

## Nuclear Power Update

### 2018 Outlook: Stable but more sustainable growth

	Ticker	Rec	Mkt cap		Price	PT	Up/ dn (%)	EPS growth (%)		PER (x)		PBR (x)	
			(US\$ mn)	Ccy				2017E	2018E	2017E	2018E	2017E	2018E
CGN	1816 HK	BUY	12,494	HKD	2.15	2.60	20.9	21.0	2.0	9.1	8.9	1.3	1.2
CN	601985 CH	NR	17,692	RMB	7.39	NR	NR	13.4	21.7	23.5	19.3	2.6	2.4

Source: Bloomberg, CSCI Research (prices as of 2 January 2018)

- In our view, China's nuclear power sector will enter into a sustainably stable phase in 2018, with its share of China's total power generation volume estimated to expand to 4.25% from 3.95% in 2017E whilst the volume growth is likely to slow down further to 12.5% YoY (vs. 18% YoY in 2017E) due to the higher comparison base.
- Looking ahead into 2018, we foresee the domestic nuclear sector will face three major challenges: 1) against the backdrop of "capacity reduction", commencement of commercial operation of new capacities will likely be further postponed; 2) the yet uncertain timeline of Chinese government's greenlight of Generation III+ reactors; and 3) the discounts offered by direct power supply (DPS) will further dent the industry's revenue as the share of DPS in the industry's total on-grid volume rises.
- We maintain our POSITIVE view on the sector and recommend CGN Power (1816.HK, BUY, TP: HKD2.60). As China's largest nuclear power provider, CGN Power's EPS (excluding one-offs) is estimated to grow by 37% and 10% YoY in FY17E and FY18E respectively. In addition, as the company is expected to return to positive free cash flow in 2018, it will be in a financially sound position to increase its dividend payout ratio going forward, in our view.

#### "Capacity reduction" restricts nuclear power capacity from growing at an explosive rate.

China's nuclear power capacity addition eased substantially in 2017, with merely 2,175MW added for the year, accounting for only 30% of the 7,205MW of addition in 2016. In our view, the supply-side structural reform (the Reform) in 2017 was one of the key reasons for the slowdown, considering the existing oversupply situation in China's power industry. In 2018, against the backdrop of the intensified efforts in the Reform, which was emphasised in the 19<sup>th</sup> Congress Party, we estimate nuclear power capacity will continue to grow by 2-4GW per annum in the foreseeable future.

**The commencement of Generation III+ reactors' commercial operation is uncertain.** It is worthy to note that majority of CNG (1816.HK, BUY, TP: HKD2.60) and China Nuclear's (601985.HK, NR) new nuclear reactors, which are currently experiencing construction delays, are of the so-called "Generation III+" that have not been put into commercial operation on a global basis. Moreover, based on our estimate, the Generation III+ reactors account for 62% of the new capacity to be added during 2018-2020, and once the greenlight is given, nuclear power capacity will resume rapid growth, which defeats the government's purpose of capacity reduction.

#### Nuclear power is still the preferred clean and sustainable energy of the Chinese government.

We estimate nuclear power's share in China's total power generation volume will expand to 4.25% in 2018 from 3.95% in 2017E, representing 8 years of consecutive growth, in line with the government's target of raising the share of clean energy in total power consumption. Against this backdrop, nuclear power generation is estimated to increase by 12.4% YoY in 2018, albeit slower vs. +18.0% YoY in 2017E mainly due to the higher comparison base.

**Competitiveness in on-grid tariff and fueling cost.** In the clean energy space, the nuclear power's on-grid tariff is c.30%, 40% and 50% cheaper than wind, gas and solar power respectively. Moreover, the sustainability of nuclear power as an energy source makes it more suitable for industrial consumers. In addition, nuclear power has an absolute advantage over other energy sources in terms of fuel cost, accounting for c.20% and 30% of the unit cost of gas and coal-fired power respectively, especially amid the current high gas and coal prices.

**Stock pick.** We recommend CGN Power (1816.HK, BUY, TP: HKD2.60) in the nuclear power sector, on expectation that the company's EPS (excluding one-offs) will grow by 37% and 10% YoY in FY17E and FY18E respectively, on the back of the company's steady on-grid power volume growth. In addition, as capital expenditure is likely to come down along with slowdown in new capacity addition, the company is expected to resume positive free cash flow in 2018, it will be in a financially sound position to increase its dividend payout ratio going forward. The company is currently trading at FY17E/FY18E PBR of 1.3x/1.2x versus FY17E/FY18E ROE of 16.0%/15.6% respectively, which we deem undervalued.

**YAO Xue, Snowy**

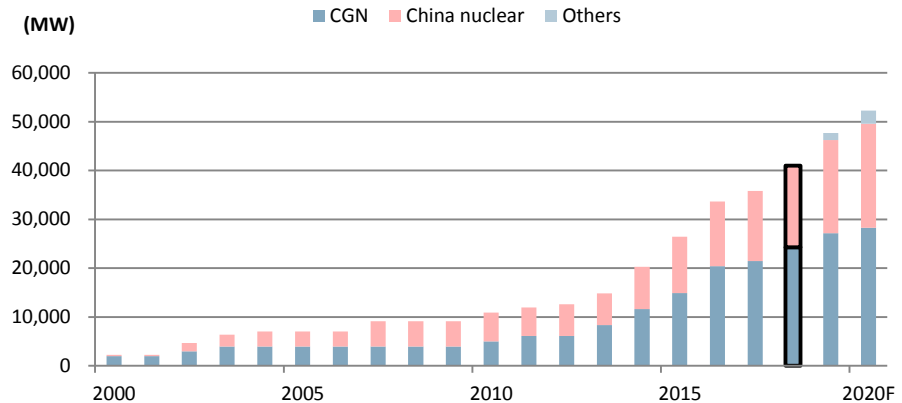
(CE No.: AWK470)

snowyyao@csci.hk  
 +852 3465 5675

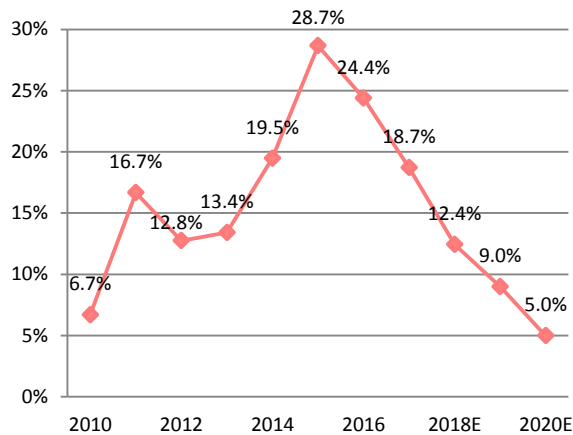
**Figure 1: China's installed nuclear power capacity growth rising steadily ...**

By 2018, we forecast China's installed nuclear power capacity will reach 37-41GW, 2-4GW more than 2017.

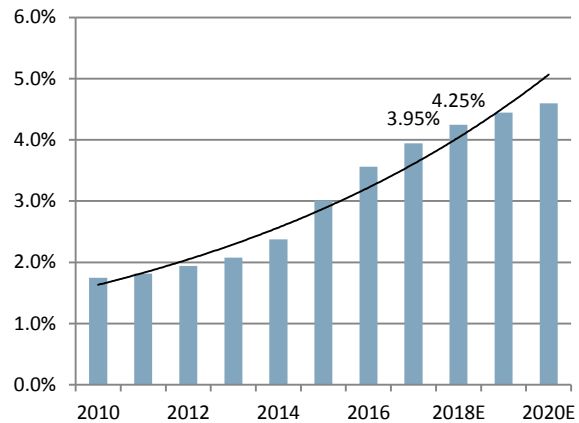
Whether or not it would reach the high-end of our estimate range depends on when the government gives the greenlight for the commercial operation of Generation III+ reactors.



Source: CNEA, Company data, CSCI Estimate

**Figure 2: Nuclear power volume growth**


Source: Wind, CSCI Research

**Figure 3: Nuclear power as a share of total power volume**


Source: Wind, CSCI Research

**Figure 4: Global nuclear power providers' valuation**

Name	Country	Capacity MW	Code	M CAP		EPS Growth (%)		P/E (x)		P/BVPS (x)		Div yield (%)		ROE (%)		
				US mn	Local \$	17E	18E	17E	18E	17E	18E	17E	18E	17E	18E	
CGN	China	21,470	1816 HK	12,325	2.12	21.0	2.0	9.0	8.8	1.3	1.1	3.6	3.6	14.3	13.5	
CN	China	14,340	601985 CH	17,580	7.35	13.4	21.7	23.4	19.2	2.6	2.4	1.1	1.3	10.5	11.6	
EDF	France	62,400	EDF FP	36,705	10.47	(60.0)	17.1	19.4	16.6	0.8	0.8	3.2	2.9	5.0	4.8	
E.ON	Germany	4,180	EOAN GR	23,969	9.09	47.5	1.6	14.5	14.3	4.9	4.3	3.3	4.8	91.9	29.1	
RWE	Germany	3,907	RWE GR	12,336	16.91	77.4	(23.1)	8.6	11.2	1.7	1.6	6.2	3.4	33.9	17.0	
Tokyo E.	Japan	12,233	8035 JP	29,956	20,400	90.6	12.6	16.8	14.9	4.3	3.7	3.0	3.4	28.9	27.5	
Kansai E.	Japan	8,494	9503 JP	11,514	1,380	9.5	6.7	9.3	8.7	0.9	0.8	2.3	3.2	9.7	8.9	
Korea E.	Korea	22,501	015760 KS	22,976	38,150	(57.7)	22.1	7.1	5.8	0.3	0.3	3.3	3.9	4.7	5.5	
Endesa	Spain	3,037	ELE SM	22,814	17.98	(1.7)	4.5	14.1	13.5	2.1	2.1	7.4	7.5	15.1	15.4	
Iberdrola	Spain	3,073	IBE SM	49,047	6.48	4.6	8.4	15.1	14.0	1.1	1.0	5.0	5.2	7.8	7.9	
Exelon	USA	22,906	EXC US	37,731	39.30	(1.1)	9.0	14.8	13.6	1.3	1.2	3.4	3.4	8.7	8.9	
								<b>Avg.</b>	<b>14.7</b>	<b>13.4</b>	<b>1.9</b>	<b>1.7</b>	<b>3.9</b>	<b>4.0</b>	<b>19.2</b>	<b>12.9</b>

Source: World Nuclear Association, Bloomberg, CSCI Research, prices as of 29 December 2017



## Research

**LIU Taisheng, Steven**  
TMT  
(852) 3465 5652  
stevenliu@csci.hk

**SO Lai Shan, Jennifer**  
Consumer  
(852) 3465 5781  
jenniferso@csci.hk

**CHAN Ka Yeung, Duncan**  
Commodity  
(852) 3465 5654  
duncanchan@csci.hk

**TIAN Yang**  
Automotive  
(852) 3465 5775  
tianyong@csci.hk

**SUN Lingxiao, Roger**  
Industrials  
(852) 3465 5785  
rogersun@csci.hk

**YAO Xue, Snowy**  
Utilities & Coal  
snowyyao@csci.hk  
(852) 3465 5675

**SHEN Xiangfei, Thomas**  
(852) 3465 8689  
thomasshen@csci.hk

**XU Qiwen**  
(852) 3465 8690  
xuqiwen@csci.hk

## Institutional Sales & Trading

**XIANG Xinrong, Ron**  
(852) 3465 5633  
ronxiang@csci.hk

**HO Wen Hao, Jack**  
(852) 3465 5685  
jackho@csci.hk

**WANG Zhuo, Gary**  
(852) 3465 8655  
wangzhuo@csci.hk

**LEE Ying Ju, Rose**  
(852) 3465 5707  
roselee@csci.hk

**LI Jiageng, Mike**  
(852) 3465 5636  
mikeli@csci.hk

**XIA Tian**  
(852) 3465 5670  
xiatian@csci.hk

**XU Xiaowei, Vincent**  
(852) 3465 5795  
vincentxu@csci.hk

## Company Rating Definition

The Benchmark: Hong Kong Hang Seng Index; Time Horizon: 12 months

<b>Buy</b>	12-month absolute total return: $\geq 10\%$
<b>Hold</b>	12-month absolute total return: $> -10\%$ but $< 10\%$
<b>Sell</b>	12-month absolute total return: $\leq -10\%$

### Disclosure of Interests

As of the date of this report,

- The research analysts primarily responsible for the preparation of all or part of this report hereby certify that:
  - the views expressed in this research report accurately reflect the personal views of each such analyst about the subject securities and issuers; and
  - no part of the analyst's compensation was, is, or will be directly or indirectly, related to the specific recommendations or views expressed in this research report.
- The research analysts primarily responsible for the preparation of all or part of this report, or his/her associate(s), do not have any interest (including any direct or indirect ownership of securities, arrangement for financial accommodation or serving as an officer) in any company mentioned in this report,
- This report has been produced in its entirety by China Securities (International) Brokerage Company Limited ("China Securities (International)") (CE Number: BAU373, regulated by the Securities and Futures Commission in Hong Kong)
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities have no financial interest, in aggregate, equal to or more than 1% of the market capitalization in the stocks reviewed in this report.
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities may receive compensation from or mandates for investment banking services in the past 12 months from listed corporations whose stocks are being reviewed by China Securities (International) in this report.
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities do not have any individual employed by or associated with them serving as an officer of a listed corporation whose stocks are being reviewed by China Securities (International) in this report.
- China Securities (International) and each of its group companies that carry on a business in Hong Kong in investment banking, proprietary trading or agency broking in relation to securities may act as the market makers in the stocks reviewed by China Securities (International) in this report.

### Disclaimer

This report is for information purposes only and should not be construed as an offer to sell or to solicitation of an offer to buy or sell any securities in any jurisdiction. The securities referred to in this research report may not be eligible for sale in some jurisdictions. This information contained in this report has been compiled by China Securities (International) from sources that it believes to be reliable and the opinions, analysis, forecasts, projections and expectations contained in this report are based on such information and are expressions of belief only and no representation, warranty or guarantee is made or given by China Securities (International) or any person for its accuracy or completeness. All opinions and estimates expressed in this report are (unless otherwise indicated) entirely those of China Securities (International) as of the date of this report only and are subject to change without notice. Such opinions and estimates may be different from or contrary to the opinions presented by the other business departments, units or affiliates of China Securities (International), as different assumptions and standards, different views and analytical methods may be adopted in the preparation of such other materials, and China Securities (International) is under no obligation to bring such other materials to the attention of any recipient of this report. Neither China Securities (International) nor its holding companies and affiliates accept any liability whatsoever for any direct or consequential loss arising from any use of material contained in this report or otherwise arising in connection therewith.

Any investment referred to herein may involve significant risk, may be illiquid and may not be suitable for all investors. The value of or income from any investment referred to herein may fluctuate and be affected by changes in exchange rates. Past performance is not indicative of future results. This report does not take into account the investment objectives, financial situation or particular needs of any particular person. Investors are expected to make their own investment decision without relying on this publication. Before entering into any transactions in any securities referred to in this research report investor should consider their own individual investment objectives and financial situation and seek professional financial, tax and legal advice, as necessary.

This report is strictly confidential to the recipient. It is being supplied to you solely for your information and may not be reproduced, redistributed or passed on, directly or indirectly, to any other person or published, in whole or in part, for any purpose. The distribution of this report in other jurisdictions may be restricted by law, and persons into whose possession this report comes should inform themselves about, and observe, any such restrictions. By accepting this report you agree to be bound by the foregoing instructions.

### China Securities (International) Research

18/F, Two Exchange Square, Central, Hong Kong

Tel: (852) 34655600 Fax: (852) 21809495

Bloomberg: CSCR <Go>