China Alternative Energy Sector

Prelude to a Subsidy-Free Era

Feb 26, 2019

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ABC INTERNATIONAL
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China's Alternative Energy Sector
Prelude to a subsidy-free era

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Sector Report
Feb 26, 2019
NEUTRAL

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Power output jumped 19%/20% YoY for China's nuclear/wind energy in 2018. According to China Electricity Council (CEC), by end-2018, China reported 19%/20% YoY growth in nuclear/wind power output, suggesting robust development in alternative energy continues. The country is a step closer to fulfilling the government's long-term target of shifting to renewable energy.

Subsidy-free projects urge wind power to be competitive. National Energy Administration (NEA) issued a new policy on Jan 10, 2019 to encourage construction of subsidy-free energy projects nationwide. We believe these projects would serve as a pilot to evaluate if a subsidy-free policy can be applied to the renewable energy sector as a whole (wind and solar power are currently receiving subsidies). Wind power operators would have to further reduce generation cost to survive; nuclear power operators, however, are not impacted since no subsidies have been provided previously.

We believe China's nuclear power output would expand at 14% CAGR in 2018-20E. Given the high utilization hour and prioritized dispatch to the power grid for nuclear power, we believe both power generation and capacity growth would be robust in coming years.

Wind power: survival of the "cheapest". We believe the subsidy-free projects would force operators to reduce operating cost. Industry players with lower operating cost would have a better chance of outperforming.

NEUTRAL sector outlook; prefer Longyuan and CGN. We like **Longyuan Power (916 HK)** for its lower net gearing ratio, higher utilization hour and unit operating profit, as well as serve as cash cow in near future. We also prefer **CGN Power (1816 HK)** for its leading status in the nuclear industry and quality assets.

Risks. 1) Revenue risk due to wind tariff subsidy cut; 2) Decreased power demand may hinder alternative energy development; 3) Wind power curtailment may worsen and reduce utilization hour; 4) Safety issues related to nuclear power; 5) High initial investment for nuclear power may spur net gearing ratio

Key Data

Avg.19E P/E (x)	6.92
Avg.19E P/B (x)	0.75
Avg.19E Dividend Yield (%)	3.15

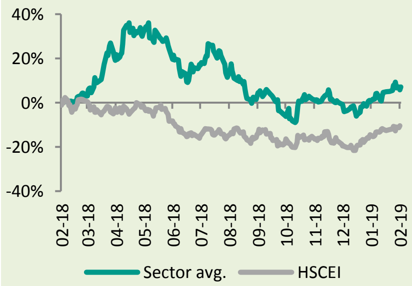
Source(s): Bloomberg, ABCI Securities

Sector Performance

	Absolute	Relative*
1-mth	3.85%	(2.23%)
3-mth	5.89%	(2.57%)
6-mth	(1.73%)	(5.67%)

*Relative to HSCEI
Source(s): Bloomberg, ABCI Securities

1-Year sector performance (%)



Source(s): Bloomberg, ABCI Securities

Sector Valuation Summary (data as of Feb 25, 2019)

Company	Ticker	Rating	TP (HK$)	FY19E P/E(x)	FY20E P/E (x)	FY19E P/B (x)	FY20E P/B (x)	FY19E Yield(%)	FY20E Yield(%)
Longyuan Power	916	BUY	7.50	7.8	7.0	0.8	0.7	2.6	2.9
CGN Power	1816	BUY	2.50	8.4	7.2	1.0	0.9	4.0	4.6
Huaneng Renewables	958	HOLD	2.70	5.6	5.2	0.7	0.6	2.7	2.9
Datang Renewable	1798	HOLD	1.10	6.0	5.7	0.5	0.5	3.4	3.5

Source(s): Bloomberg, ABCI Securities estimates

Alternative energy: Room for growth is still ample

Power generation of nuclear, wind, and solar recorded a remarkable increase in China in 2018. The alternative energy industry will continue to evolve in the next decade, with the development shifting from a rapid and extensive mode to one that emphasizes on economy and efficiency. The government's promotion of subsidy-free projects targeting at the wind and solar power segments aims to enhance competitiveness of these operators.

Contribution of alternative energy to China's overall energy output is still low. Nuclear, wind and solar accounted for 6%, 7% and 2% of the overall energy output in 2018; in contrast, alternative energy took up about more than 40% of total energy output in advanced countries such as Europe and the US.

Nuclear power: Robust capacity and output growth, but rising debt is a concern

China's nuclear power output expanded by 19%YoY growth in 2018

According to China Electricity Council (CEC), by end-2018, China reported a 19%YoY growth in nuclear power output, the third highest among all energy source output (top two are solar [+ 51% YoY] and wind power [+20% YoY]). Nuclear power output expanded quickly in the past few years (21% CAGR in 2013-18), and we estimate mid-to-high teens YoY growth can be expected in the next few years.

Nuclear power output remains low in overall energy structure

We believe China's switch to renewables (e.g. wind, solar, and nuclear) will continue. Nuclear power accounted for only 6% to China's overall power output in 2018, which is far lower than the ~30% among developed countries. We believe the government would construct more nuclear power plants.

Subsidy-free projects - limited impact on nuclear power industry

We believe nuclear power would be China's major alternative energy source in the future due to its clean nature (zero greenhouse gas emission, low production cost, and high efficiency). Average production cost of nuclear power is ~RMB 0.31/kWh ex. VAT, close to that of coal-fired power (RMB0.30/kWh ex. VAT). Due to its low cost, nuclear power does not receive any feed-in tariff subsidy, thus the subsidy-free projects will limited impact on the nuclear power industry.

China's nuclear power capacity and power output will expand at 14% CAGR in 2018-20E.

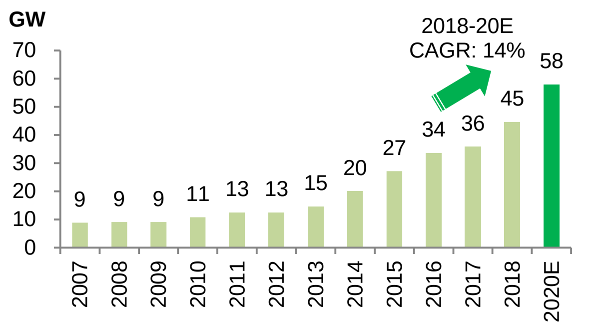
We believe China's nuclear power capacity would continue to expand swiftly due to its low contribution to the overall power output. According to China's "Strategic Action Plan of Energy Development (2014-20)" (The Plan) announced in June 2014, the government targets a nuclear power capacity of 58GW in 2020, representing a 30% jump from 2018 or a 2-year CAGR of 14% from 45GW.

Driven by the growth in capacity, nuclear power output would expand. Together with the high utilization hour (usually ~ 7,000hr; much higher than 5,000hr for coal-fired, 2,000hr for wind and 1,500hr for solar) and priority dispatch to the power grid, we believe nuclear power output would expand at 14% CAGR in 2018-20E.

Key concern: Heavy initial investment means heavy debts

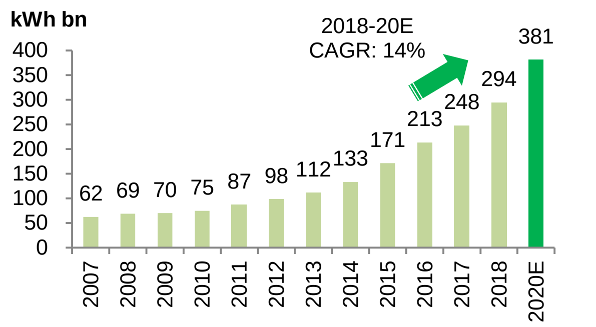
Heavy initial investment remains the major overhang of nuclear development. Average unit investment of nuclear power is ~RMB 17/W (3rd generation reactor), much higher than RMB 8/W for wind and RMB 4/W for coal. The heavy initial investment is mainly due to costs of feasible study, safety construction, nuclear power technology development, etc. Nuclear operators usually have a high net gearing ratio - CGN Power (1816 HK) was at 177% by end-1H18 while China National Nuclear Power (601985 CH) at 229% by end-1H18. A higher net gearing ratio usually implies higher finance cost and triggers concerns of funding activities, such as share placement, that may affect the interest of existing shareholders.

Exhibit 1: China's nuclear power capacity would continue to grow strongly



Source(s): NEA, CEC, ABCI Securities estimates

Exhibit 2: China's nuclear power output would expand at 14% CAGR in 2018-20E



Source(s): Bloomberg, ABCI Securities estimates

Wind power: Survival for the "cheapest"

In our view, the pilot subsidy projects announced by National Energy Administration (NEA) would help evaluate the feasibility of removing the subsidies for renewable energy (including wind and solar) in the future. Renewable energy operators will be forced to reduce operating cost to maintain profitability.

Subsidy-free projects: Prelude to a subsidy-free era tariff era

NEA announced on Jan 10, 2019 that it would encourage the construction of subsidy-free projects for wind and solar power. Several key supportive policies have been proposed to support these projects.

- **Reduce unreasonable fee:** local governments would help reduce land cost and other unnecessary costs for these renewable operators.
- **Green certificate:** subsidy-free projects would obtain the Green certificate in order to expand income sources
- **Grid companies would help reduce curtailment:** grid companies would help dispatch power generated from these projects and reduce curtailment to support income for these projects.
- **Financial market support:** financial enterprises would issue more creative products to help operators raise fund.

We believe these subsidy-free projects are a prelude to the eventual cancellation of subsidies to alternative energy sector.

China's wind power output expanded by 20%YoY in 2018

According to CEC, China wind power output 20%YoY in 2018, ranking second among all energy sources in China (solar power at 51%YoY). China wind power output increased strongly at 40% CAGR in 2008-18.

National utilization hour would maintain at the 2,000 level going forward

China's wind power utilization hour has been trending up since 2015. According to CEC, wind power utilization hour was 2,095 in 2018, 13% higher than 1,857 in 2017. We believe such improvement is partially a result of the government's effort to reduce curtailment rate. We expect utilization hour to stay high at 2,000 in the long run.

Wind power operators would continue undergoing deleveraging

The renewable energy sector will continue to undergo deleveraging. Companies would need to rely on their operating cash flow instead of borrowings for expansion. We forecast net gearing of the renewable energy companies will continue to decline in the next few years, but the growth of power output should not be affected if proper cost control is in place.

Offshore capacity: a rising trend

China's key wind power resources are located in inland areas (e.g. Inner Mongolia, northwest region); while the key demand for wind power come from the coastal regions (e.g. Shanghai, Guangdong, etc.). Poor capability to transmit large amount of wind power from distant regions is the key reason for power curtailment in early years. Construction of offshore wind power capacity can be a solution to the power curtailment issue because:

- **Close proximity to power demand regions reduces the need for distant transfer.** In China, key power demand regions are located in coastal regions such as Shanghai, Guangdong, Zhejiang, etc. Offshore wind power capacity (e.g. wind farms constructed in bodies of water such as the sea) would reduce power curtailment by eliminating the need for long-distance transmission.
- **Higher wind speed suggests higher utilization hour.** Wind is affected by the geographical landscape features such as mountains and forests, which slow down the speed and result in

energy loss. Offshore facilities usually are able to harvest wind resources better due to the lack of geographical obstruction, which in turn supports utilization hour.

- **Greater unit size indicates lower all-in unit cost:** The size of onshore wind turbine is limited by transportation capability (e.g. the size of trucks and roads); average size is restricted at ~ 2.5MW per turbine. However, due to the greater transportation capability offshore (ships can transport larger turbines), average size of offshore turbine can reach 5MW. The greater turbine would help lower the all-in unit cost of capacity construction.

- **Key concern: higher maintenance cost.** Offshore wind facilities face issues such as salt spray corrosion of sea wind, typhoons, sea ice collision, etc. Therefore, maintenance effort and cost would be higher than the onshore ones.

Winners would outperform

We believe competition in the wind power industry would intensify further when subsidy is eventually cancelled in China. We believe wind power operators with the following characteristics would outperform.

- **Lower net gearing ratio and finance cost.** In the past decade, wind power operators have been ramping up capacity. However, rapid expansion has driven up net gearing. We believe operators with lower finance costs would have more buffers against the subsidy cut.

- **Higher utilization hour** is critical to wind power operators - the higher the figure, the lower the unit operating cost.

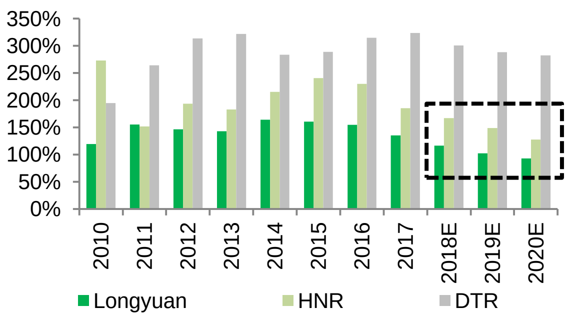
- **Lower unit operating cost.** The government's ultimate target is to remove all subsidies for wind and solar power industries. Wind power operators with a lower unit operating cost or higher unit operating profit would have fewer difficulties in transiting to the zero-subsidy era.

- **Better locations.** Capacity located in affluent regions with higher power demand would help reduce both power curtailment (no need to distant transmission) and default risk.

What to do with stocks? Pick Longyuan Power (916 HK)

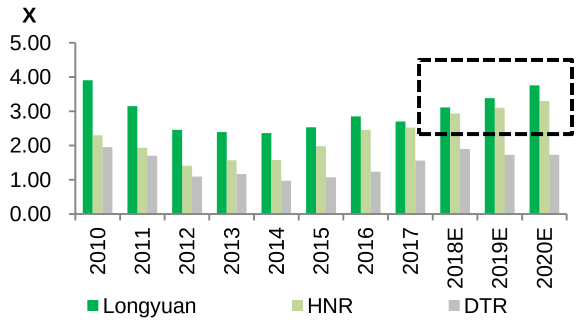
We believe **Longyuan Power (Longyuan, 916 HK)** would be the winner in the upcoming zero-subsidy era due to its lowest net gearing ratio, higher utilization hour, higher overall tariff and unit operating profit. We like **Huaneng Renewables (HNR, 958 HK)** for its high profitability (highest unit operating profit), yet its solar power business would be a drag to its business. For **Datang Renewable (DTR, 1798 HK)**, we believe its high net gearing ratio would restrain its future development.

Exhibit 3: Net gearing ratio: Longyuan continue to be the lowest among peers



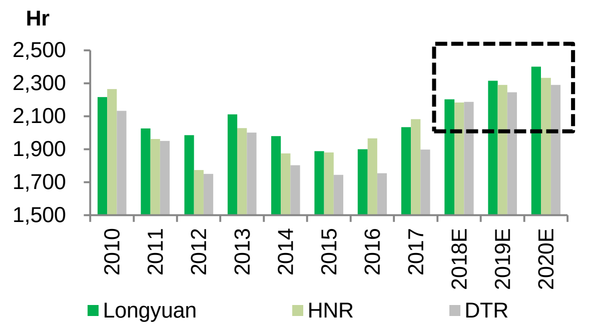
Source(s): Company data, ABCI Securities estimates

Exhibit 4: Interest coverage ratio: Longyuan has the highest figure suggests lower finance cost burden



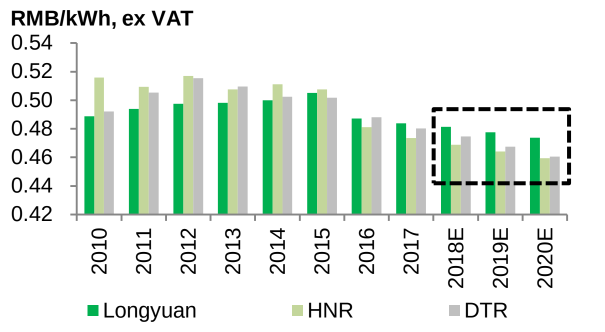
Source(s): Company data, ABCI Securities estimates

Exhibit 5: Utilization hour: Longyuan is likely to have the highest utilization hour among peers



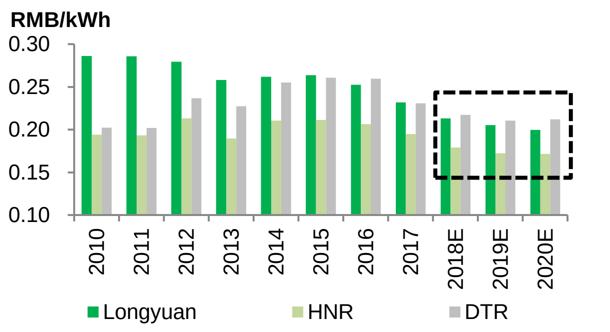
Source(s): Company data, ABCI Securities estimates

Exhibit 6: Tariff: Longyuan has the highest tariff among peers suggests a larger buffer for tariff cut



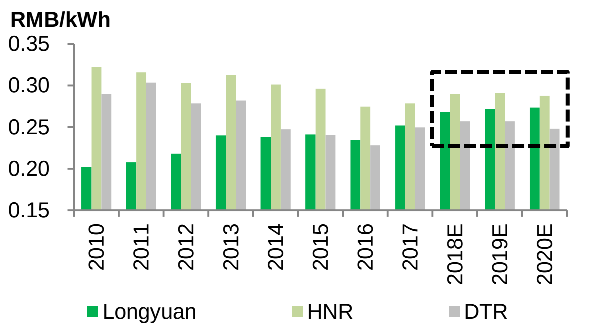
Source(s): Company data, ABCI Securities estimates

Exhibit 7: Unit operating cost of wind power: HNR is the lowest among peers



Source(s): Company data, ABCI Securities estimates

Exhibit 8: Unit operating profit of wind power: Longyuan has maintained uptrend



Source(s): Company data, ABCI Securities estimates

Overhangs of the alternative energy sector

We believe the alternative energy industry is facing the following challenges: 1) Growth in China's electricity demand is likely to remain at the mid-single-digit level; 2). Safety and reliability of alternative energy production are lower than that of the traditional coal-fired one.

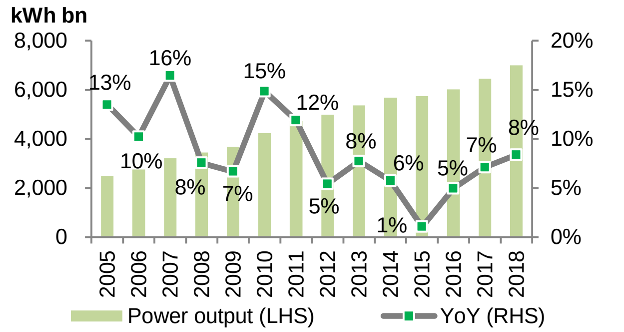
Decreased power demand may affect wind power development.

According to the Bloomberg data, China's industrial production growth decreased from 19.2% in Nov 2009 to 5.7% in Dec 2018. Given industrial activities consumed ~70% of China's overall power production, we believe trending down industrial production activity growth may drag power demand and hence alternative energy demand.

Safety and reliability concerns of alternative energy.

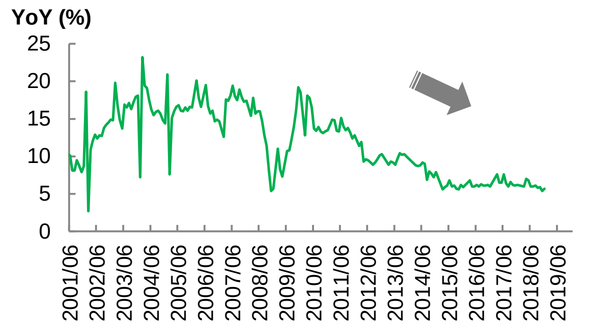
We believe safety and reliability are the main issues constraining the development of alternative energy in China. Serious nuclear power generation incident, such as the Fukushima nuclear accident in Japan in 2011, usually results in widespread panic; increased vigilance and scrutiny over nuclear development plans would delay construction and approval. In addition, unstable wind resources, changing weather affecting sunshine hours and power curtailment will affect reliability of wind power and solar power generation.

Exhibit 9: China's power output would expand at a single-digit level



Source(s): NEA, CEC, ABCI Securities

Exhibit 10: China's industrial production activities growth remains low



Source(s): Bloomberg, ABCI Securities

Company overview

China Longyuan Power (916 HK; BUY; TP: HK$7.50): Still the winner in the industry

2018 results preview

- **15%YoY wind power output growth in 2018 is within expectation.** Longyuan's December wind power gross generation was 4,133GWh (+20% YoY), mainly due to 86%/51%YoY increase in northeast /eastern regions (contributed to 16% and 22% of total output). Driven by higher utilization hour, 2018 wind power output reached 39,542GWh (+15%YoY), 0.24% higher than our full-year estimate.

- **Offshore wind power output serve as future output growth driver.** Wind power output from Jiangsu offshore has been increasing and become the core contributor to Longyuan's output in the province. Given the robust economic activities in eastern China, we believe offshore wind power capacity in Jiangsu would serve as the main output growth engine for Longyuan.

- **2018E full-year earnings forecast: +26%YoY.** 2018 total wind power output was up 15%YoY. With improving operation efficiency, we forecast Longyuan earnings growth to increase by 26% YoY in 2018.

- ***Result announcement date: Mar 12, 2019 (tentative)***

2019 – 2020 outlook

- **Rapid growth in offshore wind power capacity.** Longyuan's offshore contribution to overall wind power output increased from 2.8% in Apr 2015 to 7.8% in Dec 2018. We believe the uptrend would continue as utilization hour is usually higher in offshore facilitates. We believe rapid development of offshore wind power capacity would boost Longyuan's earnings growth.

- **Lowest net gearing among peers would help profitability.** 1H18 net gearing was reported at 133%, the lowest among peers. The Group would continue to deleverage in coming years and net gearing would reduce further. A lower net gearing ratio would result a lower finance cost which help improving cashflow. We forecast 2018E/19E/20E net gearing to be 116%/103%/93% with a positive free cash flow.

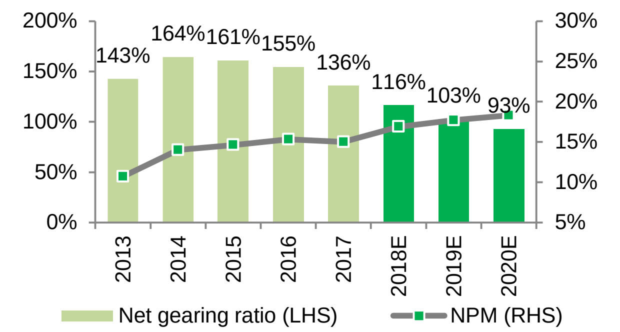
- **From rapid growth to cash cow - Longyuan may be rerated.** With deleveraging, Longyuan would gradually transform into a cash-rich utility stock. Longyuan has been maintaining a positive free cash flow since 2015 while net gearing ratio and wind capacity growth have been declining. We believe a cash-rich company would attract dividend-seeking investors especially in times of economic downturn. Rerating of the stock may occur in future.

- **Wind capacity growth would stay at 6%/6%YoY for 2019E/20E.** The Group has been reducing capex in order to improve net gearing and finance cost, Longyuan has been maintaining a high-single digit capacity growth since 2016, and we believe the pattern would be similar for 2019/20 .

- **12%/11%YoY net profit growth in 2019E/20E.** Longyuan's 2018 full-year wind power output is 0.24% better than our expectation. We believe the subsidy-free pilot projects would accelerate the subsidy cut for wind power operators; meanwhile, coal-fired power output would continue to decline. By assuming a lower wind power tariff and coal power utilization hour, our estimates for 2019E/20E net profit is reduced by 1.6%/2.4%. We expect net profit growth to be 12%/11% YoY in 2019E/20E on the back of 6%/6%YoY expansion in wind power capacity and 5%/4%YoY improvement in utilization hour. Potential upside in earnings would come from: 1) further improvement in net gearing that lowers net finance cost; 2) higher coal price boosting income from coal trade business.

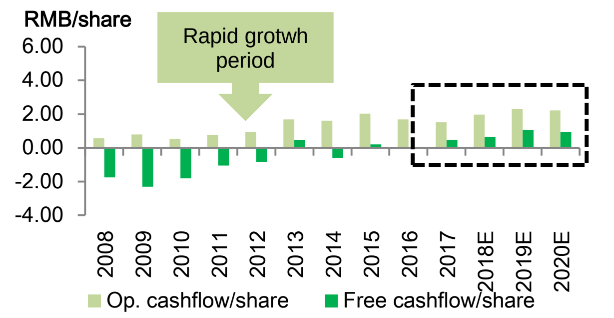
- **TP at HK$7.50; maintain BUY.** We roll over our valuation basis to 2019 and our DCF-based TP is HK$ 7.50 (previously at HK$ 8.40), which implies 9.9x 2019E P/E and 0.96x 2019E P/B. We believe Longyuan's lower net gearing ratio, higher utilization hour among peers and rapid growth in offshore wind power capacity would help the Group outperform in the subsidy-free era. Maintain **BUY**.

Exhibit 11: Longyuan's decreasing net gearing ratio would help improving its profitability



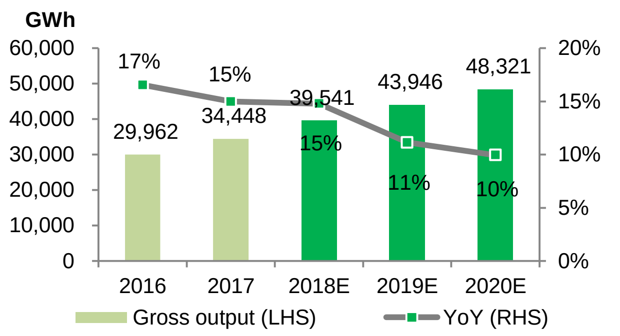
Source(s): Company, ABCI Securities estimates

Exhibit 12: Longyuan would maintain a positive free cash flow in next few years



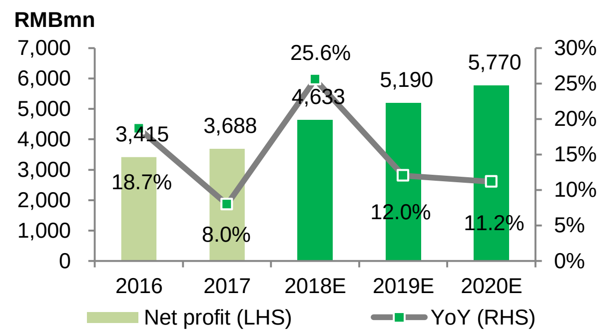
Source(s): Company, ABCI Securities estimates

Exhibit 13: Longyuan's wind power output outlook



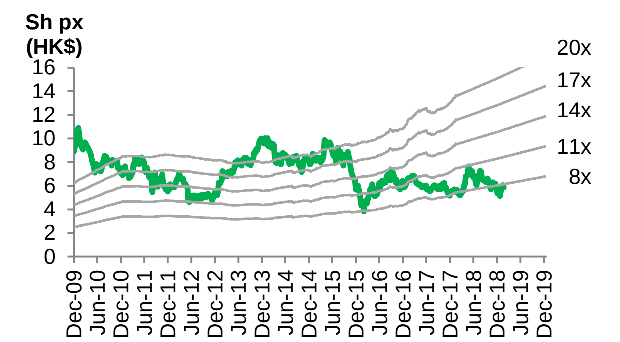
Source(s): Company, ABCI Securities estimates

Exhibit 14: Longyuan's net profit growth outlook



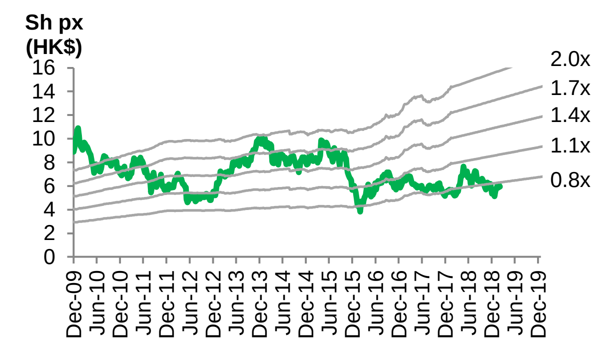
Source(s): Company, ABCI Securities estimates

Exhibit 15: Longyuan's fwd P/E chart



Source(s): Bloomberg, ABCI Securities estimates

Exhibit 16: Longyuan's fwd P/B chart



Source(s): Bloomberg, ABCI Securities estimates

CGN Power (1816 HK; BUY; TP: HK$2.50): Strong 14%YoY 2018 power output within expectation

2018 results preview:

- **14%YoY nuclear power output growth in 2018:** CGN's gross generation of nuclear power in 2018 was 157,045GWh (+14% YoY), 0.04% higher than our estimate. Yangjiang and Ningde, whose output expanded by 17% and 11% YoY, are key drivers of output growth, contributing to 22%/20% of total output. 4Q18 nuclear power output was 42,516GWh (+17% YoY), driven by 31%/30% YoY jump in Yangjiang /Daya Bay power plants that accounted for 24%/10% of the quarter's output.

- **Adjusted net profit would be up by 2.2%YoY in 2018E on increasing net financial cost:** Despite the 14%YoY nuclear power output growth in 2018, increasing net financial cost would drag down adjusted net profit (exclude one-off gain or loss) growth to 2.2%YoY. We estimate net finance cost to be RMB 8,867mn in 2018E, up 46%YoY from RMB 6,080mn in 2017.

- ***Result announcement date: 8 March 2019 (tentative)***

2019 – 2020 outlook:

- **China to continue boosting nuclear power output; CGN no doubt is a key beneficiary.** We expect China to continue reporting 14% CAGR nuclear power output growth during 2018-20E as its low portion in overall energy structure (~6% in 2018). Given CGN contributed 53%/60% of China's nuclear power output/capacity in 2018, we believe surge in China nuclear power output should no doubt benefit CGN.

- **Attributable power output to grow at 10%/10%YoY in 2019/20E.** We believe the commercial commencement of Taishan Unit 2 and Yangjiang Unit 6, together with improving utilization hour should help boosting the Group's attributable power output growth by 10%/10%YoY in 2019/20E. Serve as revenue growth engine to CGN.

- **Cheapest nuclear power play in the world with 4% dividend yield.** According to Bloomberg consensus estimates, CGN is now trading at 9.1x 2019E P/E with 4% dividend yield, which is the cheapest among global peers – Asian peers is trading at 9.5x on average and western players is at 15.8x on average. We believe such low valuation is investors' concern on its high net gearing ratio and net finance cost of CGN may erode its earnings. Yet in the upcoming 2 years, CGN's net gearing ratio should continue trending down with positive free cashflow, we believe current valuation as attractive.

- **New nuclear power plants will be constructed in coming years; CGN would be one of the key beneficiaries:** China is likely to announce more nuclear power construction plans in coming years since most of the scheduled ones are soon coming to completion. According to industry data, around 115.8GW of nuclear power capacity is under planning or feasibility assessment, among which Lufeng and Xudabao power plants are currently under construction (total capacity: ~15GW). Assuming most of these plants would be constructed, 47% of the total planned capacity would be added to CGN's parent company, CGNPC. CGN, being the sole listing platform of CGNPC, would no doubt be the key beneficiary.

- **Potential A-Share listing may spur H-Share share price.** CGN announced on Feb 11, 2018 that the Group was planning to issue 5,050mn of new A-shares (representing 10% of enlarged capital) in the Shenzhen Stock Exchange; the proposal was subsequently approved by shareholders on Apr 25, 2018. We believe this A-Share issuance would serve as potential share price catalyst for its H-shares as CGN's net gearing would further decrease; based on our estimates, the figure would fall from 162% to 127% in 2019E. However, expectation of earnings dilution effect will adversely affect market valuation of the stock in short term.

- **Attributable capacity to grow by 8%/7%YoY in 2019E/20E.** Construction of Taishan Unit 2, Yangjiang Unit 6 and Hongyanhe Unit 5 will continue in 2019/20. We expect the newly-added attributable capacity to reach 1,109MW/991MW for 2019E/20E, representing 8%/7% YoY.

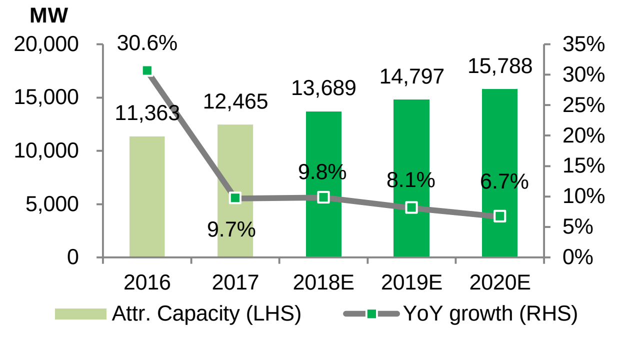
- **Utilization hour to reach 7,300.** We believe CGN's utilization hour would continue to stay high in coming years because the proportion of nuclear power to China's overall energy output is still low; the Group's core asset located in affluent Guangdong region would secure demand. We expect utilization hour to be 7,493/7,683hr for 2019E/20E.

- **Adjusted net profit growth at 18%/16%YoY for 2019E/20E thanks to the lower net interest expense.** We adjust our assumptions to account for the increasing administration cost. We believe CGN's future earnings growth would rely on capacity expansion as the government continues to ramp up production of nuclear power due to low contribution in the energy structure. We believe tariff increment is unlikely in coming years since inclines to reduce financial burden of manufacturing enterprises (electricity cost is one of key operating cost to these enterprises). As CGN continues to deleverage, net financing expense would stay flat or decline in the future. We expect adjusted net profit (excluded one-off gain or loss) to grow by 18%/16%YoY for 2019E/20E.

- **Concern: Potential currency risk may reduce earnings.** We believe current US-China trade war may weigh on China's export as well as the currency rate. Given most of CGN's fuels and materials are imported from overseas (mostly Europe), RMB depreciation would affect CGN's earnings.

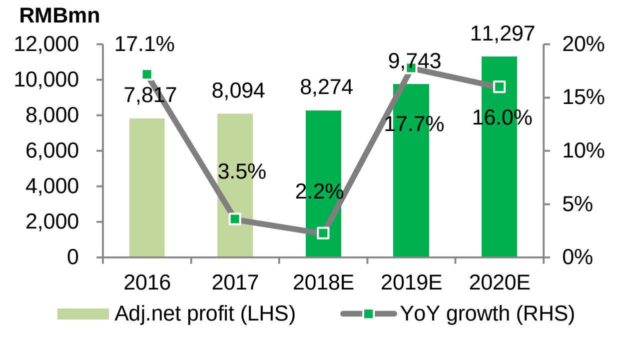
- **TP at HK$2.50; maintain BUY.** We roll over our valuation basis to 2019 and our TP partially derived from DCF is HK$2.50 (previously at HK$ 2.70), implies 10.0x 2019E P/E and 1.23x 2019E P/B, maintain **BUY**. We believe China's nuclear power would maintain robust growth in the next decade. Being the industry leader and the only listed nuclear power operator in the HK market, we believe CGN would benefit immensely from the rise of nuclear power in China. In addition, we believe CGN's trending down net gearing ratio would help its future profitability and result in a positive free cashflow.

Exhibit 17: CGN's attributable nuclear power capacity outlook



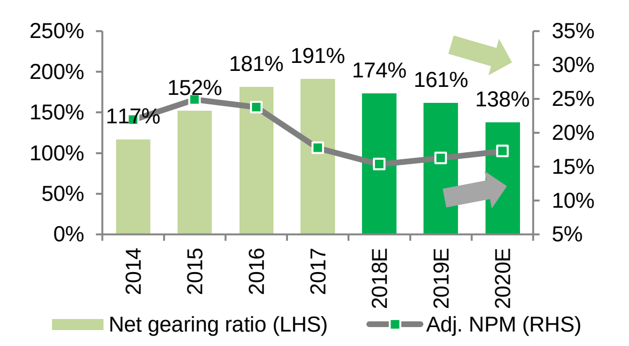
Source(s): Company, ABCI Securities estimates

Exhibit 18: CGN's adjusted net profit growth outlook



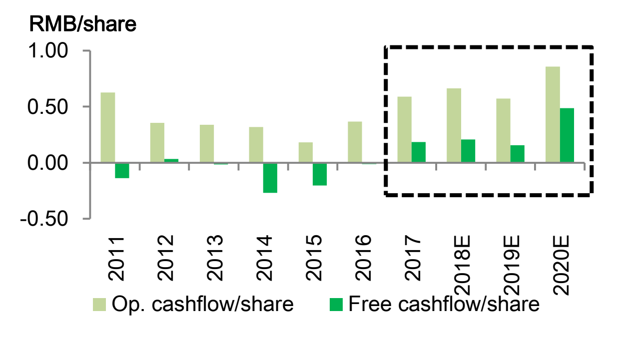
Source(s): Company, ABCI Securities estimates

Exhibit 19: CGN's net gearing ratio would continue to trend down



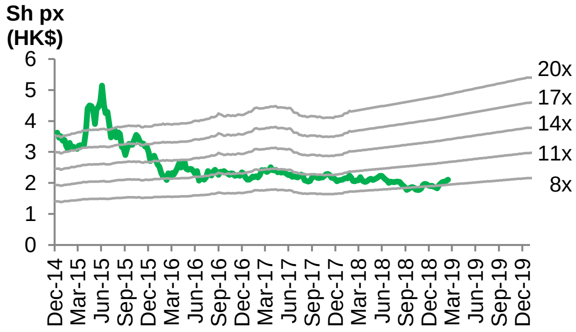
Source(s): Company, ABCI Securities estimates

Exhibit 20: CGN's free cash flow would stay positive in the next two years



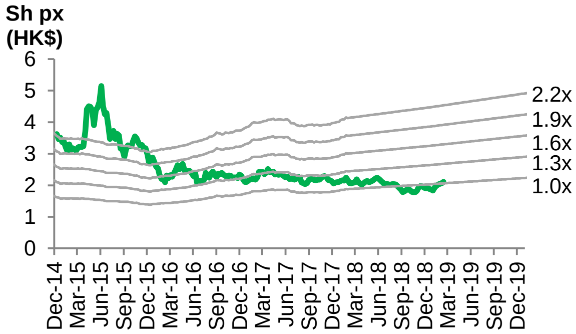
Source(s): Company, ABCI Securities estimates

Exhibit 21: CGN's fwd P/E chart



Source(s): Bloomberg, ABCI Securities estimates

Exhibit 22: CGN's fwd P/B chart



Source(s): Bloomberg, ABCI Securities estimates

Huaneng Renewables (HNR, 958 HK; HOLD; TP: HK$2.70): Worse-than-expected wind power output suggests lower utilization hour

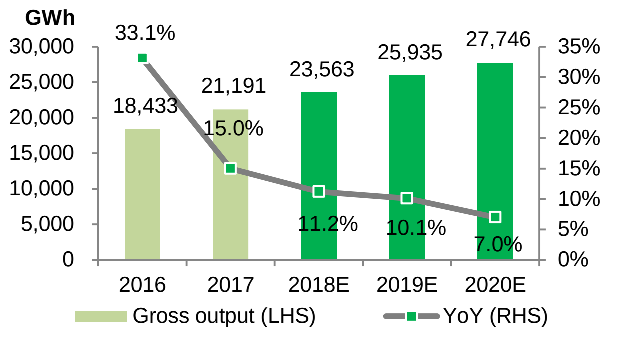
2018 results preview:

- **11%YoY wind power output growth in 2018 missed estimate.** HNR's wind power generation was 2,738GWh (+30% YoY) in December, mainly driven by the 31%/32% increase in Inner Mongolia and southern regions (accounted for 22%/30% of total output for the month). 2018 wind power output was 23,563GWh (+11% YoY), 2% below our full-year estimate.
- **2018 full-year earnings would be up by 18%YoY growth.** HNR is likely to report an 18%YoY earnings growth for 2018E, higher than the wind power output growth of 11%YoY. The earnings growth is mainly a result of the low base in 2017 and decrease in net finance cost amid deleveraging.
- ***Result announcement date: Mar 23, 2019 (tentative)***

2019 – 2020 outlook:

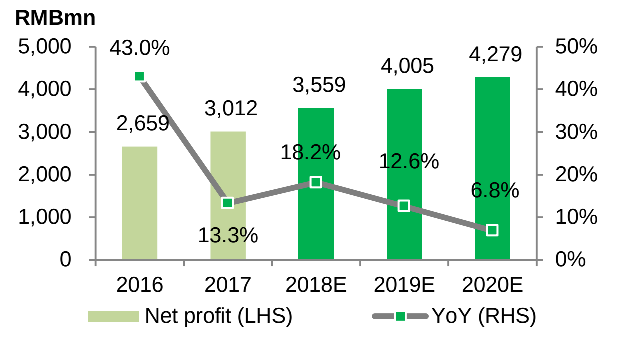
- **2018E utilization hour is not as high as Longyuan's due to location of assets.** HNR's wind power output grew 11% YoY in 2018, lower than Longyuan's 15%. Capacity growth of the two players was similar in 2018, indicating Longyuan's utilization hour could be higher. We believe Longyuan's wind power assets in coastal area have supported that.
- **Solar power could be a drag to HNR.** NEA announced on May 31, 2018 that solar power benchmark tariff would be slashed by 9% instantly. The Group's earnings were affected since solar power segment contributed to ~8% of overall revenue in 2017.
- **Wind capacity would expand by 5%/5% YoY for 2019E/20E:** We believe HNR's power capacity would increase only moderately by 5%/5%YoY for 2019E/20E because: 1) new capacity would be subjected to lower wind power tariff; 2) prudent expansion due to deleveraging of SOEs.
- **Wind power output to grow by 10%/7%YoY for 2019E/20E on improved utilization hour:** We expect the Group's 2019E/20E wind power output to increase by 10%/7%YoY on the back of moderate capacity growth and improving utilization hour. The Group's Jan power output was 2,564GWh, up 9%YoY, representing 9.9% of our full-year output estimate.
- **Net profit to increase by 13%/7%YoY for 2019E/20E:** HNR's 2018 power output was worse than expected due to lower utilization hour than assumed. Moreover, NEA's new policy to trim solar power tariff would reduce earnings, especially since the Group has planned to increase solar power output over the next few years. We reduce 2019E/20E solar power tariff by 3%/6% and revise down 2018E utilization hour; consequently, its 2018E/19E/20E earnings are lowered by 10%/7%/8%. We forecast 2019E/20E net profit to grow by 13%/7% YoY due to the 10%/7% YoY increase in wind power output. HNR is likely to rely more on higher utilization hour than capacity growth to improve earnings. HNR's higher net gearing compared to Longyuan's implies financing cost is more expensive for the former. We believe HNR's future earnings growth would not as robust as Longyuan's if interest cost goes up further.
- **TP at HK$2.70; downgrade to HOLD:** We roll over valuation basis to 2019 and our DCF-based TP is HK$ 2.70 (previously at HK$3.30) implies 6.1x 2019E P/E and 0.79x 2019E P/B. We continue to like HNR's high profitability (highest ROAE and NPM among peers), yet its solar business could be a drag to the Group's future earnings, and HNR's future capacity growth and utilization hour may not be as high as Longyuan's. Downgrade to **HOLD**.

Exhibit 23: HNR's wind power output outlook



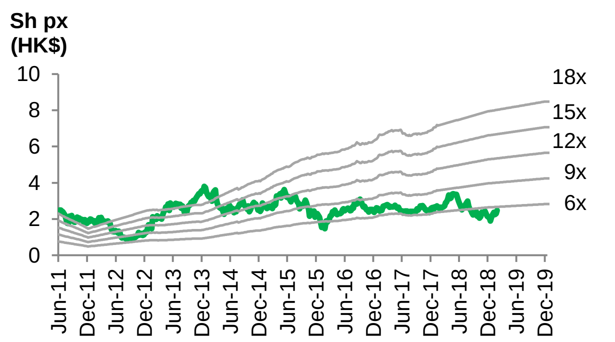
Source(s): Company, ABCI Securities estimates

Exhibit 24: HNR's net profit growth would trend down



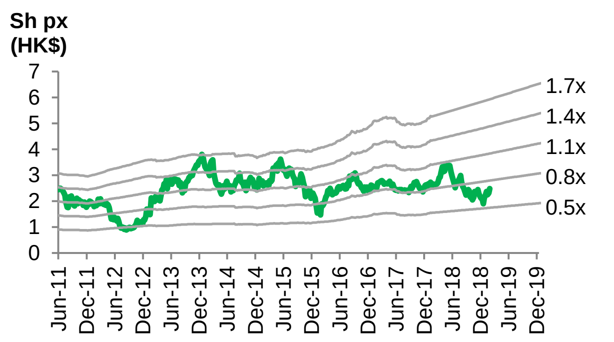
Source(s): Company, ABCI Securities estimates

Exhibit 25: HNR's fwd P/E chart



Source(s): Bloomberg, ABCI Securities estimates

Exhibit 26: HNR's fwd P/B chart



Source(s): Bloomberg, ABCI Securities estimates

Datang Renewable (DTR, 1798 HK; HOLD; TP: HK$1.10): High net gearing remains a key concern

2018 results preview:

- **18%YoY wind power output growth in 2018 was better than expected.** DTR 4Q18 wind power gross generation was 4,995GWh (+3% YoY); mainly driven by 19%/1%YoY growth in northwest China and Inner Mongolia (accounted for 19%/40% of total output), offsetting the 16% YoY decline in northern region (accounted for 15% of total output). 2018 wind power output was 17,690GWh (+18%YoY), 7% higher than our full-year estimate.

- **84%YoY net profit growth in 2018E is expected:** With wind power output growth reaching 18%YoY and the low base in 2017, DTR's net profit is likely to jump 84% YoY for 2018E. Its net gearing ratio would be~ 301% in 2018E (2017: 324%).

- ***Result announcement date: Mar 26, 2019 (tentative)***

2019 – 2020 outlook:

- **High net gearing ratio is still a major concern:** With the interest rate hike in the US, borrowing costs of enterprises in China are likely to rise. DTR's net gearing ratio reached 318% in 1H18 (from 195% in 2010), and the interest coverage ratio was 2.25x. Based on our calculation, a 0.1% increment in interest cost rate would reduce 2019E net profit by 2.9%. A high net gearing ratio will increase chances of fundraising activities that may potentially dilute EPS.

- **Key wind power capacity is located in power curtailment region.** As of 1H18, 70% of DTR's wind power capacity is located in the "Three-North" region (Inner Mongolia, northeast and northwest) where wind resources are ample. However, due to the impact of wind power curtailment and poor local power demand, the utilization hour of wind power facilities in the region decreased. Although the government is constructing ultra-high voltage networks to reduce the impact of curtailment, capacity utilization in the "Three-North" region may only improve moderately due to the rising construction of offshore wind power capacity and sluggish power demand locally.

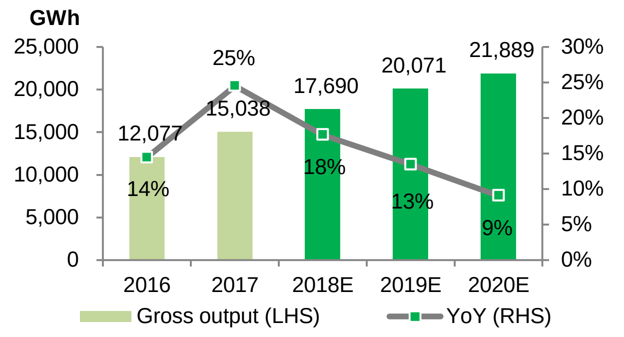
- **The period of soaring growth has been over.** DTR reported robust net profit growth in 2016 and 2017 at 1,346%YoY and 267%YoY due to low base. With the reducing wind power tariff and the likelihood of a subsidy-free policy in the near future, growth in 2019 and 2020 would not be as high.

- **Future installed wind power capacity will increase by 7%/7% in 2019/20E; wind power output would be up by 13%/9%YoY.** Since DTR's net gearing ratio is already at a high level, we believe its CAPEX would be constrained amid a deleveraging environment. We expect its installed wind power capacity to grow by 7% YoY each in 2019E/20E. Benefiting from the continuous improvement in installed utilization hour (expected to be 2,188/2,246/2,290 for 2018E/19E/20E), we estimate 2019E/20E installed wind power output to increase by 13%/9%YoY.

- **2019/20E earnings to grow by 2%/4%YoY:** DTR reported a better-than-expected wind power output in 2018 due to improved utilization hour, yet its high net gearing ratio and exposure in power curtailment region remain key concerns. In addition, China's tariff cut in solar power would impact DTR's earnings. We revise its 2019E/20E net profit by -2%/-9% respectively. DTR's wind power output growth and net profit growth are mainly resulted from the increase in installed capacity. However, the decline in wind power tariffs (we expect 1.5%/1.5% YoY decline in 2019E/20E) and rising net interest cost (2019E/20E growth of 25%/4%YoY) will weaken net profit growth, hence we expect 2019E/20E earnings to increase by 2%/4%YoY.

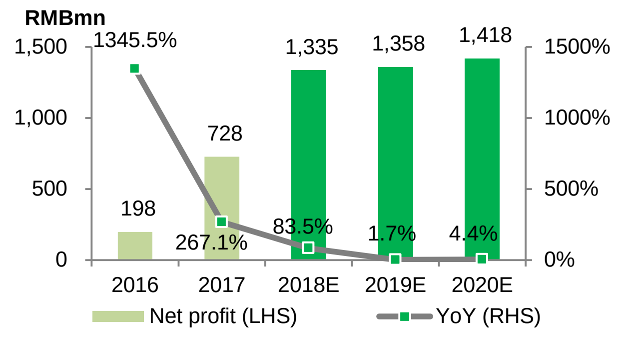
- **TP at HK$1.10; maintain HOLD:** We roll over valuation basis to 2019 and our DCF-based TP is at HK$1.10 (previously at HK$1.50), implying 5.6x 2019E P/E and 0.41x 2019E P/B. Maintain **HOLD**.

Exhibit 27: DTR's wind power output outlook



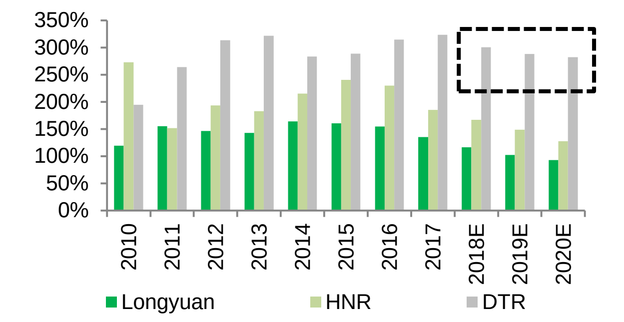
Source(s): Company, ABCI Securities estimates

Exhibit 28: DTR's net profit outlook



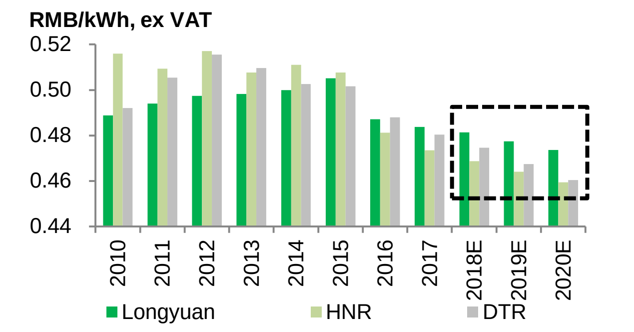
Source(s): Company, ABCI Securities estimates

Exhibit 29: DTR's net gearing ratio is much higher than peers



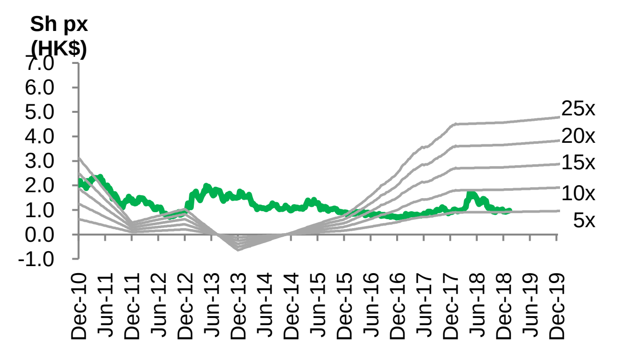
Source(s): Company, ABCI Securities estimates

Exhibit 30: Lower-than-peer wind power tariff would pressure margins



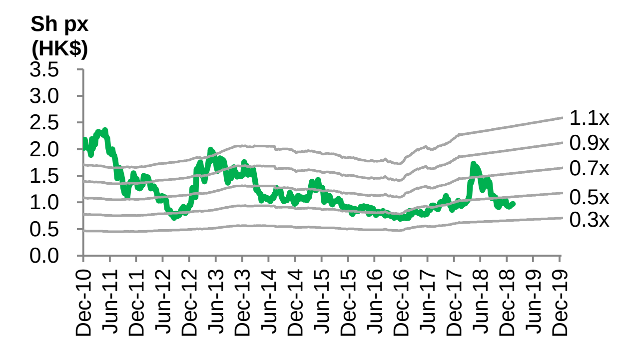
Source(s): Company, ABCI Securities estimates

Exhibit 31: DTR's fwd P/E chart



Source(s): Bloomberg, ABCI Securities estimates

Exhibit 32: DTR's fwd P/B chart



Source(s): Bloomberg, ABCI Securities estimates

CGN Power (1816 HK, BUY)

Consolidated income statement

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Revenue	**32,890**	**45,616**	**53,965**	**59,919**	**65,411**
Electricity	28,115	41,543	48,510	54,429	59,886
Service revenue	2,820	2,680	3,485	3,519	3,555
Other	926	670	1,140	1,140	1,140
Cost of sales	**(18,533)**	**(26,034)**	**(30,897)**	**(34,128)**	**(36,792)**
Gross Profit	**14,357**	**19,583**	**23,068**	**25,791**	**28,619**
SG&A expenses	(2,358)	(2,423)	(2,806)	(3,116)	(3,401)
Net financial income (cost)	(3,857)	(6,080)	(8,867)	(8,992)	(9,226)
Other income/ (expenses)	1,436	2,762	2,416	2,573	2,850
Profit before tax	**9,577**	**13,841**	**13,811**	**16,256**	**18,842**
Tax	(653)	(1,327)	(1,381)	(1,626)	(1,884)
Profit after tax	**8,925**	**12,515**	**12,430**	**14,630**	**16,958**
Profit attributable to:					
Minority interest	1,638	3,014	4,102	4,828	5,596
Equity shareholders of the Company	**7,287**	**9,500**	**8,328**	**9,802**	**11,362**
Adj. equity shareholders of the Company	**7,817**	**8,094**	**8,274**	**9,743**	**11,297**
Basic EPS (RMB)	**0.160**	**0.209**	**0.183**	**0.216**	**0.250**
Adj. basic EPS (RMB)	**0.172**	**0.178**	**0.182**	**0.214**	**0.249**
DPS (RMB)	**0.051**	**0.068**	**0.060**	**0.071**	**0.082**

Source(s): Company, ABCI Securities estimates

Consolidated balance sheet

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Current assets	**43,825**	**56,369**	**56,578**	**65,121**	**73,303**
Cash	8,457	10,316	11,816	11,685	23,811
Pledged and restricted bank deposits	2,053	2,032	2,032	2,032	2,032
Trade and bill receivables	5,735	6,648	6,658	8,117	6,220
Other receivables and prepayments	12,662	15,913	16,945	18,034	18,902
Inventories	13,138	19,739	17,507	23,634	20,718
Other current assets	1,779	1,720	1,620	1,620	1,619
Non-current assets	**243,809**	**303,158**	**315,953**	**327,518**	**337,135**
Property, plant & equipment	216,509	277,284	289,917	300,162	308,017
Investment properties	320	240	240	240	240
Intangible assets	3,066	4,114	4,338	4,968	5,585
Investment in JV and associates	12,037	8,364	9,377	10,391	11,541
Deferred tax assets	1,687	1,551	1,551	1,551	1,551
Other non-current assets	10,190	11,605	10,530	10,206	10,201
Total Assets	**287,634**	**359,527**	**372,531**	**392,640**	**410,437**
Current Liabilities	**65,168**	**60,654**	**62,801**	**66,324**	**67,996**
Trade and bill payables	19,295	24,211	26,579	29,522	30,957
Other payables	1,486	1,170	671	671	671
Short term borrowings	26,407	22,904	23,182	23,762	23,998
Other current assets	17,980	12,369	12,369	12,369	12,369
Non-current liabilities	**140,567**	**196,339**	**196,402**	**201,092**	**203,009**
Deferred tax liabilities	1,615	1,566	1,566	1,566	1,566
Long-term borrowings	132,476	185,627	187,465	192,155	194,072
Other non-current assets	6,477	9,146	7,371	7,371	7,371
Total Liabilities	**205,735**	**256,994**	**259,203**	**267,416**	**271,005**
Minority interests	**25,364**	**36,695**	**40,797**	**45,625**	**51,222**
Shareholders' equities	**56,535**	**65,838**	**72,531**	**79,599**	**88,211**

Source(s): Company, ABCI Securities estimates

Consolidated cash flow statement

FY ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Profit before tax	**9,577**	**13,841**	**13,811**	**16,256**	**18,842**
Change in depreciation and amortization	4,727	7,186	8,513	9,008	9,461
Change in Working Capital	778	3,658	1,384	(5,730)	5,380
Net financial cost (income)	3,857	6,080	8,867	8,992	9,226
Income tax paid	(1,358)	(1,324)	(1,327)	(1,381)	(1,626)
Net interest received	0	0	0	0	0
Others	(829)	(2,644)	(1,013)	(1,015)	(1,150)
Operating cash flow	**16,753**	**26,797**	**30,234**	**26,130**	**40,133**
Capex	(17,297)	(18,319)	(20,803)	(18,848)	(16,846)
Increase in intangible assets	(536)	(704)	(986)	(1,035)	(1,087)
Others	(1,410)	(5,504)	309	277	274
Investing cash flow	**(19,243)**	**(24,527)**	**(21,480)**	**(19,606)**	**(17,658)**
Net Capital raise	0	0	7	0	0
Net debt financing	10,985	8,317	2,116	5,269	2,154
Dividend payout	(4,684)	(4,669)	(3,091)	(2,748)	(3,235)
Interest paid	(8,031)	(10,001)	(6,287)	(9,175)	(9,268)
Others	1,142	6,103	0	0	0
Financing cash flow	**(588)**	**(250)**	**(7,254)**	**(6,654)**	**(10,349)**
Net change in cash	**(3,078)**	**2,020**	**1,500**	**(130)**	**12,126**
Cash at the beginning	11,381	8,457	10,316	11,816	11,685
Adjustment (Time deposit & FX effect)	154	(160)	0	0	0
Cash at the end	**8,457**	**10,316**	**11,816**	**11,685**	**23,811**

Source(s): Company, ABCI Securities estimates

Key ratio

FY ended Dec 31	2016A	2017A	2018E	2019E	2020E
Sales mixed (%)					
Electricity	85.48	91.07	89.89	90.84	91.55
Service revenue	8.57	5.88	6.46	5.87	5.43
Other	5.95	3.05	3.65	3.29	3.01
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Profit & loss ratios (%)					
Gross margin	43.65	42.93	42.75	43.04	43.75
Operating profit margin	38.53	39.27	40.05	40.34	41.05
Pre-tax margin	29.12	30.34	25.59	27.13	28.81
Net profit margin	27.13	27.43	23.03	24.42	25.93
Selling & administrative expenses/revenue	7.17	5.31	5.20	5.20	5.20
Effective tax rate	6.82	9.59	10.00	10.00	10.00
Growth (%)					
Revenue	22.74	38.69	18.30	11.03	9.17
Gross profit	19.44	36.40	17.80	11.80	10.97
Operating profit	17.39	41.33	20.64	11.86	11.09
Net profit	4.52	40.22	(0.67)	17.70	15.91
Balance sheet ratios					
Current ratio (x)	0.67	0.93	0.90	0.98	1.08
Quick ratio (x)	0.25	0.31	0.33	0.33	0.47
Cash ratio (x)	0.16	0.20	0.22	0.21	0.38
Trade and bill receivables days	67.14	49.55	45.00	45.00	40.00
Trade and bill payables turnover days	364.88	304.98	300.00	300.00	300.00
Inventory turnover days	256.80	230.47	220.00	220.00	220.00
Total debt / equity ratio (%)	281.04	316.74	290.42	271.26	247.21
Net debt / equity ratio (%)	181.17	191.34	173.65	161.47	137.86
Returns (%)					
ROAA	2.61	2.94	2.28	2.56	2.83
ROAE	12.41	15.53	12.04	12.89	13.54
Payout ratio	31.81	32.53	33.00	33.00	33.00

Source(s): Company, ABCI Securities estimates

Longyuan Power (916 HK, BUY)

Consolidated income statement

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Revenue	**22,304**	**24,592**	**27,414**	**29,329**	**31,519**
Wind power	13,950	15,998	18,291	20,166	21,998
Coal-fire power	7,270	7,990	7,634	7,547	7,777
Other	1,085	604	1,490	1,616	1,744
Cost of sales	**(14,456)**	**(15,641)**	**(16,585)**	**(17,543)**	**(18,698)**
Gross Profit	**7,848**	**8,950**	**10,829**	**11,786**	**12,821**
SG&A expenses	(429)	(542)	(576)	(616)	(662)
Net financial income (cost)	(2,774)	(3,215)	(3,279)	(3,275)	(3,147)
Other income/ (expenses)	505	272	(42)	(81)	(324)
Profit before tax	**5,150**	**5,465**	**6,932**	**7,814**	**8,688**
Tax	(660)	(916)	(1,213)	(1,368)	(1,520)
Profit after tax	**4,490**	**4,550**	**5,719**	**6,447**	**7,168**
Profit attributable to:					
Minority interest	941	704	858	967	1,075
Perpetual medium-term note holders	133	158	229	290	323
Equity shareholders of the Company	**3,415**	**3,688**	**4,633**	**5,190**	**5,770**
Basic EPS (RMB)	**0.425**	**0.459**	**0.576**	**0.646**	**0.718**
DPS (RMB)	**0.085**	**0.092**	**0.115**	**0.129**	**0.144**

Source(s): Company, ABCI Securities estimates

Consolidated balance sheet

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Current assets	**13,333**	**17,122**	**17,809**	**18,464**	**19,830**
Cash	1,905	5,072	4,609	3,722	4,612
Pledged and restricted bank deposits	28	33	35	35	35
Trade and bill receivables	5,901	7,155	7,867	8,204	9,067
Other receivables and prepayments	3,644	3,629	3,881	4,957	4,541
Inventories	1,040	953	1,137	1,266	1,295
Other current assets	814	280	280	280	280
Non-current assets	**125,328**	**128,513**	**136,126**	**139,716**	**142,922**
Property, plant & equipment	105,598	109,473	113,857	117,318	120,917
Investment properties	4	10	10	10	10
Intangible assets	8,860	8,754	8,576	8,398	8,223
Investment in JV and associates	4,483	4,472	4,828	5,210	5,619
Deferred tax assets	151	171	180	180	180
Other non-current assets	6,232	5,633	8,675	8,600	7,973
Total Assets	**138,661**	**145,635**	**153,935**	**158,180**	**162,752**
Current Liabilities	**55,807**	**47,159**	**46,453**	**47,075**	**46,253**
Trade and bill payables	2,550	1,891	1,744	2,581	2,029
Other payables	8,747	9,448	10,105	11,523	11,496
Short term borrowings	44,472	35,774	34,604	32,971	32,728
Other current assets	39	46	0	0	0
Non-current liabilities	**35,067**	**45,176**	**45,405**	**43,409**	**43,112**
Deferred tax liabilities	138	162	162	162	162
Long-term borrowings	31,327	41,620	42,294	40,297	40,000
Other non-current assets	3,602	3,394	2,950	2,950	2,950
Total Liabilities	**90,874**	**92,336**	**91,858**	**90,484**	**89,365**
Minority interests	**6,896**	**7,173**	**8,031**	**8,998**	**10,074**
Perpetual medium-term note	**2,991**	**4,991**	**4,991**	**4,991**	**4,991**
Shareholders' equities	**37,899**	**41,135**	**49,055**	**53,707**	**58,323**

Source(s): Company, ABCI Securities estimates

Consolidated cash flow statement

FY ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Profit before tax	**5,150**	**5,465**	**6,932**	**7,814**	**8,688**
Change in depreciation and amortization	6,342	6,798	7,682	8,197	8,743
Change in Working Capital	483	(2,221)	(694)	714	(1,055)
Net financial cost (income)	2,602	2,983	3,219	3,297	3,310
Income tax paid	(634)	(780)	(916)	(1,213)	(1,368)
Net interest received	0	0	0	0	0
Others	(411)	(115)	(356)	(381)	(410)
Operating cash flow	**13,533**	**12,131**	**15,868**	**18,428**	**17,908**
Capex	(13,990)	(9,104)	(11,566)	(11,145)	(11,813)
Increase in intangible assets	0	0	(320)	(336)	(352)
Others	2,781	491	208	204	186
Investing cash flow	**(11,209)**	**(8,614)**	**(11,677)**	**(11,276)**	**(11,980)**
Net Capital raise	0	0	0	0	0
Net debt financing	792	3,564	(497)	(3,630)	(540)
Dividend payout	(1,306)	(1,297)	(738)	(927)	(1,038)
Interest paid	(3,149)	(2,938)	(3,423)	(3,483)	(3,460)
Others	379	318	0	0	0
Financing cash flow	**(3,284)**	**(352)**	**(4,658)**	**(8,039)**	**(5,039)**
Net change in cash	**(961)**	**3,165**	**(467)**	**(887)**	**890**
Cash at the beginning	2,887	1,905	5,076	4,609	3,722
Adjustment (Time deposit & FX effect)	(21)	2	0	0	0
Cash at the end	**1,905**	**5,072**	**4,609**	**3,722**	**4,612**

Source(s): Company, ABCI Securities estimates

Key ratio

FY ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Sales mixed (%)					
Wind power	62.54	65.06	66.72	68.76	69.79
Coal-fire power	32.59	32.49	27.85	25.73	24.67
Other	4.86	2.46	5.43	5.51	5.53
Total	**100**	**100**	**100**	**100**	**100**
Profit & loss ratios (%)					
Gross margin	35.19	36.40	39.50	40.18	40.68
Operating profit margin	33.84	33.90	35.95	36.51	36.25
Pre-tax margin	23.09	22.22	25.29	26.64	27.56
Net profit margin	20.13	18.50	20.86	21.98	22.74
Selling & administrative expenses/revenue	1.92	2.20	2.10	2.10	2.10
Effective tax rate	12.82	16.75	17.50	17.50	17.50
Growth (%)					
Revenue	13.32	10.26	11.48	6.98	7.47
Gross profit	2.75	14.04	20.99	8.84	8.79
Operating profit	5.83	10.46	18.20	8.66	6.70
Net profit	10.38	1.34	25.71	12.72	11.18
Balance sheet ratios					
Current ratio (x)	0.24	0.36	0.38	0.39	0.43
Quick ratio (x)	0.14	0.26	0.27	0.25	0.30
Cash ratio (x)	0.03	0.11	0.10	0.08	0.10
Trade and bill receivables days	83.00	96.89	100.00	100.00	100.00
Trade and bill payables turnover days	56.21	51.81	40.00	45.00	45.00
Inventory turnover days	26.77	23.26	23.00	25.00	25.00
Total debt / equity ratio (%)	200.00	188.15	156.76	136.42	124.70
Net debt / equity ratio (%)	154.58	135.63	116.39	102.68	92.77
Returns (%)					
ROAA	2.51	2.59	3.09	3.33	3.60
ROAE	9.35	9.33	10.27	10.10	10.30
Payout ratio	20.00	20.00	20.00	20.00	20.00

Source(s): Company, ABCI Securities estimates

Huaneng Renewables (958 HK, HOLD)

Consolidated income statement

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Revenue	**9,239**	**10,554**	**11,645**	**12,642**	**13,344**
Wind power	8,512	9,700	10,714	11,675	12,365
Solar power	721	848	925	961	972
Other	6	6	6	6	6
Cost of sales	**(4,054)**	**(4,504)**	**(4,666)**	**(4,975)**	**(5,294)**
Gross Profit	**5,184**	**6,051**	**6,979**	**7,667**	**8,049**
SG&A expenses	(223)	(248)	(268)	(291)	(307)
Net financial income (cost)	(1,995)	(2,238)	(2,165)	(2,242)	(2,194)
Other income/ (expenses)	(56)	(157)	(349)	(409)	(501)
Profit before tax	**2,910**	**3,408**	**4,198**	**4,725**	**5,048**
Tax	(202)	(346)	(567)	(638)	(682)
Profit after tax	**2,708**	**3,061**	**3,631**	**4,087**	**4,367**
Profit attributable to:					
Minority interest	49	50	73	82	87
Equity shareholders of the Company	**2,659**	**3,012**	**3,559**	**4,005**	**4,279**
Basic EPS (RMB)	**0.273**	**0.294**	**0.337**	**0.379**	**0.405**
DPS (RMB)	**0.041**	**0.044**	**0.051**	**0.057**	**0.061**

Source(s): Company, ABCI Securities estimates

Consolidated balance sheet

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Current assets	**8,696**	**11,242**	**11,649**	**13,050**	**13,249**
Cash	2,570	2,503	3,635	1,573	4,152
Pledged and restricted bank deposits	34	52	0	0	0
Trade and bill receivables	4,635	7,214	6,186	9,746	7,070
Other receivables and prepayments	1,415	1,396	1,795	1,669	1,987
Inventories	33	55	34	61	40
Other current assets	8	22	0	0	0
Non-current assets	**76,749**	**75,107**	**79,523**	**79,565**	**84,800**
Property, plant & equipment	72,107	71,406	72,433	74,138	76,128
Investment properties	0	0	0	0	0
Intangible assets	654	621	591	560	529
Investment in JV and associates	106	254	75	75	75
Deferred tax assets	3	2	2	2	2
Other non-current assets	3,879	2,824	6,423	4,791	8,066
Total Assets	**85,445**	**86,349**	**91,173**	**92,615**	**98,049**
Current Liabilities	**30,517**	**27,086**	**26,322**	**25,742**	**26,174**
Trade and bill payables	0	0	0	0	0
Other payables	7,520	6,381	5,742	5,964	6,179
Short term borrowings	22,563	20,353	20,579	19,778	19,995
Other current assets	435	352	0	0	0
Non-current liabilities	**33,933**	**33,821**	**36,219**	**34,755**	**36,032**
Deferred tax liabilities	20	18	18	18	18
Long-term borrowings	28,372	29,451	30,869	29,667	29,992
Other non-current assets	5,542	4,351	5,332	5,070	6,021
Total Liabilities	**64,451**	**60,907**	**62,541**	**60,497**	**62,206**
Minority interests	857	840	913	995	1,082
Shareholders' equities	**20,137**	**24,602**	**27,719**	**31,124**	**34,761**

Source(s): Company, ABCI Securities estimates

Consolidated cash flow statement

FY ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Profit before tax	**2,708**	**3,061**	**3,631**	**4,087**	**4,367**
Change in depreciation and amortization	3,447	3,783	3,893	4,131	4,391
Change in Working Capital	(844)	(1,643)	(2,722)	(851)	394
Net financial cost (income)	2,090	2,144	2,165	2,242	2,194
Income tax paid	(179)	(312)	(567)	(638)	(682)
Net interest received	202	346	0	0	0
Others	(85)	302	0	0	0
Operating cash flow	**7,338**	**7,681**	**6,400**	**8,972**	**10,664**
Capex	(7,877)	(5,117)	(4,881)	(5,797)	(6,342)
Increase in intangible assets	0	0	(8)	(8)	(8)
Others	507	927	77	73	31
Investing cash flow	**(7,370)**	**(4,191)**	**(4,812)**	**(5,732)**	**(6,319)**
Net Capital raise	0	1,909	0	0	0
Net debt financing	1,312	(1,157)	1,644	(2,003)	542
Dividend payout	(316)	(483)	(534)	(601)	(642)
Interest paid	(2,205)	(2,241)	(2,296)	(2,241)	(2,315)
Others	(650)	(555)	729	(456)	648
Financing cash flow	**(1,858)**	**(2,527)**	**(457)**	**(5,301)**	**(1,767)**
Net change in cash	**(1,889)**	**963**	**1,132**	**(2,061)**	**2,578**
Cash at the beginning	3,470	1,665	2,503	3,635	1,573
Adjustment (Time deposit & FX effect)	990	(126)	0	0	0
Cash at the end	**2,570**	**2,503**	**3,635**	**1,573**	**4,152**

Source(s): Company, ABCI Securities estimates

Key ratio

FY ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Sales mixed (%)					
Wind power	92.13	91.90	92.01	92.35	92.67
Solar power	7.80	8.04	7.94	7.60	7.29
Other	0.07	0.06	0.05	0.05	0.05
Total	**100**	**100**	**100**	**100**	**100**
Profit & loss ratios (%)					
Gross margin	56.12	57.33	59.93	60.64	60.32
Operating profit margin	53.13	53.54	54.64	55.11	54.27
Pre-tax margin	31.49	32.29	36.05	37.37	37.83
Net profit margin	29.31	29.01	31.18	32.33	32.73
Selling & administrative expenses/revenue	2.42	2.35	2.30	2.30	2.30
Effective tax rate	6.93	10.16	13.50	13.50	13.50
Growth (%)					
Revenue	25.58	14.24	10.33	8.56	5.55
Gross profit	25.14	16.71	15.34	9.85	4.99
Operating profit	19.24	15.14	12.59	9.51	3.94
Net profit	42.59	13.05	18.62	12.55	6.85
Balance sheet ratios					
Current ratio (x)	0.28	0.42	0.44	0.51	0.51
Quick ratio (x)	0.24	0.36	0.37	0.44	0.43
Cash ratio (x)	0.09	0.09	0.14	0.06	0.16
Trade and bill receivables days	148.85	204.89	210.00	230.00	230.00
Trade and bill payables turnover days	0.00	0.00	0.00	0.00	0.00
Inventory turnover days	3.41	3.57	3.50	3.50	3.50
Total debt / equity ratio (%)	252.94	202.44	185.60	158.87	143.80
Net debt / equity ratio (%)	230.21	185.71	166.99	149.05	127.88
Returns (%)					
ROAA	3.17	3.51	4.01	4.36	4.49
ROAE	14.02	13.46	13.60	13.61	12.99
Payout ratio	15.00	15.09	15.00	15.00	15.00

Source(s): Company, ABCI Securities estimates

Datang Renewable (1798 HK, HOLD)

Consolidated income statement

FY Ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Revenue	**5,786**	**7,104**	**8,411**	**9,423**	**10,164**
Wind power	5,585	7,079	8,228	9,195	9,877
Concession construction	6	0	0	0	0
Other	195	157	183	228	287
Cost of sales	**(3,529)**	**(3,874)**	**(4,272)**	**(4,714)**	**(5,221)**
Gross Profit	**2,257**	**3,231**	**4,139**	**4,709**	**4,944**
SG&A expenses	0	0	0	0	0
Net financial income (cost)	(1,735)	(1,870)	(2,130)	(2,657)	(2,797)
Other income/ (expenses)	(121)	(302)	(93)	(104)	(112)
Profit before tax	**401**	**1,059**	**1,916**	**1,949**	**2,034**
Tax	(108)	(156)	(287)	(292)	(305)
Profit after tax	**293**	**903**	**1,628**	**1,657**	**1,729**
Profit attributable to:					
Minority interest	(95)	(175)	(293)	(298)	(311)
Equity shareholders of the Company	**198**	**728**	**1,335**	**1,358**	**1,418**
Basic EPS (RMB)	**0.027**	**0.084**	**0.154**	**0.157**	**0.164**
DPS (RMB)	**0.012**	**0.015**	**0.031**	**0.031**	**0.033**

Source(s): Company, ABCI Securities estimates

Consolidated balance sheet

As of Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Current assets	**5,631**	**7,722**	**13,413**	**14,915**	**13,289**
Cash	1,166	1,224	1,578	1,631	1,696
Pledged and restricted bank deposits	12	55	0	0	0
Trade and bill receivables	2,801	5,042	10,166	11,520	9,644
Other receivables and prepayments	1,537	1,262	1,503	1,595	1,747
Inventories	114	138	166	169	203
Other current assets	0	0	0	0	0
Non-current assets	**63,161**	**62,826**	**69,302**	**73,234**	**78,476**
Property, plant & equipment	57,914	58,088	62,116	66,460	71,174
Investment properties	21	21	0	0	0
Intangible assets	1,284	1,179	1,171	1,164	1,157
Investment in JV and associates	686	739	739	739	739
Deferred tax assets	34	24	24	24	24
Other non-current assets	3,222	2,775	5,252	4,847	5,382
Total Assets	**68,792**	**70,548**	**82,715**	**88,148**	**91,765**
Current Liabilities	**20,511**	**21,262**	**23,789**	**26,606**	**26,712**
Trade and bill payables	2,362	1,429	327	1,610	392
Other payables	7,982	6,518	6,302	7,308	7,746
Short term borrowings	10,166	13,315	17,160	17,688	18,573
Other current assets	0	0	0	0	0
Non-current liabilities	**34,576**	**34,917**	**40,451**	**41,682**	**43,748**
Deferred tax liabilities	24	22	22	22	22
Long-term borrowings	34,160	34,507	40,040	41,272	43,337
Other non-current assets	391	388	388	388	388
Total Liabilities	**55,086**	**56,179**	**64,239**	**68,288**	**70,459**
Minority interests	**2,826**	**2,975**	**3,268**	**3,566**	**3,877**
Shareholders' equities	**10,879**	**11,394**	**15,207**	**16,294**	**17,428**

Source(s): Company, ABCI Securities estimates

Consolidated cash flow statement

FY ended Dec 31 (RMB mn)	2016A	2017A	2018E	2019E	2020E
Profit before tax	**401**	**1,059**	**1,916**	**1,949**	**2,034**
Change in depreciation and amortization	2,842	3,325	3,544	3,889	4,266
Change in Working Capital	(949)	(2,898)	(7,921)	1,330	451
Net financial cost (income)	1,727	1,878	1,868	2,120	2,656
Income tax paid	(128)	(110)	(175)	(293)	(298)
Net interest received	14	13	0	0	0
Others	(24)	(61)	(50)	(57)	(61)
Operating cash flow	**3,883**	**3,205**	**(819)**	**8,939**	**9,048**
Capex	(6,082)	(4,503)	(7,537)	(8,197)	(8,942)
Increase in intangible assets	0	0	(28)	(29)	(31)
Others	465	(10)	0	0	0
Investing cash flow	**(5,616)**	**(4,513)**	**(7,564)**	**(8,226)**	**(8,973)**
Net Capital raise	0	0	1,379	0	0
Net debt financing	3,957	3,430	9,379	1,759	2,950
Dividend payout	(253)	(242)	(131)	(267)	(272)
Interest paid	(1,902)	(1,838)	(1,889)	(2,152)	(2,688)
Others	21	16	0	0	0
Financing cash flow	**1,824**	**1,366**	**8,737**	**(660)**	**(10)**
Net change in cash	**90**	**58**	**354**	**53**	**65**
Cash at the beginning	1,078	1,166	1,224	1,578	1,631
Adjustment (Time deposit & FX effect)	(2)	0	0	0	0
Cash at the end	**1,166**	**1,224**	**1,578**	**1,631**	**1,696**

Source(s): Company, ABCI Securities estimates

Key ratio

FY ended Dec 31	2016A	2017A	2018E	2019E	2020E
Sales mixed (%)					
Wind power	96.53	99.65	97.82	97.58	97.17
Concession construction	0.10	0.00	0.00	0.00	0.00
Other	3.37	2.21	2.18	2.42	2.83
Total	**100**	**102**	**100**	**100**	**100**
Profit & loss ratios (%)					
Gross margin	39.01	45.47	49.21	49.98	48.64
Operating profit margin	36.55	40.37	47.51	48.28	46.94
Pre-tax margin	6.93	14.91	22.78	20.68	20.02
Net profit margin	5.06	12.71	19.36	17.58	17.01
Selling & administrative expenses/revenue	0.00	0.00	0.00	0.00	0.00
Effective tax rate	27.01	14.76	15.00	15.00	15.00
Growth (%)					
Revenue	3.54	22.78	18.39	12.04	7.87
Gross profit	1.35	43.11	28.11	13.79	4.97
Operating profit	1.46	35.61	39.32	13.86	4.87
Net profit	364.62	208.32	80.40	1.73	4.39
Balance sheet ratios					
Current ratio (x)	0.27	0.36	0.56	0.56	0.50
Quick ratio (x)	0.19	0.30	0.49	0.49	0.42
Cash ratio (x)	0.06	0.06	0.07	0.06	0.06
Trade and bill receivables days	130.50	201.48	330.00	420.00	380.00
Trade and bill payables turnover days	190.35	178.62	75.00	75.00	70.00
Inventory turnover days	8.41	11.89	13.00	13.00	13.00
Total debt / equity ratio (%)	407.44	419.70	376.14	361.85	355.23
Net debt / equity ratio (%)	314.81	323.91	301.07	288.67	282.62
Returns (%)					
ROAA	0.31	1.04	1.74	1.59	1.58
ROAE	1.83	6.53	10.04	8.62	8.41
Payout ratio	44.04	17.99	20.00	20.00	20.00

Source(s): Company, ABCI Securities estimates

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Rating	Definition
Buy	Stock return rate≥ Market return rate (10%)
Hold	- Market return rate (-10%) ≤ Stock return rate < Market return rate (+10%)
Sell	Stock return < - Market return (-10%)

Notes: Stock return rate: expected percentage change of share price plus gross dividend yield over the next 12 months
Market return rate: average market return rate since 2005 (HSI total return index 2005-17 CAGR at 10%)

Time horizon of share price target: 12-month

Stock rating, however, may vary from the stated framework due to factors including but not limited to: corporate governance, market capitalization, historical price volatility relative to corresponding benchmark index, average daily turnover of the stock relative to market capitalization of the stock, competitive advantages in corresponding industry, etc.

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