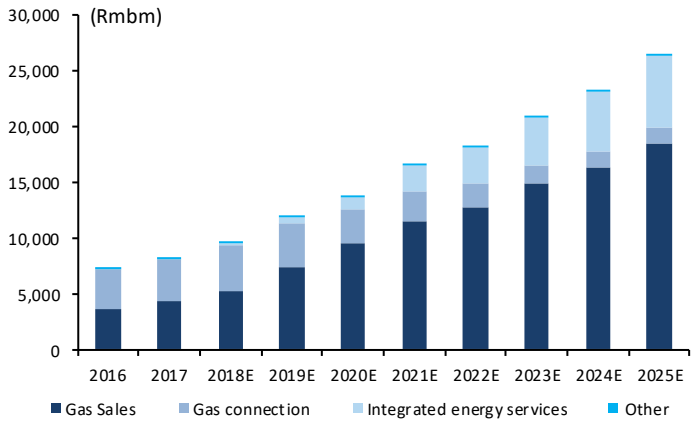
Driven by strong sales volume growth, amid increasing coal-to-gas conversions, we forecast ENN to record revenue of Rmb59.2bn in 18E (+23% YoY), Rmb71.6bn in 19E (+21% YoY), and Rmb87.0bn in 20E (+21% YoY), resulting in gross profit of Rmb9.7bn in 18E (+16.2% YoY), Rmb12.0bn in 19E (+23.6% YoY), and Rmb13.9bn in 20E (+15.9% YoY). We expect sales of piped gas to remain ENN's main business, accounting for 44% of total revenue in 18E, 52% in 19E, and 49% in 20E, with a gross profit Cagr of 29.4%. Given the firm's LNG supply chain advantages, we expect its wholesale gas business to grow at a 28.6% Cagr, accounting for 29.0% of total revenue in 20E, vs 24.6% in 18E. By contrast, we forecast connection fees' gross profit contribution to decrease from 45% in 17A to 22% in 20E, with segment gross margin down 6.4ppt between 18E and 20E. Given ENN's strategic focus on the IES business, for which we see promising growth potential, we expect IES revenue to increase rapidly (212% Cagr in 2018-20E), contributing 4.1% of total revenue in 18E, 6.3% in 19E, and 10.3% in 20E.

Fig 52: ENN's revenue breakdown



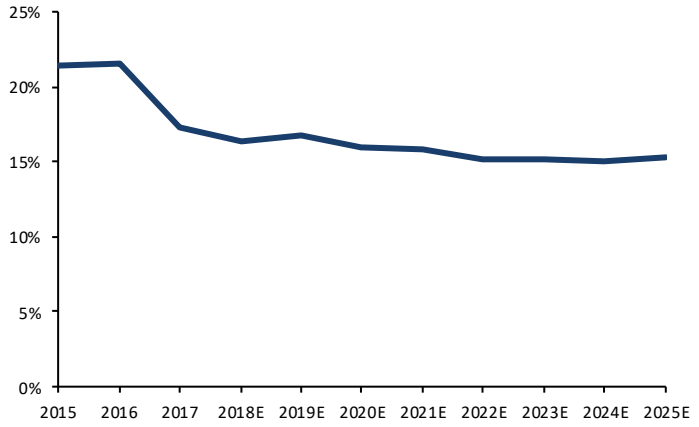
Source: Annual report, SWS Research

Fig 53: ENN's gross profit breakdown



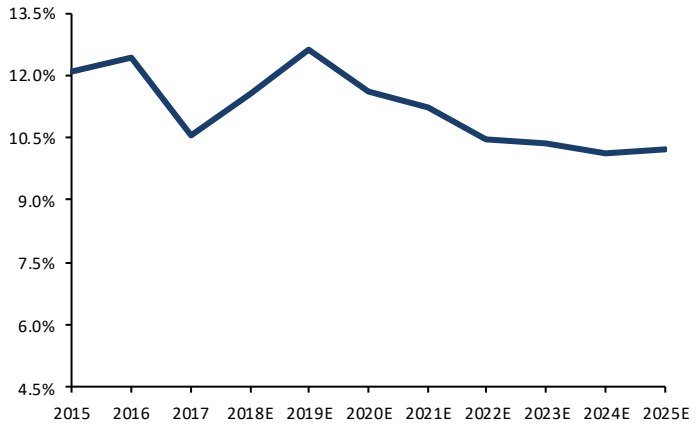
Source: Annual report, SWS Research

Fig 54: ENN's blended gross margin



Source: Annual report, SWS Research

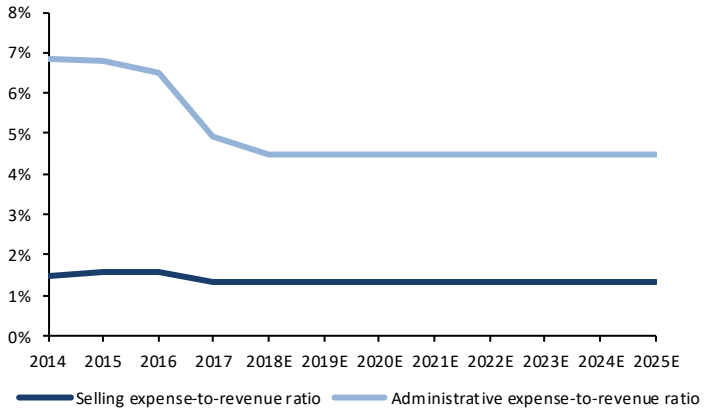
Fig 55: ENN's operating margin



Source: Annual report, SWS Research

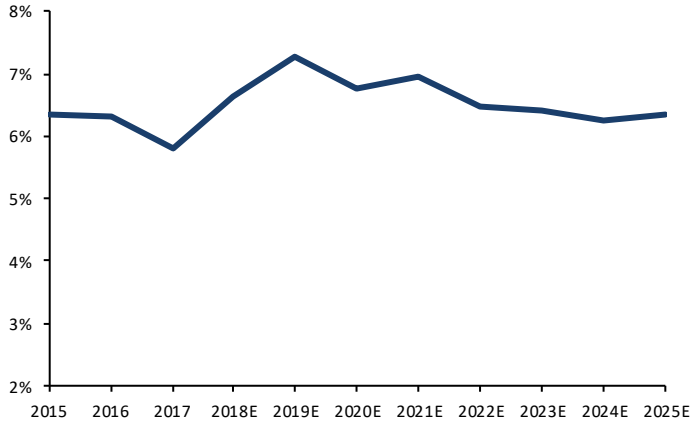
After focusing on expanding distribution to new city markets, we believe ENN will increase its focus on improving management of its existing coverage. We forecast ENN's administrative expense-to-revenue ratio to decline from 4.9% in 17A to 4.5% in coming years, and expect its selling expense ratio to stabilise at 1.3% in the long run. As for the bottom line, although we believe the potential connection fee cut would drag down net margin by 0.4ppt to 6.8% in 20E, we expect the firm's net margin to stabilise at 6.3% in the long term, on the back of the IES segment's rising contribution.

Fig 56: ENN's selling and administrative expense ratios



Source: Annual report, SWS Research

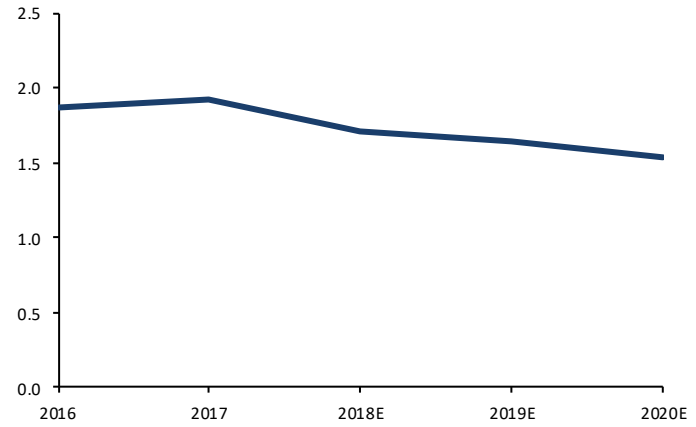
Fig 57: ENN's net margin



Source: Annual report, SWS Research

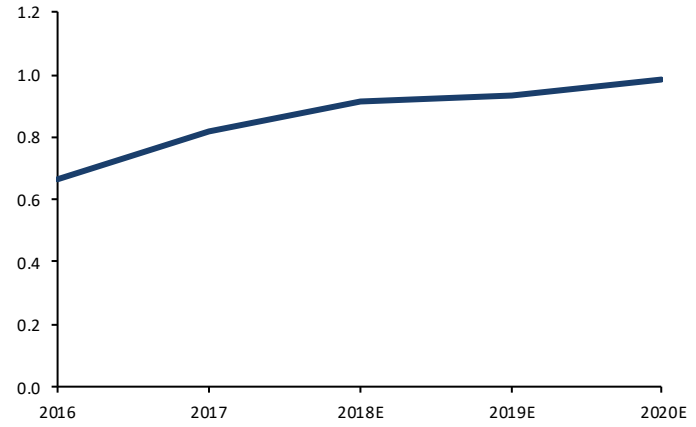
We note ENN has adopted a prudent approach to financial leverage, aiming to maintain a balanced risk-return profile. Based on its financing plans, we expect ENN's debt-to-equity ratio to gradually decrease, from 1.9 in 17A to 1.5 in 20E. Moreover, we expect the company's return on equity (ROE) to remain above 20% in 2018-20E, underpinned by increasing operational efficiency.

Fig 58: ENN's debt-to-equity ratio



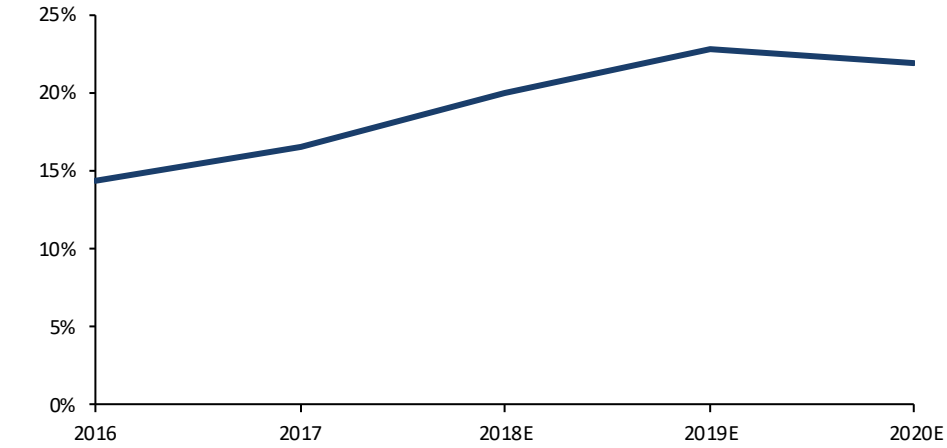
Source: Annual report, SWS Research

Fig 59: ENN's asset turnover ratio



Source: Annual report, SWS Research

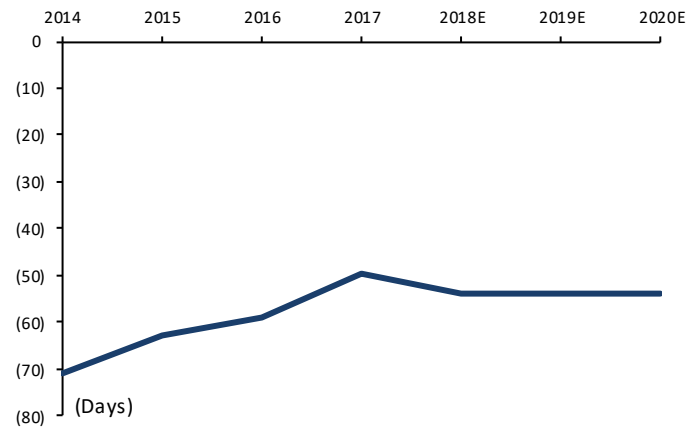
Fig 60: ENN's return on equity



Source: Annual report, SWS Research

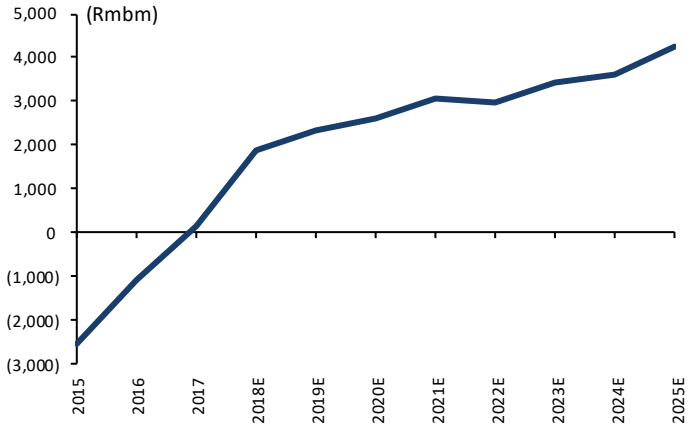
Local gas distributors usually enjoy a strong cash flow position, backed by customers' advance payments. We expect ENN's trade and bills payable to increase from Rmb11.2bn in 17A to Rmb20.6bn in 20E, amid the government's coal-to-gas conversion campaigns, thus maintaining a negative cash cycle. Given sustainable Capex growth, we expect ENN's free cash flow to maintain its rapid growth in 2018-25E.

Fig 61: ENN's cash cycle



Source: Annual report, SWS Research

Fig 62: ENN's free cash flow



Source: Annual report, SWS Research

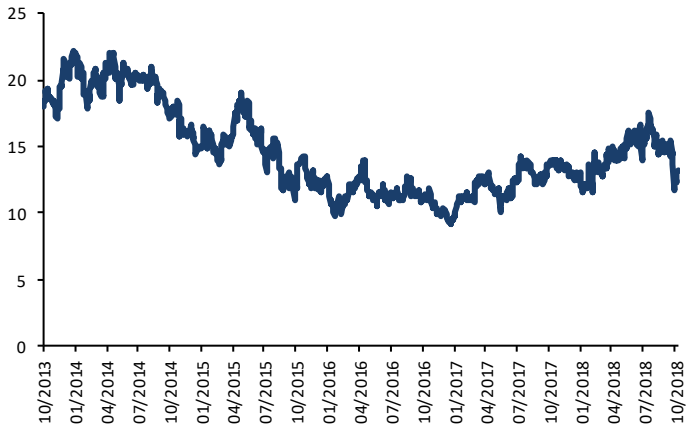
Valuation

We have adopted a relative valuation approach to estimate ENN's target price for two reasons. Firstly, China's natural gas consumption has continuously increased over the past decades, with sufficient supply to sustain long-term expansion. Given the difficulty to estimate the terminal gas sales growth rate for ENN, we think the free cash flow to the firm (FCFF) valuation method is unsuitable. Secondly, if we look back at the historical fluctuation of the firm's PE, PB, and EV/Ebitda ratios, we note that its valuation increased when gas consumption growth accelerated, and slumped during oil downturns. Given the cyclical nature of ENN's valuation, we believe it is more appropriate to adopt a relative valuation method. We chose the PE approach as we believe investors are more sensitive to the firm's bottom-line growth potential than its book value, amid the current booming natural gas market.

Given ENN's substantial growth potential, underpinned by rapid gas sales, we forecast diluted EPS of Rmb3.49 in 18E (+34.7% YoY), Rmb4.64 in 19E (+33.0% YoY), and Rmb5.23 in 20E (+12.7% YoY), vs Bloomberg consensus: Rmb3.84 in 18F (+48% YoY), Rmb4.50 in 19F (+17% YoY), and Rmb5.20 in 20F (+16% YoY). Meanwhile, we expect its dividend yield to reach 2% in 18E, given a 35% payout ratio. Our 18E diluted EPS forecast is lower than market consensus as we are concerned about a potential margin squeeze amid rising costs. However, we are positive on the company's long-term growth potential, underpinned by robust gas sales and the rapid development of its IES segment. Given the current global environment, we believe ENN's valuation is still attractive. Its PEG ratio is among the lowest in the industry. Given its current 1-year forward PE of 14.2x, we derive a target price of HK$79.05, representing 18.9x 18E PE and 14.2x 19E PE. With 14.8% upside, we initiate coverage of the company with an Outperform rating.

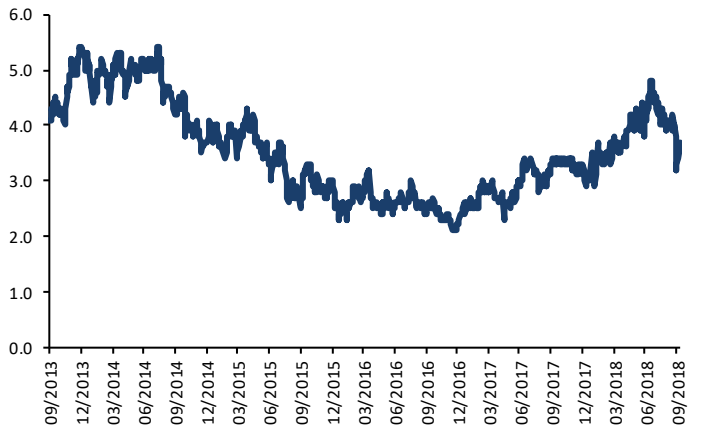
We believe the main risks are a potential short-term margin squeeze amid rising gas costs, larger-than-expected connection fee cuts, and slower-than-expected gas sales growth. Meanwhile, we identify two main catalysts for the stock: faster-than-expected IES development and faster-than-expected gas sales growth. We believe the market underestimates the negative impact of rising gas costs on ENN in the short term. However, we are optimistic about the potential of the company's IES business in the long run and, as a result, we expect ENN to outperform its peers.

Fig 63: ENN's 1-year forward PE



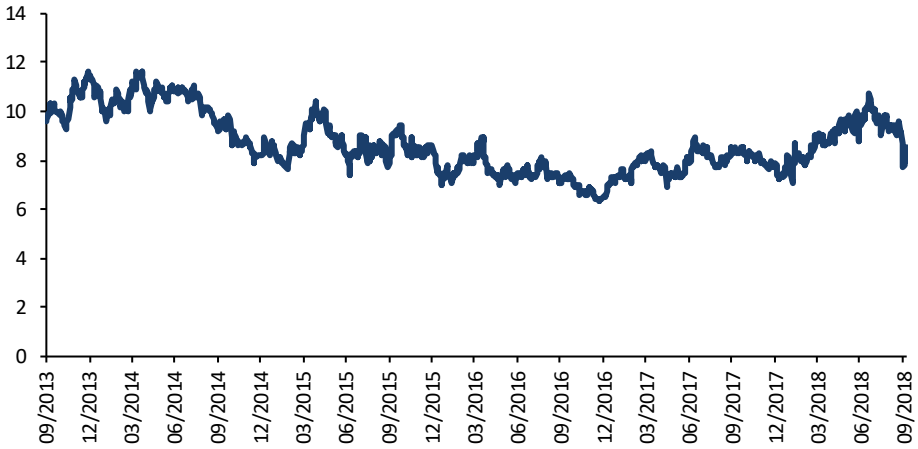
Source: Bloomberg, SWS Research

Fig 64: ENN's 1-year forward PB



Source: Bloomberg, SWS Research

Fig 65: ENN's 1-year forward EV/Ebitda



Source: Bloomberg, SWS Research

Fig 66: Peer comparison table

Ticker	Name	Market cap (HK$m)	EV (HK$m)	1-year forward PB	2-year forward PB	1-year forward PE	2-year forward PE	1-year forward EV/Ebitda	2-year forward EV/Ebitda	1-year forward ROE	2-year forward ROE	PEG	1-year dividend yield
2688 HK Equity	ENN ENERGY HOLDINGS	74,165.3	91,195.2	3.1	2.7	15.1	12.8	9.5	8.2	20.8%	20.9%	0.87	2.2%
9531 JP Equity	TOKYO GAS	87,253.5	128,516.4	1.1	1.0	14.1	15.6	7.0	6.5	7.5%	6.6%	-	2.0%
ATO US Equity	ATMOS ENERGY CORP	84,386.4	110,217.4	2.3	2.1	24.5	22.6	13.1	12.1	9.2%	9.2%	3.69	2.0%
1193 HK Equity	CHINA RESOURCES GAS GROUP	69,945.2	78,157.0	2.7	2.4	15.3	13.7	8.6	7.7	17.8%	17.4%	4.18	2.2%
UGI US Equity	UGI CORP	75,704.6	110,825.8	2.7	2.7	20.2	19.3	9.4	8.9	13.5%	14.0%	-	1.8%
GAIL IN Equity	GAIL INDIA	80,257.6	78,926.4	1.7	1.6	12.4	11.2	7.8	7.1	13.5%	13.8%	-	2.9%
PTG MK Equity	PETRONAS GAS	66,394.6	67,292.2	2.7	2.6	18.5	18.5	10.2	10.1	14.5%	14.0%	4.63	3.8%
APA AU Equity	APA GROUP	64,661.2	120,067.7	3.2	3.2	39.8	33.7	13.5	12.8	8.0%	9.7%	6.52	4.8%
9532 JP Equity	OSAKA GAS	63,531.5	87,415.0	0.9	0.9	18.8	17.0	7.9	7.5	4.7%	5.1%	-	2.3%
GAS VN Equity	PETROVIETNAM GAS JOINT STOCK	77,795.9	70,856.6	5.2	4.7	20.6	19.2	12.4	11.3	25.3%	24.8%	-	4.1%
IENOVA* MM Equity	INFRAESTRUCTURA ENERGETICA N	56,183.6	78,078.9	1.6	1.5	17.2	15.8	12.5	11.0	9.0%	9.4%	3.46	2.5%
EEB CB Equity	GRUPO ENERGIA BOGOTA SA ESP	48,202.8	68,662.9	1.7	1.6	13.3	12.6	9.5	8.7	12.5%	12.6%	-	6.3%
RUI FP Equity	RUBIS	41,262.8	47,395.2	2.1	1.9	16.3	15.0	9.8	9.2	12.7%	12.9%	1.76	3.3%
ALA CN Equity	ALTAGAS LTD	33,964.8	60,566.1	0.7	0.9	23.6	15.7	9.8	7.0	3.2%	5.7%	-	10.4%
IG IM Equity	ITALGAS SPA	33,414.2	66,661.3	2.8	2.5	12.0	11.4	8.8	8.6	23.5%	22.2%	2.01	4.9%
036460 KS Equity	KOREA GAS CORPORATION	38,294.8	196,594.2	0.7	0.6	9.3	9.0	9.3	9.0	7.1%	6.9%	3.36	2.2%
OGS US Equity	ONE GAS INC	34,482.8	45,201.4	2.2	2.1	26.0	24.8	13.2	12.4	8.3%	8.4%	4.72	2.1%
SWX US Equity	SOUTHWEST GAS HOLDINGS INC	30,993.4	47,132.9	2.0	1.9	21.7	20.7	9.8	9.2	9.3%	9.2%	3.88	2.5%
SR US Equity	SPIRE INC	29,564.0	48,164.2	1.7	1.6	20.1	20.2	13.3	12.0	8.2%	8.1%	6.33	3.0%
APU US Equity	AMERIGAS PARTNERS-LP	29,511.2	51,327.5	8.1	11.2	27.8	15.8	10.7	9.9	29.0%	71.0%	2.06	9.4%

Source: Bloomberg, SWS Research

Appendix

Appendix 1: Senior management

Name	Position	Summary
Wang Yusuo	Chairman and executive director	Wang has over 29 years of experience in gas investment and management in China. He holds a PhD in management from Tianjin University of Finance and Economics. Wang is currently a committee member of the 12th Chinese People's Political Consultative Conference.
Cheng Yip Sang	Executive director and vice chairman	Cheung graduated from The Chinese People's Armed Police Force Academy in 1990 with a bachelor's degree in legal studies, and received an executive master's degree in business administration from Peking University in 2006. Cheung has extensive experience in corporate governance and market integration in the public utilities sector. He also has exposure to research and development in the gas industry.
Han Jishen	Executive director and president	Han graduated from Baoding Staff University in 1990, and obtained an executive master's degree in business administration from Nanyang Technological University in Singapore in 2007. He has over 22 years of experience in the gas industry in China. Han has worked as a senior manager within the group for over 17 years, and has extensive experience in marketing research, business development, and business management in the gas industry.
Wang Dongzhi	Executive director	Wang graduated from Beijing Chemical University in 1991 with a bachelor's degree in engineering management. Wang also obtained a bachelor's degree in economics in 1996, a certified accountant qualification in 2000, and a master's degree in business management from Tianjin University in 2003. Prior to joining the Group in 2000, Wang was in charge of the finance department in a Sino-foreign joint venture.

Source: SWS Research

Appendix 2: China's natural gas supply

	2014	2015	2016	2017	2018E	2019E	2020E
Natural gas supply (bcm)	197.1	201.3	217.9	246.1	280.2	304.1	331.5
YoY growth		2%	8%	13%	14%	9%	9%
Domestic natural gas production (bcm)	132.9	135.0	137.1	148.7	158.6	171.5	185.2
YoY growth		2%	2%	8%	7%	8%	8%
- Conventional	85.0	121.9	120.2	130.7	137.0	143.0	151.2
- CNPC Changqing				36.9	38.0	40.0	42.0
- CNPC Tarim				21.2	23.0	24.0	25.2
- CNPC Southeastern				17.0	20.0	21.0	24.0
- Other				55.6	56.0	58.0	60.0
- Non-conventional	47.9	13.1	16.9	18.0	21.6	28.5	34.0
- Shale gas		4.5	7.9	9.0	12.1	17.5	22.0
- CNPC					5.1	9.5	12.0
- Sinopec					7.0	8.0	10.0
- Coal gas		8.6	9.0	9.0	9.5	11.0	12.0
- Surface extraction		3.8	4.0	4.0	4.5	5.6	6.0
- Underground extraction		4.8	5.0	5.0	5.0	5.4	6.0
Imported natural gas (bcm)	64.2	66.3	80.8	97.4	121.6	132.6	146.3
YoY growth		6%	17%	28%	20%	15%	38%
- Piped gas	34.4	36.9	41.8	40.4	42.0	46.2	47.2
- From Central Asia (55bcm annual capacity)	31.1	32.6	37.5	36.6	37.0	42.0	43.0
- From Russia (38bcm annual capacity)							4.0
- From Myanmar (12bcm annual capacity)	3.3	4.3	4.3	3.8	4.0	4.2	4.2
- Imported LNG	29.7	29.4	38.9	57.0	79.6	86.4	99.1
- LNG terminal receiving capacity	84.8	84.8	87.8	91.9	113.8	115.3	132.2
- Utilisation rate	35%	35%	44%	62%	70%	75%	75%

Source: SWS Research

Appendix 3: China's natural gas demand

(bcm)	2009	2010	2011	2012	2013	2014	2015	2016	2017E	2020E
Industrial manufacturing	44.4	50.2	64.6	74.6	87.2	94.9	88.2	92.4	102.6	168.7
2015-2020E additions:										80.5
- Coal-fuelled boiler conversions										60.5
Substituted coal-fuelled boilers (mt/h)										0.19
Average utilisation hours per annum										4000
Natural gas consumption per t (m^3)										80
- Oil-fuelled boiler conversions										20.0
Electric & heat power generation	12.8	18.1	21.6	22.5	24.4	26.3	34.4	40.8	48.9	69.3
- Installed capacity (GW)						57	66	70	85	110
- Average utilisation hours per annum						2340	2528	2686	2742	3000

- Natural gas consumption per KWh						0.2	0.21	0.22	0.21	0.21
Transport, storage, and post	9.1	10.7	13.8	15.5	17.6	21.4	23.8	25.5	25.7	31.7
- Gas-fuelled vehicles (m)							4.6	5.2	6.1	6.6
- Average gas usage per vehicle per annum (m^3)							5171	4909	4232	4800
Residential consumption	17.8	22.7	26.4	28.8	32.3	34.3	36.0	38.0	44.0	56.4
- Gas population (bn)	0.16	0.19	0.21	0.24	0.27	0.30	0.33	0.36	0.38	0.47
- Consumption per capita (m^3)	111.4	120.3	123.3	119.4	118.1	113.7	108.1	105.6	115.8	120.0
Other	5.4	6.4	7.6	8.3	9.0	10.1	10.9	11.0	15.9	25.0
YoY growth		17%	20%	9%	9%	11%	8%	1%	44%	
Total	89.5	108.0	134.1	149.7	170.5	186.9	193.2	207.7	237.2	351.0
YoY growth		20.7%	24.1%	11.6%	13.9%	9.6%	3.4%	7.5%	14.2%	14.0%

Source: SWS Research

Consolidated Income Statement

Rmbm	2016	2017	2018E	2019E	2020E
Revenue	34,103	48,269	59,230	71,615	86,989
Cost of Sales	(26,753)	(39,930)	(49,542)	(59,639)	(73,114)
Gross Profit	7,350	8,339	9,688	11,975	13,875
Other Income	(360)	(219)	549	1,218	1,291
Selling expenses	(534)	(635)	(740)	(931)	(1,131)
Adminstrative expenses	(2,223)	(2,377)	(2,636)	(3,223)	(3,915)
EBITDA	5,297	6,226	8,147	10,531	11,893
EBIT	4,233	5,108	6,861	9,040	10,121
P/I of Associate/JV	571	634	892	1,175	1,316
Finance Costs	(609)	(552)	(567)	(674)	(690)
Profit before tax	**4,195**	**5,190**	**7,187**	**9,541**	**10,747**
Income tax expense	(1,307)	(1,517)	(2,012)	(2,672)	(3,009)
Minority interests	(737)	(871)	(1,242)	(1,649)	(1,857)
Profit for the year	**2,151**	**2,802**	**3,933**	**5,221**	**5,881**

Source: Company data, SWS Research

Consolidated Cash Flow Statement

Rmbm	2016	2017	2018E	2019E	2020E
Profit before taxation	4,195	5,190	7,187	9,541	10,747
Plus：Depr. and amortisation	1,064	1,118	1,286	1,491	1,772
Finance cost	0	0	0	0	0
Losses from investments	297	39	239	74	(785)
Change in working capital	751	767	1,802	1,822	2,615
Tax and others	(1,452)	(1,471)	(2,012)	(2,672)	(3,009)
CF from operating activities	5,366	6,093	8,502	10,257	11,339
Capex	(3,049)	(4,527)	(6,068)	(7,337)	(8,878)
Other CF from investing activities	0	0	0	0	0
CF from investing activities	(3,840)	(4,532)	(6,068)	(7,337)	(8,878)
Net change in liabilities	9,888	9,789	(1,895)	3,000	506
Dividend and interest paid	(1,228)	(1,443)	(1,376)	(1,827)	(2,058)
Other CF from financing activities	0	0	0	0	0
CF from financing activities	(1,736)	(708)	(3,271)	1,173	(1,552)
Net cash flow	(192)	812	(838)	4,093	908
FCFF	(38)	634	1,869	2,345	2,620
FCFE	3,220	2,036	1,869	2,345	2,620

Source: Company data, SWS Research

Consolidated Balance Sheet

Rmbm	2016	2017	2018E	2019E	2020E
Current Assets	**13,840**	**17,626**	**18,403**	**23,930**	**27,503**
Bank balances and cash	7,515	8,213	7,377	11,470	12,378
Trade and other receivables	4,423	6,068	6,978	8,437	10,248
Inventories	515	744	814	980	1,202
Other current assets	1,387	2,601	3,234	3,043	3,675
Non-current Assets	**37,541**	**41,589**	**46,536**	**53,008**	**60,900**
Long-term investment	13,569	14,226	14,178	14,527	14,958
PP&E	22,297	25,490	30,010	35,561	42,334
Intangible and other assets	1,675	1,873	2,349	2,919	3,607
Total Assets	**51,381**	**59,215**	**64,940**	**76,937**	**88,403**
Current Liabilities	**18,341**	**25,605**	**27,148**	**34,105**	**39,388**
Borrowings	4,644	8,368	6,496	9,496	9,500
Trade and other payables	12,751	15,952	19,409	23,366	28,645
Other current liabilities	946	1,285	1,243	1,243	1,243
Non-current Liabilities	**15,186**	**13,393**	**13,776**	**13,776**	**14,278**
Total Liabilities	**33,527**	**38,998**	**40,924**	**47,881**	**53,666**
Shareholder Equity	14,966	16,952	19,508	22,902	26,724
Share Capital	112	112	112	112	112
Reserves	14,854	16,840	19,396	22,790	26,612
Minority Interests	2,888	3,265	4,507	6,156	8,013
Total Liabilities and equity	**51,381**	**59,215**	**64,940**	**76,937**	**88,403**

Source: Company data, SWS Research

Key Financial Ratios

	2016	2017	2018E	2019E	2020E
Ratios per share (Rmbm)					
Earnings per share	1.99	2.59	3.49	4.64	5.23
Diluted EPS	1.82	2.59	3.49	4.64	5.23
Operating CF per share	4.96	5.63	7.55	9.11	10.08
Dividend per share	0.72	0.90	1.22	1.62	1.83
Net assets per share	15.66	15.67	17.33	20.35	23.75
Key Operating Ratios (%)					
ROIC	7.06	8.39	11.12	13.53	14.33
ROE	14.37	16.53	20.16	22.80	22.01
Gross profit margin	21.55	17.28	16.36	16.72	15.95
Ebitda Margin	15.53	12.90	13.76	14.71	13.67
Ebit Margin	12.41	10.58	11.58	12.62	11.63
Growth rate of Revenue(YoY)	6.36	41.54	22.71	20.91	21.47
Growth rate of Profit(YoY)	5.65	30.26	40.35	32.76	12.64
Debt-to-asset ratio	65.25	65.86	63.02	62.23	60.71
Turnover rate of net assets	2.28	2.85	3.04	3.13	3.26
Turnover rate of total assets	0.66	0.82	0.91	0.93	0.98
Effective tax rate (%)	31.16	29.23	28.00	28.00	28.00
Dividend yield (%)	2.19	1.89	1.92	2.55	2.87
Valuation Ratios (x)					
PE	28.9	22.2	16.4	12.4	11.0
PB	4.1	3.7	3.3	2.8	2.4
EV/EBITDA	12.2	10.4	7.9	6.1	5.4

Source: Company data, SWS Research

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