



## Wind Power Monthly

### Slowing growth of utilisation hours

	Ticker	Rec	Mkt cap		Price	PT	Up/ dn (%)	EPS growth (%)		PER (x)		PBR (x)	
			(HKD mn)	Ccy				2017E	2018E	2017E	2018E	2017E	2018E
<b>Longyuan Power</b>	916 HK	BUY	45,647	HKD	5.68	6.30	+11%	8.7	18.5	9.9	8.4	0.9	0.8
<b>Huaneng Renewables</b>	958 HK	BUY	25,888	HKD	2.45	3.00	+22%	11.7	12.1	6.8	6.1	0.9	0.8

Source: company data; CSCI Research estimates (prices as of 13 November 2017)

- **Oct-17 saw divergent wind power output among major wind power plays, with 10.4% YoY increase for Longyuan Power (LYP) whilst 4.4% YoY decrease for Huaneng Renewables (HNR), which was mainly attributable to different seasonal wind speeds of their respective wind farms, in our view.**
- **Wind power curtailments continued to ease in Oct-17, with LYP and HNR respectively posting a 4.5 ppt and 4.0 ppt drop YoY in curtailment rate. However, impacted by the wind speed, the growth of their overall utilisation hours has slowed down compared to Sep-17.**
- **We reiterate our BUY rating on LYP and HNR, but would like to remind investors that the surge in account receivables (ARs) has hurt both's operating cash flow and valuation.**

**Slowing output growth in Oct-17 and YTD.** In October, the on-grid volume of LYP's wind power in China recorded a 10.4% YoY increase (vs. +27.8% YoY in Sep-16). In contrast, HNR recorded a 4.4% YoY decrease (vs. +47.6% YoY in Sep-16). For the 10M17, the on-grid volume growth of wind power in China slowed down to 13.8% YoY (LYP) and 13.3% (HNR) from 14.3% YoY (LYP) and 15.7% (HNR) for the 9M17. We think this is mainly due to the seasonable decline in the wind speed in Northern China (e.g.: Hebei, Shanxi, Shandong) in October, which showed a large decrease in the on-grid volume.

**LYP registered major growth in Eastern and Southern China,** which accounted for c.28% and c.9% of its October wind power output, up 23.5% and 19.6% YoY, respectively. Growth in Eastern China was in particular substantial compared to a 13.0% YoY decrease in September. Meanwhile, the on-grid volume growth in Northwest and Central China recorded 26.0% YoY and 35.5% YoY growth, respectively, slowing down from September. And with Northern China recording a 10.5% YoY decrease following a sustaining increase in 3Q, increases in other regions were partially offset. According to LYP's management, the overall curtailment rate has dropped by 4.5 ppt YoY to 5.9% (vs. 10.3% in Oct-16).

**HNR saw solid growth in six provinces (namely, Inner Mongolia, Guangxi, Guangdong, Zhejiang, Jilin and Xinjiang).** Inner Mongolia, accounting for c.23% of its total on-grid volume in October, recorded a 6.8% YoY increase. However, Yunnan, accounting for c.8% of its monthly volume, recorded a 28.4% YoY decrease. In contrast, LYP's wind farms in Yunnan grew by 14.1% YoY in October. In our view, this is due to the different wind speeds in Eastern and Western Yunnan where the wind farms of LYP and HNR are respectively located. According to HNR's management, the overall curtailment rate has dropped 4.0 ppt YoY to 6.0% (vs. 10.0% in Oct-16).

**Surging AR days hurt valuation.** Share prices of LYP and HNR have declined 9-10% since the last week of October when both of them reported their 3Q results. Against the backdrop of a continuous decline in monthly curtailment rate, we think that the weak performance is mainly due to rising market concern that the accelerating ARs of both companies have largely outpaced their underlying revenue growth in the wind power sector, which according to our channel check will hardly reverse till the end of this year. We maintain our BUY rating on LYP and HNR for the time being, and would like to see if the government will take further actions to mitigate a shortage of renewable energy fund that pays for the ARs of the wind farms.

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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	%	Oct-16	Oct-17	YoY%	Oct-16	Oct-17	YoY%	
Shanghai	IV		0.05	0.05	0.3%	13.6	17.2	26.5%	286	362	26.5%	
Jiangsu	IV		1.68	1.73	10.0%	319.3	402.7	26.1%	190	233	22.4%	
Zhejiang	IV		0.23	0.23	1.3%	43.4	54.8	26.3%	190	240	26.3%	
Anhui	IV		0.59	0.73	4.2%	138.7	145.2	4.7%	203	198	-2.3%	
Fujian	IV		0.52	0.67	3.9%	194.6	256.7	31.9%	341	386	13.1%	
<b>Sub-total</b>			<b>3.06</b>	<b>3.40</b>	<b>19.7%</b>	<b>709.5</b>	<b>876.5</b>	<b>23.5%</b>				
Jiangxi	IV		-	0.04	0.2%	-	6.6	-	-	166	-	
Henan	IV				0.0%							
Hubei	IV				0.0%	-	12.4					
Hunan	IV		-	0.05	0.3%	21.3	20.9	-2.1%	444	435	-2.1%	
Chongqing	IV		0.15	0.15	0.9%	33.2	34.1	2.8%	222	228	2.8%	
Sichuan	IV				0.0%							
Tibet	IV		0.01	0.01	0.0%	1.2	1.4	16.5%	160	186	16.5%	
<b>Sub-total</b>			<b>0.16</b>	<b>0.25</b>	<b>1.4%</b>	<b>55.7</b>	<b>75.4</b>	<b>35.5%</b>				
Guangdong	IV		0.03	0.08	0.4%	3.7	15.0	307.4%	143	198	38.5%	
Guangxi	IV		-	0.10	0.6%	23.3	28.2	20.9%	244	295	20.9%	
Hainan	IV		0.10	0.10	0.6%	14.0	14.5	3.8%	141	146	3.8%	
Guizhou	IV		0.54	0.64	3.7%	95.1	110.1	15.7%	148	172	15.7%	
Yunnan	IV	3%	4%	0.62	0.77	4.5%	90.9	103.7	14.1%	147	135	-8.1%
<b>Sub-total</b>			<b>1.28</b>	<b>1.68</b>	<b>9.7%</b>	<b>227.0</b>	<b>271.4</b>	<b>19.6%</b>				
Beijing	IV				0.0%							
Tianjin	IV		0.13	0.13	0.8%	26.1	16.5	-37.0%	198	125	-37.0%	
Hebei	II/IV	10%	9%	1.17	1.17	6.8%	209.2	179.1	-14.4%	179	153	-14.4%
Shanxi	IV	3%	9%	0.65	0.83	4.8%	98.3	82.7	-15.8%	152	100	-34.4%
Shandong	IV			0.34	0.39	2.3%	67.8	57.6	-15.0%	200	146	-26.8%
Inner Mongolia	I/II	18%	21%	2.59	2.64	15.3%	400.1	381.3	-4.7%	152	145	-4.7%
<b>Sub-total</b>			<b>4.87</b>	<b>5.16</b>	<b>29.9%</b>	<b>801.4</b>	<b>717.2</b>	<b>-10.5%</b>				
Liaoning	IV	10%	13%	1.00	1.00	5.8%	194.3	230.1	18.4%	194	229	18.4%
Jilin	III/IV	31%	30%	0.45	0.55	3.2%	66.9	87.9	31.4%	134	161	19.4%
Heilongjiang	III/IV	21%	19%	1.23	1.23	7.1%	299.4	263.0	-12.1%	242	213	-12.1%
<b>Sub-total</b>			<b>2.69</b>	<b>2.79</b>	<b>16.1%</b>	<b>560.5</b>	<b>581.0</b>	<b>3.6%</b>				
Shaanxi	IV		7%	0.20	0.44	2.5%	59.3	63.0	6.2%	175	143	-18.1%
Gansu	II/III	39%	43%	1.29	1.29	7.5%	105.7	197.7	87.0%	82	153	87.0%
Qinghai	IV				0.0%							
Ningxia	III	13%	13%	0.72	0.72	4.2%	117.5	97.5	-17.1%	162	135	-17.1%
Xinjiang	I/III	32%	38%	1.39	1.54	8.9%	214.4	267.9	24.9%	139	174	24.9%
<b>Sub-total</b>			<b>3.60</b>	<b>4.00</b>	<b>23.1%</b>	<b>496.9</b>	<b>626.0</b>	<b>26.0%</b>				
<b>National total</b>		<b>15%</b>	<b>17%</b>	<b>15.67</b>	<b>17.27</b>		<b>2,851</b>	<b>3,147</b>	<b>10.4%</b>	<b>174</b>	<b>183</b>	<b>5.1%</b>

Source: CEC; Company, CSCI Research estimates

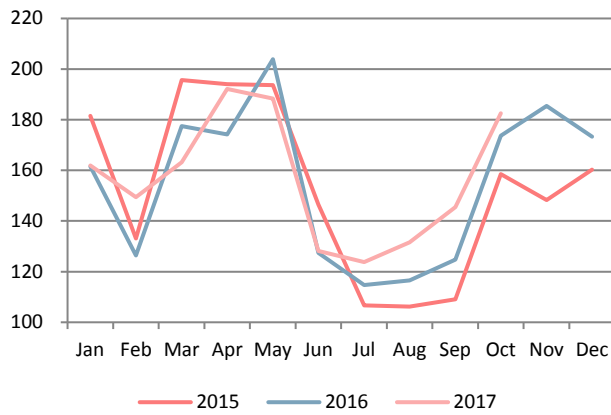
**Figure 2: Monthly wind power generation – Huaneng Renewables (958 HK)**

	Curtailments		Grid-connected capacity (GW)			Power generation (GWh)			Utilization hour			
	2015	2016	2015	2016	%	Oct-16	Oct-17	YoY%	Oct-16	Oct-17	YoY%	
Shanghai	IV		0.11	0.11	1.1%	19.6	25.4	29.6%	182	235	29.6%	
Jiangsu	IV											
Zhejiang	IV		0.03	0.07	0.7%	6.2	17.7	187.5%	178	237	33.1%	
Anhui	IV											
Fujian	IV											
<b>Sub-total</b>			<b>0.14</b>	<b>0.18</b>	<b>1.8%</b>	<b>25.8</b>	<b>43.1</b>	<b>67.3%</b>				
Jiangxi	IV											
Henan	IV											
Hubei	IV											
Hunan	IV											
Chongqing	IV											
Sichuan	IV		0.49	0.49	4.8%	96.3	95.0	-1.3%	195	193	-1.3%	
Tibet	IV											
<b>Sub-total</b>			<b>0.49</b>	<b>0.49</b>	<b>4.8%</b>	<b>96.3</b>	<b>95.0</b>	<b>-1.3%</b>				
Guangdong	IV		0.50	0.50	4.9%	110.9	121.9	9.9%	221	242	9.9%	
Guangxi	IV		-	0.05	0.5%	-	17.3	-	-	350	-	
Hainan	IV											
Guizhou	IV		0.73	0.73	7.1%	99.4	103.3	3.9%	136	142	3.9%	
Yunnan	IV	3%	4%	1.12	1.12	10.9%	172.7	123.6	-28.4%	155	111	-28.4%
<b>Sub-total</b>			<b>2.35</b>	<b>2.40</b>	<b>23.4%</b>	<b>383.0</b>	<b>366.1</b>	<b>-4.4%</b>				
Beijing	IV											
Tianjin	IV											
Hebei	II/IV	10%	9%	0.36	0.36	3.5%	60.3	43.7	-27.5%	167	121	-27.5%
Shanxi	IV	3%	9%	0.69	0.74	7.3%	115.2	68.1	-40.9%	166	92	-44.8%
Shandong	IV			0.95	1.00	9.8%	170.7	141.0	-17.4%	179	141	-21.4%
Inner Mongolia	I/II	18%	21%	2.47	2.47	24.1%	356.0	380.3	6.8%	144	154	6.8%
<b>Sub-total</b>			<b>4.48</b>	<b>4.57</b>	<b>44.6%</b>	<b>702.2</b>	<b>633.1</b>	<b>-9.8%</b>				
Liaoning	IV	10%	13%	1.36	1.40	13.7%	306.0	276.0	-9.8%	225	197	-12.6%
Jilin	III/IV	31%	30%	0.40	0.40	3.9%	66.7	82.0	23.0%	168	207	23.0%
Heilongjiang	III/IV	21%	19%									
<b>Sub-total</b>			<b>1.76</b>	<b>1.80</b>	<b>17.5%</b>	<b>372.7</b>	<b>358.1</b>	<b>-3.9%</b>				
Shaanxi	IV		7%	0.06	0.36	3.5%	69.7	64.5	-7.4%	194	180	-7.4%
Gansu	II/III	39%	43%									
Qinghai	IV											
Ningxia	III	13%	13%									
Xinjiang	I/III	32%	38%	0.45	0.45	4.4%	56.3	70.4	24.9%	126	157	24.9%
<b>Sub-total</b>			<b>0.51</b>	<b>0.81</b>	<b>7.9%</b>	<b>126.0</b>	<b>134.9</b>	<b>7.0%</b>				
<b>National total</b>		<b>15%</b>	<b>17%</b>	<b>9.72</b>	<b>10.25</b>		<b>1,706</b>	<b>1,630</b>	<b>-4.4%</b>	<b>170</b>	<b>159</b>	<b>-6.6%</b>

Source: CEC; Company; CSCI Research estimates

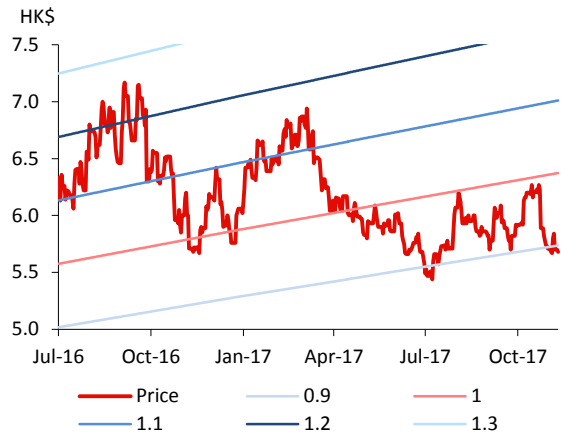
## Valuation at historic trough

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



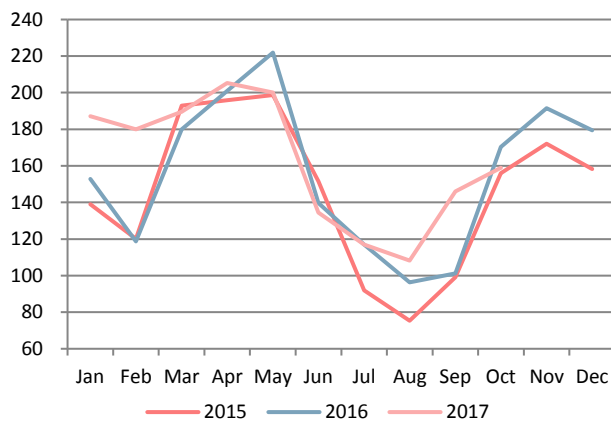
Source: Company; CSCI Research Estimates

Figure 4: PB band – LYP (916 HK)



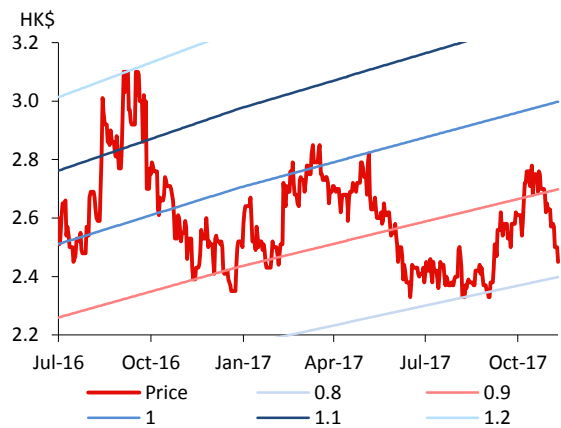
Source: Bloomberg; CSCI Research

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



Source: Company; CSCI Research Estimates

Figure 6: PB band – HNR (958 HK)



Source: Bloomberg; CSCI Research

**Figure 7: Peer valuation**

Name	Code	MKT CAP HKD mn	CP HKD	EPS Growth (%)		P/E (x)		P/BVPS (x)		Div yield (%)		ROE (%)	
				17E	18E	17E	18E	17E	18E	17E	18E	17E	18E
<b>IPP</b>													
CPR	836 HK	72,926	15.16	(42.7)	63.0	14.3	8.8	1.0	1.0	5.6	5.7	7.0	11.3
DTP	991 HK	62,867	2.82	(34.1)	69.3	12.7	7.5	0.8	0.7	2.8	6.5	6.2	9.8
HNP	902 HK	108,338	5.50	(74.2)	212.3	30.4	9.7	0.9	0.8	1.8	5.0	2.8	8.6
CPI	2380 HK	18,167	2.47	(56.9)	89.4	13.1	6.9	0.6	0.5	3.9	6.8	4.5	8.2
HDP	1071 HK	46,442	3.26	(84.0)	464.4	47.1	8.3	0.6	0.6	1.1	4.8	1.7	7.8
CGN	1816 HK	100,896	2.22	19.1	3.6	9.8	9.5	1.3	1.2	3.2	3.3	14.0	13.3
<b>Avg.</b>						<b>24.5</b>	<b>9.2</b>	<b>1.0</b>	<b>0.9</b>	<b>2.4</b>	<b>4.5</b>	<b>6.8</b>	<b>10.1</b>
<b>Wind</b>													
LYP	916 HK	45,647	5.68	8.7	18.5	9.9	8.4	0.9	0.8	2.1	2.5	9.4	10.4
HNR	958 HK	25,888	2.45	11.7	12.1	6.8	6.1	0.9	0.8	2.2	2.5	13.8	13.7
DTR	1798 HK	7,565	1.04	115.4	27.4	10.5	8.3	0.6	0.5	2.8	3.5	5.5	6.7
CST	956 HK	7,542	2.03	74.6	15.4	7.6	6.6	0.7	0.7	4.6	5.2	9.8	10.3
<b>Avg.</b>						<b>8.9</b>	<b>7.5</b>	<b>0.9</b>	<b>0.8</b>	<b>2.4</b>	<b>2.8</b>	<b>10.4</b>	<b>11.0</b>
<b>Power Equip.</b>													
DFE	1072 HK	30,282	7.89	(159.7)	34.3	32.5	24.2	0.7	0.7	0.7	0.8	2.1	3.2
HBP	1133 HK	4,833	3.51	63.2	(14.3)	9.5	11.1	0.3	0.3	1.1	1.1	3.5	3.9
SHE	2727 HK	122,708	3.35	(1.8)	2.4	17.3	16.9	0.8	0.8	0.9	1.0	4.9	5.1
GDW	2208 HK	65,274	12.06	(0.5)	4.2	12.0	11.5	1.6	1.5	2.2	2.5	14.5	13.7
CHS	658 HK	14,898	9.11	(10.7)	1.3	12.2	12.0	1.1	1.0	2.5	2.5	9.1	8.5
<b>Avg.</b>						<b>15.1</b>	<b>14.7</b>	<b>1.1</b>	<b>1.0</b>	<b>1.4</b>	<b>1.6</b>	<b>8.2</b>	<b>8.0</b>
<b>Hydro</b>													
YZP	600900 CH	359,040	16.32	1.5	(2.3)	16.8	17.2	2.7	2.5	4.1	4.1	16.3	15.0
SDIC	600886 CH	50,963	7.51	(17.4)	8.8	12.7	11.6	1.6	1.4	2.9	3.0	12.3	12.4
CTE	600674 CH	45,034	10.23	(2.3)	3.1	12.8	12.4	2.0	1.8	2.8	3.0	16.1	15.0
GGP	600236 CH	35,410	5.84	(6.3)	19.8	13.9	11.6	2.4	2.1	3.1	3.4	17.1	17.6
<b>Avg.</b>						<b>15.8</b>	<b>15.8</b>	<b>2.5</b>	<b>2.3</b>	<b>3.8</b>	<b>3.8</b>	<b>15.9</b>	<b>14.9</b>

Source: CSCI Research Estimates, Bloomberg; data as of 13 November 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>24,669</b>	<b>25,024</b>	<b>26,230</b>
Other net income	450	647	488	532	569
Material costs	(3,851)	(5,328)	(6,589)	(5,708)	(5,703)
Service concession	(662)	(541)	(55)	(49)	(44)
General and administrative	(1,795)	(2,032)	(2,241)	(2,292)	(2,397)
Repairs and maintenance	(531)	(642)	(719)	(809)	(857)
Other operating expenses	(584)	(518)	(573)	(581)	(609)
<b>EBITDA</b>	<b>12,710</b>	<b>13,890</b>	<b>14,981</b>	<b>16,117</b>	<b>17,189</b>
Depreciation & Amortization	(5,578)	(6,342)	(6,312)	(6,726)	(7,073)
<b>EBIT</b>	<b>7,132</b>	<b>7,548</b>	<b>8,668</b>	<b>9,391</b>	<b>10,116</b>
Net interest	(3,039)	(2,774)	(3,003)	(3,063)	(2,933)
JVs and associates	576	376	278	278	278
<b>Pretax profit</b>	<b>4,669</b>	<b>5,150</b>	<b>5,944</b>	<b>6,606</b>	<b>7,461</b>
Taxation	(601)	(660)	(969)	(1,077)	(1,216)
Minority & perpetual note	1,189	1,074	1,176	1,292	1,442
<b>Net profit</b>	<b>2,878</b>	<b>3,415</b>	<b>3,799</b>	<b>4,237</b>	<b>4,803</b>
Net profit (adjusted)	2,704	3,258	3,799	4,237	4,803
Basic EPS (Rmb)	0.36	0.42	0.47	0.53	0.60
Diluted EPS (Rmb)	0.36	0.42	0.47	0.53	0.60
DPS (Rmb)	0.07	0.09	0.09	0.11	0.12

**Balance sheet (Rmb mn)**

Year end: Dec	2015	2016	2017E	2018E	2019E
Cash	3,274	1,933	3,569	6,164	5,362
Short term investments	866	635	635	635	635
Accounts receivables	4,243	5,901	9,471	8,373	8,848
Inventory	1,081	1,040	1,141	988	988
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>18,640</b>	<b>19,984</b>	<b>19,656</b>
PP&E	98,997	105,598	110,156	111,307	112,094
Intangible Assets	10,702	10,997	10,997	10,997	10,997
Associates and JVs	4,822	4,483	4,483	4,483	4,483
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>129,886</b>	<b>131,037</b>	<b>131,824</b>
<b>TOTAL ASSETS</b>	<b>133,867</b>	<b>138,661</b>	<b>148,525</b>	<b>151,021</b>	<b>151,480</b>
Short term debt	44,977	44,511	47,445	46,271	43,338
Accounts payables	10,867	11,120	11,693	11,419	11,481
Other current liabilities	156	176	176	176	176
<b>Total current liabilities</b>	<b>56,000</b>	<b>55,807</b>	<b>59,314</b>	<b>57,866</b>	<b>54,994</b>
Long term debt	29,970	31,788	33,854	33,028	30,961
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>37,133</b>	<b>36,307</b>	<b>34,240</b>
<b>TOTAL LIABILITIES</b>	<b>89,293</b>	<b>90,874</b>	<b>96,448</b>	<b>94,173</b>	<b>89,235</b>
Shareholders' funds	35,145	37,899	41,014	44,492	48,447
Perpetual medium-term note	2,991	2,991	3,124	3,257	3,391
Minority Interests	6,439	6,896	7,939	9,098	10,407
<b>TOTAL EQUITY</b>	<b>44,574</b>	<b>47,786</b>	<b>52,078</b>	<b>56,848</b>	<b>62,245</b>
Net cash / (debt)	(71,672)	(74,366)	(77,730)	(73,135)	(68,937)

Source: Company; CSCI 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>5,944</b>	<b>6,606</b>	<b>7,461</b>
Depreciation & amortisation	5,578	6,342	6,312	6,726	7,073
Net interest	(3,039)	(2,774)	(3,003)	(3,063)	(2,933)
Taxes paid	(526)	(634)	(969)	(1,077)	(1,216)
Changes in working capital	4,128	483	(3,098)	976	(412)
Others	5,496	4,965	3,003	3,063	2,933
<b>Cash flow from operations</b>	<b>16,307</b>	<b>13,533</b>	<b>8,189</b>	<b>13,231</b>	<b>12,906</b>
Capex	(15,264)	(13,990)	(10,870)	(7,877)	(7,860)
Acquisitions	(877)	(68)	-	-	-
Disposals	3	220	-	-	-
Others	(182)	2,630	-	-	-
<b>Cash flow from investing</b>	<b>(16,319)</b>	<b>(11,209)</b>	<b>(10,870)</b>	<b>(7,877)</b>	<b>(7,860)</b>
Dividends	(1,174)	(1,306)	(683)	(760)	(847)
Issue of shares	412	147	-	-	-
Change in debt	4,870	1,322	5,000	(2,000)	(5,000)
Others	(3,582)	(3,447)	-	-	-
<b>Cash flow from financing</b>	<b>525</b>	<b>(3,284)</b>	<b>4,317</b>	<b>(2,760)</b>	<b>(5,847)</b>
<b>Change in cash</b>	<b>513</b>	<b>(961)</b>	<b>1,636</b>	<b>2,594</b>	<b>(802)</b>
Free cash flow	1,043	(458)	(2,681)	5,354	5,046

**Key ratios**

Year end: Dec	2015	2016	2017E	2018E	2019E
<b>Operating ratios</b>					
EBIT margin (%)	36.2	33.8	35.1	37.5	38.6
EBITDA margin (%)	64.6	62.3	60.7	64.4	65.5
Effective tax rate (%)	12.9	12.8	16.3	16.3	16.3
Revenue growth (%)	8.0	13.3	10.6	1.4	4.8
Net income growth (%)	12.7	18.7	11.2	11.5	13.3
EPS growth adj (%)	12.7	18.7	11.2	11.5	13.3
DPS growth (%)	20.1	18.5	11.2	11.5	13.3
<b>Efficiency ratios</b>					
ROE (%)	8.2	9.0	9.3	9.5	9.9
ROCE (%)	9.2	9.1	9.7	10.1	10.5
Asset turnover (x)	0.1	0.2	0.2	0.2	0.2
Op cash / EBIT (x)	2.3	1.8	0.9	1.4	1.3
Depreciation / CAPEX (x)	0.4	0.5	0.6	0.9	0.9
Accounts receivable days	98.8	83.0	113.7	130.1	119.8
<b>Leverage ratios</b>					
Net debt / assets (%)	53.5	53.6	52.3	48.4	45.5
Net gearing (%)	187.9	181.9	176.1	153.2	133.0
Net debt / EBITDA (x)	5.6	5.4	5.2	4.5	4.0
Interest cover (x)	(2.3)	(2.7)	(2.9)	(3.1)	(3.4)
Current ratio (x)	0.2	0.2	0.3	0.3	0.4
<b>Valuation</b>					
PER (x)	14.9	12.6	11.3	10.1	8.9
EV/EBITDA (x)	9.5	8.9	8.6	7.8	7.1
PBR (x)	1.2	1.1	1.0	1.0	0.9
Dividend yield (x)	1.3	1.6	1.8	2.0	2.2

## 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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