



## Wind Power Monthly

### Strong output in Aug-17, full-year growth target on track

	Ticker	Rec	Mkt cap		Price	PT	Up/ dn (%)	EPS growth (%)		PER (x)		PBR (x)	
			(USD mn)	Ccy				2017E	2018E	2017E	2018E	2017E	2018E
<b>Longyuan Power</b>	916 HK	BUY	6,191	HKD	5.94	7.11	+20%	11.7	12.4	11.0	9.8	1.0	0.9
<b>Huaneng Renewables</b>	958 HK	BUY	3,367	HKD	2.43	3.00	+23%	2.2	12.6	7.6	6.8	0.9	0.8

Source: company data; CSCI Research estimates (prices as of 11 September 2017)

- With Longyuan Power (LYP) and Huaneng Renewables (HNR) having reported a 23.3% and 15.0% increase in domestic wind power output for Aug-17 respectively, we estimate they have respectively achieved a 12.9% and 12.4% YoY increase in monthly utilization hour.
- Wind power curtailments continued to ease in Aug-17, with LYP and HNR posting a 5.3ppt and 3.0ppt YoY curtailment rate reduction respectively. LYP registered major power output increments in Northwest and Eastern China with all the other regions maintaining steady growth, while HNR saw major output growth in Southern China, particularly in Yunnan and Guizhou which saw significant recovery versus the low-base in Aug-16.
- We reiterate our BUY rating on LYP and HNR; both are trading at over 1SD below their historical average.

**Strong output in August, full-year growth on track.** In August, LYP generated 3,346GWh of power output (up 12.9% YoY), driven by a 23.2% growth in wind power generation (accounting for 68.5% of total output) which was partly offset by a 4.8% decrease in coal power generation (29.9% of total output), whereas the output of other renewables remained relatively stable, gaining 1.3% YoY and accounted for merely 1.6% of total output. Meanwhile, HNR reported total power generation of 1,211GWh (up 14.0% YoY), on the back of a 15.0% YoY growth in wind power output (91.6% of total output) and 4.3% YoY growth in solar power output (8.4% of total output). Regarding YTD performance, LYP and HNR achieved 8M17 wind power output growth of 12.8% and 13.0% YoY, and total output growth of 12.0% and 13.5% YoY respectively, which are generally in-line with our full-year estimates.

**LYP registered major growth in Northwest and Eastern China**, which accounted for 33% and 24% of its year-over-year incremental power output, while the other four regions also maintained steady growth (6-14% increments). Provincial wise, the main growth drivers were Gansu, Fujian, Xinjiang and Heilongjiang, accounting for 19%/15%/14%/12% of the increments respectively, whereas Liaoning, Ningxia and Shandong were the main drags. According to the management, the overall curtailment rate has dropped by 5.3ppt YoY to 7.7% (vs. 13.0% in Aug-16).

**Meanwhile, HNR saw major growth in Southern China**, which contributed 74% of the increment in its power output. Northern China experienced the only output decline, while the other four regions contributed 6-10% of the increment. Yunnan and Guizhou were the main provincial growth drivers, accounting for 46% and 18% of the increments; their utilization increased by 102% and 45% YoY respectively which we think was due to the low-base in Aug-16. On the contrary, the main drag was in Inner Mongolia where it had undergone maintenance works on the local power infrastructure. Meanwhile, the overall curtailment rate has dropped 3.0ppt YoY to 5.6% (vs. 8.6% in Aug-16).

**Reiterate BUY on LYP and HNR.** LYP is currently trading at FY17E/FY18E PER of 11.0x/9.8x, versus 7.6x/6.8x for HNR respectively. Both are trading at over 1SD below their historical average.

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**Figure 1: Monthly wind power generation – Longyuan Power (916 HK)**

		Curtailments		Grid-connected capacity (GW)			Power generation (GWh)			Utilization hour		
		2015	2016	2015	2016	%	Aug-16	Aug-17	YoY%	Aug-16	Aug-17	YoY%
Shanghai	IV			0.05	0.05	0.3%	8.2	9.2	12.3%	172	194	12.3%
Jiangsu	IV			1.68	1.73	10.0%	228.3	251.9	10.3%	136	146	7.1%
Zhejiang	IV			0.23	0.23	1.3%	22.3	28.0	25.5%	98	123	25.5%
Anhui	IV			0.59	0.73	4.2%	103.3	113.0	9.4%	151	154	2.2%
Fujian	IV			0.52	0.67	3.9%	49.9	112.2	125.0%	87	169	92.9%
<b>Sub-total</b>				<b>3.06</b>	<b>3.40</b>	<b>19.7%</b>	<b>411.9</b>	<b>514.3</b>	<b>24.8%</b>			
Jiangxi	IV			-	0.04	0.2%	-	9.8	-	-	244	-
Henan	IV					0.0%						
Hubei	IV					0.0%	-	6.1				
Hunan	IV			-	0.05	0.3%	9.5	11.4	19.6%	198	237	19.6%
Chongqing	IV			0.15	0.15	0.9%	26.7	35.3	32.6%	178	236	32.6%
Sichuan	IV					0.0%						
Tibet	IV			0.01	0.01	0.0%	0.5	0.3	-37.7%	70	44	-37.7%
<b>Sub-total</b>				<b>0.16</b>	<b>0.25</b>	<b>1.4%</b>	<b>36.7</b>	<b>62.9</b>	<b>71.5%</b>			
Guangdong	IV			0.03	0.08	0.4%	1.7	8.8	415.6%	66	116	75.2%
Guangxi	IV			-	0.10	0.6%	7.9	10.3	29.5%	83	108	29.5%
Hainan	IV			0.10	0.10	0.6%	6.8	7.7	12.6%	69	77	12.6%
Guizhou	IV			0.54	0.64	3.7%	63.7	66.1	3.7%	99	103	3.7%
Yunnan	IV	3%	4%	0.62	0.77	4.5%	62.8	101.0	60.8%	101	131	29.4%
<b>Sub-total</b>				<b>1.28</b>	<b>1.68</b>	<b>9.7%</b>	<b>143.0</b>	<b>193.8</b>	<b>35.6%</b>			
Beijing	IV					0.0%						
Tianjin	IV			0.13	0.13	0.8%	13.3	13.1	-1.4%	100	99	-1.4%
Hebei	II/IV	10%	9%	1.17	1.17	6.8%	92.0	115.4	25.5%	79	99	25.5%
Shanxi	IV	3%	9%	0.65	0.83	4.8%	53.1	68.7	29.5%	82	83	0.9%
Shandong	IV			0.34	0.39	2.3%	44.3	33.5	-24.4%	131	85	-34.9%
Inner Mongolia	I/II	18%	21%	2.59	2.64	15.3%	248.9	279.4	12.2%	94	106	12.2%
<b>Sub-total</b>				<b>4.87</b>	<b>5.16</b>	<b>29.9%</b>	<b>451.5</b>	<b>510.1</b>	<b>13.0%</b>			
Liaoning	IV	10%	13%	1.00	1.00	5.8%	124.1	102.5	-17.4%	124	102	-17.4%
Jilin	III/IV	31%	30%	0.45	0.55	3.2%	31.7	53.8	69.8%	64	98	54.3%
Heilongjiang	III/IV	21%	19%	1.23	1.23	7.1%	148.7	200.1	34.5%	120	162	34.5%
<b>Sub-total</b>				<b>2.69</b>	<b>2.79</b>	<b>16.1%</b>	<b>304.5</b>	<b>356.4</b>	<b>17.0%</b>			
Shaanxi	IV		7%	0.20	0.44	2.5%	40.9	53.4	30.5%	121	122	0.6%
Gansu	II/III	39%	43%	1.29	1.29	7.5%	145.7	228.0	56.6%	113	177	56.6%
Qinghai	IV					0.0%						
Ningxia	III	13%	13%	0.72	0.72	4.2%	99.5	85.8	-13.7%	137	118	-13.7%
Xinjiang	I/III	32%	38%	1.39	1.54	8.9%	212.2	271.1	27.7%	138	176	27.7%
<b>Sub-total</b>				<b>3.60</b>	<b>4.00</b>	<b>23.1%</b>	<b>498.3</b>	<b>638.4</b>	<b>28.1%</b>			
<b>National total</b>		<b>15%</b>	<b>17%</b>	<b>15.67</b>	<b>17.27</b>		<b>1,846</b>	<b>2,276</b>	<b>23.3%</b>	<b>117</b>	<b>132</b>	<b>12.9%</b>

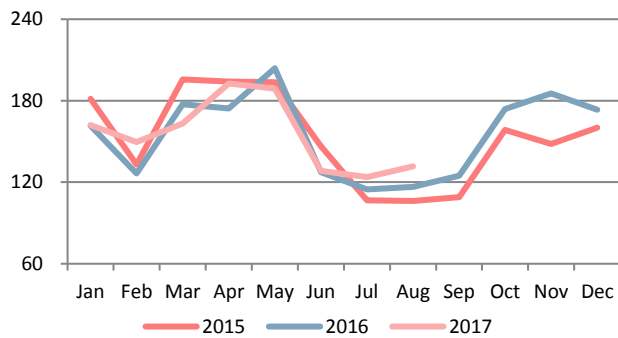
Source: CEC; Company, CSCI Research estimates

**Figure 2: Monthly wind power generation – Huaneng Renewables (958 HK)**

		Curtailments		Grid-connected capacity (GW)			Power generation (GWh)			Utilization hour		
		2015	2016	2015	2016	%	Aug-16	Aug-17	YoY%	Aug-16	Aug-17	YoY%
Shanghai	IV			0.11	0.11	1.1%	13.0	14.3	10.0%	121	133	10.0%
Jiangsu	IV											
Zhejiang	IV			0.03	0.07	0.7%	3.3	12.6	278.9%	96	169	75.5%
Anhui	IV											
Fujian	IV											
<b>Sub-total</b>				<b>0.14</b>	<b>0.18</b>	<b>1.8%</b>	<b>16.3</b>	<b>26.9</b>	<b>64.7%</b>			
Jiangxi	IV											
Henan	IV											
Hubei	IV											
Hunan	IV											
Chongqing	IV											
Sichuan	IV			0.49	0.49	4.8%	40.4	48.7	20.6%	82	99	20.6%
Tibet	IV											
<b>Sub-total</b>				<b>0.49</b>	<b>0.49</b>	<b>4.8%</b>	<b>40.4</b>	<b>48.7</b>	<b>20.6%</b>			
Guangdong	IV			0.50	0.50	4.9%	52.0	60.6	16.6%	103	121	16.6%
Guangxi	IV			-	0.05	0.5%	-	6.9	-	-	139	-
Hainan	IV											
Guizhou	IV			0.73	0.73	7.1%	57.2	82.7	44.7%	78	113	44.7%
Yunnan	IV	3%	4%	1.12	1.12	10.9%	64.5	130.2	102.0%	58	117	102.0%
<b>Sub-total</b>				<b>2.35</b>	<b>2.40</b>	<b>23.4%</b>	<b>173.6</b>	<b>280.4</b>	<b>61.5%</b>			
Beijing	IV											
Tianjin	IV											
Hebei	II/IV	10%	9%	0.36	0.36	3.5%	31.7	30.4	-4.4%	88	84	-4.4%
Shanxi	IV	3%	9%	0.69	0.74	7.3%	55.2	69.3	25.6%	79	93	17.3%
Shandong	IV			0.95	1.00	9.8%	91.7	94.2	2.8%	96	94	-2.3%
Inner Mongolia	I/II	18%	21%	2.47	2.47	24.1%	266.2	243.6	-8.5%	108	99	-8.5%
<b>Sub-total</b>				<b>4.48</b>	<b>4.57</b>	<b>44.6%</b>	<b>444.7</b>	<b>437.5</b>	<b>-1.6%</b>			
Liaoning	IV	10%	13%	1.36	1.40	13.7%	143.3	145.4	1.5%	105	104	-1.6%
Jilin	III/IV	31%	30%	0.40	0.40	3.9%	37.1	48.8	31.4%	94	123	31.4%
Heilongjiang	III/IV	21%	19%									
<b>Sub-total</b>				<b>1.76</b>	<b>1.80</b>	<b>17.5%</b>	<b>180.4</b>	<b>194.2</b>	<b>7.7%</b>			
Shaanxi	IV		7%	0.06	0.36	3.5%	41.5	36.8	-11.3%	116	103	-11.3%
Gansu	II/III	39%	43%									
Qinghai	IV											
Ningxia	III	13%	13%									
Xinjiang	I/III	32%	38%	0.45	0.45	4.4%	68.1	85.0	24.8%	152	190	24.8%
<b>Sub-total</b>				<b>0.51</b>	<b>0.81</b>	<b>7.9%</b>	<b>109.6</b>	<b>121.8</b>	<b>11.1%</b>			
<b>National total</b>		<b>15%</b>	<b>17%</b>	<b>9.72</b>	<b>10.25</b>		<b>965</b>	<b>1,110</b>	<b>15.0%</b>	<b>96</b>	<b>108</b>	<b>12.4%</b>

Source: CEC; Company; CSCI Research estimates

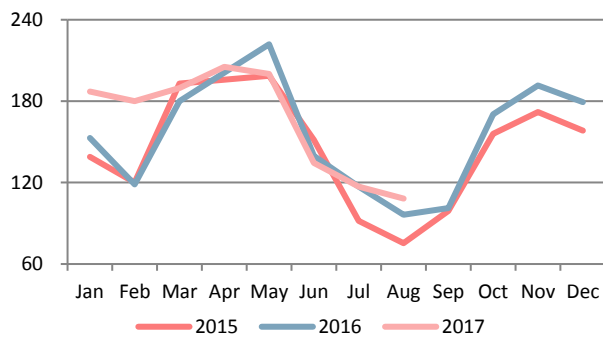
## Valuation at historic trough

**Figure 3: Estimated monthly utilization – LYP (916 HK)**


Source: Company; CSCI Research Estimates

**Figure 4: Historic PER band – LYP (916 HK)**


Source: Bloomberg; CSCI Research

**Figure 5: Estimated monthly utilization – HNR (958 HK)**


Source: Company; CSCI Research Estimates

**Figure 6: Historic PER band – HNR (958 HK)**


Source: Bloomberg; CSCI Research

**Figure 7: Peer valuation**

Company	Ticker	Close (Local\$)	Mkt cap (USD mn)	EPS Growth		PER (x)		PBR (x)		ROE (%)		Yield (%)		Net Gear (%)	
				FY17E	FY18E	FY17E	FY18E	FY17E	FY18E	FY17E	FY18E	FY17E	FY18E	FY17E	FY18E
<b>Wind Power</b>															
Longyuan	916 HK	5.9	6,191	12%	12%	11.0	9.8	1.0	0.9	9%	10%	1.8%	2.0%	180%	171%
Goldwind	2208 HK	8.5	6,280	15%	6%	7.5	7.1	1.1	1.0	15%	14%	3.4%	3.7%	69%	77%
HN Renew	958 HK	2.4	3,367	2%	13%	7.6	6.8	0.9	0.8	12%	12%	2.0%	2.2%	205%	186%
<b>Average</b>				<b>10%</b>	<b>10%</b>	<b>8.7</b>	<b>7.9</b>	<b>1.0</b>	<b>0.9</b>	<b>12%</b>	<b>12%</b>	<b>2.4%</b>	<b>2.6%</b>	<b>151%</b>	<b>145%</b>
<b>Thermal Power</b>															
Huaneng Power	902 HK	5.1	14,306	-63%	121%	21.2	9.6	0.8	0.8	4%	8%	2.5%	5.5%	265%	231%
CR Power	836 HK	14.5	9,038	-27%	42%	12.3	8.6	1.0	0.9	8%	11%	6.1%	6.1%	135%	127%
Huadian Power	1071 HK	3.2	6,280	-50%	108%	17.2	8.3	0.6	0.6	3%	9%	1.8%	5.0%	227%	205%
China Power	2380 HK	2.6	2,476	-22%	19%	9.0	7.5	0.6	0.5	6%	8%	4.3%	6.7%	168%	159%
<b>Average</b>				<b>-41%</b>	<b>73%</b>	<b>14.9</b>	<b>8.5</b>	<b>0.7</b>	<b>0.7</b>	<b>5%</b>	<b>9%</b>	<b>3.7%</b>	<b>5.8%</b>	<b>199%</b>	<b>180%</b>
<b>Renewable Energy</b>															
Jingneng CE	579 HK	2.2	1,890	10%	6%	5.9	5.5	0.7	0.6	12%	12%	4.0%	4.5%	119%	103%
Huadian Fuxin	816 HK	1.8	1,905	9%	18%	6.1	5.2	0.6	0.5	9%	10%	3.5%	4.3%	300%	285%
Suntien	956 HK	1.8	894	55%	17%	6.9	5.9	0.6	0.6	10%	10%	5.4%	6.1%	193%	208%
CGN New Energy	1811 HK	1.0	577	-21%	11%	9.1	8.3	0.7	0.7	8%	9%	3.0%	1.8%	216%	201%
Concord	182 HK	0.3	372	22%	29%	4.3	3.4	0.4	0.4	11%	11%	4.8%	5.2%	70%	86%
<b>Average</b>				<b>15%</b>	<b>16%</b>	<b>6.5</b>	<b>5.6</b>	<b>0.6</b>	<b>0.6</b>	<b>10%</b>	<b>11%</b>	<b>4.2%</b>	<b>4.4%</b>	<b>180%</b>	<b>177%</b>
<b>Nuclear</b>															
CGN Power	1816 HK	2.2	12,971	21%	7%	9.8	9.2	1.3	1.2	14%	14%	3.2%	3.4%	216%	207%
<b>Hydro Power</b>															
Yangtze Power	600900 CH	15.3	51,254	-2%	0%	16.5	16.6	2.5	2.3	15%	14%	4.3%	4.4%	80%	67%
SDIC Power	600886 CH	7.5	7,697	3%	8%	12.5	11.6	1.6	1.4	13%	12%	2.9%	3.0%	381%	347%
Chuantou Energy	600674 CH	9.7	6,529	-2%	3%	12.5	12.1	1.9	1.7	15%	14%	2.9%	2.9%	16%	13%
Guiguan Power	600236 CH	6.3	5,791	-3%	18%	15.2	12.8	2.5	2.1	17%	16%	2.8%	3.2%	-	-
<b>Average</b>				<b>-1%</b>	<b>7%</b>	<b>14.2</b>	<b>13.3</b>	<b>2.1</b>	<b>1.9</b>	<b>15%</b>	<b>14%</b>	<b>3.2%</b>	<b>3.4%</b>	<b>159%</b>	<b>142%</b>

 Source: CSCI Research Estimates, Bloomberg; data as of September 11<sup>th</sup>, 2017

## Longyuan Power (916 HK)

### Income statement (Rmb mn)

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Revenue</b>	<b>19,683</b>	<b>22,304</b>	<b>24,342</b>	<b>24,959</b>	<b>26,930</b>
Other net income	450	647	577	643	714
Material costs	(3,851)	(5,328)	(6,152)	(4,971)	(4,972)
Service concession	(662)	(541)	(55)	(49)	(44)
General and administrative	(1,795)	(2,032)	(2,212)	(2,286)	(2,461)
Repairs and maintenance	(531)	(642)	(685)	(807)	(874)
Other operating expenses	(584)	(518)	(487)	(750)	(696)
<b>EBITDA</b>	<b>12,710</b>	<b>13,890</b>	<b>15,329</b>	<b>16,738</b>	<b>18,597</b>
Depreciation & Amortization	(5,578)	(6,342)	(6,935)	(7,555)	(8,176)
<b>EBIT</b>	<b>7,132</b>	<b>7,548</b>	<b>8,394</b>	<b>9,183</b>	<b>10,422</b>
Net interest	(3,039)	(2,774)	(2,984)	(3,123)	(3,193)
JVs and associates	576	376	321	357	417
<b>Pretax profit</b>	<b>4,669</b>	<b>5,150</b>	<b>5,732</b>	<b>6,418</b>	<b>7,646</b>
Taxation	(601)	(660)	(735)	(823)	(980)
Minority & perpetual note	1,189	1,074	1,181	1,306	1,530
<b>Net profit</b>	<b>2,878</b>	<b>3,415</b>	<b>3,816</b>	<b>4,289</b>	<b>5,135</b>
Net profit (adjusted)	2,704	3,258	3,816	4,289	5,135
Basic EPS (Rmb)	0.36	0.42	0.47	0.53	0.64
Diluted EPS (Rmb)	0.36	0.42	0.47	0.53	0.64
DPS (Rmb)	0.07	0.09	0.09	0.11	0.13

### Balance sheet (Rmb mn)

Year end: Dec	2015	2016	2017E	2018E	2019E
Cash	3,274	1,933	2,579	2,436	2,467
Short term investments	866	635	635	635	635
Accounts receivables	4,243	5,901	7,883	8,279	8,812
Inventory	1,081	1,040	1,065	861	861
Other current assets	3,240	3,824	3,824	3,824	3,824
<b>Total current assets</b>	<b>12,704</b>	<b>13,333</b>	<b>15,986</b>	<b>16,034</b>	<b>16,599</b>
PP&E	98,997	105,598	113,074	119,956	126,232
Intangible Assets	10,702	10,997	10,711	10,410	10,096
Associates and JVs	4,822	4,483	4,804	5,161	5,578
Other long term assets	6,643	4,250	4,250	4,250	4,250
<b>Total long term assets</b>	<b>121,164</b>	<b>125,328</b>	<b>132,839</b>	<b>139,777</b>	<b>146,156</b>
<b>TOTAL ASSETS</b>	<b>133,867</b>	<b>138,661</b>	<b>148,825</b>	<b>155,811</b>	<b>162,755</b>
Short term debt	44,977	44,511	46,735	42,065	37,863
Accounts payables	10,867	11,120	11,748	11,813	12,323
Other current liabilities	156	176	176	176	176
<b>Total current liabilities</b>	<b>56,000</b>	<b>55,807</b>	<b>58,658</b>	<b>54,054</b>	<b>50,361</b>
Long term debt	29,970	31,788	34,921	41,813	46,775
Deferred tax	106	138	138	138	138
Other long term liabilities	3,217	3,141	3,141	3,141	3,141
<b>Total long term liabilities</b>	<b>33,293</b>	<b>35,067</b>	<b>38,200</b>	<b>45,092</b>	<b>50,054</b>
<b>TOTAL LIABILITIES</b>	<b>89,293</b>	<b>90,874</b>	<b>96,858</b>	<b>99,145</b>	<b>100,415</b>
Shareholders' funds	35,145	37,899	41,032	44,558	48,835
Perpetual medium-term note	2,991	2,991	2,991	2,991	2,991
Minority Interests	6,439	6,896	7,944	9,117	10,514
<b>TOTAL LIAB AND EQUITY</b>	<b>133,867</b>	<b>138,661</b>	<b>148,825</b>	<b>155,811</b>	<b>162,755</b>
Net cash / (debt)	(71,672)	(74,366)	(79,076)	(81,442)	(82,170)

Source: Company; CSCS Research estimates

### Cash flow statement (Rmb mn)

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Pretax profit</b>	<b>4,669</b>	<b>5,150</b>	<b>5,732</b>	<b>6,418</b>	<b>7,646</b>
Depreciation & amortisation	5,578	6,342	6,935	7,555	8,176
Net interest	2,685	2,602	3,022	3,161	3,231
Taxes paid	(526)	(634)	(735)	(823)	(980)
Changes in working capital	4,128	483	(1,380)	(126)	(23)
Others	(227)	(411)	(359)	(396)	(455)
<b>Cash flow from operations</b>	<b>16,307</b>	<b>13,533</b>	<b>13,214</b>	<b>15,790</b>	<b>17,594</b>
Capex	(15,264)	(13,990)	(14,124)	(14,136)	(14,138)
Acquisitions	(877)	(68)	(0)	(0)	(0)
Disposals	3	220	-	-	-
Others	(182)	2,630	97	104	102
<b>Cash flow from investing</b>	<b>(16,319)</b>	<b>(11,209)</b>	<b>(14,027)</b>	<b>(14,032)</b>	<b>(14,036)</b>
Dividends	(1,174)	(1,306)	(683)	(763)	(858)
Issue of shares	412	147	-	-	-
Change in debt	4,870	1,322	5,356	2,222	760
Others	(3,582)	(3,447)	(3,214)	(3,360)	(3,428)
<b>Cash flow from financing</b>	<b>525</b>	<b>(3,284)</b>	<b>1,459</b>	<b>(1,900)</b>	<b>(3,526)</b>
<b>Change in cash</b>	<b>513</b>	<b>(961)</b>	<b>646</b>	<b>(143)</b>	<b>31</b>
Free cash flow	1,043	(458)	(910)	1,653	3,456

### Key ratios

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Operating ratios</b>					
EBIT margin (%)	36.2	33.8	34.5	36.8	38.7
EBITDA margin (%)	64.6	62.3	63.0	67.1	69.1
Effective tax rate (%)	12.9	12.8	12.8	12.8	12.8
Revenue growth (%)	8.0	13.3	9.1	2.5	7.9
Net income growth (%)	12.7	18.7	11.7	12.4	19.7
EPS growth adj (%)	12.7	18.7	11.7	12.4	19.7
DPS growth (%)	20.1	18.5	11.7	12.4	19.7
<b>Efficiency ratios</b>					
ROE (%)	8.2	9.0	9.3	9.6	10.5
ROCE (%)	9.2	9.1	9.3	9.0	9.3
Asset turnover (x)	0.1	0.2	0.2	0.2	0.2
Op cash / EBIT (x)	2.3	1.8	1.6	1.7	1.7
Depreciation / CAPEX (x)	(0.4)	(0.5)	(0.5)	(0.5)	(0.6)
Accounts receivable days	98.8	83.0	103.3	118.2	115.8
<b>Leverage ratios</b>					
Net debt / assets (%)	53.5	53.6	53.1	52.3	50.5
Net gearing (%)	187.9	181.9	179.6	171.3	158.6
Net debt / EBITDA (x)	5.6	5.4	5.2	4.9	4.4
Interest cover (x)	2.7	2.9	2.8	2.9	3.2
Current ratio (x)	0.2	0.2	0.3	0.3	0.3
<b>Valuation</b>					
PER (x)	14.6	12.3	11.0	9.8	8.2
EV/EBITDA (x)	9.8	9.6	9.2	8.6	7.8
PBR (x)	1.2	1.1	1.0	0.9	0.9
Dividend yield (x)	1.4	1.6	1.8	2.0	2.4

## Huaneng Renewables (958 HK)

### Income statement (Rmb mn)

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Revenue</b>	<b>7,357</b>	<b>9,239</b>	<b>10,347</b>	<b>11,196</b>	<b>12,309</b>
Other net income	435	322	284	308	338
Material costs	-	-	-	-	-
Service concession	-	-	-	-	-
General and administrative	(559)	(626)	(744)	(828)	(911)
Repairs and maintenance	(109)	(189)	(247)	(268)	(294)
Other operating expenses	(272)	(375)	(407)	(441)	(485)
<b>EBITDA</b>	<b>6,851</b>	<b>8,370</b>	<b>9,233</b>	<b>9,966</b>	<b>10,957</b>
Depreciation & Amortization	(2,735)	(3,462)	(3,554)	(3,834)	(4,108)
<b>EBIT</b>	<b>4,116</b>	<b>4,908</b>	<b>5,679</b>	<b>6,132</b>	<b>6,850</b>
Net interest	(2,073)	(1,995)	(2,449)	(2,493)	(2,540)
JVs and associates	(3)	(3)	(2)	(3)	(2)
<b>Pretax profit</b>	<b>2,041</b>	<b>2,910</b>	<b>3,228</b>	<b>3,636</b>	<b>4,307</b>
Taxation	(141)	(202)	(224)	(252)	(298)
Minority	40	49	55	61	73
<b>Net profit</b>	<b>1,860</b>	<b>2,659</b>	<b>2,950</b>	<b>3,323</b>	<b>3,936</b>
Net profit (adjusted)	1,616	2,614	2,950	3,323	3,936
Basic EPS (Rmb)	0.19	0.27	0.28	0.31	0.37
Diluted EPS (Rmb)	0.19	0.27	0.28	0.31	0.37
DPS (Rmb)	0.03	0.04	0.04	0.05	0.06

### Balance sheet (Rmb mn)

Year end: Dec	2015	2016	2017E	2018E	2019E
Cash	4,504	2,570	3,191	3,526	4,032
Short term investments	-	-	-	-	-
Accounts receivables	2,900	4,635	6,726	7,053	7,139
Inventory	43	33	33	33	33
Other current assets	205	1,457	1,457	1,457	1,457
<b>Total current assets</b>	<b>7,652</b>	<b>8,696</b>	<b>11,406</b>	<b>12,069</b>	<b>12,661</b>
PP&E	68,658	72,107	75,236	78,605	82,632
Intangible Assets	682	654	620	587	553
Associates and JVs	109	106	104	102	99
Other long term assets	5,452	3,883	3,906	3,932	3,961
<b>Total long term assets</b>	<b>74,901</b>	<b>76,749</b>	<b>79,867</b>	<b>83,225</b>	<b>87,246</b>
<b>TOTAL ASSETS</b>	<b>82,553</b>	<b>85,445</b>	<b>91,273</b>	<b>95,295</b>	<b>99,907</b>
Short term debt	19,223	22,998	23,458	23,927	24,405
Accounts payables	9,250	7,440	7,440	7,440	7,440
Other current liabilities	60	80	80	80	80
<b>Total current liabilities</b>	<b>28,533</b>	<b>30,517</b>	<b>30,977</b>	<b>31,446</b>	<b>31,925</b>
Long term debt	32,695	29,955	30,554	31,165	31,789
Deferred tax	20	3,743	3,743	3,743	3,743
Other long term liabilities	2,680	235	235	235	235
<b>Total long term liabilities</b>	<b>35,395</b>	<b>33,933</b>	<b>34,533</b>	<b>35,144</b>	<b>35,767</b>
<b>TOTAL LIABILITIES</b>	<b>63,928</b>	<b>64,451</b>	<b>65,510</b>	<b>66,590</b>	<b>67,692</b>
Shareholders' funds	17,798	20,137	24,852	27,732	31,169
Perpetual medium-term note	-	-	-	-	-
Minority Interests	827	857	911	973	1,046
<b>TOTAL LIAB AND EQUITY</b>	<b>82,553</b>	<b>85,445</b>	<b>91,273</b>	<b>95,295</b>	<b>99,907</b>
Net cash / (debt)	(47,414)	(50,383)	(50,821)	(51,566)	(52,162)

Source: Company; CSCS Research estimates

### Cash flow statement (Rmb mn)

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Pretax profit</b>	<b>2,041</b>	<b>2,910</b>	<b>3,228</b>	<b>3,636</b>	<b>4,307</b>
Depreciation & amortisation	2,735	3,462	3,554	3,834	4,108
Net interest	2,197	2,090	2,449	2,493	2,540
Taxes paid	(126)	(179)	(224)	(252)	(298)
Changes in working capital	967	(844)	(2,090)	(328)	(86)
Others	(132)	(101)	2	3	2
<b>Cash flow from operations</b>	<b>7,682</b>	<b>7,338</b>	<b>6,919</b>	<b>9,387</b>	<b>10,573</b>
Capex	(12,644)	(7,877)	(6,673)	(7,196)	(8,130)
Acquisitions	(144)	(16)	0	0	-
Disposals	(324)	-	-	-	-
Others	598	524	28	32	36
<b>Cash flow from investing</b>	<b>(12,514)</b>	<b>(7,370)</b>	<b>(6,645)</b>	<b>(7,163)</b>	<b>(8,094)</b>
Dividends	(214)	(316)	(399)	(443)	(498)
Issue of shares	39	35	2,163	0	0
Change in debt	4,396	632	1,059	1,080	1,102
Others	(2,443)	(2,209)	(2,477)	(2,526)	(2,577)
<b>Cash flow from financing</b>	<b>1,778</b>	<b>(1,858)</b>	<b>347</b>	<b>(1,888)</b>	<b>(1,973)</b>
<b>Change in cash</b>	<b>(3,054)</b>	<b>(1,889)</b>	<b>621</b>	<b>335</b>	<b>506</b>
Free cash flow	(4,962)	(538)	246	2,191	2,443

### Key ratios

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Operating ratios</b>					
EBIT margin (%)	56.0	53.1	54.9	54.8	55.6
EBITDA margin (%)	93.1	90.6	89.2	89.0	89.0
Effective tax rate (%)	6.9	6.9	6.9	6.9	6.9
Revenue growth (%)	19.6	25.6	12.0	8.2	9.9
Net income growth (%)	65.9	43.0	11.0	12.6	18.5
EPS growth adj (%)	54.2	43.0	2.2	12.6	18.5
DPS growth (%)	50.0	36.7	2.2	12.6	18.5
<b>Efficiency ratios</b>					
ROE (%)	10.4	13.2	11.9	12.0	12.6
ROCE (%)	7.6	8.9	9.4	9.6	10.1
Asset turnover (x)	0.1	0.1	0.1	0.1	0.1
Op cash / EBIT (x)	1.9	1.5	1.2	1.5	1.5
Depreciation / CAPEX (x)	(0.2)	(0.4)	(0.5)	(0.5)	(0.5)
Accounts receivable days	143.9	183.1	237.3	230.0	211.7
<b>Leverage ratios</b>					
Net debt / assets (%)	57.4	59.0	55.7	54.1	52.2
Net gearing (%)	266.4	250.2	204.5	185.9	167.4
Net debt / EBITDA (x)	6.9	6.0	5.5	5.2	4.8
Interest cover (x)	1.9	2.3	2.3	2.5	2.7
Current ratio (x)	0.3	0.3	0.4	0.4	0.4
<b>Valuation</b>					
PER (x)	11.2	7.8	7.6	6.8	5.7
EV/EBITDA (x)	11.3	9.4	8.7	8.2	7.6
PBR (x)	1.2	1.0	0.9	0.8	0.7
Dividend yield (%)	1.4	1.9	2.0	2.2	2.6



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## 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: $\leq -10\%$

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