



Industry  
**China Wind  
Developers**

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Utilities  
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## F.I.T.T. for investors

## Fly with the wind

We see a positive change in fundamentals for China's wind power sector

The share prices of China wind developers have been hit hard in the past year. However, we predict a change in industry dynamics and expect fundamentals to improve on both near- and medium-term catalysts. We also see valuations as very attractive at current depressed levels. We initiate coverage of Huaneng Renewable and Datang Renewable with Buy ratings. We reiterate our Buy on Longyuan and see roughly 65% upside potential over the next 12 months. Deutsche Bank's Company Research Investment Policy Committee has deemed this work F.I.T.T. (Fundamental, Industry, Thematic, Thought-leading) for clients seeking differentiated ideas.

Deutsche Bank AG/Hong Kong

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### We see a positive change in fundamentals for China's wind power sector

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### Predicting industry tailwinds

Grid connection has been a major concern for investors, but we expect this issue to be resolved gradually with more coordinated wind project planning and the proposed implementation of the Renewable Portfolio Standard (RPS). Medium term, the development of ultra high voltage (UHV) lines and pumped storage facilities will result in a turnaround in wind utilization rates. Another concern has been the high frequency of wind turbine accidents, which should improve following the implementation of a national grid code earlier this year. A third concern for investors has been the decline in carbon prices. However, the market is already factoring in depressed carbon prices and risk looks skewed to the upside. In addition, the likelihood of lower interest rates is a positive.

### Strong earnings growth, attractive valuations

Stock prices have fallen 30-50% in the past 12 months and they now trade at about half of their IPO prices. We expect the three wind developers we cover to generate a strong 2012-14E earnings CAGR of 20-24%, putting them on very attractive PEG ratios of <0.5x. All three wind developers are trading well below replacement cost. On P/B vs. RoE they also look attractive and cheaper than other China utility stocks. Our target prices are based on DCF, assuming a Ke of 11-12% and a TGR of 2%, and imply 40-65% upside over the next 12 months.

### Catalysts to monitor

We expect the sector to re-rate on improving wind utilization, the announcement of the RPS in 2H12, acceleration of UHV construction, the bottoming out of carbon prices, and further interest rate cuts that may trigger a consensus earnings upgrade cycle.

### Initiating HNR and DTR at Buy; reiterating Buy on Longyuan

We initiate coverage of HNR with a Buy rating given its strong pipeline of projects located in good regions for grid connectivity and relatively healthy balance sheet. We initiate coverage of DTR with a Buy, as a key beneficiary of credit easing with attractive valuations. We reiterate our Buy on Longyuan given its excellent track record and highly visible capacity pipeline. Key sector risks include grid connectivity issues which may last longer than expected, uncertainty on CDM income and the risk of new equity issuance, although we think this is unlikely (beyond that already announced by Longyuan).

#### Top picks

Huaneng Renewables (0958.HK),HKD1.22	Buy
Datang Renewable (1798.HK),HKD1.07	Buy
Longyuan Power (0916.HK),HKD5.07	Buy

#### Companies Featured

Huaneng Renewables (0958.HK),HKD1.22	Buy		
	2011A	2012E	2013E
P/E (x)	10.68	5.76	4.67
EV/EBITDA (x)	9.4	7.2	7.0
Price/book (x)	1.0	0.7	0.6

Datang Renewable (1798.HK),HKD1.07	Buy		
	2011A	2012E	2013E
P/E (x)	12.74	7.02	5.82
EV/EBITDA (x)	10.2	8.6	8.3
Price/book (x)	0.9	0.7	0.6

Longyuan Power (0916.HK),HKD5.07	Buy		
	2011A	2012E	2013E
P/E (x)	16.5	10.1	8.5
EV/EBITDA (x)	10.9	8.0	7.5
Price/book (x)	1.5	1.1	1.0



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# Executive summary

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## Predicting tailwinds

China wind developers have been plagued by a multitude of headwinds in the past 12 months. These include: 1) the number of reported wind farm accidents more than doubled from the previous year; 2) grid curtailment rates worsened in 2011, particularly in Inner Mongolia and the northeastern provinces, resulting in lower-than-expected utilization rates and slower capacity growth; 3) carbon prices have fallen by more than 60% over the past year, raising concerns about the amount of CDM income after 2012 when the current contracted carbon price expires; 4) the impact of 2011 interest rate hikes has just taken effect with 1Q12's financing cost above expectations as a majority of the bank loans were only re-fixed late last year; and, 5) there are heightened concerns of placement risk after Longyuan Power, the biggest wind developer, announced its share placement proposal.

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## Six reasons to Buy

### Valuations at an all-time low

Due to the deteriorating fundamentals mentioned above, China wind developers' share prices have fallen by 30-50% over the last 12 months. They are currently trading at the low end of historical valuation bands and roughly half of their IPO prices. Current prices imply highly attractive valuation multiples of 0.25-0.5x PEG and 0.7-1.1x 2012E P/B, vs. ROEs of 9.7-11.6%.

### Grid connection and wind turbine accident rates to improve

In recent months, the government has implemented a series of new measures to tackle the grid congestion issue. First, the government has taken a more coordinated approach in the development of wind power so as to ensure that the grid construction pace is in tandem with the building of wind farms. Next, to rein in unbridled capacity growth in regions with good wind resources but poor grid networks, the National Energy Bureau (NEB) has limited the approval of new projects in these areas. The NDRC is also drafting a Renewable Portfolio Standard (RPS) policy that sets specific renewable energy generation targets for the grid companies, targeted to be implemented in 2H12. Following these measures, grid curtailment rates should improve gradually. In addition, the 18 new technical standards, including the national grid code established by the NEB in February 2012, should improve wind turbine accident rates.

### Turnaround in grid curtailment by 2015

We expect grid congestion to be resolved by 2015, when the major planned ultra-high voltage (UHV) lines commence operations. The development schedule of these UHV lines should also be on track, given the technology breakthrough in the construction of China's first UHV AC line in December 2011. Additionally, China plans to invest heavily in pumped storage, which functions as the largest form of grid energy storage available and is one of the main ways to resolve grid congestion problems. In the 12<sup>th</sup> Five-Year period, China plans to add 30GW of new capacity – much higher than the current capacity of 17GW. We note that the government has started to approve several large-scale pumped storage hydro projects in recent months. The construction schedule for these pumped storage projects is four to six years, and we expect grid curtailment to be largely resolved after 2015, once these projects commence operations.



#### Potential upside to 2013E carbon price

From 2013, CDM income is likely to decline due to the much lower spot carbon price and new projects registered with the UN after 2012 no longer being able to sell their carbon credits to the EU ETS system. Nonetheless, this should not come as a negative surprise to the market as the Street's and our estimates have factored in a big discount to the carbon price post-2012 and no new CDM projects are registered beyond 2012. However, there is potential upside to the current spot price which has not been factored in by the Street. Deutsche Bank's carbon analyst, Isabelle Curien, believes the carbon price can potentially recover to EUR10/t by year-end 2012, if the EU economy shows signs of reverting to modest growth from 2013 onwards and a credible political narrative about tightening the Phase-3 supply of EUAs is established and confirmed

#### Key beneficiary from credit easing and potential rate cuts

China wind developers have a high gearing ratio of 146-288% in FY12E, and a 25bp rate cut would have 1.6-7.8% upside potential to FY13E EPS. Our China economist, Jun Ma, expects further credit relaxation ahead and does not rule out the possibility of another rate cut given falling inflation in China. This would be positive for wind developers given lower financing costs through a rate cut or preferential lending rates through credit easing.

#### Placement risk overhangs likely to be removed

We see the placement risk in the near term for wind developers as relatively low given that: 1) apart from Longyuan, other wind developers are trading below book; 2) wind developers are likely to seek other forms of financing after seeing the market's disappointment with Longyuan's placement proposal; 3) the government is considering a potential change in the renewable tariff premium collection method, which should improve the cash-conversion cycle by three to six months; and, 4) the financial status of the Big 5 China IPP groups will improve significantly this year on rapidly falling coal prices and interest rate cuts, which should reduce the need for fund raising from the listcos. Huaneng Renewable (HNR) and Datang Renewable (DTR) management teams have also stated that they have no plans for H-share placement in the next 1-2 years.



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## Buy Longyuan (Top pick), Huaneng Renewable, and Datang Renewable

### Longyuan Power (0916.HK, Buy, target price: HK\$8.3

We reiterate Buy on Longyuan Power and a 12-month target price of HK\$8.3.

#### Reasons to Buy

- As the largest wind developer in China, Longyuan should be a key beneficiary of the country's rapid growth in the wind industry with earnings CAGR of 20% in 2012-14E
- Longyuan has the highest capacity visibility among peers given it has 5.8GW approved wind projects vs. its target capacity growth of 4.6GW in 2012 to 2014, giving it a coverage ratio of over three years. In addition, 60% of these projects are located in the non-grid constraint region
- Near term, we expect the implementation of the RPS and the change in capacity mix to improve utilization rates in 2013. Medium term, following the commencement of several UHV lines and pumped storage facilities in 2015, we expect grid curtailment rates to be largely resolved
- Longyuan is currently trading at a trough valuation of 10.1x/8.5x FY12/13E vs. 20% EPS CAGR (2012-2014E) and 1.1x/1x FY12/13E P/B vs. 11.5% ROE FY12E

#### Valuation

- Our target price is derived from a DCF analysis through to 2020E, based on assumed WACC of 8.9%
- We have incorporated an annual capacity addition of 1.5GW between 2012 and 2020 and assume a terminal value growth of 2%
- We believe a 2% terminal growth rate is relatively conservative, as less than 10% of China's wind resources are likely to be utilized by 2020

#### Key risks

- Grid bottlenecks resulting in lower-than-expected power dispatch
- Lower-than-expected wind speeds
- Lower-than-expected quality and reliability of its newly installed turbine, as it lacks a long operating track record

Please refer to our note on Longyuan for more details in later sections of this report.

### Huaneng Renewable (0958.HK, Buy, target price: HK\$2.0)

We initiate coverage of Huaneng Renewable (HNR) with a Buy and 12-month target price of HK\$2.0.

#### Reasons to Buy

- As the 3<sup>rd</sup> largest wind developer in China, HNR should be a key beneficiary of the country's rapid growth in the wind industry with earnings CAGR of 24% in 2012-14E
- HNR has over four years of visibility in its capacity expansion plans, given it has 1GW of NDRC approved projects and 3.3GW of wind projects awarded through the national tender. In addition, HNR's parent company has over 2GW of wind projects that could potentially be injected to the company



- Among peers, HNR has one of the best track records with the highest unit operating profit. In addition, its gearing ratio, though high, is one of the lowest in the industry
- HNR is currently trading at a trough valuation of 6x/4.9x FY12/13E vs. 24% EPS CAGR (2012-2014E) and 7.1x/5.9x FY12/13E P/B vs. FY13 11.3% ROE.

#### Valuation

- Our target price is derived from a DCF analysis through to 2020E, based on an assumed WACC of 9.1%
- We have incorporated an annual capacity addition of 1GW between 2012 and 2020, and assume a terminal value growth of 2%
- We believe a 2% terminal growth rate is relatively conservative as less than 10% of China's wind resources are likely to be utilized by 2020

#### Key risks

- Grid bottlenecks resulting in lower-than-expected power dispatch
- Lower-than-expected wind speeds
- Lower-than-expected quality and reliability of its newly installed turbine, as it lacks a long operating track record

Please refer to our note on HNR for more details in later sections of this report.

#### Datang Renewable (1798.HK, Buy, target price: HK\$1.5)

We initiate coverage of Datang Renewable (DTR) with a Buy and a 12-month target price of HK\$1.5.

#### Reasons to Buy

- As the second-largest wind developer in China, DTR should be a key beneficiary of the country's rapid growth in the wind industry with earnings CAGR of 23% in 2012-14E
- Among peers, DTR has the largest exposure to grid curtailment, and will benefit the most from a turnaround in grid network operations in Inner Mongolia and Northeast provinces. DTR also has the highest gearing ratio, and will be the key beneficiary from a rate cut or credit easing
- DTR is currently trading at a trough valuation of 7x/5.9x FY12/13E vs. 23% EPS CAGR (2012-2014) and 0.7x/0.6x FY12/13 P/B vs. 9.7% FY12 ROE.

#### Valuation

- Our target price is derived from a DCF analysis through to 2020E, based on assumed WACC of 9.2%
- We have incorporated an annual capacity addition of 1GW between 2012 and 2020 and assume a terminal value growth of 2%
- We believe a 2% terminal growth rate is relatively conservative, as less than 10% of China's wind resources are likely to be utilized by 2020

#### Key risks

- Grid bottlenecks resulting in lower-than-expected power dispatch
- Lower-than-expected wind speeds
- Lower-than-expected quality and reliability of its newly installed turbine, as it lacks a long operating track record

Please refer to our note on DTR for more details in later sections of this report.





# Valuation at an all-time low

## Key points

- China wind developers have fallen by c.30-50% in the past 12 months
- They are currently trading at the low end of the valuation band and c.50% below IPO prices
- Based on our estimates, current valuation is below its replacement value and has not priced in any capacity growth

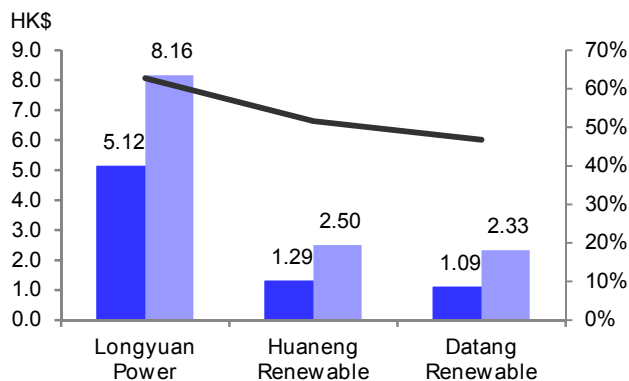
## Market has overreacted to recent industry-wide issues

### c.50% of IPO prices; trading at low end of historical valuation band

China wind developers have significantly underperformed the market in the past 12-months by 8-33% due to a multitude of headwinds against the sector, including wind farm accidents, grid congestion, slower capacity growth, lower wind speed, falling carbon prices and the impact of interest rate hikes in 2010/11. In addition, Longyuan Power, the largest wind developer in China, has recently announced a share placement plan, which has raised further concern that other wind developers may follow suit and dilute their interest. As a result, wind developers are now trading at an all-time low, at the bottom end of their historical valuation band and at c.50% of their IPO prices.

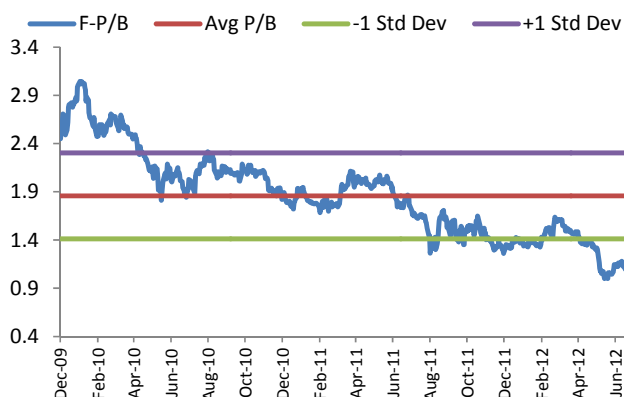
We believe no pipeline capacity has been priced at the current price level, and the sector is trading below its replacement cost value and at <0.5x PEG.

Figure 1: Current vs. IPO prices



Source: Deutsche Bank, Datastream

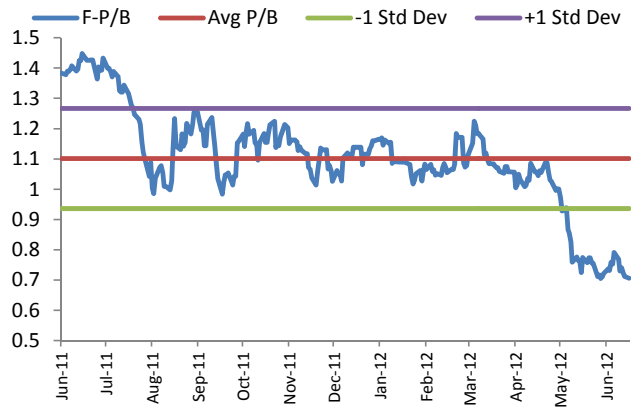
Figure 2: Longyuan one-year forward P/B band



Source: Deutsche Bank, Datastream

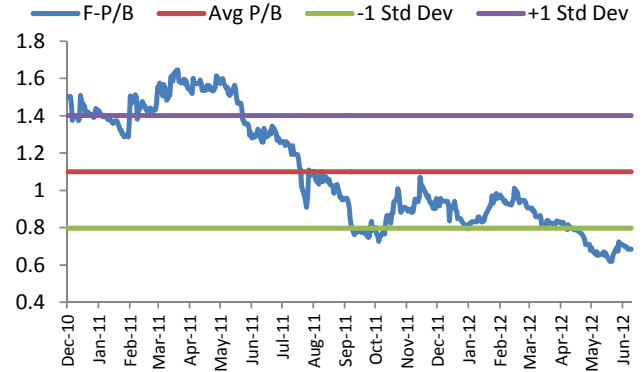


Figure 3: Huaneng Renewable one-year forward P/B band



Source: Deutsche Bank, Datastream

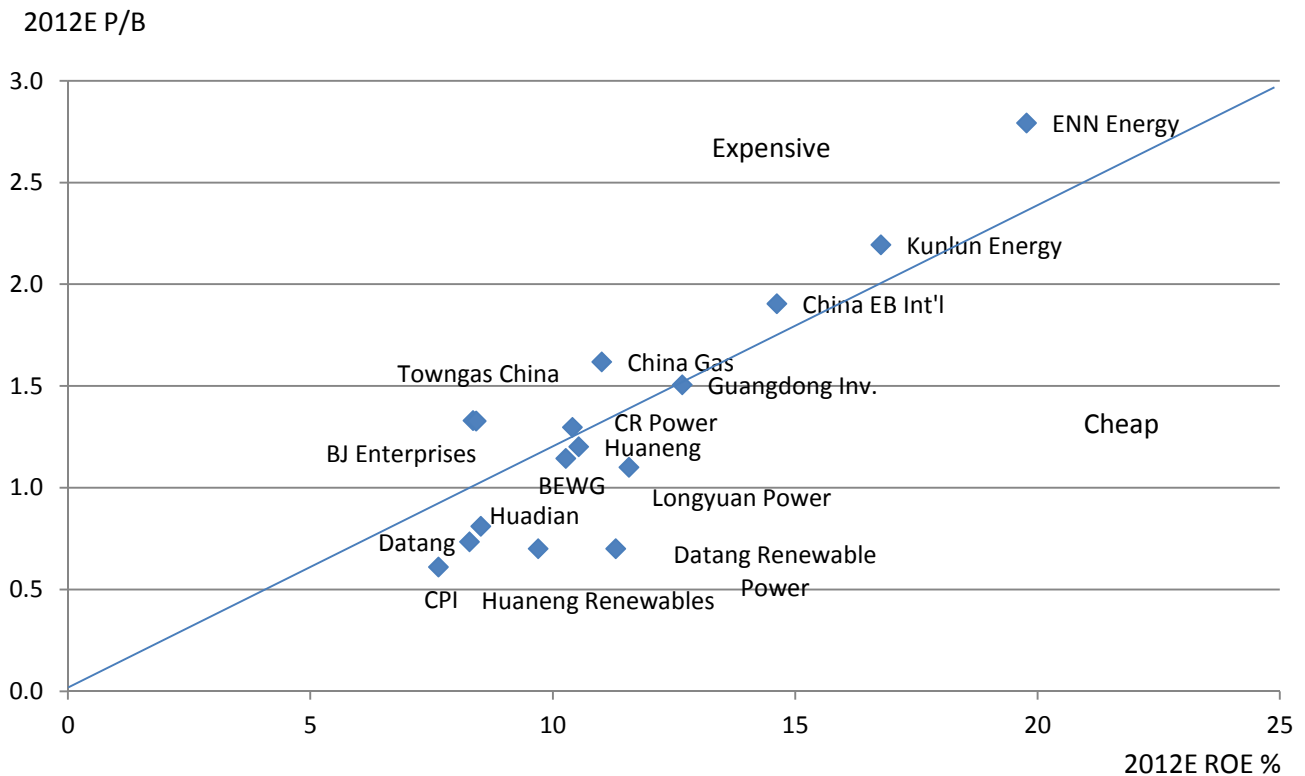
Figure 4: Datang Renewable one-year forward P/B band



Source: Deutsche Bank, Datastream

As showed in Figure 5, the three wind developer stocks look more attractive to other China utility stocks in terms of P/B and ROE prospective.

Figure 5: China utility P/B. ROE Chart



Source: Deutsche Bank estimates



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## Trading below replacement cost

Based on our assumptions of Rmb7,800/kW installation cost for new wind farms, the wind developer stocks are currently trading significantly below their replacement cost.

**Figure 6: Replacement cost estimates**

<b>(HK\$/share)</b>	<b>DCF</b>	<b>Replacement cost</b>	<b>Current price</b>
Longyuan	8.30	6.1	5.05
HNR	2.00	3.1	1.27
DTR	1.5	1.9	1.08

*Source: Deutsche Bank, Company data*

Figure 7: Comps of wind developers

Share Price as of 29 June 2012																			
Company	Ticker	Price	Rating	Price target	% to target	Mkt. Cap. US\$m	Valuations						ROE%			Yield (%)			
							P/E	EPS CAGR	EV/EBITDA			P/BV			12F				
						12F	13F	14F	12F-14F	12F	13F	14F	12F	13F	14F	12F	13F	12F	
<b>China wind developers</b>																			
Longyuan Power	0916.HK	HK\$5.05	Buy	HK\$8.30	64%	4,858	10.1	8.5	7.0	20%	7.5	7.1	6.5	1.1	1.0	0.9	11.5	12.3	1.9
Huaneng Renewables	0958.HK	HK\$1.27	Buy	HK\$2.00	57%	1,383	6.0	4.9	3.9	24%	7.3	7.0	6.4	0.7	0.6	0.5	11.3	13.4	2.3
Datang Renewable Power	1798.HK	HK\$1.08	Buy	HK\$1.50	39%	1,012	7.1	5.9	4.7	23%	8.5	8.2	7.6	0.7	0.6	0.6	9.7	10.8	4.7
Jingneng Clean Energy	0579.HK	HK\$1.69	NA	NA	NA	1,332	7.7	6.0	4.7	29%	6.4	5.4	7.7	0.8	0.7	NA	12.1	13.7	1.1
CPNE	0735.HK	HK\$0.31	NA	NA	NA	444	5.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	NA	NA
China Suntien	0956.HK	HK\$1.45	NA	NA	NA	564	6.3	5.4	4.4	20%	6.1	4.8	5.4	0.6	0.6	0.5	10.7	11.5	3.3
China Wind Power	0182.HK	HK\$0.28	NA	NA	NA	262	3.6	3.1	NA	NA	2.5	1.8	NA	0.4	0.3	NA	10.9	12.3	-
<b>Average</b>							<b>6.6x</b>	<b>5.6x</b>	<b>4.9x</b>	<b>23%</b>	<b>6.4x</b>	<b>5.7x</b>	<b>6.7x</b>	<b>0.7x</b>	<b>0.6x</b>	<b>0.6x</b>	<b>10.5x</b>	<b>12.3x</b>	<b>2.2</b>
<b>Median</b>							<b>6.3x</b>	<b>5.6x</b>	<b>4.7x</b>	<b>23%</b>	<b>6.9x</b>	<b>6.2x</b>	<b>6.5x</b>	<b>0.7x</b>	<b>0.6x</b>	<b>0.6x</b>	<b>10.9x</b>	<b>12.3x</b>	<b>2.1</b>
<b>China IPPs</b>																			
Huaneng Power	0902.HK	HK\$5.82	Buy	HK\$6.20	7%	10,543	11.9	10.1	9.7	11%	7.9	6.7	6.3	1.2	1.1	1.1	10.5	11.6	5.0
Datang Power	0991.HK	HK\$3.04	Buy	HK\$3.20	5%	5,051	9.7	8.7	6.8	20%	8.5	7.8	6.9	0.8	0.8	0.7	8.5	9.1	5.1
Huadian Power	1071.HK	HK\$2.34	Buy	HK\$2.60	11%	2,042	9.2	8.0	6.8	16%	8.4	7.8	6.7	0.7	0.7	0.6	8.3	8.8	2.7
CR Power	0836.HK	HK\$15.90	Buy	HK\$21.00	32%	9,621	13.5	10.7	8.9	23%	7.7	6.7	5.7	1.3	1.2	1.1	10.4	12.0	3.0
CPI	2380.HK	HK\$2.03	Buy	HK\$2.60	28%	1,336	8.2	7.6	7.8	3%	9.8	7.9	7.6	0.6	0.6	0.6	7.6	7.8	6.1
<b>Average</b>							<b>10.5x</b>	<b>9.0x</b>	<b>8.0x</b>	<b>15%</b>	<b>8.4x</b>	<b>7.4x</b>	<b>6.6x</b>	<b>0.9x</b>	<b>0.9x</b>	<b>0.8x</b>	<b>9.1x</b>	<b>9.9x</b>	<b>4.4</b>
<b>Median</b>							<b>9.7x</b>	<b>8.7x</b>	<b>7.8x</b>	<b>16%</b>	<b>8.4x</b>	<b>7.8x</b>	<b>6.7x</b>	<b>0.8x</b>	<b>0.8x</b>	<b>0.7x</b>	<b>8.5x</b>	<b>9.1x</b>	<b>5.0</b>
<b>European wind developers</b>																			
Acciona	ANA.MC	EUR43.72	Hold	EUR70.00	60%	3,453	14.1	12.4	NA	NA	6.6	5.9	NA	0.5	0.5	NA	3.7	4.2	6.9
EDP Renovaveis	EDPR.LS	EUR2.60	Hold	EUR4.10	58%	2,821	18.0	11.1	10.3	32%	7.4	6.3	5.1	0.4	0.4	0.4	2.3	3.7	1.4
<b>Average</b>							<b>16.0x</b>	<b>11.7x</b>	<b>10.3x</b>	<b>NA</b>	<b>7.0x</b>	<b>6.1x</b>	<b>5.1x</b>	<b>0.5x</b>	<b>0.5x</b>	<b>0.4x</b>	<b>3.0x</b>	<b>4.0x</b>	<b>4.1</b>
<b>Median</b>							<b>16.0x</b>	<b>11.7x</b>	<b>10.3x</b>	<b>NA</b>	<b>7.0x</b>	<b>6.1x</b>	<b>5.1x</b>	<b>0.5x</b>	<b>0.5x</b>	<b>0.4x</b>	<b>3.0x</b>	<b>4.0x</b>	<b>4.1</b>
<b>Australia wind developer</b>																			
Infigen Energy	IFN.AX	AUD0.23	Buy	AUD0.50	122%	172	NM	NM	NM	NA	8.9	6.7	5.7	0.3	0.4	0.4	-10.6	-7.9	-

For DB covered stocks, all estimates are based on DB estimates and stock performance data are from Datastream. For non-covered stocks, all estimates are based on bloomberg Best estimates.  
 Definitions: 1) Gearing is net debt / shareholders equity; 2) EV is after deducting estimated value of associates; 3) RoCE is defined as EBIT x (1 - tax rate) divided by capital employed  
 Source: Deutsche Bank, Bloomberg Finance LP



Figure 8: Comps of wind developers (continued)

Share Price as of 29 June 2012																						
Company	Share price performance							avg. daily trade	Relative performance					avg. daily trade	Share price statistics						avg. daily trade	
	Price	Rating	local currency						US\$, 1mn**	local currency & local country index****					current / current/							US\$, 1yr**
			1m	3m	6m	12m	3yr		1m	3m	6m	12m	3yr	US\$, 6mth**	52w H	52w L	52W H	52W L	10yr H	10yr L		
<b>China wind developers</b>																						
Longyuan Power	HK\$5.05	Buy	9%	-25%	-15%	-31%	NA	4.2	11%	-15%	-8%	-8%	NA	6.0	7.67	4.49	66%	112%	10.90	4.49	7.4	
Huaneng Renewables	HK\$1.27	Buy	-8%	-33%	-34%	-49%	NA	0.4	-6%	-24%	-29%	-33%	NA	0.7	2.51	1.28	51%	99%	2.54	1.28	0.8	
Datang Renewable Power	HK\$1.08	Buy	5%	-19%	-24%	-44%	NA	0.2	7%	-7%	-18%	-25%	NA	0.6	2.00	0.98	54%	110%	2.41	0.98	0.6	
Jingneng Clean Energy	HK\$1.69	NA	4%	4%	1%	NA	NA	0.0	6%	19%	9%	NA	NA	0.3	1.80	1.60	94%	106%	1.80	1.60	0.3	
CPNE	HK\$0.31	NA	2%	-7%	-18%	-36%	-45%	0.2	4%	5%	-12%	-15%	-36%	0.4	0.52	0.25	60%	124%	1.57	0.07	0.5	
China Suntien	HK\$1.45	NA	3%	-9%	2%	-32%	NA	1.2	5%	3%	10%	-9%	NA	1.3	2.31	1.25	63%	116%	2.81	1.25	1.0	
China Wind Power	HK\$0.28	NA	-2%	-23%	-7%	-61%	-69%	0.2	0%	-13%	1%	-48%	-64%	1.0	0.72	0.28	39%	102%	12.40	0.12	0.7	
<b>Average</b>			<b>2%</b>	<b>-16%</b>	<b>-14%</b>	<b>-42%</b>	<b>-57%</b>		<b>7%</b>	<b>7%</b>	<b>0%</b>	<b>6%</b>	<b>-34%</b>									
<b>Median</b>			<b>3%</b>	<b>-19%</b>	<b>-15%</b>	<b>-40%</b>	<b>-57%</b>		<b>5%</b>	<b>-7%</b>	<b>-8%</b>	<b>-20%</b>	<b>-50%</b>									
<b>China IPPs</b>																						
Huaneng Power	HK\$5.82	Buy	16%	31%	35%	38%	2%	19.1	19%	49%	46%	83%	18%	13.4	5.62	3.02	104%	193%	10.80	2.60	10.2	
Datang Power	HK\$3.04	Buy	14%	14%	22%	17%	-35%	7.0	16%	30%	32%	55%	-25%	5.3	3.04	1.83	100%	166%	9.66	1.18	5.0	
Huadian Power	HK\$2.34	Buy	39%	35%	58%	55%	-2%	2.3	41%	53%	71%	106%	12%	1.2	2.37	1.00	99%	234%	6.13	1.00	0.9	
CR Power	HK\$15.90	Buy	10%	6%	2%	6%	-18%	12.7	12%	20%	10%	41%	-6%	10.5	16.18	11.14	98%	143%	29.46	2.70	10.6	
CPI	HK\$2.03	Buy	28%	20%	9%	3%	-20%	1.8	30%	36%	18%	37%	-8%	1.0	2.10	1.25	97%	162%	5.30	1.16	0.9	
<b>Average</b>			<b>21%</b>	<b>21%</b>	<b>25%</b>	<b>24%</b>	<b>-15%</b>		<b>8%</b>	<b>12%</b>	<b>2%</b>	<b>16%</b>	<b>-37%</b>									
<b>Median</b>			<b>16%</b>	<b>20%</b>	<b>22%</b>	<b>17%</b>	<b>-18%</b>		<b>19%</b>	<b>36%</b>	<b>32%</b>	<b>55%</b>	<b>-6%</b>									
<b>European wind developers</b>																						
Acciona	EUR43.72	Hold	-6%	-23%	-36%	-38%	-51%	14.5	-5%	-10%	-34%	-22%	-49%	17.7	73.70	39.63	59%	110%	241.90	37.64	20.5	
EDP Renovaveis	EUR2.60	Hold	-14%	-32%	-43%	-38%	-64%	6.8	-13%	-20%	-41%	-23%	-63%	4.2	4.86	2.59	54%	100%	8.00	2.59	4.0	
<b>Average</b>			<b>-10%</b>	<b>-27%</b>	<b>-40%</b>	<b>-38%</b>	<b>-57%</b>		<b>-9%</b>	<b>-15%</b>	<b>-37%</b>	<b>-23%</b>	<b>-56%</b>									
<b>Median</b>			<b>-10%</b>	<b>-27%</b>	<b>-40%</b>	<b>-38%</b>	<b>-57%</b>		<b>-9%</b>	<b>-15%</b>	<b>-37%</b>	<b>-23%</b>	<b>-56%</b>									
<b>Australia wind developer</b>																						
Infigen Energy	AUD0.23	Buy	2%	-8%	-14%	-32%	-81%	0.2	3%	-2%	-11%	-24%	-82%	0.2	0.39	0.19	58%	118%	1.99	0.19	0.4	

Source: Deutsche Bank, Bloomberg Finance LP



Figure 9: Comps of wind developers (continued)

Share Price as of 29 June 2012																					
Company	Price	Rating	EBITDA Margin						Net Profit Margin						Returns & Gearing						
			2009	2010	local currency		2013E	2014E	2009	2010	local currency		2013E	2014E	2009	2010	RoE (%)		2013E	2014E	Gearing
					2011	2012E														2011	
<b>China wind developers</b>																					
Longyan Power	HK\$5.05	Buy	46%	43%	49%	57%	58%	61%	9%	14%	16%	17%	18%	20%	6.9	9.0	10.8	11.5	13.5	13.5	120.7
Huaneng Renewables	HK\$1.27	Buy	91%	100%	110%	105%	98%	97%	25%	30%	37%	34%	34%	35%	10.2	13.4	12.3	11.3	13.4	14.9	174.1
Datang Renewable Power	HK\$1.08	Buy	99%	100%	99%	102%	95%	93%	17%	20%	22%	19%	18%	19%	6.4	7.5	8.4	9.7	10.8	12.4	264.3
Jingneng Clean Energy	HK\$1.69	NA	21%	48%	58%	60%	50%	29%	4%	13%	21%	19%	17%	12%	4.0	8.1	10.3	12.1	13.7	NA	129.2
CPNE	HK\$0.31	NA	36%	33%	40%	NA	NA	NA	10%	15%	10%	22%	NA	NA	3.3	5.1	3.6	7.1	NA	NA	88.7
China Suntien	HK\$1.45	NA	37%	39%	39%	42%	44%	32%	11%	12%	14%	15%	14%	15%	14.2	9.1	9.0	10.7	11.5	12.9	90.3
China Wind Power	HK\$0.28	NA	20%	28%	13%	43%	49%	NA	31%	35%	39%	32%	29%	NA	5.3	13.4	8.9	10.9	12.3	NA	1.5
<b>Average</b>			<b>50%</b>	<b>56%</b>	<b>58%</b>	<b>68%</b>	<b>66%</b>	<b>63%</b>	<b>15%</b>	<b>20%</b>	<b>23%</b>	<b>23%</b>	<b>22%</b>	<b>20%</b>	<b>7.2</b>	<b>9.3</b>	<b>9.0</b>	<b>10.5</b>	<b>12.3</b>	<b>10.0</b>	<b>124.1</b>
<b>Median</b>			<b>37%</b>	<b>43%</b>	<b>49%</b>	<b>59%</b>	<b>54%</b>	<b>63%</b>	<b>11%</b>	<b>15%</b>	<b>21%</b>	<b>19%</b>	<b>18%</b>	<b>17%</b>	<b>6.4</b>	<b>8.6</b>	<b>9.0</b>	<b>10.9</b>	<b>12.2</b>	<b>12.6</b>	<b>120.7</b>
<b>China IPPs</b>																					
Huaneng Power	HK\$5.82	Buy	23%	18%	16%	19%	19%	19%	6%	3%	1%	4%	4%	4%	12.3	7.0	2.3	10.5	11.6	11.4	212.2
Datang Power	HK\$3.04	Buy	30%	27%	25%	29%	30%	33%	3%	4%	3%	4%	4%	5%	6.2	9.0	5.6	8.5	9.1	10.9	379.7
Huadian Power	HK\$2.34	Buy	23%	14%	16%	21%	20%	20%	3%	0%	0%	2%	2%	2%	8.4	1.1	0.5	8.3	8.8	9.7	406.4
CR Power	HK\$15.90	Buy	32%	25%	25%	27%	29%	29%	20%	10%	7%	8%	9%	9%	20.9	11.7	9.3	10.4	12.0	12.7	134.9
CPI	HK\$2.03	Buy	19%	28%	24%	29%	29%	30%	4%	5%	3%	6%	5%	5%	4.7	5.6	4.0	7.6	7.8	7.3	249.0
<b>Average</b>			<b>27%</b>	<b>21%</b>	<b>20%</b>	<b>24%</b>	<b>25%</b>	<b>25%</b>	<b>8%</b>	<b>4%</b>	<b>3%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>11.9</b>	<b>7.2</b>	<b>4.4</b>	<b>9.4</b>	<b>10.4</b>	<b>11.2</b>	<b>283.3</b>
<b>Median</b>			<b>26%</b>	<b>22%</b>	<b>20%</b>	<b>24%</b>	<b>24%</b>	<b>25%</b>	<b>5%</b>	<b>4%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>10.4</b>	<b>8.0</b>	<b>4.0</b>	<b>9.5</b>	<b>10.3</b>	<b>11.2</b>	<b>295.9</b>
<b>European wind developers</b>																					
Acciona	EUR43.72	Hold	15%	19%	20%	20%	22%	NA	20%	3%	3%	3%	3%	NA	26.1	2.9	3.7	3.7	4.2	NA	108.6
EDP Renovaveis	EUR2.60	Hold	75%	71%	75%	77%	80%	74%	16%	6%	8%	11%	16%	14%	2.3	1.1	1.7	2.3	3.7	3.9	58.3
<b>Average</b>			<b>45%</b>	<b>45%</b>	<b>47%</b>	<b>49%</b>	<b>51%</b>	<b>74%</b>	<b>18%</b>	<b>4%</b>	<b>6%</b>	<b>7%</b>	<b>10%</b>	<b>14%</b>	<b>14.2</b>	<b>2.0</b>	<b>2.7</b>	<b>3.0</b>	<b>4.0</b>	<b>3.9</b>	<b>83.5</b>
<b>Median</b>			<b>45%</b>	<b>45%</b>	<b>47%</b>	<b>49%</b>	<b>51%</b>	<b>74%</b>	<b>18%</b>	<b>4%</b>	<b>6%</b>	<b>7%</b>	<b>10%</b>	<b>14%</b>	<b>14.2</b>	<b>2.0</b>	<b>2.7</b>	<b>3.0</b>	<b>4.0</b>	<b>3.9</b>	<b>83.5</b>
<b>Australia wind developer</b>																					
Infigen Energy	AUD0.23	Buy	60%	58%	54%	50%	58%	59%	-20%	-26%	-23%	-23%	-13%	-7%	-4.4	-9.5	-9.0	-10.6	-7.9	-4.6	165.7

Source: Deutsche Bank, Bloomberg Finance LP





# Industry tailwinds ahead

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## Key points

- Grid connection should gradually improve with more coordinated wind project planning and the proposed implementation of the RPS.
- By 2014/15, there should be a big turnaround in utilization rates, due to the commencement of several UHV lines and pumped storage facilities.
- Wind farm operations should be safer following the setting of a national grid code.
- Carbon prices may surprise on the upside and rebound from the current low levels, as Deutsche Bank's carbon analyst expects.
- Potential credit easing ahead will lower financing costs for the highly-g geared wind developers.
- Placement risk is manageable and should not remain a stock overhang.
- Most wind developers should turn FCF positive by 2015, suggesting potential upside to dividend payouts.

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## Grid connection to gradually improve; turnaround in 2014/15

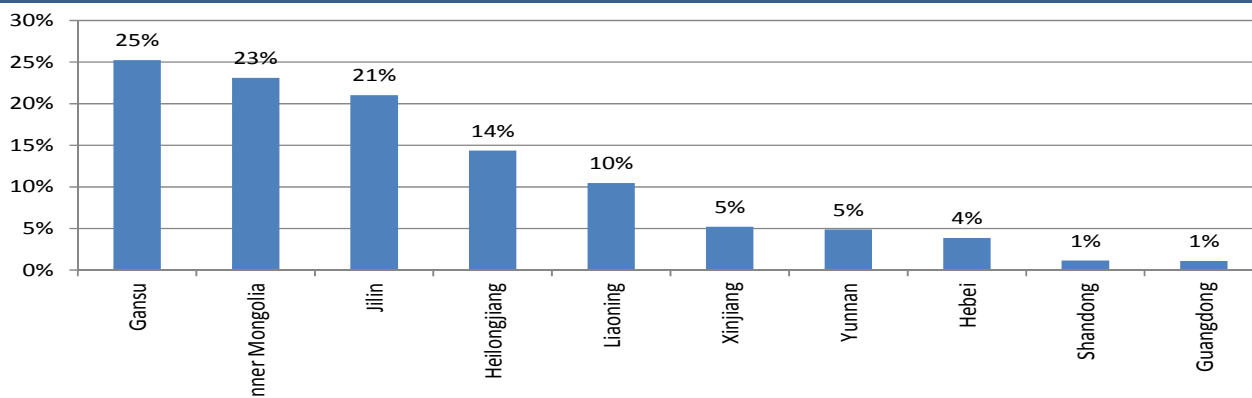
We believe grid curtailment rates and wind turbine accidents will gradually improve in the near term, due to a series of highly supportive government measures, such as coordinated wind project planning and the proposed implementation of the Renewable Portfolio Standard (RPS). Medium term, there will be a big upturn in utilization hours, as grid curtailment will be largely resolved by the commencement of several UHV lines and pumped storage facilities. Nonetheless, even under a grid curtailment scenario, wind farm investments are still highly value-accretive. Please refer to Figure 29 (page 32) on "Economics of wind farms" that shows wind farm returns under different utilization and CDM assumptions.

### Background: Grid congestion was worse than expected in 2011

China's grid constraint problem has worsened over the years and continues to be a pressing problem for the development of the China wind industry, particularly in regions such as Inner Mongolia, Jilin and Gansu where there is a significant ramp-up in wind capacity but weak local demand. In Figure 10 below we illustrate the top ten provinces with the highest curtailment rates. According to a China National Energy Bureau report on 12 June 2012, over 10bn kWh of wind power was lost due to grid curtailment and unconnected wind capacity. The wind power utilization rate in certain provinces has also fallen to 1,600hrs vs. historical average of 1,900hrs.



Figure 10: Wind curtailment ratio of top ten grid constraint provinces in 2011



Source: China Wind Energy Association

#### Wind power development in grid-constrained regions to slow

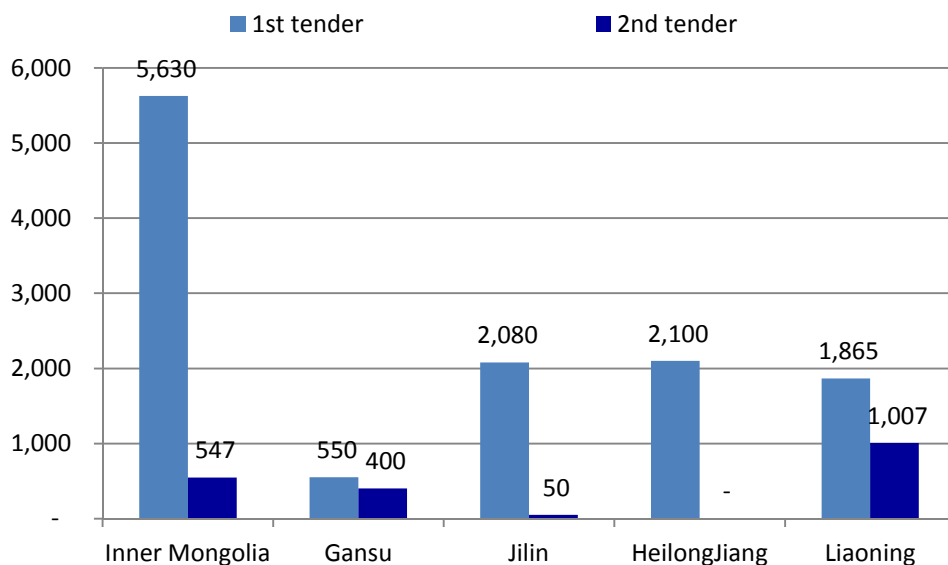
The key reason for grid curtailment is the lack of coordinated effort in wind power planning and development, and the construction time mismatch between wind projects and grid network projects. Hence, in regions with abundant wind resources, such as the three northeastern provinces, Inner Mongolia and Gansu, there was rampant development of wind projects but the grid network's capacity did not increase in tandem, resulting in worsening grid curtailment.

To restrain unbridled wind capacity growth in grid-congested regions, the NDRC has limited the approval of wind capacity in such regions. As we show in Figure 11 there was a significant decline in approved wind capacity in Inner Mongolia, Liaoning and Jilin in the second round of national wind project tenders. Heilongjiang has had no new capacity approved. Gansu, on the other hand, is maintaining its share of wind capacity, given the development of the 750kV UHV Ph II line. In March 2012, the NDRC also announced that local governments need to adhere to the national wind development planning policy, and are not allowed to approve new projects in regions with greater than a 20% grid curtailment rate. The government reiterated its stance in June 2012, and said wind expansion projects in grid-congested regions will not be approved.





Figure 11: Capacity approvals in grid-curtailment regions



Source: National Energy Bureau

#### RPS to be implemented by year-end

According to the NDRC, China plans to implement the Renewable Portfolio Standards (RPS) by the end of 2012, wherein it will set out a renewable energy quota for the various provinces, grid companies and generation companies. The objective of the RPS is to ensure China is on track to achieve its renewable energy consumption targets of 11.4% by 2015 and 15% by 2020.

Based on the draft RPS plan, renewable power penetration will be at least 5%, 3.2%, 15% of total power consumption for the State Grid, the Southern Grid and the Inner Mongolia Grid respectively, by 2015 and 10%, 6% and 20% by 2020. In addition, the National Energy Bureau will also classify China's provinces into four different tiers with different degrees of renewable energy penetration rate targets for 2015, after taking into consideration local resource endowments, economic conditions, power consumption and power transmission ability (Figure 12). In addition, big power companies with more than 5GW capacity will be required to have a renewable energy capacity mix of 11% and generation penetration of 6.5%.

Figure 12: Proposed renewable energy penetration rate by province

Tier	Penetration rate	Provinces
1	10-15%	Inner Mongolia, Gansu, Jilin
2	6%	Hebei, Shanxi, Shandong
3	3-4%	Jiangsu, Hunan, Fujian
4	1%	Zhejiang, Hubei and Hainan

Source: Deutsche Bank

The aforementioned targets imply that by 2015, the grid network should be able to offtake nearly all the wind power generated in the current grid-constraint provinces, which should thus significantly reduced grid congestion. To ensure the execution of the RPS standards, the local government and senior management of the grid companies will be held responsible and be considered as part of the government/management performance review.



Figure 13: 2011 wind curtailment and wind penetration rate (2011)

Province	Power curtailment	Wind penetration	No curtailment wind penetration
Gansu	25%	8.6%	10.7%
Inner Mongolia	23%	8.9%	11.0%
Jilin	21%	6.3%	7.6%
Heilongjiang	14%	5.6%	6.5%
Liaoning	10%	5.6%	6.2%
Xinjiang	5%	4.5%	4.7%
Yunnan	5%	0.7%	0.8%
Hebei	4%	4.5%	4.7%
Shandong	1%	1.5%	1.5%
Guangdong	1%	0.4%	0.5%

Source: Deutsche Bank, NDRC, CEIC

### RPS should improve grid utilization marginally in 2013-14

The implementation of the RPS is likely to incentivize the grid companies to take in more wind power and alleviate part of the current grid constraint problems. Nonetheless, we do not expect a significant uptick in utilization rates in 2013 and 2014 as transmission capacity remains the key bottleneck to wind power off-take. Experiences from several developed countries has shown that for a successful implementation of the RPS to take place, there needs to be 1) available transmission capacity and 2) a clear incentive or punishment to meet the renewable energy target, both of which seem to be lacking in the China RPS plans. An expert from the China State Grid Energy Research Institute also argued that, due to the lack of adequate transmission capacity, it seems very difficult from a technical perspective to achieve the RPS penetration target.

### Grid curtailment to turnaround in 2014/15

In our view, China's grid curtailment rates can only be resolved when there is adequate transmission or storage capacity. The Chinese government acknowledges this and has laid out grand plans to invest in a grid infrastructure network. According to the China State Grid's 12<sup>th</sup> Five-Year Plan, it intends to invest RMB1.7tr in grid construction and upgrades, including RMB500bn for UHV development. The UHV development will include "three horizontal, three vertical" as the UHV AC backbone and 11 ultra-high voltage DC projects. Similarly, for China Southern Grid, it plans to invest RMB400bn in grid construction and upgrades between 2011 and 2015.

### Wind-related UHV lines to commence operations in 2014/15

Based on the UHV transmission lines construction schedule, we expect grid congestion in Inner Mongolia, Xinjiang and Gansu to be resolved in 2015, when the major wind-related UHV transmission commences operations.

We are not too concerned about the UHV lines' development schedule, although there have been some delays and controversies in the past relating to the construction of UHV AC lines. In 2009, China completed its first UHV AC Demonstration Project Jindongnan-Nanyang-Jinmen. However, the performance of the project was unsatisfactory as the transmission capacity was significantly below its designed transmission capacity. As a result, China State Grid added an extension project for the demonstration line which was completed in December 2011. This project has recently passed the government's inspection and is operating smoothly at its designed transmission capacity of 5,000MW. Given the breakthrough in technology, we expect the development of UHV AC lines to accelerate from here, with the Ximeng-to-Nanjing Jiangsu AC line project receiving the final approval this year.



Regarding the UHV DC lines, the construction schedule in the past has been on track. To date, China has commissioned two UHV lines, namely the “the Yunnan-Guangdong” and “Sichuan-Shanghai UHVDC project”.

#### More pumped storage to be developed in the next few years

Pumped storage hydropower is the largest form of grid energy storage available, and is one of the main ways to resolve grid congestion problems. Recognizing the importance of pumped storage use for peak shaving and renewable energy grid integration, China plans to invest heavily in pumped storage in the 12<sup>th</sup> Five Year Period, and add 30GW of new capacity, significantly higher than the current capacity of 17GW. In recent months, the government has approved several large-scale hydro projects, such as the 1.2GW Huanggou pumped storage plant in Heilongjiang and the 3.6GW Fengning pumped storage plant in Hebei, which will be China’s largest project. The construction schedule for these pumped storage projects is four to six years, and we expect grid curtailment to be largely resolved after 2015, once these projects commence operations.

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## Wind turbine accident rates to improve with the national grid code

#### 193 wind turbine accidents reported in 1-8M11 vs. 80 in 2010

Investors have become increasingly concerned about China’s wind farm construction design and quality after a significant increase in accidents in the wind industry was reported in 2011. According to the 2011 SERC wind safety report published in December 2011, China had 193 wind turbine accidents in the first eight months of 2011, which is more than double the number reported in 2010. The lack of a national grid code, low technical capability and the poor design, construction and management of the wind farms were often cited as the main reason for the wind turbine accidents.

#### Implementation of a national grid code should ensure safer wind farm operations

In February 2012, the National Energy Bureau set 18 technical standards, including a national grid code for the wind power industry. As a result, the majority of wind farms will be required to possess and enforce the technical standards necessary for smooth grid integration. Based on our latest conversations with the managements of the various wind developers, the majority of the wind farms have installed low-voltage pass through (LVRT) ability, wind power forecasting and reactive power capabilities, with some of the older wind farms undergoing upgrading work.

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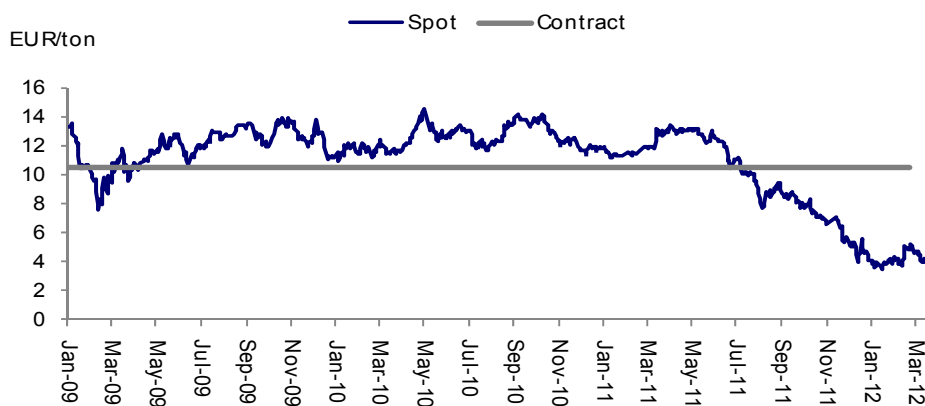
## Potential upside to carbon price

#### Decline in CDM income after 2012 well expected

CER prices have declined 60% in the past 12 months, largely due to the oversupply of carbon credits in the EU ETS market. As a result, the spot CER price is 60% lower than the contract CER price that the wind developers signed. We believe post 2012, CDM income is likely to decline due to the much lower spot carbon price, and because new projects that are registered with the UN after 2012 will no longer be able to sell their carbon credits to the EU ETS system, which accounts for c.75% of total global CER demand. This should not come as a negative surprise to the market, as the Street, including ourselves, has factored in a significant discount to the carbon price, post-2012, and no new CDM projects are to be registered beyond 2013.



Figure 14: CER spot price



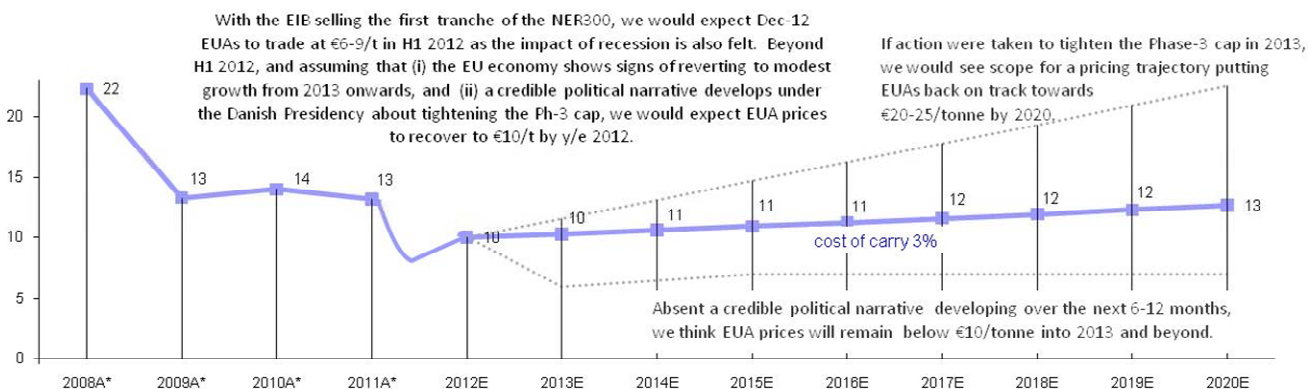
Source: Deutsche Bank, Bloomberg Finance LP

Potential upside to carbon prices in EU ETS

On a positive note, there is potential upside to the current spot price. Deutsche Bank’s carbon analyst, Isabelle Curien, believes that the EUA (carbon price in Europe ETS) prices can potentially recover to EUR10/t by year end 2012 (Figure 15), assuming that (i) the EU economy shows signs of reverting to modest growth from 2013 onwards (as our Deutsche Bank macro colleagues expect), and (ii) a credible political narrative about tightening the Phase-3 supply of EUAs is established and confirmed. After 2012, provided action is taken to tighten the Phase-3 cap in 2013, Isabelle sees scope for a pricing trajectory putting EUAs back on track towards EUR20-25/t by 2020.

Nonetheless, in the absence of a credible political narrative developing over the next six to 12 months, she thinks EUA prices will remain below EUR10/t into 2013 and beyond. During Deutsche Bank’s AccessAsia conference in June, Longyuan’s management said it expects the carbon prices for its CDM wind farms to be more than EUR5/t, higher than the current spot price, citing that its customer composition was mainly skewed towards final buyers such as utility and industrial corporations in Europe, rather than carbon brokers, who demand more stability.

Figure 15: Deutsche Bank base-case scenario for year-end EUA prices, 2012-20 (EUR/EUA), with schematic options to the upside and the downside



Source: Deutsche Bank, Bloomberg Finance LP; \*The prices shown for 2008-11 are the actual average prices over the course of the year.



### Additional demand may come from the domestic market

During the last Durban conference China expressed its willingness to accept legally binding limits on its own emissions under an agreement that will be effective from 2020. This should help to accelerate the development of a carbon trading market in China, which in turn would increase the demand for CER credits. In November 2011, the NDRC also approved pilot trading schemes in seven cities and provinces, namely Tianjin, Beijing, Shanghai, Hubei, Chongqing, Shenzhen and Guangdong. These markets are planned to start trading in 2013.

While this signifies a step forward in the development of China's carbon trading market, we think additional demand from this market is meaningful only after 2015 as there still exist several barriers to creating a national carbon market, including emissions quota allocation, a carbon monitoring system and the lack of a basic legal framework. In addition, the carbon price in China is likely to be much lower than the EUR10/t that the wind developers currently enjoy, given lower abatement costs.

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### Beneficiary of credit easing

Due to stable cash flows and the high capex requirements for growth, China wind developers are generally highly geared, at 146-288% FY12E net debt/equity. The gearing ratio should also increase in the near term as the wind developers expand their capacity. Given the high gearing level, China wind developers' earnings are highly leveraged to financing costs. A 25bp rate cut would have a 1.6%-7.8% positive effect on a company's FY13E EPS.

Our China economist, Jun Ma, expects further credit relaxation ahead and does not rule out the possibility of another rate cut, given falling inflation in China. This would be positive for wind developers, given lower financing costs through a rate cut or preferential lending rates. In the past, China's wind developers financed the majority of their wind projects at a 10-15% discount to the PBoC lending rate. However, due to the credit tightening in 2010, wind developers can only borrow at the PBoC rate. Thus, even without a rate cut, any potential credit loosening would also reduce the China wind developers' financing costs.

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### Placement risks overhang likely to be removed

Investors are unlikely to welcome share placement plans under current market conditions, and we believe that placement risk is likely to be lower in the near term given that: 1) apart from Longyuan, the other wind developers are trading below book and thus are unable to issue new shares given their State Owned Enterprise (SOE) status, 2) wind developers are likely to seek other forms of financing after seeing the market's disappointment with Longyuan's placement proposal, 3) the government is considering a potential change in the cash flow collection method in which the cash conversion cycle might be reduced by three to six months, and 4) the financial status of the big five China IPP groups is likely to experience a notable improvement this year on rapidly falling coal prices and interest rate cuts, which should help to repair their balance sheets and reduce the need for fundraising from the listcos.



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## FCF likely to turn positive in 2015

In the past few years, China wind developers have experienced negative free cashflows (FCF) due to their significant capex requirements. This is a concern for some investors as the companies will have to continue to invest heavily in order to develop their businesses, and will have negative FCF in the near term. Nonetheless, based on our capacity addition forecast and utilization assumptions, we expect the majority of China wind developers to turn positive FCF by 2015, which suggests potential upside to dividend payouts. If grid curtailment becomes more severe and wind developers reduce their capex, it is possible for the companies to turn FCF positive by as early as 2013E.



# Long-term fundamentals intact

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## Key points

- China plans to reduce its carbon intensity by 40-45% by 2020 from 2005 levels and raise its non fossil fuel mix to 15% by 2020
- This is a rather aggressive target which can only be achieved with wind power, given the relatively longer construction time for nuclear power
- China has set a conservative wind capacity target of 100GW by 2015 and 180GW by 2020, which is highly likely to be increased
- China still has abundant wind resources left unutilized, and technology advancement make wind power a more economically attractive energy source

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## Aggressive environmental target

In November 2009, China unveiled its goal to reduce the amount of carbon emitted per unit of GDP by 17% by 2015 from 2010 levels and by 40-45% by 2020 from 2005 levels. This is no easy task, considering China's rapid economic growth and current heavy dependence on coal (75%) as the major form of primary energy. Going forward, more supportive policies may be announced to support wind power development, in our view.

- China is looking to set up an emissions-trading market to help raise funds for carbon emissions reduction and establish a positive incentive mechanism. In November 2011, China started a trial carbon trading market in 7 provinces
- China may also start to levy carbon taxes during the 12- Five-Year plan (2011-15) period

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## Potential upside to 2015 and 2020 target

The Chinese government's target on wind power has always been very conservative. In 2010, China exceeded its 2020 target that was last set in 2007. As a result, China frequently raises its capacity target. For 2015 and 2020, China has set a capacity target of 100GW and 180GW, respectively. We believe these targets are conservative and are likely to be increased so that China will meet its non fossil fuel mix target of 11.4% by 2015 and 15% by 2020. Mr. Liang Zhipeng of the National Energy Administration also expects the 2015 target to be revised to 120GW by 2015 and to over 200GW by 2020.

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## Wind resources unlikely to be a constraint

We do not view wind resources as a constraint for the country to achieve a higher installation target by 2020. Based on the 4- National Wind Resource Investigation which uses data from 400 wind masts refined with computer simulations, China Commercial onshore potential is over 1,000GW, and offshore wind potential in waters from 5-50m deep is c.500GW. Thus, if China were to develop 200GW of wind farms by 2020, less than 20% of its onshore wind resources, under the most conservative scenario, would be utilized, signalling significant room for capacity growth.



**Figure 16: Technically exploitable potential of onshore wind resources (GW)**

Height above the ground	Grade 4 or higher (wind power density $\geq 400\text{w/m}^2$ )	Grade 3 or higher (wind power density $\geq 300\text{w/m}^2$ )	Grade 2 or higher (wind power density $\geq 200\text{w/m}^2$ )
50 m	800	2,000	2,900
70 m	1,000	2,600	3,600
100 m	1,500	3,400	4,000

Source: ERI & IEA: China Wind Energy Development Roadmap 2050, 2010

## Stable regulatory framework; wind tariff cut unlikely

One of the key catalysts that has sparked growth and interest in the wind sector in recent years is the stable regulatory framework in place and the government's aggressive renewable energy target. There is a transparent feed-in tariff mechanism for wind power. Wind developers also enjoy a tax holiday on income for three years and a 50% reduction subsequently. Lastly, to ensure the network connectivity of its renewable sources, China has implemented several measures, including setting a national grid code, potential implementation of an RPS by year-end and more coordinated wind development planning, to resolve the problem.

Although wind turbine prices and construction costs have fallen by 30% and 15% respectively since late 2009, when China set the national wind feed-in tariff (FIT), we believe a tariff cut is unlikely, given wind utilization rates remain very low due to grid curtailment. Profitability of the wind farms has thus not improved, despite the decline in construction costs. During a recent wind power seminar, Mr. Liang Zhipeng, from the National Energy Administration (NEA), said that a wind tariff cut is unlikely at the current utilization level.

Over the last few years, China has significantly increased the renewable energy surcharge, from Rmb0.002/kWh in 2009 to Rmb0.008/kWh. The renewable energy surcharge is the additional tariff that grid companies collect from end-users to support the development of renewable power in China. The renewable energy fund is used to compensate the grid companies for the higher wind tariff premium of Rmb0.60/kWh vs. coal powered at Rmb0.40/kWh and fund the construction of grid networks to connect to the renewable energy sources. The increase in renewable energy funds signals China's commitment to renewable power and will lend further support to grid companies to purchase more wind and solar power.

## Technology advancements: opening new doors

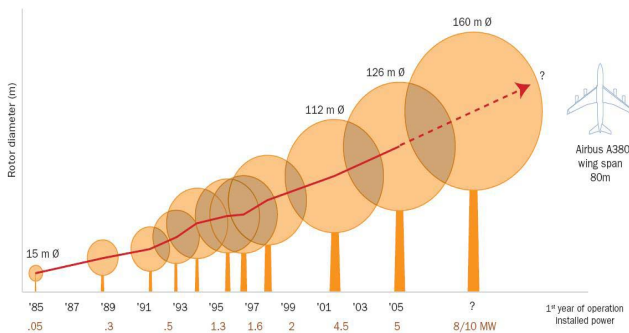
With likely technological advances in offshore turbine, energy storage, and wind/solar complementation areas, there could be substantial upside potential to raise the capacity contribution of wind power.





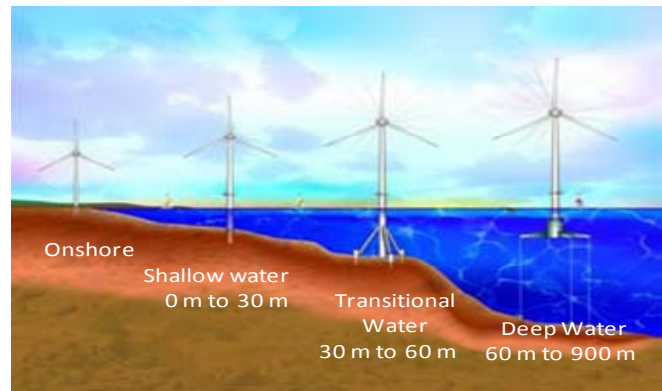
- The reduction of installation and turbine costs for offshore projects has a long way to go. Advancement in larger-sized turbines can clearly help reduce the cost, triggering more scalable offshore wind project development. Chinese WTG makers are exploring the possibility of developing 10MW size offshore wind turbines
- Development of energy storage technology can greatly reduce the cost of electricity transmission. In particular, electric cars and charging stations can be combined with wind power development to maximize wind power's peak utilization during evening hours
- The development of wind-solar integrated farms, which complement each other in the peak and trough of load factors

Figure 17: Size of commercial wind turbine designs



Source: Deutsche Bank, the European Wind Energy Association

Figure 18: Offshore wind technology development



Source: Deutsche Bank, National Renewable Energy Laboratory



# Prefer established players with visible capacity pipeline and decent balance sheets

## Capacity pipeline increasingly important amid tightening wind project approvals

Due to the ongoing grid bottleneck problems, China has significantly tightened its wind project approval process. This should continue to be the case in the next two years, until grid curtailment is largely resolved, after which China will accelerate its wind capacity growth process. Thus, a visible wind capacity pipeline becomes increasingly important for the wind developers in the near term as it determines a company's ability to achieve its capacity growth target and, subsequently, its earnings.

## Established players have an edge in winning new projects

Amid a project tightening scenario, established wind operators have a stronger edge in winning new projects. In the two rounds of national wind project tenders, the top ten wind developers accounted for 60% of total wind project allocations in the second batch compared with 53% in the first batch, signifying that established wind developers are more likely to increase their market share over the next few years.

## Longyuan has the highest visibility among peers

Among the three big listed wind developers in HK, Longyuan has the highest visibility given it has a 5.8GW approved wind projects vs. its target capacity growth of 4.6GW in 2012 to 2014, giving it a coverage ratio of over three years. In addition, 60% of these projects are located in the non-grid constraint region, providing the company with more flexibility in developing wind projects as it can diversify from the grid constraint regions and to only start and develop projects in these regions when the grid curtailment issue is resolved. Further, Longyuan's parentco, Guodian United, was awarded 2.7GW of wind projects, which could potentially be injected into the company.

Figure 19: National wind tender breakdown by market players

By developer	1st batch	Market share	2nd batch	Market share	Total	Market share
<b>Longyuan</b>	<b>3,530</b>	<b>13%</b>	<b>2,260</b>	<b>13%</b>	<b>5,790</b>	<b>13%</b>
<b>Huaneng Renewable</b>	<b>2,038</b>	<b>8%</b>	<b>941</b>	<b>6%</b>	<b>2,978</b>	<b>7%</b>
Guodian Group	1,228	5%	1,488	9%	2,716	6%
<b>Datang Renewable</b>	<b>1,354</b>	<b>5%</b>	<b>1,305</b>	<b>8%</b>	<b>2,658</b>	<b>6%</b>
CGNPC	1,347	5%	590	4%	1,937	4%
China Power Investment	1,240	5%	611	4%	1,851	4%
CR Power	818	3%	929	6%	1,747	4%
Huadian New Energy	1,445	5%	243	1%	1,688	4%
Datang Group	687	3%	648	4%	1,335	3%
Guodian Power	370	1%	928	6%	1,298	3%
Others	12,964	48%	6,756	39%	19,720	45%
<b>Total</b>	<b>26,837</b>	<b>100%</b>	<b>16,748</b>	<b>100%</b>	<b>43,586</b>	<b>100%</b>

Source: National Energy Bureau



### Strong balance sheets provide further capacity upside potential and lower placement risk

Given the highly capital-intensive nature of the wind business, companies with strong balance sheets have greater ability to acquire new projects, particularly from parent companies. At the same time, they will generally be able to finance their projects with lower financing costs and have lower placement risk. Among the big three HK listed wind developers, Longyuan has the strongest balance sheet (Figure 20).

Figure 20: Comparison between Big 3 HK-listed wind developers

		Longyuan	HNR	DTR
<b>Operating matrix</b>	<b>Unit</b>			
2011 Capacity	MW	8,849	4,904	5,259
Non-grid curtailed capacity (mix)	MW	33%	43%	34%
DB Capacity CAGR (2011-2014E)	%	15%	17%	16%
2011 unit operating profit	RMB/MWh	343	344	326
2011 adjusted operating profit	RMB/MWh	242	269	264
<b>Pipeline</b>				
Capacity from national tender	MW	5,790	3,279	2,658
Non-grid curtailed capacity	MW	3,460	2,401	1,635
Company 2012 capacity target	MW	1,600	1,000	1,500
DB 2012 capacity assumption	MW	1,500	1,000	1,000
Coverage ratio	x	3.6x	3.3x	1.8x
<b>Business exposure</b>				
CDM	%			
2011		20%	41%	37%
2012E		25%	37%	48%
2013E		13%	22%	24%
<b>Gearing (Net debt/total equity)</b>	%			
2011		147%	174%	264%
2012E		147%	185%	288%
2013E		142%	190%	292%
<b>Interest coverage (EBIT/interest expense)</b>	x			
2011		3.0x	2.8x	2.6x
2012E		2.6x	2.8x	2.5x
2013E		2.8x	3.6x	2.6x

Source: Deutsche Bank, Company data. Note: non grid curtailed capacity refers to projects that are not located in Inner Mongolia, Gansu, Jilin, Heilongjiang and Liaoning provinces

### DTR and HNR highest leverage to CER price

After 2012, CDM income will likely account for a much smaller portion of wind developers' profits. Among peers, DTR and HNR are the most sensitive to changes in the carbon price, and would have the biggest upside if the carbon price were to revert to EUR10/t by end 2012, as per Deutsche Bank's carbon analyst forecast. We have assumed a carbon price of EUR5/t in our base case. A EUR1/t increase would translate to 1.6% to 4.8% upside potential to our FY13E EPS.

Figure 21: Sensitivity to FY13E EPS

	Longyuan Power	Huaneng Renewables	Datang Renewables
Wind Tariff (1%)	1.3%	2.7%	4.2%
Wind utilization (100hrs)	12.7%	13.4%	20.8%
CDM price (1 Eur)	1.6%	4.0%	4.8%
Interest rate (25bp)	1.6%	3.4%	7.8%

Source: Deutsche Bank

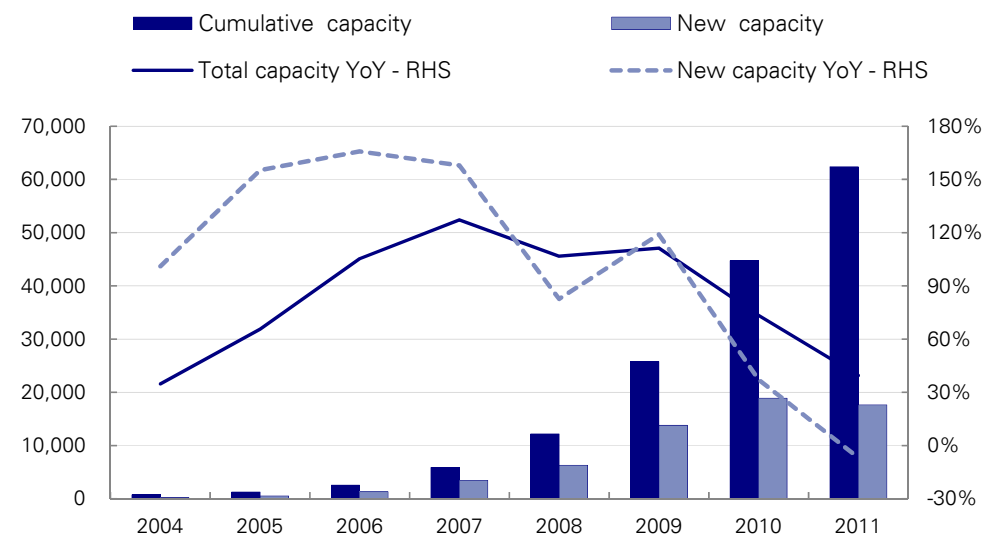


# Overview of China's wind power industry

## China's position among the global wind capacity development circle

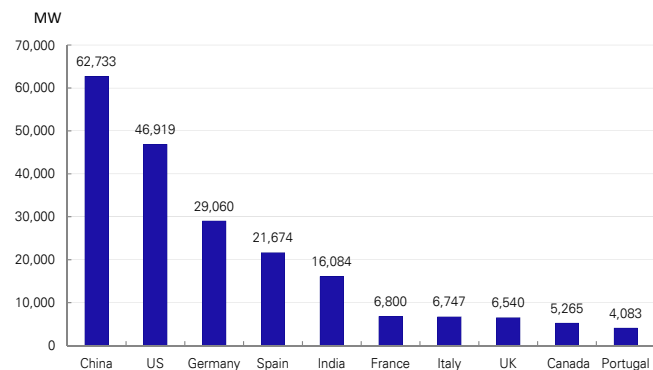
Following the exponential growth pace of wind power capacity in 2004-09, China has focused more on sustainable and reasonable industry development over the past two years. A total capacity of 18GW was added in China in 2011, continuing to rank it No.1 in the world, followed by the US (7GW) and India (3GW). At end-2011, China was ranked No.1 in terms of cumulative wind capacity, exceeding the US by >15GW.

Figure 22: China wind power capacity trend



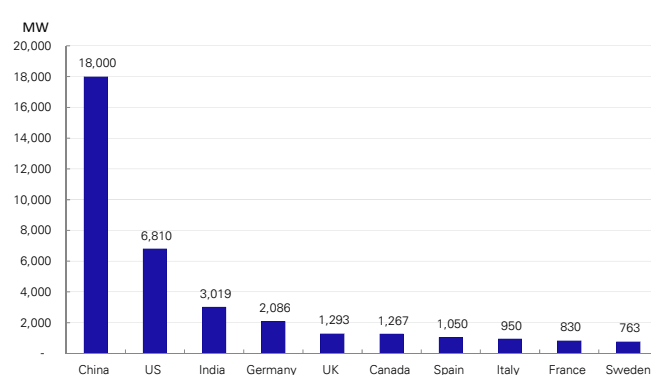
Source: Deutsche Bank, China Wind Energy Association

Figure 23: 2011 Cumulative wind capacity by country



Source: Deutsche Bank, Global Wind Energy Council

Figure 24: 2011 Newly installed wind capacity by country



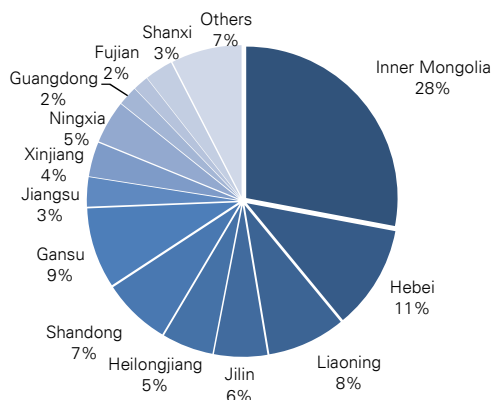
Source: Deutsche Bank, Global Wind Energy Council



### Locations of current wind farms highly correlated with wind resources

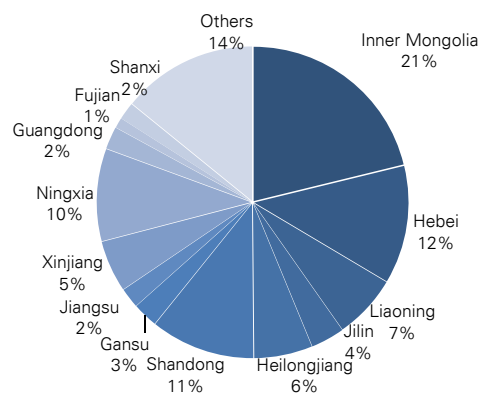
In terms of the geographical location of wind resources, China's wind resources are largely located in North China, namely East and West Inner Mongolia, Xinjiang, Gansu, Hebei, West Jilin, and the Jiangsu coastal region. Today, China's wind farms are highly concentrated in the regions where there exists an abundance of wind resources and high grid efficiency. Inner Mongolia, Liaoning, and Jilin provinces accounted for 42% of China's installed capacity at end-2011. Wind capacity as a percent of total capacity is also the highest among these provinces.

Figure 25: Total installed capacity by province (2011)



Source: Deutsche Bank, China Wind Energy Association

Figure 26: New addition capacity by province (2011)



Source: Deutsche Bank, China Wind Energy Association

### China's wind energy development plan

China's impressive growth in wind capacity in recent years is mainly a result of the government's focus and commitment to developing the sector. China aims to consume 15% of its primary energy from non-fossil fuels by 2020. In addition, China targets to cut its carbon dioxide emissions per unit of GDP by 40-45% by 2020 from 2005 levels. At the current rate of wind power growth and development of grid connection, we forecast that China's wind capacity will exceed 120GW by 2015 and 200GW by 2020, which suggests further upside to the current official wind energy target of 100GW by 2015 and 180GW by 2020.

### A summary of favorable governmental policies

Over the past decade, favorable governmental policies have fuelled the growth of the Renewable Energy Sector in China in terms of capacity and players. Several initiatives such as the Renewable Energy law, on-grid pricing policy for wind power, and aggressive targets for renewable energy have laid the foundation for the development of wind power. Below, we discuss the key government supporting policies.

- **Feed-in tariffs:** In 2009, the Chinese government introduced a wind feed-in tariff ranging from RMB0.51/KWh to RMB0.61/kWh, according to four category bases, with a premium of c.RMB0.20/KWh coal power within the same province. Unlike some other countries, wind power has no exposure to the free market due to the lack of a competitive wholesale market in China
- **Renewable energy mix:** There is an obligation for larger power-generating companies to have 3% of non-hydro renewable energy in the total power generation mix by 2010 and 8% by 2020. China targets a 15% mix of gross energy consumption to be derived from non-fossil energy by the end of 2020

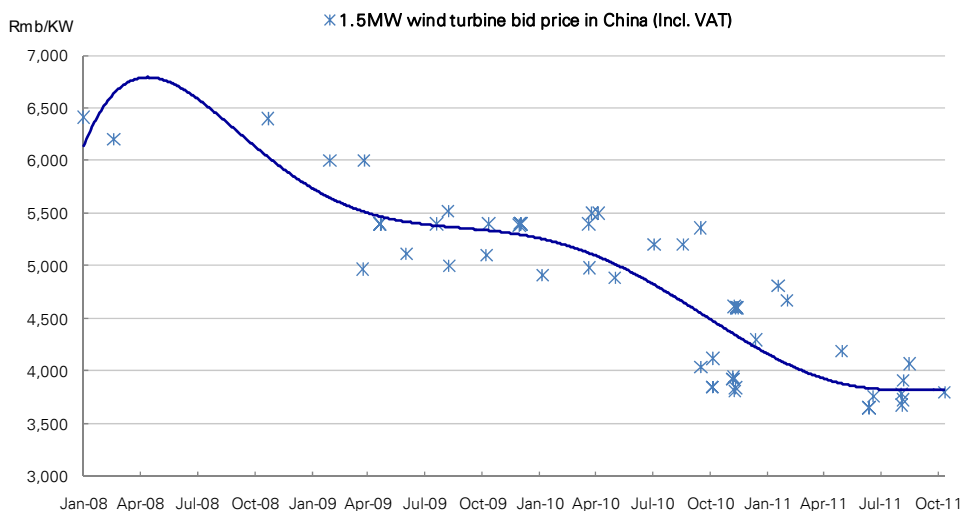


- Priority dispatch: According to the PRC Renewable Energy Law, grid companies must give priority to electricity generated from renewable energy projects in their grid areas, and must provide grid-connection services and related technical support
- Tax benefits: A wind farm is exempt from the PRC income tax for three years and receives a 50% reduction in such tax for three years thereafter. In addition, the VAT rebate reform effective from 1 January 2009 further promoted the capacity expansion of the wind power industry as companies can receive a VAT rebate on the purchase of wind equipment

**Wind turbine prices have fallen rapidly since 2H08 despite better quality**

Wind turbine prices have been falling rapidly since 2H08. In recent months, wind turbine prices have stabilized between Rmb3,800 and Rmb4,300 per KW. While turbines prices continue to stay low, the quality of wind turbines is likely to improve. Additionally, WTG manufacturers are increasing their warranty period from one to three years, and increasing their service levels to win market share.

**Figure 27: Wind turbine ASP trend in China**



Source: Deutsche Bank



# Economics of a wind farm

## Decent returns even during low utilization and no CDM income

Investors are generally concerned about grid curtailment and decline in CDM income that will result in very low equity IRR for individual wind farm projects. However, contrary to market expectations, and as illustrated in Figure 28, we estimate wind developers can still deliver an equity IRR of 11% under a severe grid curtailment and no CDM income scenario. Our assumptions are shown in Figure 29. On average, we expect wind projects to deliver an equity IRR of 13% to 15%. Based on our assumed cost of equity of 11%, under most scenarios and certainly under our base case, most new projects are value-accretive to shareholders.

Figure 28: Equity IRR sensitivity

	Carbon price (EUR/t)					
		0	3	5	8	10
	1,800	11%	12%	<b>13%</b>	14%	15%
	1,900	13%	14%	<b>14%</b>	15%	16%
<b>Utilization (hrs)</b>	<b>2,000</b>	<b>14%</b>	<b>15%</b>	<b>15%</b>	<b>17%</b>	<b>17%</b>
	2,100	15%	16%	<b>17%</b>	18%	19%
	2,200	16%	17%	<b>18%</b>	19%	20%

Source: Deutsche Bank



Figure 29: Simple illustration of the economics of a single wind farm

Figure 29: Simple illustration of the economics of a single wind farm											
Capacity (MW)	49.5	Interest Rate	6.5%	WACC	7.7%						
Utilization (hrs)	2200	Debt	60%	Cost of Equity	11.0%						
Tariff (Rmb/kWh) incl. VAT	0.61	Equity	40%	Equity IRR 20 years	14%						
Tariff (Rmb/kWh) excl. VAT	0.52	Outstanding Loan (Rmb mn)	232	Project IRR 20 years	12%						
CER (€/t)	0	Growth after 20 years	0%	NPV	\$98						
CER (Rmb/t)	0	EBIT Margin	60%	VAT for power sales	17%						
Revenue (Rmb/mn)	56.8	Cost of construction (Rmb/kW)	7800	VAT for capex	11%						
Carbon produced per (tons/GWh)	990	Depreciation Period (years)	20	Tax rate	15%						
CER (mn)	0.00	Depreciable amount	80%								
Year											
Rmb mn	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Electricity Revenue (incl VAT paid)		66.43	66.43	66.43	66.43	66.43	66.43	66.43	66.43	66.43	66.43
VAT Paid		9.65	9.65	9.65	9.65	9.65	9.65	9.65	9.65	9.65	9.65
VAT Credit		9.65	9.65	9.65	9.65	9.65	(5.79)	-	-	-	-
Net VAT paid		-	-	-	-	-	15.44	9.65	9.65	9.65	9.65
<b>Income Statement</b>											
Net Electricity Revenue		56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8	56.8
Net CDM income			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
VAT Refund		-	-	-	-	-	7.72	4.83	4.83	4.83	4.83
<b>Revenue</b>		<b>56.8</b>	<b>56.8</b>	<b>56.8</b>	<b>56.8</b>	<b>56.8</b>	<b>64.5</b>	<b>61.6</b>	<b>61.6</b>	<b>61.6</b>	<b>61.6</b>
Depreciation		15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4	15.4
Maintenance cost & Others		18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6	18.6
EBIT		34.1	34.1	34.1	34.1	34.1	41.8	38.9	38.9	38.9	38.9
Interest Payment		15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1	15.1
<b>Profit Before Tax</b>		<b>19.0</b>	<b>19.0</b>	<b>19.0</b>	<b>19.0</b>	<b>19.0</b>	<b>26.7</b>	<b>23.8</b>	<b>23.8</b>	<b>23.8</b>	<b>23.8</b>
<b>Tax rate</b>		<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>12.5%</b>	<b>12.5%</b>	<b>12.5%</b>	<b>25%</b>	<b>25%</b>	<b>25%</b>	<b>25%</b>
Tax		0	0	0	2.38	2.38	3.34	5.96	5.96	5.96	5.96
<b>Profit after tax</b>		<b>19.0</b>	<b>19.0</b>	<b>19.0</b>	<b>16.6</b>	<b>16.6</b>	<b>23.4</b>	<b>17.9</b>	<b>17.9</b>	<b>17.9</b>	<b>17.9</b>
Total VAT Deductible	42.5										
Equity Investment (mn)	154										
VAT rebate		9.65	9.65	9.65	9.65	9.65	(5.79)	0	0	0	0
Loan Repayment		19.31	19.31	19.31	19.31	19.31	19.31	19.31	19.31	19.31	19.31
<b>Free Cash Flow to Equity (FCFE)</b>	(154)	24.8	24.8	24.8	22.4	22.4	13.7	14.0	14.0	14.0	14.0
<b>Free Cash Flow to Firm (FCFF)</b>	(386)	59.2	59.2	59.2	54.9	54.9	46.2	44.6	44.6	44.6	44.6

Source: Deutsche Bank



Figure 30: China power demand and supply forecast

End of year capacity (GW)	2010	2011	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
Coal	680	730	778	828	888	943	993	1043	1093	1143	1193
Oil	3	3	3	3	3	3	3	3	3	3	3
Hydro	216	231	248	267	287	308	327	346	365	384	402
Nuclear	11	13	14	22	33	43	52	59	66	73	80
Gas	26	33	43	55	64	70	76	82	88	94	100
Wind	29	45	61	77	95	115	134	153	172	191	210
Solar & Biomass	0	2	7	12	17	23	31	39	50	63	76
<b>Total</b>	<b>966</b>	<b>1,056</b>	<b>1,153</b>	<b>1,263</b>	<b>1,386</b>	<b>1,504</b>	<b>1,614</b>	<b>1,724</b>	<b>1,835</b>	<b>1,949</b>	<b>2,063</b>

Fuel Mix (end of year)	2010	2011	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
Coal	70.4%	69.1%	67.5%	65.5%	64.1%	62.7%	61.5%	60.5%	59.5%	58.6%	57.8%
Oil	0.3%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.1%
Hydro	22.4%	21.8%	21.5%	21.2%	20.7%	20.5%	20.2%	20.1%	19.9%	19.7%	19.5%
Nuclear	1.1%	1.2%	1.2%	1.7%	2.4%	2.8%	3.2%	3.4%	3.6%	3.7%	3.9%
Gas	2.7%	3.1%	3.7%	4.3%	4.6%	4.6%	4.7%	4.7%	4.8%	4.8%	4.8%
Wind	3.0%	4.3%	5.3%	6.1%	6.8%	7.6%	8.3%	8.8%	9.3%	9.8%	10.2%
Solar & Biomass	0.0%	0.2%	0.6%	1.0%	1.2%	1.6%	1.9%	2.3%	2.7%	3.2%	3.7%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Demand	2010	2011	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
Power consumption(TWh)	4,192	4,693	5,082	5,519	5,961	6,408	6,857	7,337	7,777	8,243	8,738
<b>Consumption % chg</b>	<b>15.1%</b>	<b>11.9%</b>	<b>8.3%</b>	<b>8.6%</b>	<b>8.0%</b>	<b>7.5%</b>	<b>7.0%</b>	<b>7.0%</b>	<b>6.0%</b>	<b>6.0%</b>	<b>6.0%</b>

Utilization (hrs)	2010	2011	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
Thermal	5,031	5,294	5,356	5,335	5,268	5,194	5,178	5,224	5,233	5,262	5,313
Hydro	3,429	3,028	3,200	3,300	3,300	3,300	3,300	3,300	3,300	3,300	3,300
Wind	2,097	1,903	2,050	2,150	2,200	2,250	2,250	2,250	2,250	2,250	2,250
Nuclear	7,924	7,772	7,600	7,600	7,600	7,600	7,600	7,600	7,600	7,600	7,600
Gas			3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500	3,500
Solar & Biomass		1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
<b>Total</b>	<b>4,660</b>	<b>4,731</b>	<b>4,762</b>	<b>4,729</b>	<b>4,658</b>	<b>4,587</b>	<b>4,546</b>	<b>4,542</b>	<b>4,515</b>	<b>4,500</b>	<b>4,499</b>

Source: Deutsche Bank, China Electricity Council





**Rating**  
**Buy**  
 Asia  
 China

**Company**  
**Huaneng  
 Renewables**

**Utilities**  
 Utilities

**Reuters**                      **Bloomberg**  
 0958.HK                              958 HK

Price at 3 Jul 2012 (HKD)	1.22
Price target - 12mth (HKD)	2.00
52-week range (HKD)	2.51 - 1.22
HANG SENG INDEX	19,736

## Expected sharp rebound on improving fundamentals; Initiate at Buy

### Valuation at historical low with headwinds over; initiating on HNR with Buy

HNR's shares have declined sharply by 49% since the June 2011 IPO, driven by worsening grid congestion, falling carbon prices and heightened placement risk. We believe industry dynamics are set to improve and we initiate coverage on HNR with a 12-month target price of HKD2.0 and a Buy rating given: 1) valuation is historically low, 2) grid connection should improve gradually, 3) it is a key beneficiary of credit easing, and 4) it has a visible capacity pipeline. Our 2013/14E earnings are 5%/9% ahead of consensus.

### Decent balance sheet with visible capacity pipeline and good track record

HNR has one of the lowest gearing ratios and strong capacity expansion plans supported by a list of quality projects. HNR targets to add 1GW of wind projects annually, which is likely to be achieved given it has 4.3GW of projects that have received preliminary/final approval from the NDRC, cementing its capacity target for the next three years. Historically, HNR also has the highest adjusted unit operating profit (excl. other net income) compared with its peers.

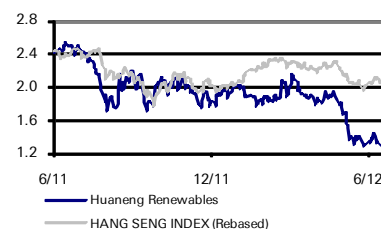
### Grid curtailment, CDM income uncertainty and placement risk overplayed

With a national grid code in place and the potential implementation of the Renewable Portfolio Standard (RPS), grid connection should improve in the near term. While CDM income is set to decline after 2012, this is well expected with risk skewed to the upside in our view. We believe placement risk is low as the stock is trading below book. Potential credit easing should result in lower effective interest rates, presenting further potential upside to our forecasts. (Refer to our industry report "Fly with the wind" dated 4 July for further details).

### Target price of HKD2.0 based on DCF

We derive our HKD2.0 target price from a DCF analysis through 2020, assuming a 2% terminal growth rate and a WACC of 9.1%. Key downside risks include grid bottlenecks and uncertainty about CDM income (42% FY11PBT).

### Price/price relative



Performance (%)	1m	3m	12m
Absolute	-10.9	-36.1	-51.2
HANG SENG INDEX	6.3	-5.1	-11.9

### Forecasts And Ratios

Year End Dec 31	2010A	2011A	2012E	2013E	2014E
Sales (CNYm)	1,768.5	3,195.9	4,277.5	5,333.8	6,471.1
EBITDA (CNYm)	1,768.0	3,520.7	4,487.4	5,224.3	6,247.5
Reported NPAT (CNYm)	528.3	1,023.0	1,354.0	1,808.9	2,282.3
Reported EPS FD(CNY)	0.091	0.141	0.160	0.214	0.270
DB EPS FD (CNY)	0.090	0.161	0.174	0.214	0.270
DB EPS growth (%)	133.20	77.48	8.08	23.38	26.17
PER (x)	-	10.68	5.75	4.66	3.70
EV/EBITDA (x)	-	9.4	7.2	7.0	6.3
DPS (net) (CNY)	0.000	0.000	0.024	0.032	0.041
Yield (net) (%)	-	0.0	2.4	3.2	4.1

Source: Deutsche Bank estimates, company data

<sup>1</sup> DB EPS is fully diluted and excludes non-recurring items

<sup>2</sup> Multiples and yields calculations use average historical prices for past years and spot prices for current and future years, except P/B which uses the year end close



Model updated: 02 July 2012

### Running the numbers

Asia  
 China  
 Utilities

### Huaneng Renewables

Reuters: 0958.HK Bloomberg: 958 HK

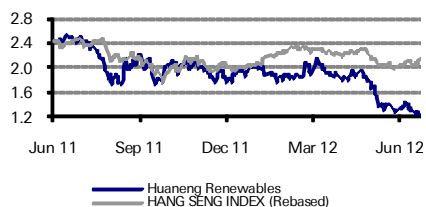
### Buy

Price (3 Jul 12) HKD 1.22  
 Target Price HKD 2.00  
 52 Week range HKD 1.22 - 2.51  
 Market Cap (m) HKDm 10,305  
 USDm 1,328

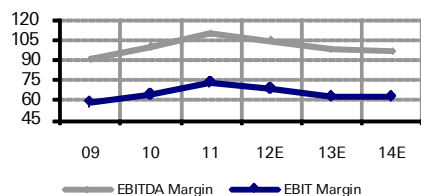
### Company Profile

Huaneng Renewables is the listed wind power arm of China Huaneng Group and is China's third largest wind farm operator. The company's wind farms are located mainly in the Northeast China region, West Inner Mongolia, North China region, East China, South China and Xinjiang.

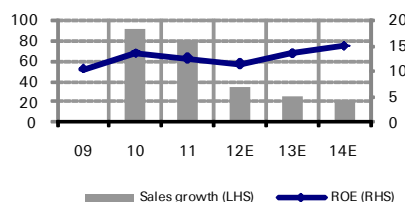
### Price Performance



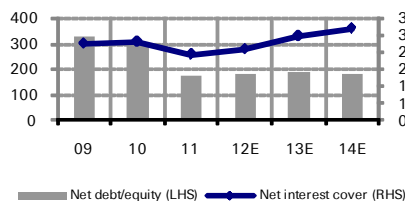
### Margin Trends



### Growth & Profitability



### Solvency



Fiscal year end 31-Dec

### Financial Summary

	2009	2010	2011	2012E	2013E	2014E
DB EPS (CNY)	0.04	0.09	0.16	0.17	0.21	0.27
Reported EPS (CNY)	0.05	0.09	0.14	0.16	0.21	0.27
DPS (CNY)	0.00	0.00	0.00	0.02	0.03	0.04
BVPS (CNY)	0.4	0.9	1.6	1.5	1.7	1.9
Weighted average shares (m)	5,800	5,800	7,275	8,447	8,447	8,447
Average market cap (CNYm)	na	na	12,471	8,434	8,434	8,434
Enterprise value (CNYm)	na	na	33,153	32,431	36,420	39,560

### Valuation Metrics

P/E (DB) (x)	na	na	10.7	5.8	4.7	3.7
P/E (Reported) (x)	na	na	12.2	6.2	4.7	3.7
P/BV (x)	0.00	0.00	1.02	0.66	0.59	0.52
FCF Yield (%)	na	na	nm	nm	nm	nm
Dividend Yield (%)	na	na	0.0	2.4	3.2	4.1
EV/Sales (x)	nm	nm	10.4	7.6	6.8	6.1
EV/EBITDA (x)	nm	nm	9.4	7.2	7.0	6.3
EV/EBIT (x)	nm	nm	14.1	11.1	10.8	9.7

### Income Statement (CNYm)

Sales revenue	918	1,769	3,196	4,277	5,334	6,471
Gross profit	751	1,518	2,838	3,791	4,729	5,736
EBITDA	836	1,768	3,521	4,487	5,224	6,248
Depreciation	297	634	1,169	1,562	1,865	2,169
Amortisation	0	0	0	0	0	0
EBIT	540	1,134	2,351	2,925	3,359	4,079
Net interest income/(expense)	-239	-493	-1,212	-1,412	-1,367	-1,507
Associates/affiliates	3	0	0	0	0	0
Exceptionals/extraordinaries	39	0	0	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	303	641	1,139	1,513	1,992	2,572
Income tax expense	22	32	32	76	100	206
Minorities	56	81	84	84	84	84
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	264	528	1,023	1,354	1,809	2,282
DB adjustments (including dilution)	-39	-3	145	112	0	0
DB Net profit	225	525	1,168	1,466	1,809	2,282

### Cash Flow (CNYm)

Cash flow from operations	674	1,260	2,562	5,159	5,604	7,233
Net Capex	-7,312	-10,450	-8,027	-7,800	-7,800	-7,800
Free cash flow	-6,638	-9,190	-5,465	-2,641	-2,196	-567
Equity raised/(bought back)	0	0	5,403	0	0	0
Dividends paid	-15	-51	-82	0	-203	-271
Net inc/(dec) in borrowings	4,615	7,134	7,998	988	2,887	1,483
Other investing/financing cash flows	1,183	2,616	-1,499	-1,412	-1,367	-1,507
Net cash flow	-855	509	6,355	-3,065	-878	-862
Change in working capital	-114	-485	-921	747	479	1,191

### Balance Sheet (CNYm)

Cash and other liquid assets	819	1,309	7,518	4,453	3,574	2,712
Tangible fixed assets	14,336	27,803	36,956	42,061	46,862	51,360
Goodwill/intangible assets	412	395	381	381	381	381
Associates/investments	0	0	85	85	85	85
Other assets	2,214	3,937	6,590	7,191	7,724	8,117
Total assets	17,781	33,445	51,531	54,172	58,627	62,656
Interest bearing debt	11,811	20,020	28,683	29,663	32,551	34,034
Other liabilities	2,674	7,306	10,688	10,911	10,790	11,241
Total liabilities	14,484	27,326	39,371	40,575	43,340	45,275
Shareholders' equity	2,583	5,284	11,332	12,685	14,291	16,302
Minorities	713	835	828	912	996	1,079
Total shareholders' equity	3,297	6,119	12,159	13,597	15,287	17,381
Net debt	10,991	18,710	21,165	25,210	28,976	31,322

### Key Company Metrics

Sales growth (%)	nm	92.6	80.7	33.8	24.7	21.3
DB EPS growth (%)	na	133.2	77.5	8.1	23.4	26.2
EBITDA Margin (%)	91.1	100.0	110.2	104.9	97.9	96.5
EBIT Margin (%)	58.7	64.1	73.6	68.4	63.0	63.0
Payout ratio (%)	0.0	0.0	0.0	15.0	15.0	15.0
ROE (%)	10.2	13.4	12.3	11.3	13.4	14.9
Capex/sales (%)	818.9	591.0	251.2	182.4	146.2	120.5
Capex/depreciation (x)	25.3	16.5	6.9	5.0	4.2	3.6
Net debt/equity (%)	333.4	305.8	174.1	185.4	189.6	180.2
Net interest cover (x)	2.3	2.3	1.9	2.1	2.5	2.7

Source: Company data, Deutsche Bank estimates

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# Investment Thesis

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## Outlook

We initiate coverage of HNR with a Buy rating and a 12-month target price of HKD2.0. HNR, the third largest wind developer in China, should be a key beneficiary of the country's rapid growth in the wind industry with a three-year earnings CAGR of 25% in 2012-14E.

The capacity growth outlook for the next three years is highly visible, with 1GW of NDRC-approved projects and c.3.3GW of projects awarded through the national tender. The combined 4.3GW project pipeline will cement HNR's capacity growth plans in the next three years. Further, China Huaneng Group, HNR's parent company, has more than 2GW of wind capacity, which could potentially be injected into HNR, presenting significant upside potential to our currently assumed 1GW annual capacity additions. Despite potential new entrants to the wind development market, HNR has gained a competitive edge in its excellent track record in developing wind farms, and possesses the necessary skills and technology required in wind farm development. Among its peers, HNR has one of the strongest balance sheets, highest adjusted unit operating profit (excluding CDM and other income) and the lowest capacity mix in grid congestion regions.

HNR's valuation is at an all-time low at c.50% of its IPO price and at very attractive valuation multiples of 6x FY12E P/E vs. 24% EPS CAGR (2012-14E) and 0.7x P/B vs. an 11.3% FY12E RoE improving to 15% in 2014E, due to a multitude of headwinds against the sector, including increasing wind farm accidents, worsening grid congestion, slower capacity growth, lower wind speeds, falling carbon prices and higher placement risks. Nonetheless, industry dynamics are well positioned for improvement. In the near term, grid connection and wind farm accidents should improve with the enforcement of a national grid code, coordinated wind project development and the potential implementation of the RPS. Medium term, the commencement of several UHV lines and pump storage facilities should completely resolve the grid curtailment problems.

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## Valuation

Our target price of HKD2.0 offers 12-month upside potential of 60% from current trading levels. We derive it from a DCF analysis through to 2020, after which we assume 2% terminal growth. We believe a 2% terminal growth rate is relatively conservative, as less than 10% of China's wind resources are likely to be utilized by 2020. Our WACC of 9.1% incorporates a cost of equity of 11.4% (risk-free rate of 3.0%, geared beta of 1.5, ERP of 5.6%), an after-tax cost of debt of 5.5% and a 40%/60% debt/equity target capital structure.

A target price of HKD2.0 implies FY12E and FY13E P/Es of 9.5x and 7.7x, respectively, which is conservative considering its EPS growth of 25% in 2012-14E. The stock is trading at a very attractive valuation of 0.7x P/B vs. 11.3% FY12E.

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## Risks

The main downside risks to our valuation include: 1) grid bottlenecks resulting in lower-than-expected power dispatch; 2) uncertainty of CDM income after 2012; 3) lower-than-expected quality and reliability of its newly installed turbine, as it lacks a long operating track record; 4) rising competition for wind projects; 5) a slowdown in the construction of UHV lines and the implementation of the RPS; and 6) lower-than-expected wind speeds.



# Valuation

## DCF is our preferred approach, given stable free cash flow

Our preferred approach to valuing this company is a DCF model, given the company's stable cash flow and its ability to capture the wind developers' high growth rates.

Based on the Chinese government's current plan, China's wind capacity will increase from 62GW (including un-connected) in 2011 to 180GW in 2020, and we believe there could be further upside for the likely achieved level in 2020. In our view, as the market leader in the wind developer industry space and with 83GW in its pipeline, Huaneng has the ability to add 1GW of wind capacity per annum through 2012-20E such that it should maintain a market share of 8% in 2020 (c.8% in 2011).

Our DCF valuation discounts the company's free cash flow over 2012-20E and assumes a 2% terminal growth rate for the terminal value calculation. In deriving our weighted average cost of capital (WACC) of 9.1%, we use a risk-free rate of 3.0%, geared beta of 1.5, equity risk premium of 5.6% and target net debt/equity ratio of 40%/60%.

Figure 31: DCF summary

DCF Summary (RMBm)											
	2010	2011	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
<b>EBIT</b>				3,359	4,079	5,364	6,287	7,044	7,782	8,530	9,363
Tax Rate				5.0%	8.0%	8.0%	10.0%	10.0%	15.0%	15.0%	15.0%
EBIT after tax				3,191	3,753	4,935	5,658	6,340	6,615	7,250	7,958
add back Depreciation & Amortization				1,865	2,169	2,499	2,834	3,171	3,512	3,856	4,204
less: Capex				(7,800)	(7,800)	(8,294)	(8,355)	(8,416)	(8,476)	(8,537)	(8,500)
add changes in working capital				479	1,191	1,143	1,328	575	1,168	1,580	1,007
<b>Cashflow proxy</b>				<b>(2,264)</b>	<b>(688)</b>	<b>283</b>	<b>1,465</b>	<b>1,671</b>	<b>2,819</b>	<b>4,149</b>	<b>4,669</b>
Discount factor			1.00	1.09	1.19	1.30	1.41	1.54	1.68	1.83	2.00
Discounted Cashflow ex TV				(2,076)	(578)	218	1,036	1,083	1,676	2,263	2,335
Sum of DCF ex TV			5,956								
Terminal Value (TV)											67,556
Present Value of TV			33,780								
<b>Total DCF (inc TV)</b>			<b>39,736</b>								
Add Associates			85								
Less Net Debt (cash)			25,210								
Less Minority Interest			912								
Equity NPV			13,699								
Equity NPV/Share (RMB)			1.6								
<b>Target Price (HK\$)</b>			<b>2.0</b>								
<b>Sensitivity table</b>											
<b>WACC</b>											
					7.6%	8.6%	9.1%	9.6%	10.6%		
					1.0%	3.0	1.8	1.3	0.9	0.2	
					1.5%	3.5	2.1	1.6	1.1	0.4	
			<b>Terminal growth</b>		2.0%	4.1	2.5	<b>2.0</b>	1.4	0.6	
					2.5%	4.8	3.0	2.3	1.8	0.8	
					3.0%	5.7	3.6	2.8	2.1	1.1	
<b>after tax</b>											
<b>WACC</b>	9.1%	rf	3.0%	beta	1.50	mp	5.6%	kd	6.5%	implied ke	11.4%
<b>TV Growth</b>	2.0%										
<b>Implied multiples</b>											
P/E			12.2x	9.1x	7.2x	4.9x	4.0x	3.4x	3.2x	2.8x	2.5x
P/B			1.3x	1.2x	1.0x	0.9x	0.7x	0.6x	0.5x	0.5x	0.4x

Source: Company data, Deutsche Bank estimates

## A 2% terminal growth rate is justified

We have conducted a sensitivity analysis on WACC and terminal growth rate and believe that our assumed terminal growth rate of 2% after 2020E is justified, as:

- China is experiencing very strong growth rates in its wind capacity. The government targets to increase wind capacity from 62GW in 2011 to 180GW in 2020, representing a 13% CAGR.



- Even with 180GW in 2020E, wind power represents less than 4% of total output, which is way below some European countries like Spain (14.5%), Germany (7%) and Denmark (20%) in 2020E.

## Deutsche Bank vs. consensus forecasts

Figure 32: Deutsche Bank vs. consensus forecast

Company	Ticker	Target price	Rating	
Huaneng Renewables	0958.HK	HKD2.00		
<b>Revenue (Rmb mln)</b>	<b>DB</b>	<b>Consensus</b>	<b>DB vs. Consensus</b>	
2012		4,277	4,849	-12%
2013		5,334	6,107	-13%
2014		6,471	7,666	-16%
<b>EBITDA (Rmb mln)</b>				
2012		4,487	4,654	-4%
2013		5,224	5,682	-8%
2014		6,248	6,928	-10%
<b>Net income (Rmb mln)</b>				
2012		1,354	1,570	-14%
2013		1,809	1,724	5%
2014		2,282	2,089	9%
<b>Consensus Ratings</b>		<b>Buys</b>	<b>Hold</b>	<b>Sell</b>
		9	5	1

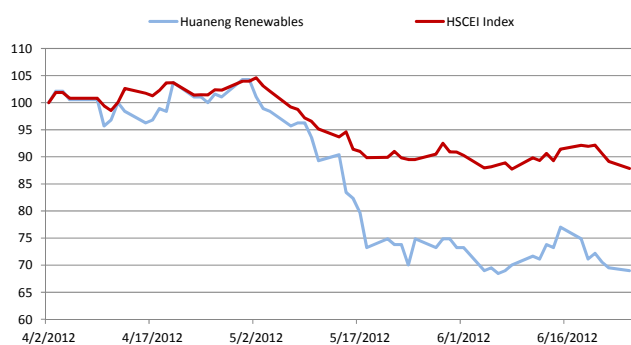
Source: Deutsche Bank estimates, Bloomberg Finance LP, Note: Our consensus estimates are based on Bloomberg Finance LP best estimates

Compared to consensus estimates compiled by Bloomberg Finance LP in June 2012E, we are more bearish in 2012E and more bullish in 2013E and 2014E. Our lower-than-consensus earnings in 2012E are due to lower utilization rates as we expect grid constraints to persist this year. Although our revenue and EBITDA estimates are lower, we have higher net earnings in 2013E and 2014E as we assume the following:

- Higher utilisation rates and lower capacity growth:** We have assumed only 1GW of wind capacity annually in 2012-2014E, which is on the conservative side as management has guided at least 1GW of capacity addition. We also expect utilisation to improve in 2013E and significantly improve in 2014E

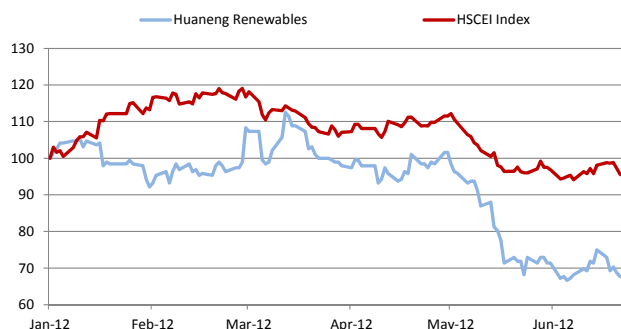
## Share price performance and valuation bands

Figure 33: HNR vs. HSCEI (three months)



Source: Deutsche Bank, Datastream

Figure 34: HNR vs. HSCEI (six months)



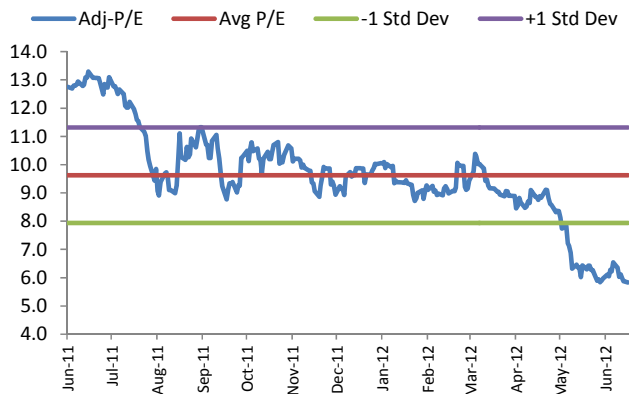
Source: Deutsche Bank, Datastream



**Significantly more attractive valuation now than at the time of the IPO**

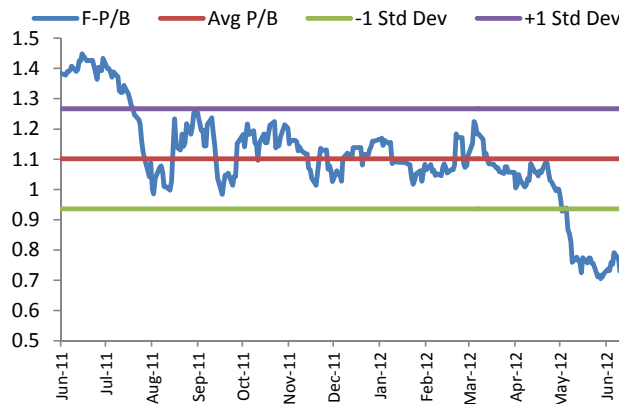
HNR share price declined by 33% (Figure 33) and 34% (Figure 34) in the past three and six months, respectively, and is currently trading at the low end of its historical valuation band (Figure 35 and Figure 36) due to several headwinds facing the company in the past 12 months, including increasing wind farm accidents, grid congestion, slower capacity growth, lower wind speeds, falling carbon prices and higher placement risks. The stock is trading at c.50% of the IPO price.

**Figure 35: 1 year forward P/E band**



Source: Deutsche Bank, Datastream

**Figure 36: 1 year forward P/B band**



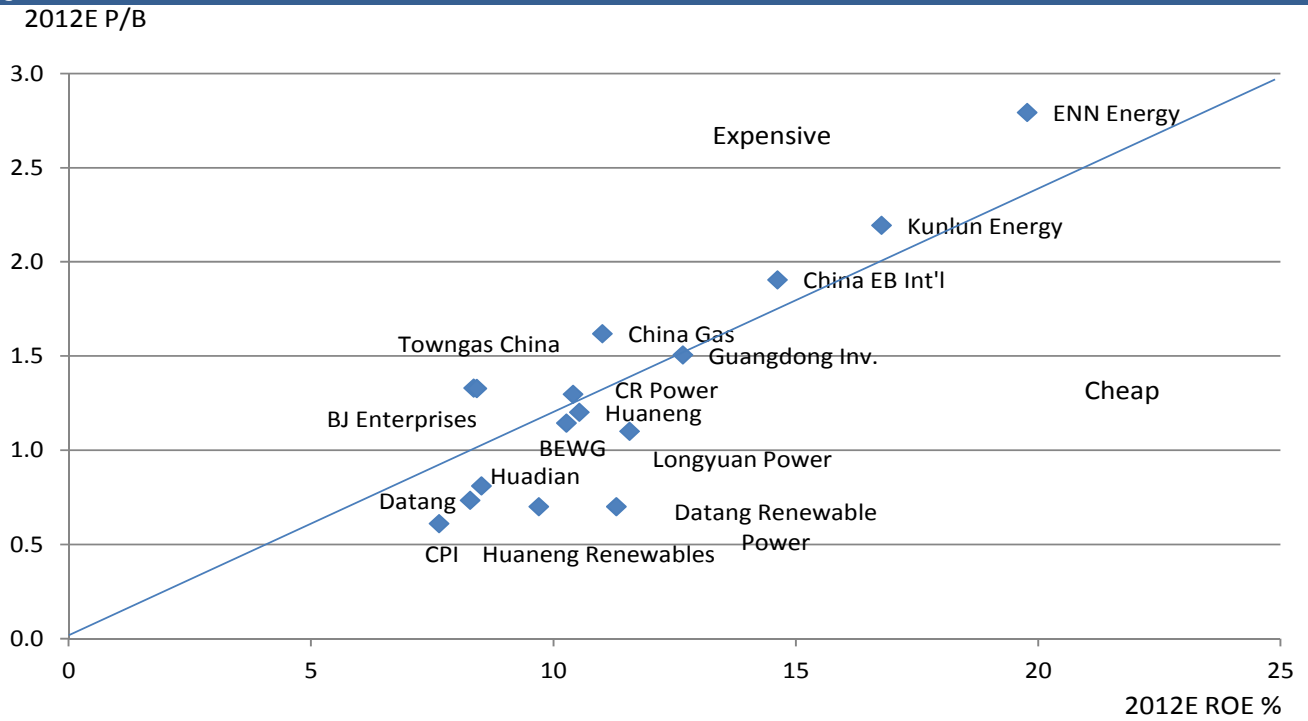
Source: Deutsche Bank, Datastream

**Highly attractive valuation multiples vs. profitability ratio**

At the current price, HNR is trading at 6x FY12E P/E vs. a 24% EPS CAGR (2012-14E) and 0.7x P/B vs. an 11.3% FY12E RoE improving to 15% in 2014E. Compared with the other China utility stocks (Figure 37), China wind developer stocks such as HNR look highly attractive from a valuation vs. profitability perspective.



Figure 37: 2012E P/B vs. 2012E ROE (%)



Source: Deutsche Bank estimates



Figure 38: Comps of wind developers

Share Price as of 29 June 2012																			
Company	Ticker	Price	Rating	Price target	% to target	Mkt. Cap. US\$m	Valuations						ROE%			Yield (%)			
							P/E	EPS CAGR	EV/EBITDA			P/BV	12F	13F	12F		13F	12F	
							12F	13F	14F	12F-14F	12F	13F	14F	12F	13F	14F	12F	13F	12F
<b>China wind developers</b>																			
Longyuan Power	0916.HK	HK\$5.05	Buy	HK\$8.30	64%	4,858	10.1	8.5	7.0	20%	7.5	7.1	6.5	1.1	1.0	0.9	11.5	12.3	1.9
Huaneng Renewables	0958.HK	HK\$1.27	Buy	HK\$2.00	57%	1,383	6.0	4.9	3.9	24%	7.3	7.0	6.4	0.7	0.6	0.5	11.3	13.4	2.3
Datang Renewable Power	1798.HK	HK\$1.08	Buy	HK\$1.50	39%	1,012	7.1	5.9	4.7	23%	8.5	8.2	7.6	0.7	0.6	0.6	9.7	10.8	4.7
Jingneng Clean Energy	0579.HK	HK\$1.69	NA	NA	NA	1,332	7.7	6.0	4.7	29%	6.4	5.4	7.7	0.8	0.7	NA	12.1	13.7	1.1
CPNE	0735.HK	HK\$0.31	NA	NA	NA	444	5.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	NA	NA
China Suntien	0956.HK	HK\$1.45	NA	NA	NA	564	6.3	5.4	4.4	20%	6.1	4.8	5.4	0.6	0.6	0.5	10.7	11.5	3.3
China Wind Power	0182.HK	HK\$0.28	NA	NA	NA	262	3.6	3.1	NA	NA	2.5	1.8	NA	0.4	0.3	NA	10.9	12.3	-
<b>Average</b>							<b>6.6x</b>	<b>5.6x</b>	<b>4.9x</b>	<b>23%</b>	<b>6.4x</b>	<b>5.7x</b>	<b>6.7x</b>	<b>0.7x</b>	<b>0.6x</b>	<b>0.6x</b>	<b>10.5x</b>	<b>12.3x</b>	<b>2.2</b>
<b>Median</b>							<b>6.3x</b>	<b>5.6x</b>	<b>4.7x</b>	<b>23%</b>	<b>6.9x</b>	<b>6.2x</b>	<b>6.5x</b>	<b>0.7x</b>	<b>0.6x</b>	<b>0.6x</b>	<b>10.9x</b>	<b>12.3x</b>	<b>2.1</b>
<b>China IPPs</b>																			
Huaneng Power	0902.HK	HK\$5.82	Buy	HK\$6.20	7%	10,543	11.9	10.1	9.7	11%	7.9	6.7	6.3	1.2	1.1	1.1	10.5	11.6	5.0
Datang Power	0991.HK	HK\$3.04	Buy	HK\$3.20	5%	5,051	9.7	8.7	6.8	20%	8.5	7.8	6.9	0.8	0.8	0.7	8.5	9.1	5.1
Huadian Power	1071.HK	HK\$2.34	Buy	HK\$2.60	11%	2,042	9.2	8.0	6.8	16%	8.4	7.8	6.7	0.7	0.7	0.6	8.3	8.8	2.7
CR Power	0836.HK	HK\$15.90	Buy	HK\$21.00	32%	9,621	13.5	10.7	8.9	23%	7.7	6.7	5.7	1.3	1.2	1.1	10.4	12.0	3.0
CPI	2380.HK	HK\$2.03	Buy	HK\$2.60	28%	1,336	8.2	7.6	7.8	3%	9.8	7.9	7.6	0.6	0.6	0.6	7.6	7.8	6.1
<b>Average</b>							<b>10.5x</b>	<b>9.0x</b>	<b>8.0x</b>	<b>15%</b>	<b>8.4x</b>	<b>7.4x</b>	<b>6.6x</b>	<b>0.9x</b>	<b>0.9x</b>	<b>0.8x</b>	<b>9.1x</b>	<b>9.9x</b>	<b>4.4</b>
<b>Median</b>							<b>9.7x</b>	<b>8.7x</b>	<b>7.8x</b>	<b>16%</b>	<b>8.4x</b>	<b>7.8x</b>	<b>6.7x</b>	<b>0.8x</b>	<b>0.8x</b>	<b>0.7x</b>	<b>8.5x</b>	<b>9.1x</b>	<b>5.0</b>
<b>European wind developers</b>																			
Acciona	ANA.MC	EUR43.72	Hold	EUR70.00	60%	3,453	14.1	12.4	NA	NA	6.6	5.9	NA	0.5	0.5	NA	3.7	4.2	6.9
EDP Renovaveis	EDPR.LS	EUR2.60	Hold	EUR4.10	58%	2,821	18.0	11.1	10.3	32%	7.4	6.3	5.1	0.4	0.4	0.4	2.3	3.7	1.4
<b>Average</b>							<b>16.0x</b>	<b>11.7x</b>	<b>10.3x</b>	<b>NA</b>	<b>7.0x</b>	<b>6.1x</b>	<b>5.1x</b>	<b>0.5x</b>	<b>0.5x</b>	<b>0.4x</b>	<b>3.0x</b>	<b>4.0x</b>	<b>4.1</b>
<b>Median</b>							<b>16.0x</b>	<b>11.7x</b>	<b>10.3x</b>	<b>NA</b>	<b>7.0x</b>	<b>6.1x</b>	<b>5.1x</b>	<b>0.5x</b>	<b>0.5x</b>	<b>0.4x</b>	<b>3.0x</b>	<b>4.0x</b>	<b>4.1</b>
<b>Australia wind developer</b>																			
Infigen Energy	IFN.AX	AUD0.23	Buy	AUD0.50	122%	172	NM	NM	NM	NA	8.9	6.7	5.7	0.3	0.4	0.4	-10.6	-7.9	-

For DB covered stocks, all estimates are based on DB estimates and stock performance data are from Datastream. For non-covered stocks, all estimates are based on bloomberg Best estimates.

Definitions: 1) Gearing is net debt / shareholders equity; 2) EV is after deducting estimated value of associates; 3) RoCE is defined as EBIT x (1 - tax rate) divided by capital employed

Source: Deutsche Bank, Bloomberg Finance LP



Figure 39: Comps of wind developers (continued)

Share Price as of 29 June 2012																						
Company	Share price performance							avg. daily trade	Relative performance					avg. daily trade	Share price statistics						avg. daily trade	
	Price	Rating	local currency						US\$, 1mn**	local currency & local country index****					current / current/							US\$, 1yr**
			1m	3m	6m	12m	3yr		1m	3m	6m	12m	3yr	US\$, 6mth**	52w H	52w L	52W H	52W L	10yr H	10yr L		
<b>China wind developers</b>																						
Longyuan Power	HK\$5.05	Buy	9%	-25%	-15%	-31%	NA	4.2	11%	-15%	-8%	-8%	NA	6.0	7.67	4.49	66%	112%	10.90	4.49	7.4	
Huaneng Renewables	HK\$1.27	Buy	-8%	-33%	-34%	-49%	NA	0.4	-6%	-24%	-29%	-33%	NA	0.7	2.51	1.28	51%	99%	2.54	1.28	0.8	
Datang Renewable Power	HK\$1.08	Buy	5%	-19%	-24%	-44%	NA	0.2	7%	-7%	-18%	-25%	NA	0.6	2.00	0.98	54%	110%	2.41	0.98	0.6	
Jingneng Clean Energy	HK\$1.69	NA	4%	4%	1%	NA	NA	0.0	6%	19%	9%	NA	NA	0.3	1.80	1.60	94%	106%	1.80	1.60	0.3	
CPNE	HK\$0.31	NA	2%	-7%	-18%	-36%	-45%	0.2	4%	5%	-12%	-15%	-36%	0.4	0.52	0.25	60%	124%	1.57	0.07	0.5	
China Suntien	HK\$1.45	NA	3%	-9%	2%	-32%	NA	1.2	5%	3%	10%	-9%	NA	1.3	2.31	1.25	63%	116%	2.81	1.25	1.0	
China Wind Power	HK\$0.28	NA	-2%	-23%	-7%	-61%	-69%	0.2	0%	-13%	1%	-48%	-64%	1.0	0.72	0.28	39%	102%	12.40	0.12	0.7	
<b>Average</b>			<b>2%</b>	<b>-16%</b>	<b>-14%</b>	<b>-42%</b>	<b>-57%</b>		<b>7%</b>	<b>7%</b>	<b>0%</b>	<b>6%</b>	<b>-34%</b>									
<b>Median</b>			<b>3%</b>	<b>-19%</b>	<b>-15%</b>	<b>-40%</b>	<b>-57%</b>		<b>5%</b>	<b>-7%</b>	<b>-8%</b>	<b>-20%</b>	<b>-50%</b>									
<b>China IPPs</b>																						
Huaneng Power	HK\$5.82	Buy	16%	31%	35%	38%	2%	19.1	19%	49%	46%	83%	18%	13.4	5.62	3.02	104%	193%	10.80	2.60	10.2	
Datang Power	HK\$3.04	Buy	14%	14%	22%	17%	-35%	7.0	16%	30%	32%	55%	-25%	5.3	3.04	1.83	100%	166%	9.66	1.18	5.0	
Huadian Power	HK\$2.34	Buy	39%	35%	58%	55%	-2%	2.3	41%	53%	71%	106%	12%	1.2	2.37	1.00	99%	234%	6.13	1.00	0.9	
CR Power	HK\$15.90	Buy	10%	6%	2%	6%	-18%	12.7	12%	20%	10%	41%	-6%	10.5	16.18	11.14	98%	143%	29.46	2.70	10.6	
CPI	HK\$2.03	Buy	28%	20%	9%	3%	-20%	1.8	30%	36%	18%	37%	-8%	1.0	2.10	1.25	97%	162%	5.30	1.16	0.9	
<b>Average</b>			<b>21%</b>	<b>21%</b>	<b>25%</b>	<b>24%</b>	<b>-15%</b>		<b>8%</b>	<b>12%</b>	<b>2%</b>	<b>16%</b>	<b>-37%</b>									
<b>Median</b>			<b>16%</b>	<b>20%</b>	<b>22%</b>	<b>17%</b>	<b>-18%</b>		<b>19%</b>	<b>36%</b>	<b>32%</b>	<b>55%</b>	<b>-6%</b>									
<b>European wind developers</b>																						
Acciona	EUR43.72	Hold	-6%	-23%	-36%	-38%	-51%	14.5	-5%	-10%	-34%	-22%	-49%	17.7	73.70	39.63	59%	110%	241.90	37.64	20.5	
EDP Renovaveis	EUR2.60	Hold	-14%	-32%	-43%	-38%	-64%	6.8	-13%	-20%	-41%	-23%	-63%	4.2	4.86	2.59	54%	100%	8.00	2.59	4.0	
<b>Average</b>			<b>-10%</b>	<b>-27%</b>	<b>-40%</b>	<b>-38%</b>	<b>-57%</b>		<b>-9%</b>	<b>-15%</b>	<b>-37%</b>	<b>-23%</b>	<b>-56%</b>									
<b>Median</b>			<b>-10%</b>	<b>-27%</b>	<b>-40%</b>	<b>-38%</b>	<b>-57%</b>		<b>-9%</b>	<b>-15%</b>	<b>-37%</b>	<b>-23%</b>	<b>-56%</b>									
<b>Australia wind developer</b>																						
Infgen Energy	AUD0.23	Buy	2%	-8%	-14%	-32%	-81%	0.2	3%	-2%	-11%	-24%	-82%	0.2	0.39	0.19	58%	118%	1.99	0.19	0.4	

Source: Deutsche Bank; Bloomberg Finance LP



Figure 40: Comps of wind developers (continued)

Share Price as of 29 June 2012																					
Company	Price	Rating	EBITDA Margin						Net Profit Margin						Returns & Gearing						
			2009	2010	local currency		2013E	2014E	2009	2010	local currency		2013E	2014E	RoE (%)		2013E	2014E	Gearing		
			2009	2010	2011	2012E	2013E	2014E	2009	2010	2011	2012E	2013E	2014E	2009	2010	2011	2012E	2013E	2014E	2011
<b>China wind developers</b>																					
Longyuan Power	HK\$5.05	Buy	46%	43%	49%	57%	58%	61%	9%	14%	16%	17%	18%	20%	6.9	9.0	10.8	11.5	13.5	13.5	120.7
Huaneng Renewables	HK\$1.27	Buy	91%	100%	110%	105%	98%	97%	25%	30%	37%	34%	34%	35%	10.2	13.4	12.3	11.3	13.4	14.9	174.1
Datang Renewable Power	HK\$1.08	Buy	99%	100%	99%	102%	95%	93%	17%	20%	22%	19%	18%	19%	6.4	7.5	8.4	9.7	10.8	12.4	264.3
Jingneng Clean Energy	HK\$1.69	NA	21%	48%	58%	60%	50%	29%	4%	13%	21%	19%	17%	12%	4.0	8.1	10.3	12.1	13.7	NA	129.2
CPNE	HK\$0.31	NA	36%	33%	40%	NA	NA	NA	10%	15%	10%	22%	NA	NA	3.3	5.1	3.6	7.1	NA	NA	88.7
China Suntien	HK\$1.45	NA	37%	39%	39%	42%	44%	32%	11%	12%	14%	15%	14%	15%	14.2	9.1	9.0	10.7	11.5	12.9	90.3
China Wind Power	HK\$0.28	NA	20%	28%	13%	43%	49%	NA	31%	35%	39%	32%	29%	NA	5.3	13.4	8.9	10.9	12.3	NA	1.5
<b>Average</b>			<b>50%</b>	<b>56%</b>	<b>58%</b>	<b>68%</b>	<b>66%</b>	<b>63%</b>	<b>15%</b>	<b>20%</b>	<b>23%</b>	<b>23%</b>	<b>22%</b>	<b>20%</b>	<b>7.2</b>	<b>9.3</b>	<b>9.0</b>	<b>10.5</b>	<b>12.3</b>	<b>10.0</b>	<b>124.1</b>
<b>Median</b>			<b>37%</b>	<b>43%</b>	<b>49%</b>	<b>59%</b>	<b>54%</b>	<b>63%</b>	<b>11%</b>	<b>15%</b>	<b>21%</b>	<b>19%</b>	<b>18%</b>	<b>17%</b>	<b>6.4</b>	<b>8.6</b>	<b>9.0</b>	<b>10.9</b>	<b>12.2</b>	<b>12.6</b>	<b>120.7</b>
<b>China IPPs</b>																					
Huaneng Power	HK\$5.82	Buy	23%	18%	16%	19%	19%	19%	6%	3%	1%	4%	4%	4%	12.3	7.0	2.3	10.5	11.6	11.4	212.2
Datang Power	HK\$3.04	Buy	30%	27%	25%	29%	30%	33%	3%	4%	3%	4%	4%	5%	6.2	9.0	5.6	8.5	9.1	10.9	379.7
Huadian Power	HK\$2.34	Buy	23%	14%	16%	21%	20%	20%	3%	0%	0%	2%	2%	2%	8.4	1.1	0.5	8.3	8.8	9.7	406.4
CR Power	HK\$15.90	Buy	32%	25%	25%	27%	29%	29%	20%	10%	7%	8%	9%	9%	20.9	11.7	9.3	10.4	12.0	12.7	134.9
CPI	HK\$2.03	Buy	19%	28%	24%	29%	29%	30%	4%	5%	3%	6%	5%	5%	4.7	5.6	4.0	7.6	7.8	7.3	249.0
<b>Average</b>			<b>27%</b>	<b>21%</b>	<b>20%</b>	<b>24%</b>	<b>25%</b>	<b>25%</b>	<b>8%</b>	<b>4%</b>	<b>3%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>11.9</b>	<b>7.2</b>	<b>4.4</b>	<b>9.4</b>	<b>10.4</b>	<b>11.2</b>	<b>283.3</b>
<b>Median</b>			<b>26%</b>	<b>22%</b>	<b>20%</b>	<b>24%</b>	<b>24%</b>	<b>25%</b>	<b>5%</b>	<b>4%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>10.4</b>	<b>8.0</b>	<b>4.0</b>	<b>9.5</b>	<b>10.3</b>	<b>11.2</b>	<b>295.9</b>
<b>European wind developers</b>																					
Acciona	EUR43.72	Hold	15%	19%	20%	20%	22%	NA	20%	3%	3%	3%	3%	NA	26.1	2.9	3.7	3.7	4.2	NA	108.6
EDP Renovaveis	EUR2.60	Hold	75%	71%	75%	77%	80%	74%	16%	6%	8%	11%	16%	14%	2.3	1.1	1.7	2.3	3.7	3.9	58.3
<b>Average</b>			<b>45%</b>	<b>45%</b>	<b>47%</b>	<b>49%</b>	<b>51%</b>	<b>74%</b>	<b>18%</b>	<b>4%</b>	<b>6%</b>	<b>7%</b>	<b>10%</b>	<b>14%</b>	<b>14.2</b>	<b>2.0</b>	<b>2.7</b>	<b>3.0</b>	<b>4.0</b>	<b>3.9</b>	<b>83.5</b>
<b>Median</b>			<b>45%</b>	<b>45%</b>	<b>47%</b>	<b>49%</b>	<b>51%</b>	<b>74%</b>	<b>18%</b>	<b>4%</b>	<b>6%</b>	<b>7%</b>	<b>10%</b>	<b>14%</b>	<b>14.2</b>	<b>2.0</b>	<b>2.7</b>	<b>3.0</b>	<b>4.0</b>	<b>3.9</b>	<b>83.5</b>
<b>Australia wind developer</b>																					
Infigen Energy	AUD0.23	Buy	60%	58%	54%	50%	58%	59%	-20%	-26%	-23%	-23%	-13%	-7%	-4.4	-9.5	-9.0	-10.6	-7.9	-4.6	165.7

Source: Deutsche Bank; Bloomberg Finance LP





# Reasons to Buy

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## Valuation at all-time low; c.50% vs. IPO price

HNR shares have significantly underperformed the market since the June 2012 IPO by 33%/34% in the past three to six months, due to a multitude of headwinds against the sector, including wind farm accidents, grid congestion, slower capacity growth, lower wind speeds, falling carbon prices and the impact of interest rate hikes in 2010/11. In addition, Longyuan Power, the largest wind developer in China, has recently announced a share placement plan, which has raised further concerns that HNR may follow suit and dilute shareholders' interests. As a result, HNR is now trading at the bottom end of its historical valuation band and at c.50% of its IPO price.

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## Grid connection, wind turbine accidents should improve

Investors have been very concerned about worsening grid constraints and the quality of the wind turbines. We believe that grid curtailment should improve in the near term with more coordinated wind development planning at the national level and the potential implementation of RPS. In addition, the Northeast China Electricity Bureau was recently reported to be setting up a replacement trading mechanism between wind and thermal power that will alleviate the region's grid curtailment problem. The enforcement of a national grid code should also reduce the number of wind turbine accidents.

In the medium term, the commencement of several UHV DC lines in 2014/15 and pump storage facilities should completely resolve the grid bottleneck problems. Experiences from developed countries show that the wind power penetration rate can be increased to 20% (currently 9% in China's grid congested regions) without many difficulties when there is adequate transmission and storage capacity.

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## CDM discount after 2012 well expected by the Street

Carbon prices after 2012 are unlikely to remain as high as the previously contracted EUR10.5/t, as the spot carbon price has fallen by over 60% in the past 12 months and is now c.60% below the contract price. Nonetheless, this is well expected in the market, as the Street and we have factored in a big discount to carbon prices after 2012. In addition, there is potential upside to the current spot price and Deutsche Bank's carbon analyst expects the price to potentially recover to EUR10/t by year-end if: 1) the EU economy shows signs of reverting to modest growth from 2013 onwards; and 2) a credible political narrative about tightening the Phase-3 supply of EUAs is established and confirmed.

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## Visible capacity growth backed by 4.3GW pipeline

HNR, one of the largest wind farm operators in China, is well positioned to ride the fast growing wind business in China. HNR has a visibly strong capacity growth profile over the next two years. The company plans to add at least 1GW of wind capacity per annum from 2012-20E. We believe this is highly likely given it has 1GW of NDRC approved wind projects. In addition, it was awarded 3.3GW of wind projects in the last two rounds of national tender, which are most likely to be approved by the NDRC. Lastly, its good track record and SOE status should give it an advantage in winning new projects from the government and enjoying lower financing costs.



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## Beneficiary of credit easing and potential rate cuts

Given its relatively high gearing level and significant capital expenditure requirement, HNR should be a key beneficiary of rate cuts and credit easing. A 25bps rate cut would imply 3.4% upside to our FY13E EPS. Due to falling inflation and rather sluggish economic growth, our China Economist, Jun Ma expects further credit relaxation and does not rule out the possibility of another interest rate cut this year. Under a credit easing environment, HNR benefits through borrowing at a preferential discount rate.

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## Stable regulatory framework with aggressive renewable target

One of the key catalysts that has sparked the growth and interest in the wind sector in recent years is a stable regulatory framework and the government's aggressive renewable energy target. There is a transparent feed-in tariff mechanism for wind power. Wind developers also get to enjoy a tax holiday on income for three years and a 50% reduction subsequently. Lastly, to ensure the network connectivity of its renewable sources, China has implemented several measures, including setting up a national grid code, potential implementation of an RPS by year-end and more coordinated wind development planning to resolve the problem.

In terms of its renewable energy target, China aims to consume 15% of its electricity from non-fossil fuels by 2020. In addition, China targets to cut its carbon dioxide emissions per unit of GDP by 40-45% by 2020 from 2005 levels. At the current rate of wind power growth and development of grid connection, we forecast that China's wind capacity will exceed 120GW by 2015 and 200GW by 2020. This suggests further upside to the current official wind energy target of 100GW by 2015 and 180GW by 2020.

### Wind tariff cut unlikely

Although wind turbine prices and construction costs have fallen by 30% and 15%, respectively, since late 2009, when China set the national wind feed-in tariff (FIT), we believe a tariff cut is unlikely, given wind utilization rates remain very low due to grid curtailment. Profitability of the wind farms has thus not improved despite the decline in construction costs. During a recent wind power seminar, Mr. Liang Zhipeng, from the National Energy Administration (NEA), said that a wind tariff cut is unlikely at the current utilization level.

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## Operational excellence

HNR has been one of the pioneers in the wind industry since the 1990s and has successfully developed over 4.9GW of wind farms at end-2011. HNR's wind farms operate better than the average wind farms in China in terms of higher utilization hours and higher adjusted unit operating profit (excluding CDM and other income). In addition, HNR has one of the strongest balance sheets among its wind developer peers.

Please refer to our industry report *"Fly with the wind"* dated 4th July, which provides greater details on the outlook for improving industry fundamentals.



# Key earnings drivers

## Significant capacity growth in its wind business

### Wind capacity to increase by at least 1GW per annum across 2012-20E

At the end of 2011, the company had total installed wind capacity of 4,904MW. With 3.3GW (Figure 41) of wind projects awarded through the national tender in its pipeline, HNR is highly confident to add at least 1GW per annum over the next three years (2012-14E). HNR plans to expand its wind capacity through both acquisitions and greenfield projects.

Figure 41: HNR's national wind project tender breakdown by region

By region	National Tender (MW)
Northeast China	628
East China	449
South China	935
North China	770
West Inner Mongolia	250
Xinjiang	-
Other regions	248
<b>Total</b>	<b>3,279</b>

Source: Deutsche Bank, NDRC

### Model inputs

In our model, we assume wind capacity will increase by 1GW each year from 2012-20E. According to management guidance, capacity increases happen mainly in the fourth quarter of the year.

Figure 42: HNR's capacity addition breakdown by region (in MW)

	2010	2011	2012E	2013E	2014E
Northeast China	1,125	398	0	0	100
East China	297	158	250	250	150
South China	149	50	0	0	150
North China	155	371	400	400	300
West Inner Mongolia	149	398	250	250	200
Xinjiang	99	-	50	50	50
Other regions	-	9	50	50	50
<b>Total</b>	<b>1,973</b>	<b>1,382</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>

Source: Deutsche Bank, Company data

In terms of the capacity addition distribution, we added most of the new capacity in the provinces of South and East China based on management guidance and the location breakdown of the project tender pipeline (Figure 41). Given grid constraint is likely to continue in the Northeast Provinces and Inner Mongolia, management guided that it will not add any new capacity in these regions. In addition, the NDRC has recently announced that it will limit the approval of new projects in regions with >20% grid curtailment rates.



## Utilization rates to stay flat in 2012E and then pick up in 2013E

### Wind utilization rate likely to remain flat in 2012E and then pick up in 2013E

The average utilization hours in 2011 decreased by 13% yoy to 1,962 from 2,265 in 2010 due to low wind speeds and the grid constraints in Inner Mongolia, and three Northeast Provinces. For 2012E, we expect utilization to stay flat, as the new measures to resolve grid congestion are likely to be offset by the increase in wind capacity in the grid constraint regions. In addition, the change in capacity mix towards the non grid constraint regions will improve overall utilization. For 2013E, we expect a marginal improvement post the implementation of the RPS and a significant improvement in 2014-15E when the majority of the UHV lines commences operations.

### Model input

In our model, we expect utilization rates in Inner Mongolia and the Northeast Provinces to remain low. For the other areas, wind utilization will remain broadly stable. We estimate that for every 100 hours of lower utilization vs. our base case, HNR's FY13E earnings would be reduced by 13%.

Figure 43: HNR utilization hours by province and forecast

	2010	2011	2012E	2013E	2014E
Northeast China	2,220	1,790	1,701	1,718	1,803
East China	2,299	2,011	2,011	2,031	2,072
South China	2,451	2,571	2,571	2,597	2,597
North China	1,891	1,632	1,632	1,632	1,714
West Inner Mongolia	2,434	2,117	2,011	2,031	2,133
Xinjiang	2,443	3,357	3,021	3,021	3,021
Other regions	-	-	-	-	-
<b>Average utilization (hrs)</b>	<b>2,265</b>	<b>1,962</b>	<b>1,970</b>	<b>2,041</b>	<b>2,123</b>

Source: Deutsche Bank estimates, Company data

## RMB8bn capex for the next three years

### We expect RMB8bn capex per annum based on capacity growth forecasts

Based on our assumed 1GW wind capacity addition each year and the latest wind turbine auction prices, we estimate the company will need to invest c.RMB8bn each year in 2012-14E.

## CER income to stay after 2012E

### Most of HNR's projects should be approved by the CDM EB

As of end-2011, HNR had successfully registered 51 CDM projects with the UN. We also understand that the company is rushing to register 40 more CDM projects before end-2012E.

### CDM projects will continue to generate income

HNR wind projects registered before 2012 will continue to be accepted by the EU ETS in 2013E and beyond, and thus will still generate CDM income. However, for projects registered after 2012, the EU ETS will only accept CER credits from projects generated from the "Least Developed Countries", which does not include China. Thus, HNR wind power CDM projects registered post 2012 will not be eligible for selling carbon credits in the EU ETS market, and are unlikely to generate any CDM income since demand from the other carbon markets (Australia/New Zealand, etc.) is likely to remain low.



### Significant decline in carbon price post 2012 but well expected in the market

Post 2012, CDM prices are likely to decline given the current CER spot price is significantly lower than the contract price (EUR4/ton vs. EUR10/ton). Nonetheless, Deutsche Bank's carbon analyst, Isabelle Curien, believes that the EUA prices can potentially recover to EUR10/t by year-end 2012E, assuming that the EU economy shows signs of reverting to modest growth from 2013E onwards and a credible political narrative about tightening the Phase-3 supply of EUAs is established and confirmed.

### Model input

When forecasting CDM income, we assume an estimate of EUR9/t for 2012 and EUR5/t after 2012 to apply a discount to the uncertainty of the CDM contract price. In terms of the operational matrix of the registered projects, we take the average utilization hours of HNR's wind farm. Figure 44 illustrates the assumptions that we have used to derive the CDM income, based on the carbon price, projects registered and utilization rates.

Figure 44: CDM income assumptions and forecast for HNR

	2010	2011	2012E	2013E	2014E
Carbon price	12	12	9	5	5
% change in CER price	-4%	4%	-25%	-44%	0%
CNYEUR	8.977	9.020	9.020	9.020	9.020
% change in FX rate	-6%	0%	0%	0%	0%
Registered projects	25	51	86	86	86
Registered capacity (MW)	1,250	2,550	4,300	4,300	4,300
% of total capacity	35%	52%	73%	62%	54%
Average capacity (MW)	775	2,280	3,425	4,300	4,300
Utilization (hrs)	2,265	1,962	1,970	2,041	2,123
Average power generated (GWh)	1,756	4,473	6,747	8,776	9,130
Carbon (tons) production per mn kWh	990	990	990	990	990
<b>CER income (RMBm)</b>	<b>179</b>	<b>479</b>	<b>542</b>	<b>392</b>	<b>408</b>

Source: Deutsche Bank estimates, Company data

## Earnings upside potential on lower borrowing costs

### Relatively sensitive to interest rate cuts

HNR, as a high-growth utility company, will constantly require significant capex to develop its business. Thus, its gearing ratio is likely to increase over the years as its wind capacity increases. We forecast an average net debt/equity of 185% in 2012-14. Given the high gearing level, a 25bp rate cut would lead to a 3.4% increase in our FY13E EPS.

### Potential beneficiary of preferential discount or rate cut

HNR's wind business has very stable cash flows and thus normally enjoys a 10% discount to the PBOC base corporate lending rate when borrowing from PRC banks. However, due to the previous monetary tightening scenario, the preferential discount was removed. Our China Economist, Jun Ma, expects further credit relaxation ahead and does not rule out the possibility of another rate cut, given falling inflation rates in China. Thus, even without a rate cut, HNR can potentially benefit from the preferential interest rate discount. Recent management updates indicate that HNR's new wind projects are starting to receive a 5-10% preferential discount.





#### Paying down outstanding debt with IPO cash

At the end of 2011, the company had RMB7.5bn cash in hand, which is 6x more than the average in the past three years. Although the company has aggressive capacity expansion plans and will require more working capital, we believe that it is unlikely to keep such a large amount of cash, given the low interest rate environment for cash deposits. Management updates have confirmed that the company will reduce its cash balance at end-2012E. Nonetheless, HNR still has c.50% of its proceeds denominated in HKD that have yet to be converted to RMB.

#### Model input

Based on our China Economist's forecasts for the global economy, we have not factored in any additional interest rate cuts in 2012E.



## Key operating matrix for wind and coal power

Figure 45: Key operating matrix of HNR's wind business

	Unit	2010	2011	2012E	2013E	2014E
Total consolidated capacity	MW	3,523	4,904	5,904	6,904	7,904
yoy	(%)	127%	39%	20%	17%	14%
Total average capacity	MW	1,542	3,503	4,800	5,853	6,892
yoy	(%)	122%	127%	37%	22%	18%
Total capacity addition	MW	1,973	1,382	1,000	1,000	1,000
yoy	(%)	72%	-30%	-28%	0%	0%
Gross power generation	MWh	3,789	6,844	9,338	11,626	14,120
yoy	(%)	101%	81%	36%	24%	21%
Net power generation	MWh	3,405	6,206	8,431	10,496	12,748
yoy	(%)	112%	82%	36%	24%	21%
Utilization	hrs	2,265	1,962	1,970	2,041	2,123
yoy	(%)	-4%	-13%	0%	4%	4%
Average on-grid tariff	RMB/MWh	604	596	594	595	594
yoy	(%)	-2.1%	-1.3%	-0.4%	0.2%	-0.1%
Unit operating profit	RMB/MWh	299	344	313	289	289
yoy	(%)	4.6%	14.8%	-8.8%	-7.8%	0.0%
Adjusted unit operating profit	RMB/MWh	260	269	264	273	280
yoy	(%)	-8.1%	3.5%	-1.7%	3.2%	2.6%
Carbon price	Euro/per ton	12	12	9	5	5
yoy	(%)	-4.2%	4.3%	-25.0%	-44.4%	0.0%

Source: Deutsche Bank, Company data, Note: Adjusted unit operating profit excludes other net income

As shown in Figure 45, we expect the unit operating profit to decline in 2013E due to lower CDM income arising from a significantly lower carbon price and no new CDM projects. Unit adjusted operating profit, which excludes CDM income, is expected to increase on improved utilisation rates.



# Financial outlook

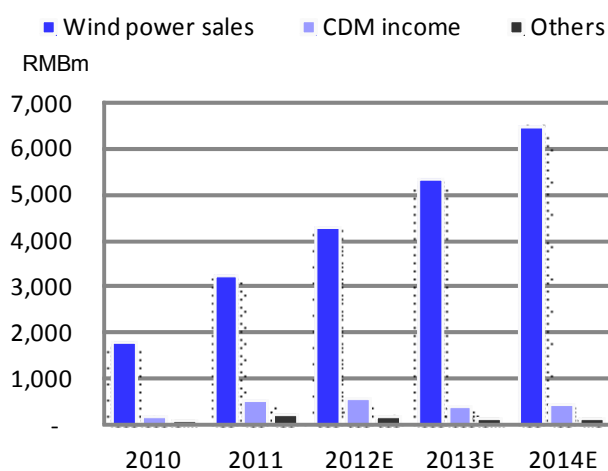
## Revenue, earnings and margin outlook

### Revenue to increase at a 23% CAGR in 2012-14E driven mainly by wind business

Based on our model inputs of stable tariffs, flat utilization rates in 2012E before improving in 2013E and 2014E and capacity growth, we expect HNR's revenue excluding concession revenue to increase at a 23% CAGR in 2012-14E. In our estimates, revenue from wind power sales will grow at 34%, 25%, 21%, each year in 2012E, 2013E and 2014E. For its other business, including CDM income, we expect revenue to decline by 29% in 2013E due to the decline in carbon price.

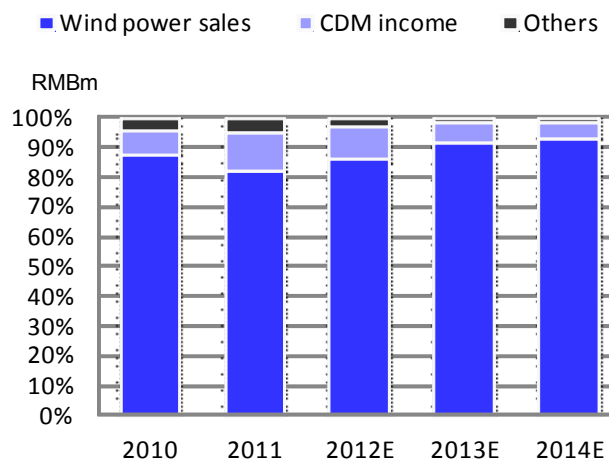
In Figure 46 and Figure 47 we illustrate the revenue growth and mix for the different business segments from 2010-14E.

Figure 46: Revenue growth and forecasts



Source: Deutsche Bank estimates, Company data

Figure 47: Revenue mix forecasts



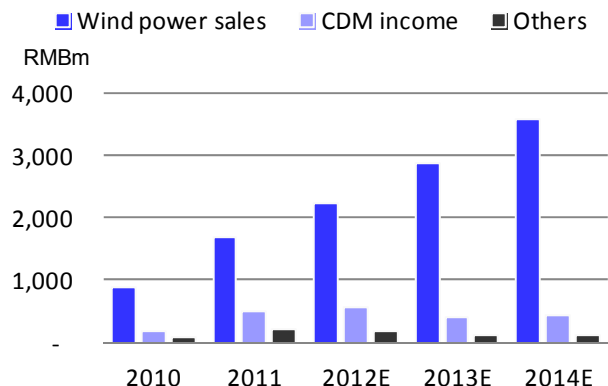
Source: Deutsche Bank estimates, Company data

### Operating profit to increase by 18% CAGR (2012-14E)

In our model, we forecast EBIT (operating profit) to increase by 18% CAGR in the next three years. The increase in operating profit is largely attributable to 1) 1GW wind capacity addition per year from 2012-14E and 2) improve grid network in 2013E and 2014E, which is offset by a decline in CDM income.

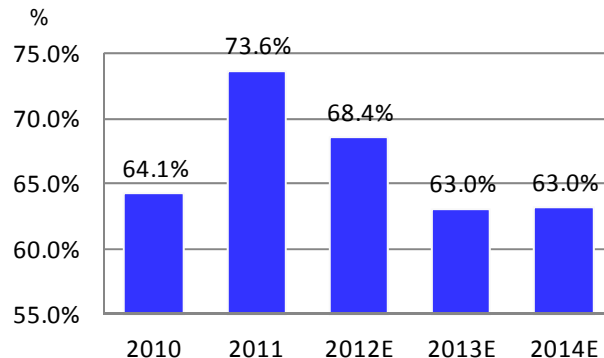


Figure 48: EBIT (2010-14E)



Source: Deutsche Bank estimates, Company data

Figure 49: EBIT margin (2010-14E)



Source: Deutsche Bank estimates, Company data

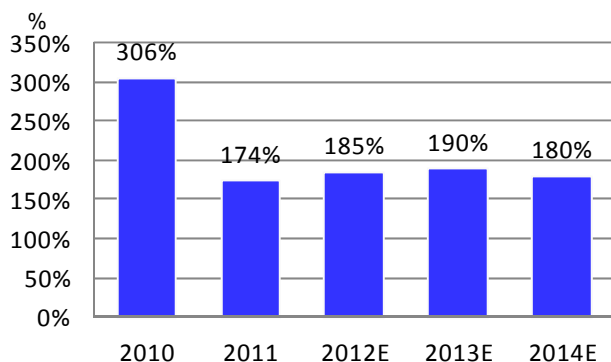
### EBIT margins to decline in 2013E

EBIT margins improved significantly in 2011 as an increased number of CDM projects were registered, resulting in much higher CDM income. For 2012E, EBIT margin is likely to decline on lower carbon price. For 2013E, EBIT margins will decline further due to lower carbon prices as the current contract CDM price expired and no new CDM projects will be registered.

### Gearing ratio to peak at 190%; free cash flow to turn positive in 2015E

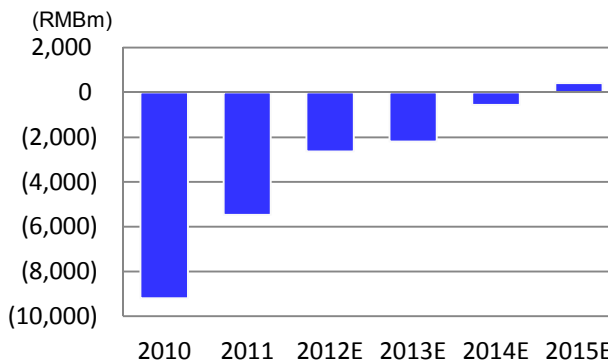
Based on 1GW capacity growth assumption from 2012-20E, we estimate HNR's gearing ratio is likely to increase from 2011-13E and decline steadily from 2014E. We believe HNR is in no rush to place new shares given its gearing ratio of 185% is below its China IPP peers of between 125% and 411%. In addition, after witnessing the market's disapproval of Longyuan's placement plans, HNR is more likely to consider other forms of financing. Further, HNR is trading at 0.7x 2012E P/B, and thus it could not place new shares even if it wanted to. Management said it has no intentions to place new shares before mid 2014E.

Figure 50: Net debt/equity forecast



Source: Deutsche Bank estimates, Company data

Figure 51: Free cash flow forecasts (RMBm)



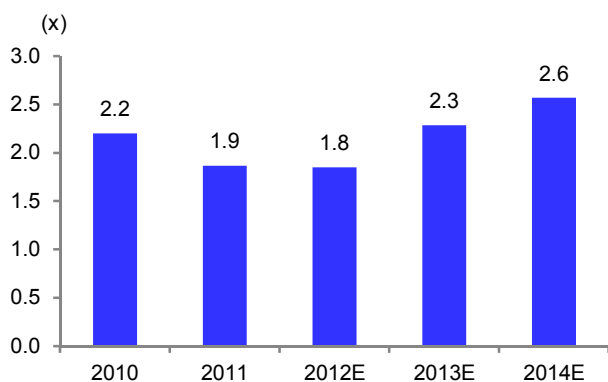
Source: Deutsche Bank estimates, Company data



### Free cash flow to turn positive in 2015E

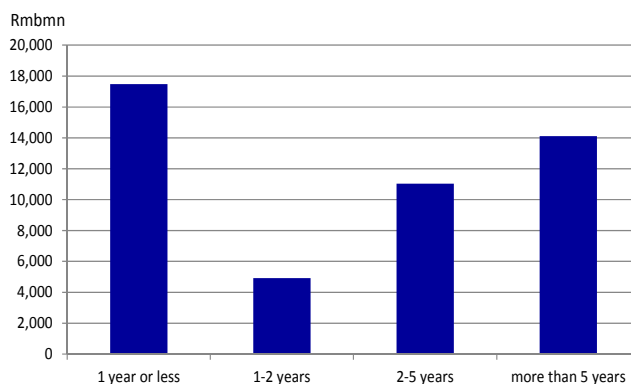
HNR is still at an early development stage, and has huge capital requirements to grow its wind business. Based on c.RMB8bn capex plans and assuming that the company will not invest in value-destructive or non-core projects, we expect the company's free cash flow to turn positive in 2015E.

Figure 52: EBIT/Interest expense



Source: Deutsche Bank, Company data

Figure 53: Loan repayment schedule



Source: Company data

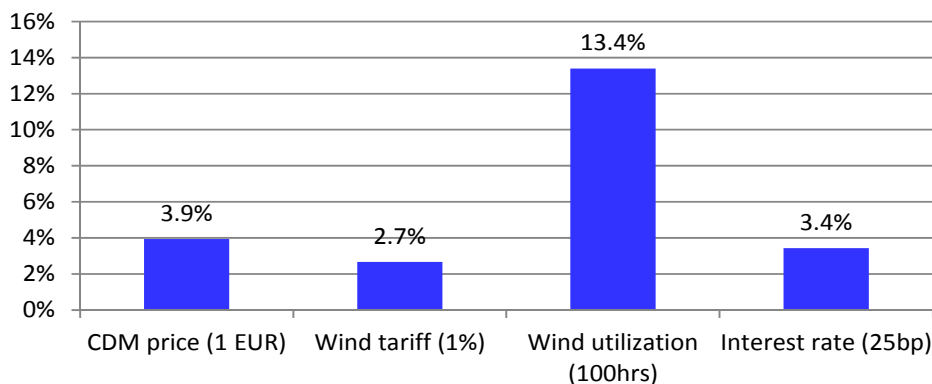
### Liquidity not a major issue despite relatively low coverage ratio

Although HNR has a relatively low coverage ratio (Figure 52), this is not a major issue given it is a state-owned enterprise and has the backing of China Huaneng Group, the largest power producer in China. In addition, the wind power business generates very stable cash flow, though we note there is a six-month lag in the wind tariff premium payment.

### Earnings sensitivity

In Figure 54, we illustrate the sensitivity of the company's earnings to the key drivers, namely wind tariffs, utilization rates, carbon price, changes in interest rates. Note that more than 90% of HNR's total borrowing in 2011 was based on floating interest rates.

Figure 54: FY13E EPS sensitivity



Source: Deutsche Bank estimates



## Summary of financials

Figure 55: HNR income statement

	2010	2011	2012E	2013E	2014E
<b>Income statement (RMBm)</b>					
<b>Operating Revenue, Net</b>	<b>1,769</b>	<b>3,196</b>	<b>4,277</b>	<b>5,334</b>	<b>6,471</b>
Sales of Electricity	1,759	3,160	4,277	5,334	6,471
Service concession construction revenue	-	-	-	-	-
Others	10	36	-	-	-
<b>Other net income</b>	<b>250</b>	<b>683</b>	<b>696</b>	<b>495</b>	<b>511</b>
CDM income	165	484	542	392	408
VAT rebate	83	109	104	104	104
Others	2	90	50	-	-
<b>Operating Expenses</b>	<b>-884</b>	<b>-1,527</b>	<b>-2,048</b>	<b>-2,470</b>	<b>-2,904</b>
Depreciation & Amortization	-634	-1,169	-1,562	-1,865	-2,169
Service concession construction costs	0	0	0	0	0
Personnel costs	-79	-118	-160	-199	-242
Repairs and Maintenance	-28	-30	-41	-51	-61
Administrative cost	-96	-118	-160	-199	-242
Others operating expenses	-47	-92	-125	-156	-189
<b>Operating profit</b>	<b>1,134</b>	<b>2,351</b>	<b>2,925</b>	<b>3,359</b>	<b>4,079</b>
<i>Operating profit margin</i>	<i>64%</i>	<i>74%</i>	<i>68%</i>	<i>63%</i>	<i>63%</i>
Net Financial Expenses	-498	-1,019	-1,262	-1,367	-1,507
FX gain / (loss) and others	5	-194	-150	0	0
Share of Profit of Associates	0	-	-	-	-
<b>Profit Before Tax</b>	<b>641</b>	<b>1,139</b>	<b>1,513</b>	<b>1,992</b>	<b>2,572</b>
Income Tax Expense	-32	-32	-76	-100	-206
<i>Effective Tax Rate</i>	<i>5.0%</i>	<i>2.8%</i>	<i>5.0%</i>	<i>5.0%</i>	<i>8.0%</i>
<b>Profit Before Minority Interest</b>	<b>609</b>	<b>1,107</b>	<b>1,438</b>	<b>1,893</b>	<b>2,366</b>
Minority Interest	-81	-84	-84	-84	-84
<b>Net Profit Attributable to Shareholders</b>	<b>528</b>	<b>1,023</b>	<b>1,354</b>	<b>1,809</b>	<b>2,282</b>
<i>yoy</i>	<i>100%</i>	<i>94%</i>	<i>32%</i>	<i>34%</i>	<i>26%</i>
<b>Net Profit (Recurring)</b>	<b>525</b>	<b>1,168</b>	<b>1,466</b>	<b>1,809</b>	<b>2,282</b>
<i>Net profit margin</i>	<i>30%</i>	<i>37%</i>	<i>34%</i>	<i>34%</i>	<i>35%</i>
<i>yoy</i>	<i>133%</i>	<i>123%</i>	<i>25%</i>	<i>23%</i>	<i>26%</i>
<b>Per share (Rmb)</b>					
Adjusted Weighted Ave. # of Shares	5,800	7,275	8,447	8,447	8,447
Basic EPS	0.09	0.14	0.16	0.21	0.27
<i>yoy</i>	<i>100%</i>	<i>54%</i>	<i>14%</i>	<i>34%</i>	<i>26%</i>
DPS	0.00	0.00	0.02	0.03	0.04
<i>yoy</i>	<i>0%</i>	<i>0%</i>	<i>NA</i>	<i>34%</i>	<i>26%</i>
<i>Dividend payout ratio</i>	<i>0%</i>	<i>0%</i>	<i>15%</i>	<i>15%</i>	<i>15%</i>

Source: Deutsche Bank estimates, Company data



Figure 56: HNR balance sheet

<b>Balance Sheet (RMBm)</b>	<b>2010</b>	<b>2011</b>	<b>2012E</b>	<b>2013E</b>	<b>2014E</b>
<b>Non-Current Assets</b>	<b>30,966</b>	<b>41,356</b>	<b>46,612</b>	<b>51,338</b>	<b>55,752</b>
Property, Plant and Equipment, Net	27,803	36,956	42,061	46,862	51,360
Lease prepayments	65	102	102	102	102
Intangible assets	395	381	381	381	381
Investments in JCEs/associates	0	85	85	85	85
Deferred tax assets	13	7	7	7	7
Others	2,690	3,824	3,975	3,900	3,816
<b>Current Assets</b>	<b>2,479</b>	<b>10,174</b>	<b>7,560</b>	<b>7,289</b>	<b>6,904</b>
Inventories	1	2	2	2	2
Trade and bills receivable	960	2,010	2,461	3,069	3,546
Prepayments and other receivables	208	584	584	584	584
Tax recoverable	1	0	0	0	0
Restricted deposits	1	59	59	59	59
Cash at bank and on hand	1,309	7,518	4,453	3,574	2,712
<b>Total Assets</b>	<b>33,445</b>	<b>51,531</b>	<b>54,172</b>	<b>58,627</b>	<b>62,656</b>
<b>Current Liabilities</b>	<b>11,311</b>	<b>15,899</b>	<b>15,639</b>	<b>15,138</b>	<b>15,470</b>
Borrowings	4,818	6,759	6,507	6,006	6,338
Obligations under finance leases	232	283	275	275	275
Tax payables	6	18	18	18	18
Other payables	6,255	8,839	8,839	8,839	8,839
<b>Non-Current Liabilities</b>	<b>16,015</b>	<b>23,472</b>	<b>24,936</b>	<b>28,203</b>	<b>29,805</b>
Borrowings	13,201	19,257	20,497	23,886	25,037
Deferred tax liability	34	27	36	47	61
Others	2,779	4,189	4,403	4,270	4,707
<b>Total Equity</b>	<b>6,119</b>	<b>12,159</b>	<b>13,597</b>	<b>15,287</b>	<b>17,381</b>
Total Shareholders Equity	5,284	11,332	12,685	14,291	16,302
Minority interest	835	828	912	996	1,079
<b>Total Liabilities &amp; Equity</b>	<b>33,445</b>	<b>51,531</b>	<b>54,172</b>	<b>58,627</b>	<b>62,656</b>
<b>Balance sheet ratios</b>					
BVPS (Rmb)	1.05	1.67	1.61	1.81	2.06
Total debt (Rmb million)	20,020	28,683	29,663	32,551	34,034
Net debt (Rmb million)	18,710	21,165	25,210	28,976	31,322
Net debt / equity	306%	174%	185%	190%	180%
Net debt / total capital	75%	64%	65%	65%	64%

Source: Deutsche Bank estimates, Company data



Figure 57: HNR cashflow statement

Cash Flow (RMBm)	2010	2011	2012E	2013E	2014E
<b>Profit for the year</b>	<b>609</b>	<b>1,107</b>	<b>1,438</b>	<b>1,893</b>	<b>2,366</b>
Depreciation & Amortization	622	1,157	1,562	1,865	2,169
Gain / Loss on Disposals	0	-0	0	0	0
Net Interest expenses on financial assets	514	1,059	1,582	1,471	1,588
FX exchange difference	-1	194	0	0	0
Interest income from entrusted financial assets	-13	-43	-170	-104	-81
Share of Profit/Loss of JCs/Associates	0	0	0	0	0
Others	28	31	76	100	206
Change in Working Cap	-485	-921	747	479	1,191
Less Tax Paid	-15	-22	-76	-100	-206
<b>Operating cash flow</b>	<b>1,260</b>	<b>2,562</b>	<b>5,159</b>	<b>5,604</b>	<b>7,233</b>
Capex	-10,451	-8,027	-7,800	-7,800	-7,800
Acquisitions of subsidiaries, associates & investments	1	0	0	0	0
<b>Free Cashflow</b>	<b>-9,190</b>	<b>-5,465</b>	<b>-2,641</b>	<b>-2,196</b>	<b>-567</b>
Others	554	-150	982	1,209	1,217
<b>Investing cashflow</b>	<b>-9,720</b>	<b>-7,787</b>	<b>-7,800</b>	<b>-7,800</b>	<b>-7,800</b>
Net proceeds from issuance	0	5,403	0	0	0
Capital contributions from the equity owners	2,172	0	0	0	0
Capital contributions from minority interest	86	5	0	0	0
Net borrowings	7,134	7,998	988	2,887	1,483
Dividends paid	0	0	0	-203	-271
Interest paid	-705	-1,316	-1,412	-1,367	-1,507
Others	280	-510	0	0	0
<b>Net financing cashflow</b>	<b>8,968</b>	<b>11,580</b>	<b>-424</b>	<b>1,318</b>	<b>-295</b>
<b>Net Cashflow (outflow)</b>	<b>509</b>	<b>6,355</b>	<b>-3,065</b>	<b>-878</b>	<b>-862</b>
Beginning cash balance	790	1,298	7,518	4,453	3,575
Effect of FX rate	-0	-146	0	0	0
Time deposits	12	12	0	0	0
Ending cash balance	1,310	7,518	4,453	3,575	2,712

Source: Deutsche Bank estimates, Company data





Figure 58: HNR key financial ratios

Key Company Metrics	2010	2011	2012E	2013E	2014E
<b>Growth</b>					
Sales growth (%)	92.6%	80.7%	33.8%	24.7%	21.3%
Net earnings growth (%)	99.8%	93.7%	32.3%	33.6%	26.2%
DB EPS growth (%)	99.8%	54.4%	14.0%	33.6%	26.2%
<b>Margin</b>					
EBITDA Margin (%)	100.0%	110.2%	104.9%	97.9%	96.5%
EBIT Margin (%)	64.1%	73.6%	68.4%	63.0%	63.0%
Net Margin (%)	29.9%	32.0%	31.7%	33.9%	35.3%
<b>Return</b>					
Return on Shareholder Equity	13.4%	12.3%	11.3%	13.4%	14.9%
ROA	2.0%	2.7%	2.8%	3.2%	3.8%
ROIC	3.0%	4.5%	4.5%	4.8%	5.3%
<b>Capitlization</b>					
Payout ratio (%)	0.0%	0.0%	15.0%	15.0%	15.0%
Capex/sales (%)	505%	215%	156%	125%	103%
Capex/depreciation (x)	14.1	5.9	4.3	3.6	3.1
Net interest cover (x)	2.2	1.9	1.8	2.3	2.6
EBITDA / Interest	3.4	2.8	2.8	3.6	3.9
EBITDA / (Interest + Debt Payment)	3.4	2.8	0.5	0.8	0.8
EBITDA / Cash Interest	2.2	2.1	2.3	2.9	3.3
Net Gearing %	306%	174%	185%	190%	180%
Net Debt to Total Capital %	75%	64%	65%	65%	64%
Net debt/ assets	56%	41%	47%	49%	50%
Total Debt	20,020	28,683	29,663	32,551	34,034
Net Debt	18,710	21,165	25,210	28,976	31,322
Total Capital	24,829	33,325	38,808	44,263	48,703

Source: Deutsche Bank estimates, Company data



# Risks

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## Grid connection

In the short term, grid curtailment is likely to remain a bottleneck to the development of the wind market, as most areas with rich wind resources are located in the northern parts of China, which have weak grid infrastructure. According to the National Energy Bureau, over 10bn kWh of wind power was wasted due to weak grid networks. Grid curtailment is particularly problematic in Gansu, Northeast Provinces and Inner Mongolia province where wind makes up most of the total installed capacity. A lower-than-expected utilisation arising from worse-than-expected grid curtailment would result in lower-than-expected earnings.

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## Rising competition in project sourcing

The government's focus on the wind power sector and favourable government policies in place have led to a rise in the number of entrants to the sector as well as an increase in the capacity targets of the existing players. At the same time, the supply of new wind projects has been significantly reduced on worsening grid constraint in the high wind resource regions. Thus, competition for new projects has become increasingly intense.

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## Share placement risk

HNR is likely to experience negative free cash flow in the next few years given its considerable capital expenditure requirements in order to grow its business. As a result, HNR may raise new equity to fund its expansion plans and lower its gearing level.

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## Uncertainty of CER income

CDM income is rather significant for HNR, and it accounted for 42% of FY11 profit before tax. A EUR1/t increase in carbon prices would translate into a 3.9% FY13E earnings increase. Wind developers are still negotiating on post-2012 contracts and a higher/(lower)-than-expected carbon price would result in higher/(lower)-than-expected earnings.

---

## Sensitivity to WACC and terminal growth assumptions

Our DCF valuation is highly sensitive to our WACC and terminal growth rate assumptions, which are subjective. Nonetheless, we have assumed a relatively conservative WACC by using a higher beta, given current market conditions, and low terminal growth rates despite China's vast wind resources.

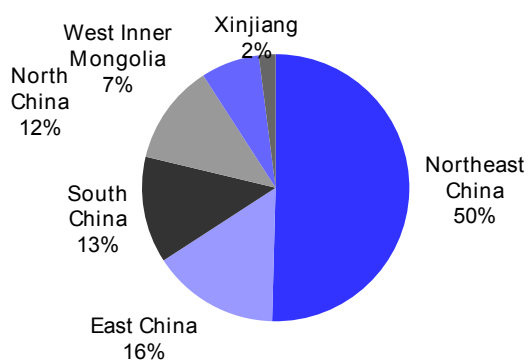


# Company background

## A pure wind developer with significant growth potential

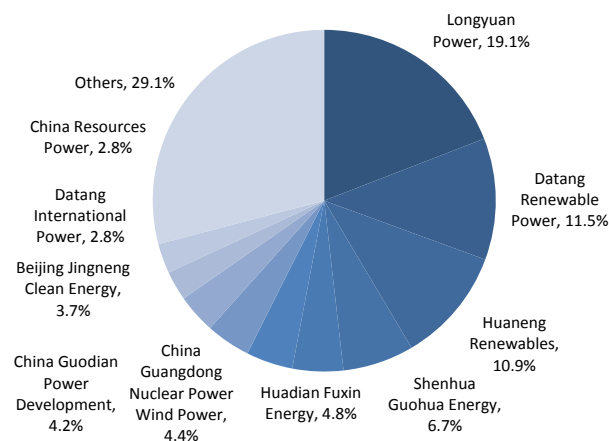
HNR is the listed wind power arm of China Huaneng Group (CHNG), which is the largest power producer in China. The company is the third-largest wind operator in China, and it designs, manages and operates wind farms. The company's wind farms are located mainly in the Northeast Provinces (Figure 59). The company was first listed on the Main Board of the HK Stock Exchange in 2011. By end-2011, the company's consolidated installed capacity had reached 4,904MW.

Figure 59: 2011 HNR wind capacity breakdown by region



Source: Deutsche Bank, Company data

Figure 60: 2011 China wind developers' market share



Source: Deutsche Bank, Company data

## China Huaneng Group – parent company

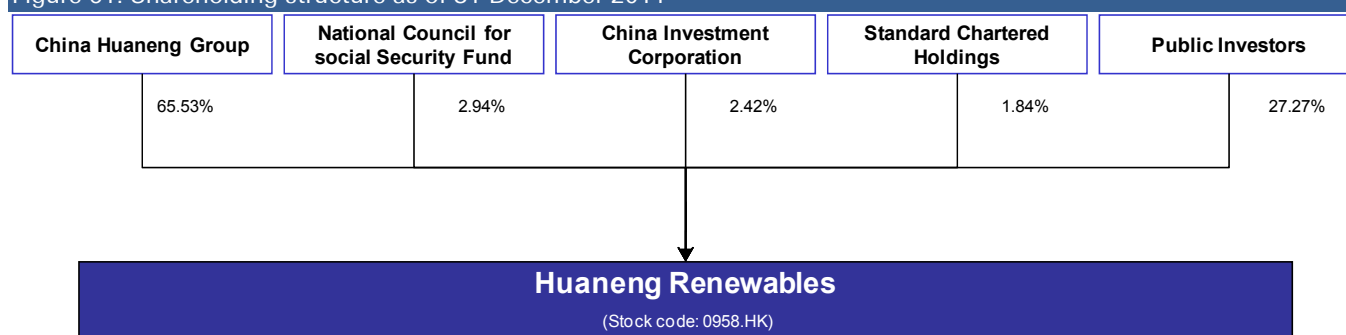
China Huaneng Group (CHNG), a SOE and the largest power producer in China, is HNR's largest shareholder and has a 65.53% stake in the company. It is mainly engaged in power generation and coal production. By end-2011, the group had total installed capacity of 125GW, with coal-fired at 101GW, hydro at 11GW, wind at 7GW and solar at 6GW.

### Pre-emptive rights for HNR to acquire China Huaneng's wind business

CHNG has also entered into a non-competition agreement with HNR, in which HNR was granted the option and pre-emptive rights to acquire CHNG's wind power business. The agreement was signed to delineate the business between HNR and CHNG in respect of the wind power business. CHNG currently has more than 2GW of wind power that could potentially be injected into the company.



Figure 61: Shareholding structure as of 31 December 2011



Source: Deutsche Bank, Company data

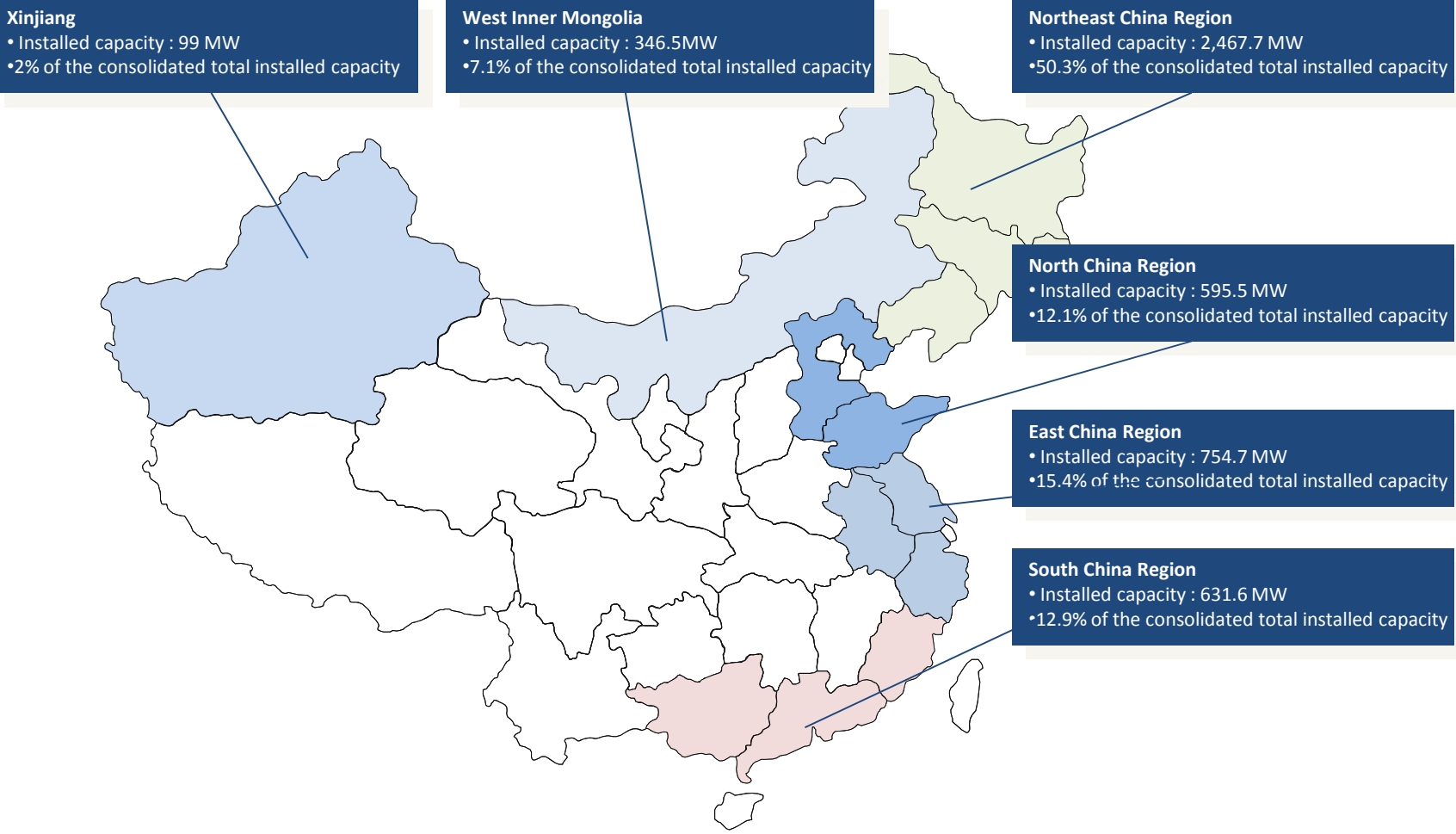
## Management profile

Figure 62: Details of senior management profile

Name	Age	Title	Education and credentials
Cao Peixi	56	Chairman	Masters degree in engineering from Shandong University President of Huaneng Group since 2008 37 years of experience in the power industry President of Huadian Group from 2006 to 2008
Zhang Tingke	55	Vice Chairman	Bachelor's degree in power systems and automation from Tsinghua University Vice President of Huaneng Group Senior engineer
Zhao Keyu	46	Non-executive Director	Bachelor's degree in engineering from Shandong University of Technology Chief of Planning Department of Huaneng Group since 2009 Over 20 years of experience in the power industry Senior political work specialist
Lin Gang	47	Director	Master's degree in science from North China Power University President of Huaneng Renewables Former Vice President of Huaneng Power Int'l Senior engineer
Niu Dongchun	59	Director	Bachelor's degree from Beijing Iron and Steel Institute Vice President of Huaneng Renewables Deputy general manager of HNEIC from 2007 to 2010 Former Director of Eastern Economic Revitalization Office of Inner Mongolia Former deputy head of Development and Reform Commission of Inner Mongolia Former divisional head of Metallurgy and Building Materials Division, Economic Projection Department of State Planning Commission
Yang Qing	43	Director	Master's degree in economics from the School of Finance of Renmin University of China Senior accountant Vice President and CFO of Huaneng Renewables Deputy general manager and chief accountant of HNEIC from 2008 to 2010 Over 20 years of financial experience

Source: Company data

Figure 63: Operational locations for Huaneng Renewables (capacity as of 2011)



Source: Deutsche Bank, company data





Rating

Buy

Asia  
 China

Utilities

Utilities

Company

Datang Renewable

Reuters

1798.HK

Bloomberg

1798 HK

Price at 3 Jul 2012 (HKD)	1.07
Price target - 12mth (HKD)	1.50
52-week range (HKD)	2.00 - 0.98
HANG SENG INDEX	19,736

## Key beneficiary of turnaround in grid connection; initiate at Buy

Sharp underperformance unjustified, Initiate with BUY with 40% implied upside

DTR has fallen 44% in the past 12 months, driven by worsening grid congestion, falling carbon prices and heightened placement risk. Industry dynamics are well positioned for improvement and we initiate coverage on DTR with a Buy rating and a 12-month target price of HK\$1.50, given: 1) valuation is at a historical low, 2) grid curtailment should gradually improve, 3) key beneficiary of credit easing and 4) highest dividend yield among peers.

### Key beneficiary of rate cuts and turnaround in grid congestion

Among peers, DTR has the highest gearing ratio, and is the most exposed to grid-congested regions. Consequently, DTR is highly leveraged to interest rate cuts and an improving grid network. Over the next few months, we see the stock as well positioned for potential credit easing. By 2014/15, DTR should see a significant improvement in earnings, as grid curtailment in Inner Mongolia should be largely resolved with the start-up of several UHV lines. (Refer to our report "Fly with the wind", dated 4th July for further details.)

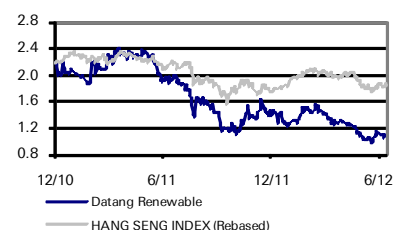
### Grid curtailment, CDM income uncertainty and placement risk overplayed

With a national grid code in place and the potential implementation of the Renewable Portfolio Standard, grid curtailment should improve steadily in the next two years. While CDM income will decline post-2012E, this is well expected. Although DTR is highly geared, H-share placement risk is quite low as it is trading below book and DTR is also considering a separate A-share listing. YTD, DTR has two years of tariff premium receivables that are expected to be collected in July 2012E, which should alleviate its liquidity concerns.

### Target price of HK\$1.5, based on DCF; risks

Our HK\$1.5 TP is derived from DCF through to 2020E (9.2% WACC and 2% TG). Risks: grid bottlenecks and CDM income uncertainty (37% FY11PBT).

### Price/price relative



Performance (%)	1m	3m	12m
Absolute	3.9	-18.3	-44.0
HANG SENG INDEX	6.3	-5.1	-11.9

### Comparatives

Huaneng Renewables (0958.HK), HKD1.22	NR		
	2011A	2012E	2013E
P/E (x)	0.0	0.0	0.0
EV/EBITDA (x)	-	-	-
Price/Book (x)	-	-	-
Longyuan Power (0916.HK), HKD5.07	Buy		
	2011A	2012E	2013E
P/E (x)	16.8	10.0	8.6
EV/EBITDA (x)	10.3	7.4	7.0
Price/book (x)	1.5	1.1	1.0

### Forecasts And Ratios

Year End Dec 31	2010A	2011A	2012E	2013E	2014E
Sales (CNYm)	2,379.7	3,828.8	4,846.7	5,990.2	7,107.4
EBITDA (CNYm)	2,389.0	3,789.8	4,923.2	5,664.5	6,630.3
Reported NPAT (CNYm)	455.8	729.8	908.0	1,096.2	1,366.8
Reported EPS FD(CNY)	0.090	0.101	0.125	0.151	0.188
DB EPS FD (CNY)	0.094	0.118	0.125	0.151	0.188
DB EPS growth (%)	94.58	24.63	5.99	20.73	24.69
PER (x)	19.22	12.74	7.01	5.81	4.66
EV/EBITDA (x)	12.2	10.2	8.6	8.3	7.6
DPS (net) (CNY)	0.000	0.039	0.041	0.050	0.062
Yield (net) (%)	0.0	2.6	4.7	5.7	7.1

Source: Deutsche Bank estimates, company data

<sup>1</sup> DB EPS is fully diluted and excludes non-recurring items



Model updated: 02 July 2012

### Running the numbers

Asia  
 China  
 Utilities

### Datang Renewable

Reuters: 1798.HK Bloomberg: 1798.HK

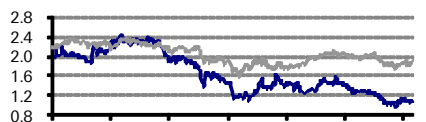
### Buy

Price (3 Jul 12) HKD 1.07  
 Target Price HKD 1.50  
 52 Week range HKD 0.98 - 2.00  
 Market Cap (m) HKDm 7,783  
 USDm 1,003

### Company Profile

Datang Renewable is the listed wind power arm of Datang Corporation and is China's second-largest wind farm operator. The company's wind farms are located mainly in Inner Mongolia, the north-eastern, central and western provinces and the south-eastern coast.

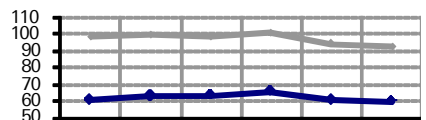
### Price Performance



Dec 10 Mar 11 Jun 11 Sep 11 Dec 11 Mar 12 Jun 12

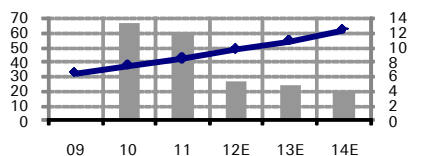
— Datang Renewable  
 — HANG SENG INDEX (Rebased)

### Margin Trends



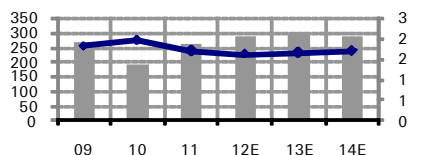
— EBITDA Margin — EBIT Margin

### Growth & Profitability



— Sales growth (LHS) — ROE (RHS)

### Solvency



— Net debt/equity (LHS) — Net interest cover (RHS)

Fiscal year end 31-Dec

### Financial Summary

	2009	2010	2011	2012E	2013E	2014E
DB EPS (CNY)	0.05	0.09	0.12	0.12	0.15	0.19
Reported EPS (CNY)	0.05	0.09	0.10	0.12	0.15	0.19
DPS (CNY)	0.00	0.00	0.04	0.04	0.05	0.06
BVPS (CNY)	0.8	1.6	1.3	1.3	1.4	1.6

Weighted average shares (m)	5,000	5,082	7,220	7,274	7,274	7,274
Average market cap (CNYm)	na	9,231	10,830	6,369	6,369	6,369
Enterprise value (CNYm)	na	29,143	38,554	42,151	46,796	50,480

### Valuation Metrics

P/E (DB) (x)	na	19.2	12.7	7.0	5.8	4.7
P/E (Reported) (x)	na	20.3	14.8	7.0	5.8	4.7
P/BV (x)	0.00	1.13	0.92	0.66	0.61	0.55
FCF Yield (%)	na	nm	nm	nm	nm	nm
Dividend Yield (%)	na	0.0	2.6	4.7	5.7	7.1
EV/Sales (x)	nm	12.2	10.1	8.7	7.8	7.1
EV/EBITDA (x)	nm	12.2	10.2	8.6	8.3	7.6
EV/EBIT (x)	nm	19.4	15.9	13.2	13.0	11.9

### Income Statement (CNYm)

Sales revenue	1,428	2,380	3,829	4,847	5,990	7,107
Gross profit	1,206	2,020	3,271	4,160	5,140	6,098
EBITDA	1,413	2,389	3,790	4,923	5,664	6,630
Depreciation	553	886	1,361	1,727	2,052	2,377
Amortisation	0	0	0	0	0	0
EBIT	860	1,503	2,429	3,196	3,612	4,253
Net interest income(expense)	-475	-766	-1,431	-1,987	-2,205	-2,506
Associates/affiliates	-1	-2	8	0	0	0
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	384	735	1,005	1,209	1,407	1,747
Income tax expense	17	57	35	60	70	140
Minorities	118	222	240	240	240	240
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	248	456	730	908	1,096	1,367
DB adjustments (including dilution)	-6	24	121	0	0	0
DB Net profit	243	480	850	908	1,096	1,367

### Cash Flow (CNYm)

Cash flow from operations	1,008	1,844	2,485	4,851	6,717	7,370
Net Capex	-8,058	-9,832	-10,469	-7,800	-7,800	-7,800
Free cash flow	-7,049	-7,988	-7,984	-2,949	-1,083	-430
Equity raised/(bought back)	0	4,175	240	0	0	0
Dividends paid	-98	-105	-282	-284	-301	-363
Net inc/(dec) in borrowings	7,071	9,721	9,599	4,429	4,986	4,487
Other investing/financing cash flows	63	-1,276	-2,307	-1,987	-2,205	-2,506
Net cash flow	-13	4,527	-733	-790	1,397	1,189
Change in working capital	-374	-512	-1,246	-12	1,123	880

### Balance Sheet (CNYm)

Cash and other liquid assets	531	5,031	4,162	3,372	4,769	5,958
Tangible fixed assets	21,415	31,000	41,111	46,050	50,665	54,954
Goodwill/intangible assets	410	403	422	422	422	422
Associates/investments	65	72	517	517	517	517
Other assets	2,118	4,436	8,070	7,395	7,405	7,659
Total assets	24,540	40,942	54,283	57,756	63,778	69,510
Interest bearing debt	15,818	25,576	35,181	39,610	44,596	49,084
Other liabilities	3,077	4,835	7,366	5,545	5,545	5,545
Total liabilities	18,894	30,411	42,547	45,156	50,142	54,629
Shareholders' equity	3,852	8,333	9,089	9,713	10,509	11,512
Minorities	1,793	2,198	2,647	2,887	3,128	3,368
Total shareholders' equity	5,645	10,530	11,736	12,600	13,636	14,881
Net debt	15,286	20,545	31,019	36,238	39,827	43,126

### Key Company Metrics

Sales growth (%)	nm	66.6	60.9	26.6	23.6	18.7
DB EPS growth (%)	na	94.6	24.6	6.0	20.7	24.7
EBITDA Margin (%)	98.9	100.4	99.0	101.6	94.6	93.3
EBIT Margin (%)	60.2	63.1	63.4	65.9	60.3	59.8
Payout ratio (%)	0.0	0.0	38.6	33.1	33.1	33.1
ROE (%)	6.4	7.5	8.4	9.7	10.8	12.4
Capex/sales (%)	570.1	414.1	273.4	160.9	130.2	109.7
Capex/depreciation (x)	14.7	11.1	7.7	4.5	3.8	3.3
Net debt/equity (%)	270.8	195.1	264.3	287.6	292.1	289.8
Net interest cover (x)	1.8	2.0	1.7	1.6	1.6	1.7

Source: Company data, Deutsche Bank estimates

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# Investment Thesis

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## Outlook

We initiate coverage on Datang Renewables (DTR) with a Buy rating. As the second-largest wind developer in China, DTR should be a key beneficiary of the country's rapid growth in the wind industry, with earnings CAGR of 23% over 2012-14E.

The company's capacity growth outlook in the next two years is highly visible, with 2.6GW capacity awarded through the national tender. Of these projects, 1.6GW are located in regions with a good grid network, enabling DTR to develop these projects first and subsequently develop the wind projects in the grid-congested regions when the grid curtailment issues have been largely resolved.

Among peers, DTR has the largest exposure to grid curtailment, and stands to benefit the most from a turnaround in grid network operations in Inner Mongolia and the Northeast provinces. DTR also has the highest gearing ratio among its peers, and should be the key beneficiary of a rate cut or credit easing.

DTR's valuation is at an all-time low, at 49% of its IPO price and at very attractive valuation multiples of 7.1x FY12E P/E vs. 23% EPS CAGR (2012-2014E) and 0.7x P/B vs. 9.7% FY12E RoE improving to 12.4% by FY14E, due to a multitude of headwinds for the sector in the last 12 months, including increasing wind farm accidents, worsening grid congestion, slower capacity growth, lower wind speed, falling carbon prices and higher placement risk. Nevertheless, the wind sector looks well positioned for an improvement. Near term, grid congestion and wind farm accident rates should improve gradually, with the enforcement of a national grid code, a coordinated wind project development and the potential implementation of the Renewable Portfolio Standard (RPS). Medium term, the commencement of several UHV lines and pump storage facilities should completely resolve the grid curtailment problems.

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## Valuation

Our target price of HK\$1.5 offers 12-month upside potential of 39% from current trading levels. It is derived from a DCF analysis through to 2020E, after which we assume 2% terminal growth. We believe a 2% terminal growth rate is relatively conservative, as less than 10% of China's wind resources are likely to be utilized by 2020E. Our WACC of 9.2% incorporates cost of equity of 12% (risk-free rate of 3.0%, geared beta of 1.6, ERP of 5.6%), after-tax cost of debt of 6.5% and a 50%/50% debt/equity target capital structure. A target price of HK\$1.5 implies FY12E and FY13E P/E of 10.1x and 8.1x, respectively, which is undemanding considering its EPS growth of 23% in 2012-2014E. The stock is trading at a very attractive valuation of 0.7x P/B vs. 9.7% FY12E RoE.

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## Risks

The main downside risks to our valuation include 1) grid bottlenecks, resulting in lower-than-expected power dispatch, 2) uncertainty about CDM income post-2012, after the first Kyoto Protocol period expires, 3) lower-than-expected quality and reliability of its newly installed turbine, as it lacks a long operating track record, 4) rising competition for wind projects, 5) a slowdown in the construction of UHV lines and the implementation of the RPS, and 6) lower- than-expected wind speed.





# Valuation

## DCF is our preferred approach given stable FCF

Our preferred approach to valuing this company is a DCF model, given its stable cash flow and its ability to capture the high growth rates of the wind developers.

Based on the Chinese government's current plan, China's wind capacity will increase from 62GW (including unconnected) in 2011 to 180GW in 2020E, and we believe there is further upside for the likely achieved level in 2020E. As the market leader in the wind developer industry space, and with 93GW in its pipeline, we believe DTR has the ability to add 1GW of wind capacity per year through 2012-20E, such that it will maintain a market share of 7.4% in 2020E (c.8.5% in 2011).

Our DCF valuation discounts the company's free cash flow over 2012-20E and assumes a 2% terminal growth rate for the terminal value calculation. In deriving our weighted average cost of capital (WACC) of 9.2%, we use a risk-free rate of 3.0%, geared beta of 1.6, ERP of 5.6% and a target net debt/equity ratio of 50%/50%.

Figure 64: DCF summary

DCF Summary (RMBm)	2010	2011	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
<b>EBIT</b>				<b>3,612</b>	<b>4,253</b>	<b>5,337</b>	<b>6,540</b>	<b>7,238</b>	<b>8,045</b>	<b>8,764</b>	<b>9,530</b>
Tax Rate				5.0%	8.0%	8.0%	10.0%	10.0%	15.0%	15.0%	15.0%
EBIT after tax				3,431	3,913	4,910	5,886	6,514	6,838	7,450	8,100
add back Depreciation & Amortization				2,052	2,377	2,733	3,092	3,456	3,823	4,195	4,570
less: Capex				(7,800)	(7,800)	(8,347)	(8,418)	(8,491)	(8,565)	(8,639)	(7,500)
add changes in working capital				1,123	880	1,087	674	875	858	916	652
<b>Cashflow proxy</b>				<b>(1,193)</b>	<b>(630)</b>	<b>384</b>	<b>1,234</b>	<b>2,353</b>	<b>2,955</b>	<b>3,921</b>	<b>5,823</b>
Discount factor			1.00	1.09	1.19	1.30	1.42	1.55	1.70	1.86	2.03
Discounted Cashflow ex TV				(1,093)	(528)	295	867	1,513	1,740	2,114	2,873
Sum of DCF ex TV			7,781								
Terminal Value (TV)											82,144
Present Value of TV			40,536								
<b>Total DCF (inc TV)</b>			<b>48,316</b>								
Add Associates			83								
Less Net Debt (cash)			36,238								
Less Minority Interest			2,887								
Equity NPV			9,274								
Equity NPV/Share (RMB)			1.3								
Target Price (HK\$)			1.5								

		Sensitivity table				
		WACC				
		8.2%	8.7%	9.2%	9.7%	10.2%
Terminal growth	2.4%	3.9	2.9	2.0	1.2	0.5
	2.2%	3.6	2.6	1.7	1.0	0.4
	2.0%	3.3	2.3	<b>1.5</b>	0.8	0.2
	1.8%	3.0	2.1	1.3	0.7	0.1
	1.6%	2.8	1.9	1.2	0.5	-0.1

	WACC	rf	beta	mrp	kd implied	ke	after tax debt	Tax Rate	% equity	% debt
WACC	9.2%	3.0%	1.60	5.6%	5.9%	12%	6.5%	15.0%	50%	50%
TV Growth	2.0%									

Source: Deutsche Bank estimates

## A 2% terminal growth rate is justified

We have conducted a sensitivity analysis on the WACC and the terminal growth rate, and believe that our assumed terminal growth rate of 2% post-2020 is justified, as:

- China is experiencing strong growth rates in its wind capacity. The government targets increasing wind capacity from 62GW in 2011 to 180GW in 2020, representing a 13% CAGR.



- Even with 180GW by 2020, wind power represents less than 4% of total output, which is way below some European countries like Spain (14.5%), Germany (7%) and Denmark (20%) in 2020E.

## Deutsche Bank vs. consensus forecasts

Figure 65: Deutsche Bank vs. consensus forecasts

Company	Ticker	Target price	Rating
Datang Renewable Power	1798.HK	HKD1.50	
Revenue (Rmb mln)	DB	Consensus	DB vs. Consensus
2012	4,847	5,229	-7%
2013	5,990	6,718	-11%
2014	7,107	8,142	-13%
EBITDA (Rmb mln)			
2012	4,923	5,044	-2%
2013	5,664	6,226	-9%
2014	6,630	7,564	-12%
Net income (Rmb mln)			
2012	908	977	-7%
2013	1,096	1,159	-5%
2014	1,367	1,484	-8%
Consensus Ratings	Buy	Hold	Sell
	12	5	3

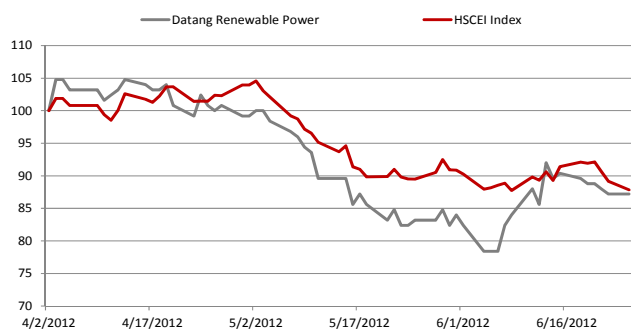
Source: Deutsche Bank estimates, Bloomberg Finance LP, Note: Our consensus estimates are based on Bloomberg Finance LP best estimates

Compared with consensus estimates, compiled by Bloomberg Finance LP in June 2012E, we are more bearish as we assume:

- **Lower capacity growth of 1GW annually vs. the management target of 1.5GW**
- **Lower utilisation rates:** we expect grid curtailment in Inner Mongolia and the Northeast region to worsen this year before improving in 2013E.

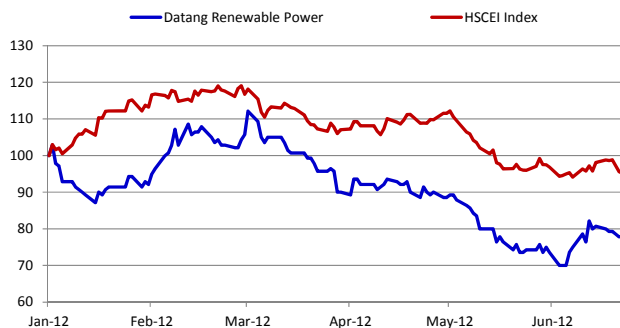
## Share price performance, valuation bands and profitability comparison

Figure 66: DTR vs. HSCEI (last three months)



Source: Deutsche Bank, Datastream

Figure 67: DTR vs. HSCEI (last six months)



Source: Deutsche Bank, Datastream



Significantly more attractive valuation now than during IPO period

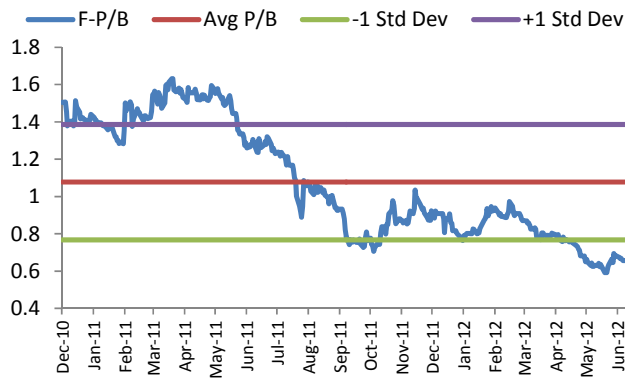
DTR share price has declined by 19% and 24% in the last three and six months, respectively, and is currently trading at the low-end of its historical valuation band (Figure 68 and Figure 69) due to several headwinds facing the company in the last 12 months, including increasing wind farm accidents, grid congestion, slower capacity growth, lower wind speed, falling carbon prices and higher placement risk. The company is currently trading at 49% of its IPO price.

Figure 68: 1-year forward P/E band



Source: Deutsche Bank, Datastream

Figure 69: 1-year forward P/B band



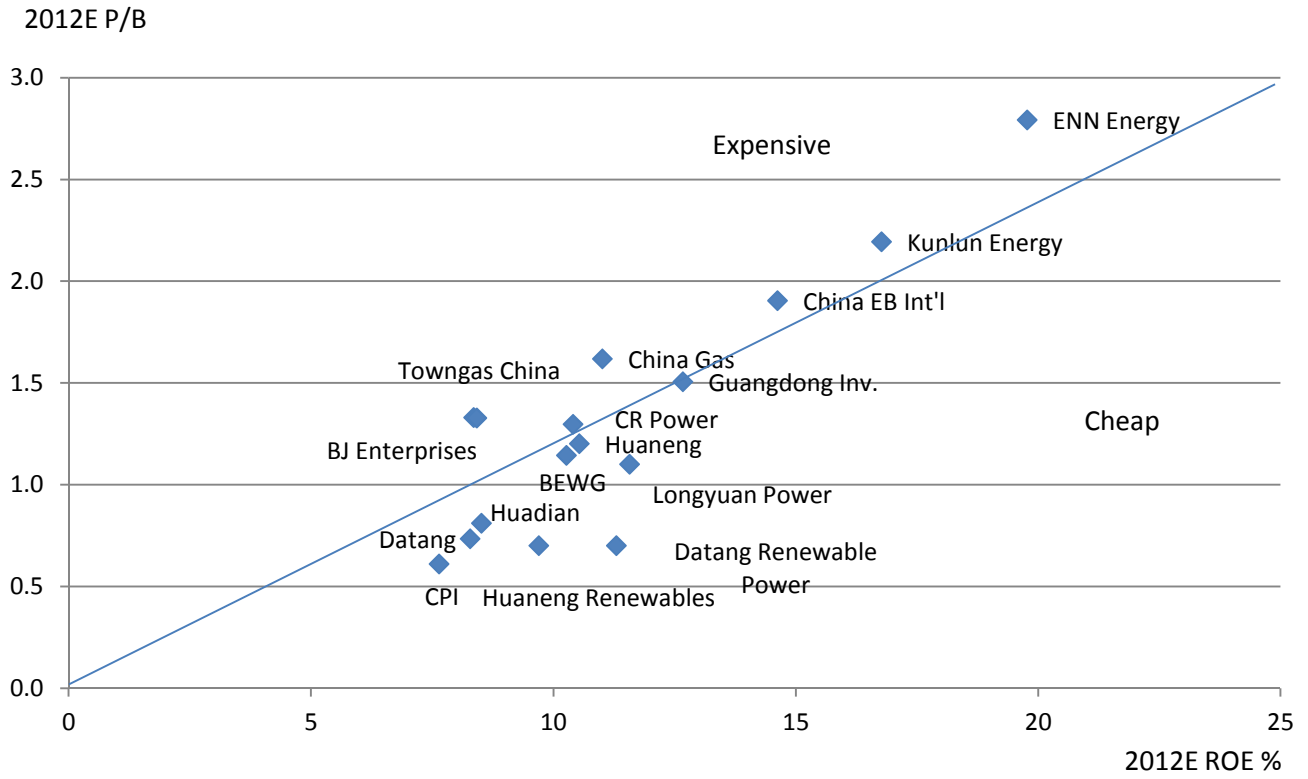
Source: Deutsche Bank, Datastream

Highly attractive valuation multiples vs. profitability ratio

At the current price, DTR is trading at 7.1x FY12E P/E vs. 23% EPS CAGR (2012-2014E) and 0.7x P/B vs. 9.7% FY12E RoE improving to 12.4% by FY14E. Compared with other China utility stocks (Figure 70), China wind developer stocks such as DTR look highly attractive on valuation vs. profitability perspective.



Figure 70: China utility P/B. ROE Chart



Source: Deutsche Bank estimates

Figure 71: Comps of wind developers

Share Price as of 29 June 2012																			
Company	Ticker	Price	Rating	Price target	% to target	Mkt. Cap. US\$m	Valuations						ROE%			Yield (%)			
							P/E	EPS CAGR	EV/EBITDA			P/BV	12F	13F	12F		13F	12F	
							12F	13F	14F	12F-14F	12F	13F	14F	12F	13F	14F	12F	13F	12F
<b>China wind developers</b>																			
Longyuan Power	0916.HK	HK\$5.05	Buy	HK\$8.30	64%	4,858	10.1	8.5	7.0	20%	7.5	7.1	6.5	1.1	1.0	0.9	11.5	12.3	1.9
Huaneng Renewables	0958.HK	HK\$1.27	Buy	HK\$2.00	57%	1,383	6.0	4.9	3.9	24%	7.3	7.0	6.4	0.7	0.6	0.5	11.3	13.4	2.3
Datang Renewable Power	1798.HK	HK\$1.08	Buy	HK\$1.50	39%	1,012	7.1	5.9	4.7	23%	8.5	8.2	7.6	0.7	0.6	0.6	9.7	10.8	4.7
Jingneng Clean Energy	0579.HK	HK\$1.69	NA	NA	NA	1,332	7.7	6.0	4.7	29%	6.4	5.4	7.7	0.8	0.7	NA	12.1	13.7	1.1
CPNE	0735.HK	HK\$0.31	NA	NA	NA	444	5.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.1	NA	NA
China Suntien	0956.HK	HK\$1.45	NA	NA	NA	564	6.3	5.4	4.4	20%	6.1	4.8	5.4	0.6	0.6	0.5	10.7	11.5	3.3
China Wind Power	0182.HK	HK\$0.28	NA	NA	NA	262	3.6	3.1	NA	NA	2.5	1.8	NA	0.4	0.3	NA	10.9	12.3	-
<b>Average</b>							<b>6.6x</b>	<b>5.6x</b>	<b>4.9x</b>	<b>23%</b>	<b>6.4x</b>	<b>5.7x</b>	<b>6.7x</b>	<b>0.7x</b>	<b>0.6x</b>	<b>0.6x</b>	<b>10.5x</b>	<b>12.3x</b>	<b>2.2</b>
<b>Median</b>							<b>6.3x</b>	<b>5.6x</b>	<b>4.7x</b>	<b>23%</b>	<b>6.9x</b>	<b>6.2x</b>	<b>6.5x</b>	<b>0.7x</b>	<b>0.6x</b>	<b>0.6x</b>	<b>10.9x</b>	<b>12.3x</b>	<b>2.1</b>
<b>China IPPs</b>																			
Huaneng Power	0902.HK	HK\$5.82	Buy	HK\$6.20	7%	10,543	11.9	10.1	9.7	11%	7.9	6.7	6.3	1.2	1.1	1.1	10.5	11.6	5.0
Datang Power	0991.HK	HK\$3.04	Buy	HK\$3.20	5%	5,051	9.7	8.7	6.8	20%	8.5	7.8	6.9	0.8	0.8	0.7	8.5	9.1	5.1
Huadian Power	1071.HK	HK\$2.34	Buy	HK\$2.60	11%	2,042	9.2	8.0	6.8	16%	8.4	7.8	6.7	0.7	0.7	0.6	8.3	8.8	2.7
CR Power	0836.HK	HK\$15.90	Buy	HK\$21.00	32%	9,621	13.5	10.7	8.9	23%	7.7	6.7	5.7	1.3	1.2	1.1	10.4	12.0	3.0
CPI	2380.HK	HK\$2.03	Buy	HK\$2.60	28%	1,336	8.2	7.6	7.8	3%	9.8	7.9	7.6	0.6	0.6	0.6	7.6	7.8	6.1
<b>Average</b>							<b>10.5x</b>	<b>9.0x</b>	<b>8.0x</b>	<b>15%</b>	<b>8.4x</b>	<b>7.4x</b>	<b>6.6x</b>	<b>0.9x</b>	<b>0.9x</b>	<b>0.8x</b>	<b>9.1x</b>	<b>9.9x</b>	<b>4.4</b>
<b>Median</b>							<b>9.7x</b>	<b>8.7x</b>	<b>7.8x</b>	<b>16%</b>	<b>8.4x</b>	<b>7.8x</b>	<b>6.7x</b>	<b>0.8x</b>	<b>0.8x</b>	<b>0.7x</b>	<b>8.5x</b>	<b>9.1x</b>	<b>5.0</b>
<b>European wind developers</b>																			
Acciona	ANA.MC	EUR43.72	Hold	EUR70.00	60%	3,453	14.1	12.4	NA	NA	6.6	5.9	NA	0.5	0.5	NA	3.7	4.2	6.9
EDP Renovaveis	EDPR.LS	EUR2.60	Hold	EUR4.10	58%	2,821	18.0	11.1	10.3	32%	7.4	6.3	5.1	0.4	0.4	0.4	2.3	3.7	1.4
<b>Average</b>							<b>16.0x</b>	<b>11.7x</b>	<b>10.3x</b>	<b>NA</b>	<b>7.0x</b>	<b>6.1x</b>	<b>5.1x</b>	<b>0.5x</b>	<b>0.5x</b>	<b>0.4x</b>	<b>3.0x</b>	<b>4.0x</b>	<b>4.1</b>
<b>Median</b>							<b>16.0x</b>	<b>11.7x</b>	<b>10.3x</b>	<b>NA</b>	<b>7.0x</b>	<b>6.1x</b>	<b>5.1x</b>	<b>0.5x</b>	<b>0.5x</b>	<b>0.4x</b>	<b>3.0x</b>	<b>4.0x</b>	<b>4.1</b>
<b>Australia wind developer</b>																			
Infigen Energy	IFN.AX	AUD0.23	Buy	AUD0.50	122%	172	NM	NM	NM	NA	8.9	6.7	5.7	0.3	0.4	0.4	-10.6	-7.9	-

For DB covered stocks, all estimates are based on DB estimates and stock performance data are from Datastream. For non-covered stocks, all estimates are based on bloomberg Best estimates.

Definitions: 1) Gearing is net debt / shareholders equity; 2) EV is after deducting estimated value of associates; 3) RoCE is defined as EBIT x (1 - tax rate) divided by capital employed

Source: Deutsche Bank estimates, Bloomberg Finance LP



Figure 72: Comps of wind developers (continued)

Share Price as of 29 June 2012																						
Company	Share price performance		local currency					avg. daily trade	Relative performance					avg. daily trade	Share price statistics						avg. daily trade	
	Price	Rating	1m	3m	6m	12m	3yr	US\$, 1mn**	local currency & local country index****					US\$, 6mth**	52w H	52w L	52W H	52W L	10yr H	10yr L	US\$, 1yr**	
<b>China wind developers</b>																						
Longyuan Power	HK\$5.05	Buy	9%	-25%	-15%	-31%	NA	4.2	11%	-15%	-8%	-8%	NA	6.0	7.67	4.49	66%	112%	10.90	4.49	7.4	
Huaneng Renewables	HK\$1.27	Buy	-8%	-33%	-34%	-49%	NA	0.4	-6%	-24%	-29%	-33%	NA	0.7	2.51	1.28	51%	99%	2.54	1.28	0.8	
Datang Renewable Power	HK\$1.08	Buy	5%	-19%	-24%	-44%	NA	0.2	7%	-7%	-18%	-25%	NA	0.6	2.00	0.98	54%	110%	2.41	0.98	0.6	
Jingneng Clean Energy	HK\$1.69	NA	4%	4%	1%	NA	NA	0.0	6%	19%	9%	NA	NA	0.3	1.80	1.60	94%	106%	1.80	1.60	0.3	
CPNE	HK\$0.31	NA	2%	-7%	-18%	-36%	-45%	0.2	4%	5%	-12%	-15%	-36%	0.4	0.52	0.25	60%	124%	1.57	0.07	0.5	
China Suntien	HK\$1.45	NA	3%	-9%	2%	-32%	NA	1.2	5%	3%	10%	-9%	NA	1.3	2.31	1.25	63%	116%	2.81	1.25	1.0	
China Wind Power	HK\$0.28	NA	-2%	-23%	-7%	-61%	-69%	0.2	0%	-13%	1%	-48%	-64%	1.0	0.72	0.28	39%	102%	12.40	0.12	0.7	
<b>Average</b>			<b>2%</b>	<b>-16%</b>	<b>-14%</b>	<b>-42%</b>	<b>-57%</b>		<b>7%</b>	<b>7%</b>	<b>0%</b>	<b>6%</b>	<b>-34%</b>									
<b>Median</b>			<b>3%</b>	<b>-19%</b>	<b>-15%</b>	<b>-40%</b>	<b>-57%</b>		<b>5%</b>	<b>-7%</b>	<b>-8%</b>	<b>-20%</b>	<b>-50%</b>									
<b>China IPPs</b>																						
Huaneng Power	HK\$5.82	Buy	16%	31%	35%	38%	2%	19.1	19%	49%	46%	83%	18%	13.4	5.62	3.02	104%	193%	10.80	2.60	10.2	
Datang Power	HK\$3.04	Buy	14%	14%	22%	17%	-35%	7.0	16%	30%	32%	55%	-25%	5.3	3.04	1.83	100%	166%	9.66	1.18	5.0	
Huadian Power	HK\$2.34	Buy	39%	35%	58%	55%	-2%	2.3	41%	53%	71%	106%	12%	1.2	2.37	1.00	99%	234%	6.13	1.00	0.9	
CR Power	HK\$15.90	Buy	10%	6%	2%	6%	-18%	12.7	12%	20%	10%	41%	-6%	10.5	16.18	11.14	98%	143%	29.46	2.70	10.6	
CPI	HK\$2.03	Buy	28%	20%	9%	3%	-20%	1.8	30%	36%	18%	37%	-8%	1.0	2.10	1.25	97%	162%	5.30	1.16	0.9	
<b>Average</b>			<b>21%</b>	<b>21%</b>	<b>25%</b>	<b>24%</b>	<b>-15%</b>		<b>8%</b>	<b>12%</b>	<b>2%</b>	<b>16%</b>	<b>-37%</b>									
<b>Median</b>			<b>16%</b>	<b>20%</b>	<b>22%</b>	<b>17%</b>	<b>-18%</b>		<b>19%</b>	<b>36%</b>	<b>32%</b>	<b>55%</b>	<b>-6%</b>									
<b>European wind developers</b>																						
Acciona	EUR43.72	Hold	-6%	-23%	-36%	-38%	-51%	14.5	-5%	-10%	-34%	-22%	-49%	17.7	73.70	39.63	59%	110%	241.90	37.64	20.5	
EDP Renovaveis	EUR2.60	Hold	-14%	-32%	-43%	-38%	-64%	6.8	-13%	-20%	-41%	-23%	-63%	4.2	4.86	2.59	54%	100%	8.00	2.59	4.0	
<b>Average</b>			<b>-10%</b>	<b>-27%</b>	<b>-40%</b>	<b>-38%</b>	<b>-57%</b>		<b>-9%</b>	<b>-15%</b>	<b>-37%</b>	<b>-23%</b>	<b>-56%</b>									
<b>Median</b>			<b>-10%</b>	<b>-27%</b>	<b>-40%</b>	<b>-38%</b>	<b>-57%</b>		<b>-9%</b>	<b>-15%</b>	<b>-37%</b>	<b>-23%</b>	<b>-56%</b>									
<b>Australia wind developer</b>																						
Infigen Energy	AUD0.23	Buy	2%	-8%	-14%	-32%	-81%	0.2	3%	-2%	-11%	-24%	-82%	0.2	0.39	0.19	58%	118%	1.99	0.19	0.4	

Source: Deutsche Bank estimate, Bloomberg Finance LP



Figure 73: Comps of wind developers (continued)

Share Price as of 29 June 2012																					
Company	Price	Rating	EBITDA Margin						Net Profit Margin						Returns & Gearing						
			2009	2010	local currency		2013E	2014E	2009	2010	local currency		2013E	2014E	2009	2010	RoE (%)		2013E	2014E	Gearing
					2011	2012E														2011	
<b>China wind developers</b>																					
Longyuan Power	HK\$5.05	Buy	46%	43%	49%	57%	58%	61%	9%	14%	16%	17%	18%	20%	6.9	9.0	10.8	11.5	13.5	13.5	120.7
Huaneng Renewables	HK\$1.27	Buy	91%	100%	110%	105%	98%	97%	25%	30%	37%	34%	34%	35%	10.2	13.4	12.3	11.3	13.4	14.9	174.1
Datang Renewable Power	HK\$1.08	Buy	99%	100%	99%	102%	95%	93%	17%	20%	22%	19%	18%	19%	6.4	7.5	8.4	9.7	10.8	12.4	264.3
Jingneng Clean Energy	HK\$1.69	NA	21%	48%	58%	60%	50%	29%	4%	13%	21%	19%	17%	12%	4.0	8.1	10.3	12.1	13.7	NA	129.2
CPNE	HK\$0.31	NA	36%	33%	40%	NA	NA	NA	10%	15%	10%	22%	NA	NA	3.3	5.1	3.6	7.1	NA	NA	88.7
China Suntien	HK\$1.45	NA	37%	39%	39%	42%	44%	32%	11%	12%	14%	15%	14%	15%	14.2	9.1	9.0	10.7	11.5	12.9	90.3
China Wind Power	HK\$0.28	NA	20%	28%	13%	43%	49%	NA	31%	35%	39%	32%	29%	NA	5.3	13.4	8.9	10.9	12.3	NA	1.5
<b>Average</b>			<b>50%</b>	<b>56%</b>	<b>58%</b>	<b>68%</b>	<b>66%</b>	<b>63%</b>	<b>15%</b>	<b>20%</b>	<b>23%</b>	<b>23%</b>	<b>22%</b>	<b>20%</b>	<b>7.2</b>	<b>9.3</b>	<b>9.0</b>	<b>10.5</b>	<b>12.3</b>	<b>10.0</b>	<b>124.1</b>
<b>Median</b>			<b>37%</b>	<b>43%</b>	<b>49%</b>	<b>59%</b>	<b>54%</b>	<b>63%</b>	<b>11%</b>	<b>15%</b>	<b>21%</b>	<b>19%</b>	<b>18%</b>	<b>17%</b>	<b>6.4</b>	<b>8.6</b>	<b>9.0</b>	<b>10.9</b>	<b>12.2</b>	<b>12.6</b>	<b>120.7</b>
<b>China IPPs</b>																					
Huaneng Power	HK\$5.82	Buy	23%	18%	16%	19%	19%	19%	6%	3%	1%	4%	4%	4%	12.3	7.0	2.3	10.5	11.6	11.4	212.2
Datang Power	HK\$3.04	Buy	30%	27%	25%	29%	30%	33%	3%	4%	3%	4%	4%	5%	6.2	9.0	5.6	8.5	9.1	10.9	379.7
Huadian Power	HK\$2.34	Buy	23%	14%	16%	21%	20%	20%	3%	0%	0%	2%	2%	2%	8.4	1.1	0.5	8.3	8.8	9.7	406.4
CR Power	HK\$15.90	Buy	32%	25%	25%	27%	29%	29%	20%	10%	7%	8%	9%	9%	20.9	11.7	9.3	10.4	12.0	12.7	134.9
CPI	HK\$2.03	Buy	19%	28%	24%	29%	29%	30%	4%	5%	3%	6%	5%	5%	4.7	5.6	4.0	7.6	7.8	7.3	249.0
<b>Average</b>			<b>27%</b>	<b>21%</b>	<b>20%</b>	<b>24%</b>	<b>25%</b>	<b>25%</b>	<b>8%</b>	<b>4%</b>	<b>3%</b>	<b>5%</b>	<b>5%</b>	<b>5%</b>	<b>11.9</b>	<b>7.2</b>	<b>4.4</b>	<b>9.4</b>	<b>10.4</b>	<b>11.2</b>	<b>283.3</b>
<b>Median</b>			<b>26%</b>	<b>22%</b>	<b>20%</b>	<b>24%</b>	<b>24%</b>	<b>25%</b>	<b>5%</b>	<b>4%</b>	<b>2%</b>	<b>4%</b>	<b>4%</b>	<b>4%</b>	<b>10.4</b>	<b>8.0</b>	<b>4.0</b>	<b>9.5</b>	<b>10.3</b>	<b>11.2</b>	<b>295.9</b>
<b>European wind developers</b>																					
Acciona	EUR43.72	Hold	15%	19%	20%	20%	22%	NA	20%	3%	3%	3%	3%	NA	26.1	2.9	3.7	3.7	4.2	NA	108.6
EDP Renovaveis	EUR2.60	Hold	75%	71%	75%	77%	80%	74%	16%	6%	8%	11%	16%	14%	2.3	1.1	1.7	2.3	3.7	3.9	58.3
<b>Average</b>			<b>45%</b>	<b>45%</b>	<b>47%</b>	<b>49%</b>	<b>51%</b>	<b>74%</b>	<b>18%</b>	<b>4%</b>	<b>6%</b>	<b>7%</b>	<b>10%</b>	<b>14%</b>	<b>14.2</b>	<b>2.0</b>	<b>2.7</b>	<b>3.0</b>	<b>4.0</b>	<b>3.9</b>	<b>83.5</b>
<b>Median</b>			<b>45%</b>	<b>45%</b>	<b>47%</b>	<b>49%</b>	<b>51%</b>	<b>74%</b>	<b>18%</b>	<b>4%</b>	<b>6%</b>	<b>7%</b>	<b>10%</b>	<b>14%</b>	<b>14.2</b>	<b>2.0</b>	<b>2.7</b>	<b>3.0</b>	<b>4.0</b>	<b>3.9</b>	<b>83.5</b>
<b>Australia wind developer</b>																					
Infigen Energy	AUD0.23	Buy	60%	58%	54%	50%	58%	59%	-20%	-26%	-23%	-23%	-13%	-7%	-4.4	-9.5	-9.0	-10.6	-7.9	-4.6	165.7

Source: Deutsche Bank estimate, Bloomberg Finance LP





# Reasons to Buy

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## Valuation at all-time low; 49% vs. IPO price

DTR has significantly underperformed the market in the last 12 months, by 44%, due to a multitude of headwinds against the sector, including wind farm accidents, grid congestion, slower capacity growth, lower wind speed, falling carbon prices and the impact of interest rate hikes in 2010/11. In addition, Longyuan Power, the largest wind developer in China, has recently announced a share placement plan, which has raised further concerns that DTR may follow suit. As a result, DTR is now trading at the bottom-end of its historical valuation band and at 49% of its IPO price.

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## Grid connection and wind turbine accident rates to improve steadily

Investors have been very concerned about worsening grid constraint problems and the quality of the wind turbines. We believe grid curtailment should gradually improve in the near term, with a more coordinated wind development plan at the national level and the potential implementation of the RPS. In addition, DTR is changing its capacity mix by adding more projects in the strong grid network regions. The Northeast China Electricity Bureau was also recently reported to be setting up a replacement trading mechanism between wind and thermal power to alleviate the region's grid curtailment problem. The enforcement of a national grid code should also reduce the number of wind turbine accidents.

Medium term, the commencement of several UHV DC lines in 2014/15 and pump storage facilities should resolve the grid bottleneck problems completely. Experiences from developed countries show that the wind power penetration rate can be increased to 20% (currently 9% in China's grid congested regions) without many difficulties when there is adequate transmission and storage capacity. DTR will be the key beneficiary from the development of the UHV lines, given that most of its capacity is located in Inner Mongolia, where it is planned that these transmission lines will be constructed.

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## CDM discount post-2012E well expected by the Street

Carbon prices post-2012 are unlikely to remain as high as the previously contracted EUR10.5/t, as the spot carbon price has fallen by over 60% in the last 12 months, and is now 60% below the contract price. However, this has been well expected in the market, as we and the Street have factored in a big discount to the carbon price after 2012. In addition, there is potential upside to the current spot price, and Deutsche Bank's carbon analyst, Isabelle Curien, expects the price to potentially recover to EUR10/t by year-end if 1) the EU economy shows signs of reverting to modest growth from 2013 onwards and 2) a credible political narrative about tightening the Phase-3 supply of EUAs is established and confirmed.

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## Key beneficiary of credit easing and potential rate cuts

Given DTR has the highest gearing level among its peers, and in view of its considerable capital expenditure requirement, we expect the company to be a key beneficiary of rate cuts and credit easing. A 25bp rate cut would imply 7.8% upside to





our FY13E EPS. Due to falling inflation and rather sluggish economic growth, our China Economist, Jun Ma expects further credit relaxation ahead and does not rule out the possibility of another rate cut. Thus, even with a rate cut, DTR should benefit under a credit easing environment, through borrowing at a preferential discount rate.

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## Visible capacity growth backed by 2.6GW pipeline

DTR, the second-largest wind farm operator in China, looks well positioned benefit from the strongly growing wind business in China. DTR has a visible capacity growth profile in the next two years. The company plans to add 1.5GW of wind capacity per year from 2012-20. We believe this is possible given it was awarded 2.6GW of wind projects in the last two rounds of the national tender. Among these, 1.6GW are located in the strong grid network regions. Nevertheless, due to the persistent grid constraints this year, we have conservatively assumed a 1GW capacity addition from 2012-20E.

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## Stable regulatory framework with aggressive renewable target

One of the key catalysts that has sparked growth and interest in China's wind sector in recent years is the stable regulatory framework in place and the government's aggressive renewable energy targets. There is a transparent feed in the tariff mechanism for wind power. Wind developers also enjoy a tax holiday on income for three years and a 50% reduction subsequently for the following three years. Lastly, to ensure network connectivity of its renewable sources, China has implemented several measures, including setting a national grid code, potential implementation of the RPS by year-end and more coordinated wind development planning to resolve the problem.

In terms of its renewable energy target, China aims to consume 15% of its electricity from non-fossil fuels by 2020. In addition, China targets to cut its carbon dioxide emissions per unit of GDP by 40-45% by 2020 from 2005 levels. At the current rate of wind power growth and development of grid connection, we forecast that China's wind capacity could exceed 120GW by 2015 and 200GW by 2020, which suggests further upside to the current official wind energy target of 100GW by 2015 and 180GW by 2020.

### Wind tariff cut unlikely

Although wind turbine prices and construction costs have fallen by 30% and 15%, respectively, since late 2009, when China set the national wind feed-in tariff (FIT), we believe a tariff cut is unlikely given wind utilization rates remain very low due to grid curtailment. Profitability of the wind farms has thus not improved despite the decline in construction costs. During a recent wind power seminar, Mr. Liang Zhipeng, from the National Energy Administration (NEA), said that a wind tariff cut is unlikely at the current utilization level.

Please refer to our industry report *"Fly with the wind, 4th Jul'12"* which provides more detail on the outlook for improving industry fundamentals.



# Key earnings drivers

## Significant capacity growth in its wind business

### DTR plans wind capacity to increase by 1.5GW per year in the next few years

At the end of 2011, the company had total installed wind capacity of 5,259MW. With 2.6GW of wind projects awarded through the national tender in its pipeline (Figure 74), DTR is quite confident about its plans to increase its wind capacity by 1.5GW per year in the next three years (2012-14E). In addition, DTR expects the third round of national tender of wind projects to start in 2013, in which it will secure more wind projects that will add further visibility on its growth plans. DTR plans to expand its wind capacity through both acquisitions and greenfield projects.

Figure 74: DTR's capacity pipeline by region

By region	National Tender (MW)
Inner Mongolia	528
Northeastern	480
Central and Western	1,034
Southeastern Coastline	576
Total	2,618

Source: Deutsche Bank, Company data, NDRC

### Model inputs

In our model, we assume that wind capacity should increase by 1GW per year from 2012-20E. As per management guidance, we have included the capacity increase mainly in the fourth quarter of the year. Our estimates are below management guidance of a 1.5GW increase per year, as we believe grid congestion could delay the construction of some of these projects and that the company's relatively high gearing ratio could constrain its finances.

Figure 75: DTR's capacity addition breakdown by region (in MW)

	2010	2011	2012E	2013E	2014E
Inner Mongolia	399	293	100	100	200
Northeastern	402	200	100	100	200
Central and Western	379	411	500	500	300
Southeastern Coastline	230	328	300	300	300
Total	1,408	1,231	1,000	1,000	1,000

Source: Deutsche Bank estimates

In terms of the capacity addition distribution, we added most of the new capacity in the south-eastern coastline and the central and western regions where there are fewer grid connectivity issues and good project pipeline visibility from the national tender (Figure 74). Given grid constraint is likely to continue in the north-eastern provinces and Inner Mongolia, management guided that new capacity additions in these regions will be relatively small. In addition, the NDRC has also recently announced that it will limit the approval of new projects in regions with >20% grid curtailment rates.



## Utilization rates to decline marginally in 2012E and pick up in 2013E

### Wind utilization rate likely to decline marginally in 2012E and pick up in 2013E

The average utilization hours in 2011 decreased by 9% yoy to 1,951hrs, from 2,134hrs in 2010, due to low wind speed and the grid constraints in Inner Mongolia and the three north-eastern provinces. For 2012, we expect utilization to decline marginally, as grid constraint is likely to worsen with increase wind capacity in these regions. This will be partly offset by the new supportive measures and the change in capacity mix towards the less grid congested regions. For 2013E, we expect a gradual improvement in 2013 following the implementation of the RPS, and a significant improvement in 2014-15E when the majority of the UHV DC lines commence operation. Management expects 2012E utilization rates to be similar in 2011.

### Model input

In our model, we expect lower utilization rates in Inner Mongolia and the north-eastern provinces in 2012 before they improve subsequently. For the other areas, we expect wind utilization to remain more or less stable. For every 100 hours of lower utilization vs. our base case, DTR's FY13E earnings would be reduced by 21%.

Figure 76: DTR utilization hours by province and forecasts

	2010	2011	2012E	2013E	2014E
Inner Mongolia	2,164	2,055	1,952	2,010	2,111
Northeastern	2,133	1,863	1,769	1,822	1,914
Central and Western	1,964	1,854	1,854	1,854	1,854
Southeastern Coastline	2,076	1,809	1,809	1,809	1,809
<b>Average utilization</b>	<b>2,134</b>	<b>1,951</b>	<b>1,872</b>	<b>1,900</b>	<b>1,946</b>

Source: Deutsche Bank estimates, Company data

## RMB8bn capex for the next three years

### We expect RMB8bn capex per year based on capacity growth forecasts

Based on our assumed 1GW wind capacity addition per year and the latest wind turbine auction price, we expect the company to invest c.RMB8bn per year over 2012-14E.

## CER income to stay after 2012E

### Most of DTR's projects should be approved by the United Nations (UN)

As of end-2011, DTR had successfully registered 50 CDM projects with the UN. We also understand that the company is rushing to register significantly more CDM projects before end-2012E.

### CDM projects should continue to generate income

DTR wind projects that are registered before 2012E will continue to be accepted by the EU ETS (the biggest carbon trading market), and thus will still generate CDM income. However, for projects registered after 2012, the EU ETS will accept CER credits only from projects generated from the "Least Developed Countries", which does not include China. Thus, DTR wind power CDM projects that are registered post-2012E will not be eligible for selling carbon credits in the EU ETS market, and are unlikely to generate any CDM income, since demand from the other carbon markets (Australia/New Zealand, etc) is likely to remain low.



### Significant decline in carbon price post 2012E, but well expected in the market

Post 2012E, CDM prices are likely to decline given that the current CER spot price is significantly lower than the contract price (EUR4/t vs. EUR10/t). Nonetheless, Deutsche Bank's carbon analyst, Isabelle Curien, believes that EUA prices can potentially recover to EUR10/t by year-end 2012, assuming that the EU economy shows signs of reverting to modest growth from 2013E onwards and that a credible political narrative about tightening the Phase-3 supply of EUAs is established and confirmed.

### Model input

When forecasting CDM income, we assume EUR10/t for 2012E and EUR5/t after 2012E to apply a discount to the uncertainty of the CDM contract price. In terms of the operational matrix of the registered projects, we take the average utilization hours of DTR's wind farm.

Figure 77: CDM income assumptions and forecast for DTR

	2010	2011	2012E	2013E	2014E
Carbon price	12	10	10	5	5
% change in CER price	-4%	-13%	0%	-50%	0%
CNYEUR	8.977	9.020	9.020	9.020	9.020
% change in FX rate	-6%	0%	0%	0%	0%
Registered projects	25	50	80	80	80
Registered capacity (MW)	1,240	2,916	4,000	4,000	4,000
% of Total capacity	31%	55%	64%	55%	48%
Average capacity (MW)	1,020	2,078	3,458	4,000	4,000
Utilization (hrs)	2,134	1,951	1,872	1,900	1,946
Average power generated (GWh)	2,176	4,054	6,472	7,601	7,783
Carbon (tons) production per mn kWh	990	990	990	990	990
<b>CER credit generated (RMB mn)</b>	<b>222</b>	<b>362</b>	<b>578</b>	<b>339</b>	<b>347</b>

Source: Deutsche Bank estimates, Company data

### Financing cost may surprise on the downside

#### Key beneficiary of preferential discount or rate cut

DTR's wind business has very stable cash flow and it used to enjoy a 5% discount to the PBOC base corporate lending rate when borrowing from PRC banks. However, due to the previous monetary tightening scenario, the preferential discount was removed. Our China Economist, Jun Ma expects further credit relaxation ahead, and does not rule out the possibility of another rate cut given the falling inflation rate in China. Thus, even without a rate cut, DTR can potentially benefit from the preferential interest rate discount. From our recent discussion with management, we understand that DTR's new wind projects have yet to receive any preferential discount.

### Model input

Based on our China Economist's, Jun Ma's forecast for the global economy, we have not factored in any additional interest rate cuts in 2012E. Given the high gearing level, a 25bp rate cut could provide 7.8% upside to our FY13E EPS.



## Key operating matrix for wind and coal power

Figure 78: Key operating matrix of DTR's wind business

	Unit	2010	2011	2012E	2013E	2014E
Total consolidated capacity	MW	4,028	5,259	6,259	7,259	8,259
yoy	(%)	54%	31%	19%	16%	14%
Total average capacity	MW	2,415	3,819	5,126	6,252	7,252
yoy	(%)	72%	58%	34%	22%	16%
Total capacity addition	MW	1,408	1,231	1,000	1,000	1,000
yoy	(%)	65%	-13%	-19%	0%	0%
Gross power generation	MWh	5,152	7,451	9,594	11,880	14,111
yoy	(%)	70%	45%	29%	24%	19%
Net power generation	MWh	4,834	7,233	9,314	11,533	13,699
yoy	(%)	68%	50%	29%	24%	19%
Utilization	hrs	2,134	1,951	1,872	1,900	1,946
yoy	(%)	-1%	-9%	-4%	2%	2%
Average on-grid tariff	Rmb/MWh	576	591	590	593	594
yoy	(%)	2.5%	2.7%	-0.2%	0.4%	0.3%
Unit operating profit	Rmb/MWh	292	326	333	304	301
yoy	(%)	3%	12%	2%	-9%	-1%
Adjusted unit operating profit	Rmb/MWh	235	264	261	268	272
yoy	(%)	3.5%	12.6%	-1.1%	2.5%	1.4%
Carbon price	Euro/per ton	12	10	10	5	5
yoy	(%)	-4.2%	-13.0%	0.0%	-50.0%	0.0%

Source: Deutsche Bank estimates, Company data, Note: Adjusted unit operating profit excludes other net income

As shown in Figure 78, we expect the unit operating profit to decline in 2013E due to lower CDM income arising from a significantly lower carbon price and no new CDM projects. Unit adjusted operating profit, which excludes CDM income, is expected to increase on improved utilisation rates.



# Financial outlook

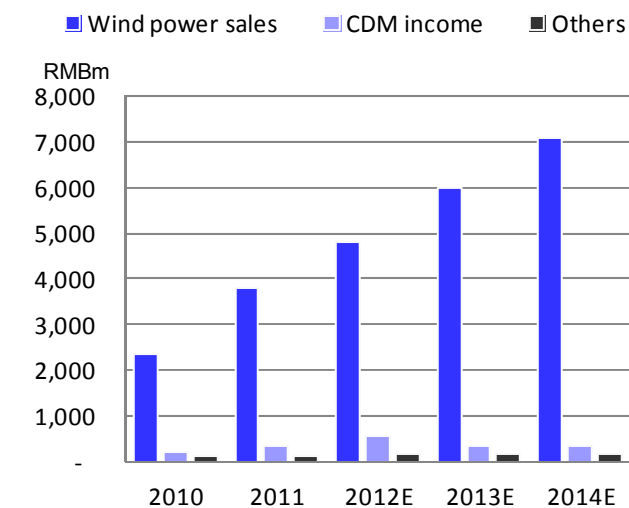
## Revenue, earnings and margin outlook

### Revenue to generate a 21% CAGR in 2012-14E

Based on our model inputs of stable tariffs and flat utilization rates in 2012, before improvements in 2013E and 2014E, in addition to capacity growth, we expect revenue, excluding concession revenue, to register 21% CAGR for 2012-14E. On our estimates, revenue from wind power sales will grow at 27%, 24% and 19% per year over 2012-14E. For its other businesses, including CDM income, we expect revenue to decline by 31% in 2013E, mainly due to the decline in the carbon price.

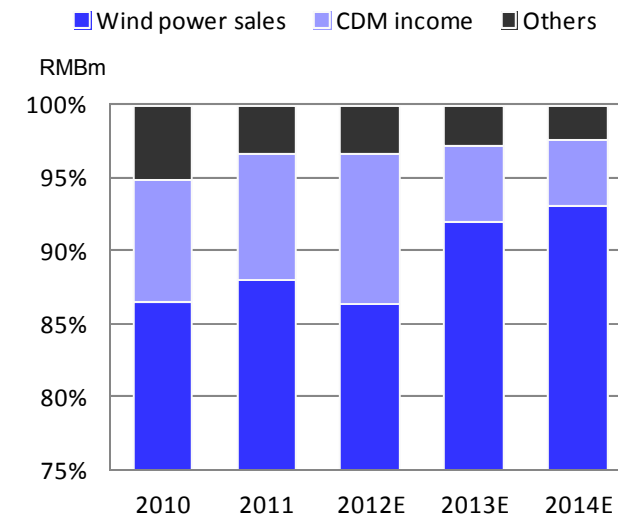
Figure 46 and Figure 47 illustrate the revenue growth and revenue mix for the different business segments from 2010-14E.

Figure 79: Revenue growth and forecast



Source: Deutsche Bank estimates, Company data

Figure 80: Revenue mix forecast



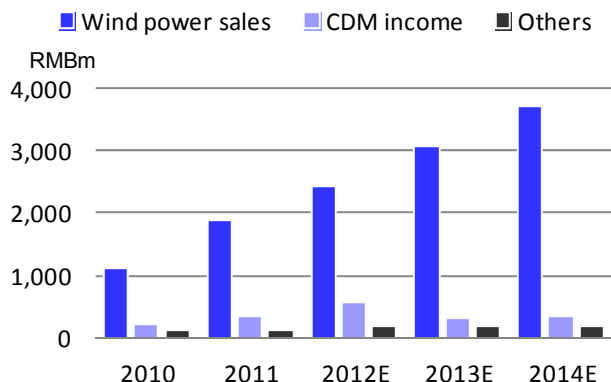
Source: Deutsche Bank estimates, Company data

### Operating profit to register a 15% CAGR (2012-14E)

In our model, we forecast EBIT (operating profit) to register 15% CAGR in the next three years. The increase in operating profit is attributable largely to 1) a 1GW wind capacity addition per year from 2012-14E and 2) an improved grid network in 2013E and 2014E, offset by a decline in CDM income.

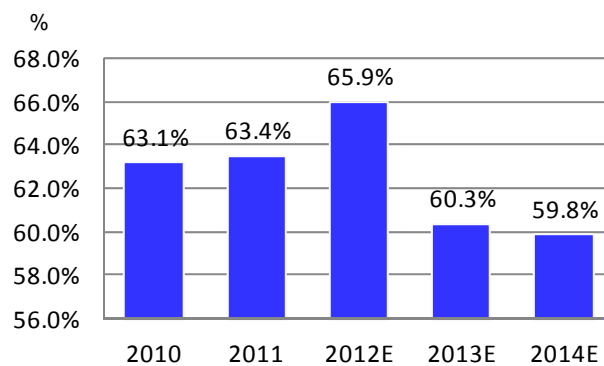


Figure 81: EBIT (2010-2014E)



Source: Deutsche Bank estimates, Company data

Figure 82: EBIT margin (2010-2014E)



Source: Deutsche Bank estimates, Company data

### EBIT margins to decline in 2013E

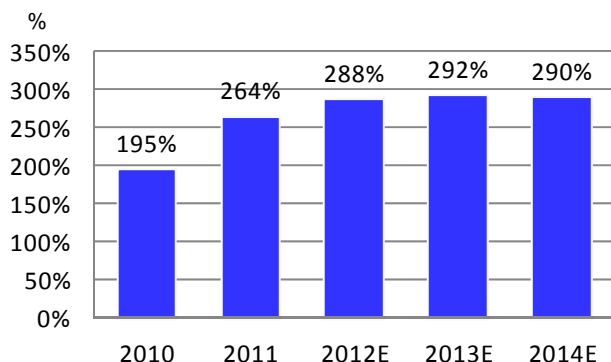
EBIT margins improved significantly in 2012 largely due to an increase in the number of CDM projects registered, resulting in much higher CDM income. For 2013E, EBIT margins will decline due to much lower CDM income arising from significantly lower carbon price, and no new CDM projects will be registered.

### Gearing ratio to peak at 290%; FCF to turn positive in 2015E

Based on our 1GW capacity growth assumption from 2012-2020E, we expect DTR's gearing ratio to increase between 2011 and 2013E and peak in 2014E at 292%. Although DTR is highly geared, we believe placement risk is quite low given that: 1) after witnessing the market's disapproval of Longyuan's placement plans, DTR is more likely to seek other forms of financing such as bank loans or corporate bonds, and 2) trading at 0.7x 2012E P/B, DTR would be unable to place new shares even if it wanted to. Management said it has no intention of placing new H shares before mid-2013E, and added that it will be looking at the A share market for equity raising. DTR has two years of renewable tariff premiums that have yet to be collected from the gridco, and management guided that these will be paid in July this year, which should alleviate its liquidity constraint. We have incorporated this in our model and reduce the account receivable days.

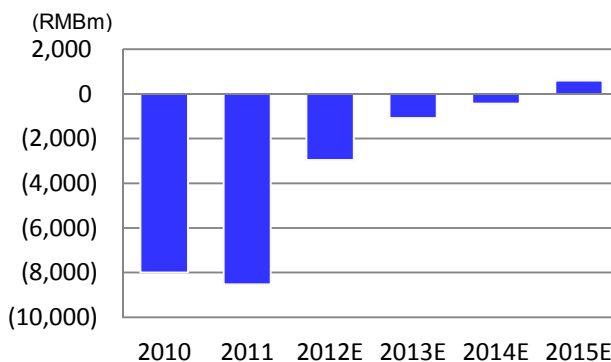


Figure 83: Net debt/equity forecast



Source: Deutsche Bank estimates, Company data

Figure 84: FCF forecast

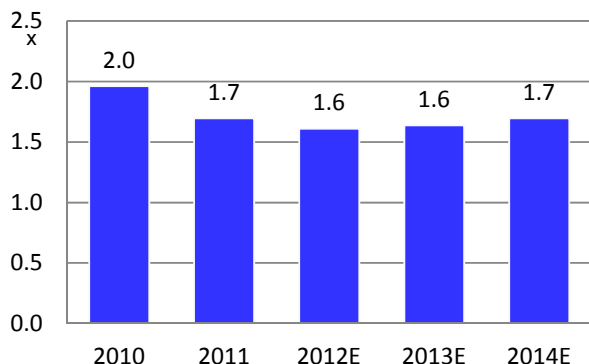


Source: Deutsche Bank estimates, Company data

### FCF to turn positive in 2015E

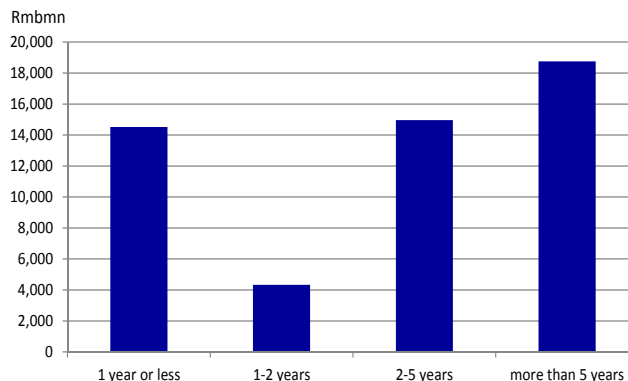
DTR is still at an early stage of development, and has considerable capital requirements in order to grow its wind business. Based on its c.Rmb8bn capex plans, we expect the company's FCF to turn positive in 2015E. Nonetheless, if grid constraint continues and the company reduces its capacity addition target to 500MW, we estimate it should turn FCF positive this year.

Figure 85: EBIT/Interest expense



Source: Deutsche Bank, Company data

Figure 86: Loan repayment schedule



Source: Company data

### Liquidity not a major issue despite relatively low coverage ratio

Although DTR has relatively low coverage ratio (Figure 85), this is not a major issue given it a state-owned enterprise and has the backing of China Datang Group, one of the largest power producers in China. For example, Datang Finance, a subsidiary of China Datang Group, entered into a financial services agreement with the company in August 2011, whereby it will grant credit facilities of Rmb4bn annually for 2011-2013. In addition, the interest rate for loans granted to the Group by Datang Finance shall be 10% below the benchmark PBoC interest rates.

Based on the loan repayment schedule, we think DTR is unlikely to face significant liquidity concerns given: 1) DTR had total undrawn banking facilities of RMB82.7bn as at 31 December 2011, 2) DTR has RMB2.7bn in trade receivables that will be readily converted to cash (this refers mainly to the tariff premium receivables that are expected to be collected in July 2012E) and 3) DTR has RMB382m equity listed securities that can readily be converted to cash if required.

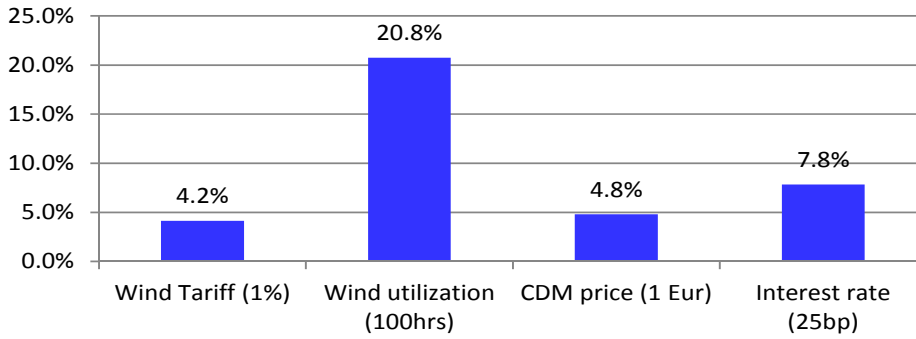




## Earnings sensitivity

Figure 87 illustrates the sensitivity of the company's earnings to its key drivers, namely wind tariffs, utilization rates, the carbon price and changes in interest rates.

Figure 87: FY13E EPS sensitivity



Source: Deutsche Bank estimates



## Summary of financials

Figure 88: DTR income statement

Summary Financials					
	2010	2011	2012E	2013E	2014E
<b>Income statement (RMBm)</b>					
<b>Operating Revenue, Net</b>	<b>2,380</b>	<b>3,829</b>	<b>4,847</b>	<b>5,990</b>	<b>7,107</b>
Sales of Electricity	2,378	3,656	4,698	5,842	6,959
Service concession construction revenue	-	24	-	-	-
Others	1	148	148	148	148
<b>Other net income</b>	<b>369</b>	<b>518</b>	<b>763</b>	<b>524</b>	<b>532</b>
CDM income	229	371	578	339	347
Government grants	156	185	185	185	185
Others	1	9	-	-	-
FX gain/loss in relation to receivables from CDM	-18	-47	0	0	0
<b>Operating Expenses</b>	<b>-1,246</b>	<b>-1,918</b>	<b>-2,414</b>	<b>-2,902</b>	<b>-3,387</b>
Depreciation & Amortization	-886	-1,361	-1,727	-2,052	-2,377
Service concession construction costs	0	-24	0	0	0
Labor costs	-95	-188	-242	-299	-356
Repairs and Maintenance	-66	-69	-89	-111	-132
Material costs	-25	-30	-39	-48	-57
Others operating expenses	-173	-246	-316	-392	-466
<b>Operating profit</b>	<b>1,503</b>	<b>2,429</b>	<b>3,196</b>	<b>3,612</b>	<b>4,253</b>
<i>Operating profit margin</i>	63%	63%	66%	60%	60%
Net Financial Expenses	-752	-1,317	-1,987	-2,205	-2,506
FX gain/loss	-14	-114	0	0	0
Share of Profit of Associates/JCEs	-2	8	-	-	-
<b>Profit Before Tax</b>	<b>735</b>	<b>1,005</b>	<b>1,209</b>	<b>1,407</b>	<b>1,747</b>
Income Tax Expense	-57	-35	-60	-70	-140
<i>Effective Tax Rate</i>	7.8%	3.5%	5.0%	5.0%	8.0%
<b>Profit Before Minority Interest</b>	<b>677</b>	<b>970</b>	<b>1,148</b>	<b>1,337</b>	<b>1,607</b>
Minority Interest	-222	-240	-240	-240	-240
<b>Net Profit Attributable to Shareholders</b>	<b>456</b>	<b>730</b>	<b>908</b>	<b>1,096</b>	<b>1,367</b>
<i>yoy</i>	84%	60%	24%	21%	25%
<b>Net Profit (Recurring)</b>	<b>480</b>	<b>850</b>	<b>908</b>	<b>1,096</b>	<b>1,367</b>
<i>Net profit margin</i>	20%	22%	19%	18%	19%
<i>yoy</i>	98%	77%	7%	21%	25%
<b>Per share (RMB)</b>					
Adjusted Weighted Ave. # of Shares	5,082	7,220	7,274	7,274	7,274
Basic EPS	0.09	0.10	0.12	0.15	0.19
<i>yoy</i>	81%	13%	23%	21%	25%
DPS	0.00	0.04	0.04	0.05	0.06
<i>yoy</i>	0%	0%	6%	21%	25%
<i>Dividend payout ratio</i>	0%	33%	33%	33%	33%

Source: Deutsche Bank estimates, Company data



Figure 89: DTR balance sheet

<b>Balance Sheet (RMBm)</b>	<b>2010</b>	<b>2011</b>	<b>2012E</b>	<b>2013E</b>	<b>2014E</b>
<b>Non-Current Assets</b>	<b>31,776</b>	<b>42,575</b>	<b>47,514</b>	<b>52,128</b>	<b>56,417</b>
Property, Plant and Equipment, Net	31,000	41,111	46,050	50,665	54,954
Land use rights	243	301	301	301	301
Intangible assets	403	422	422	422	422
Investments in associates/JCEs	21	83	83	83	83
Available for sale financial assets	51	433	433	433	433
Deferred tax assets	9	8	8	8	8
Others	50	216	216	216	216
<b>Current Assets</b>	<b>9,166</b>	<b>11,708</b>	<b>10,242</b>	<b>11,650</b>	<b>13,092</b>
Inventories	10	12	12	12	12
Trade and bills receivable	1,495	2,694	1,939	2,097	2,488
Prepayments and other receivables	2,617	4,796	4,875	4,728	4,591
Current income tax prepayments	12	15	15	15	15
Restricted deposits	0	29	29	29	29
Cash at bank and on hand	5,031	4,162	3,372	4,769	5,958
<b>Total Assets</b>	<b>40,942</b>	<b>54,283</b>	<b>57,756</b>	<b>63,778</b>	<b>69,510</b>
<b>Current Liabilities</b>	<b>8,388</b>	<b>12,830</b>	<b>11,010</b>	<b>11,010</b>	<b>11,010</b>
Borrowings	3,619	5,667	5,667	5,667	5,667
Trade Creditors and bills payable	85	504	375	375	375
Current income tax liability	51	22	22	22	22
Other payables	4,633	6,637	4,945	4,945	4,945
<b>Non-Current Liabilities</b>	<b>22,023</b>	<b>29,717</b>	<b>34,146</b>	<b>39,132</b>	<b>43,619</b>
Borrowings	21,957	29,514	33,943	38,929	43,416
Deferred income tax liability	66	203	203	203	203
<b>Total Equity</b>	<b>10,530</b>	<b>11,736</b>	<b>12,600</b>	<b>13,636</b>	<b>14,881</b>
Total Shareholders Equity	8,333	9,089	9,713	10,509	11,512
Minority interest	2,198	2,647	2,887	3,128	3,368
<b>Total Liabilities &amp; Equity</b>	<b>40,942</b>	<b>54,283</b>	<b>57,756</b>	<b>63,778</b>	<b>69,510</b>
<b>Balance sheet ratios</b>					
BVPS (RMB)	2.07	1.63	1.73	1.87	2.05
Total debt (RMBm)	25,576	35,181	39,610	44,596	49,084
Net debt (RMBm)	20,545	31,019	36,238	39,827	43,126
Net debt / equity	195%	264%	288%	292%	290%
Net debt / capital	66%	73%	74%	74%	74%

Source: Deutsche Bank estimates, Company data



Figure 90: DTR cash flow statement

Cash Flow (RMBm)	2010	2011	2012E	2013E	2014E
<b>Profit Before Tax</b>	<b>735</b>	<b>1,005</b>	<b>1,209</b>	<b>1,407</b>	<b>1,747</b>
Depreciation & Amortization	886	1,361	1,727	2,052	2,377
Gain / Loss on Disposals	0	0	0	0	0
Net Interest expenses on financial assets	752	1,317	1,987	2,205	2,506
FX exchange difference	14	114	0	0	0
Interest income from entrusted loan	-1	0	0	0	0
Share of Profit/Loss of JCs/Associates	2	-8	0	0	0
Others	0	-2	0	0	0
Government Grants	0	0	0	0	0
Change in Working Cap	-512	-1,246	-12	1,123	880
Less Tax Paid	-52	-67	-60	-70	-140
Including interest received	20	10	0	0	0
<b>Operating cashflow</b>	<b>1,844</b>	<b>2,485</b>	<b>4,851</b>	<b>6,717</b>	<b>7,370</b>
Capex	-9,855	-10,469	-7,800	-7,800	-7,800
Acquisitions of subsidiaries, associates & investments	14	-536	0	0	0
<b>Free cashflow</b>	<b>-7,997</b>	<b>-8,520</b>	<b>-2,949</b>	<b>-1,083</b>	<b>-430</b>
Others	-182	-1,221	1,054	1,281	1,271
<b>Investing cashflow</b>	<b>-9,815</b>	<b>-11,667</b>	<b>-7,800</b>	<b>-7,800</b>	<b>-7,800</b>
Net proceeds from issuance	4,175	240	0	0	0
Capital contributions from the equity owners	17	40	0	0	0
Capital contributions from minority interest	318	397	0	0	0
Net borrowings	9,721	9,599	4,429	4,986	4,487
Dividends paid	-10	-100	-284	-301	-363
Interest paid	-1,078	-1,666	-1,987	-2,205	-2,506
Others	-645	-60	0	0	0
<b>Net financing cashflow</b>	<b>12,498</b>	<b>8,449</b>	<b>2,158</b>	<b>2,480</b>	<b>1,619</b>
<b>Net Cashflow (outflow)</b>	<b>4,527</b>	<b>-733</b>	<b>-790</b>	<b>1,397</b>	<b>1,189</b>
Beginning cash balance	531	5,032	4,163	3,372	4,769
Effect of FX rate	-26	-136	0	0	0
Ending cash balance	5,032	4,163	3,372	4,769	5,958

Source: Deutsche Bank estimates, Company data



Figure 91: DTR key financial ratios

Key Company Metrics	2010	2011	2012E	2013E	2014E
<b>Growth</b>					
Sales growth (%)	66.6%	60.9%	26.6%	23.6%	18.7%
Net earnings growth (%)	83.5%	60.1%	24.4%	20.7%	24.7%
DB EPS growth (%)	80.5%	12.7%	23.5%	20.7%	24.7%
<b>Margin</b>					
EBITDA Margin (%)	100.4%	99.0%	101.6%	94.6%	93.3%
EBIT Margin (%)	63.1%	63.4%	65.9%	60.3%	59.8%
Net Margin (%)	19.2%	19.1%	18.7%	18.3%	19.2%
<b>Return</b>					
Return on Shareholder Equity	7.5%	8.4%	9.7%	10.8%	12.4%
ROA	1.4%	1.5%	1.6%	1.8%	2.1%
ROIC	1.8%	2.0%	2.0%	2.1%	2.5%
<b>Capitlization</b>					
Payout ratio (%)	0.0%	33.1%	33.1%	33.1%	33.1%
Capex/sales (%)	354%	234%	138%	111%	94%
Capex/depreciation (x)	9.5	6.6	3.9	3.2	2.8
Net interest cover (x)	2.0	1.7	1.6	1.6	1.7
EBITDA / Interest	3.1	2.6	2.5	2.6	2.6
EBITDA/ (Interest + Debt Payment)	3.0	2.6	0.8	0.8	0.8
EBITDA / Cash Interest	2.1	2.0	2.1	2.3	2.4
Net Gearing %	195%	264%	288%	292%	290%
Net Debt to Total Capital %	66%	73%	74%	74%	74%
Net debt/ assets	50%	57%	63%	62%	62%
Total Debt	25,576	35,181	39,610	44,596	49,084
Net Debt	20,545	31,019	36,238	39,827	43,126
Total Capital	31,075	42,755	48,839	53,464	58,007

Source: Deutsche Bank estimates, Company data



# Risks

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## Grid connection

In the short term, grid curtailment is likely to remain a bottleneck to the development of the wind market, as most areas with rich wind resources are located in the northern parts of China, which have a weak grid infrastructure. According to the National Energy Bureau, more than 10bn kWh of wind power has been wasted in 2011 due to weak grid networks. Grid curtailment is particularly problematic in Gansu, North-eastern Provinces and Inner Mongolia province where wind makes up most of the total installed capacity. A lower-than-expected utilisation arising from worse-than-expected grid curtailment would result in lower-than-expected earnings.

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## Rising competition in project sourcing

The government's focus on the wind power sector and favourable government policies have led to an increase in entrants to the sector, as well as increased capacity targets from the existing players. At the same time, the supply of new wind projects has been reduced significantly on worsening grid constraints in the high wind resource regions. Thus, competition for new projects has become increasingly intense.

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## Share placement risk

DTR is likely to experience negative FCF in the next few years given its considerable capital expenditure requirement to grow its business. As a result, DTR may raise new equity to fund its expansion plans and lower its gearing level.

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## Uncertainty over CER income

CDM income is quite significant for DTR, and it accounted for 37% of FY11 profit before tax. A 1 EUR/t increase in carbon prices would translate into a FY13E earnings increase of 4.8%. Wind developers are still negotiating post-2012E contracts and a higher-/lower-than-expected carbon price would result in higher-/lower-than-expected earnings.

---

## Sensitivity to WACC and terminal growth assumptions

Our DCF valuation is highly sensitive to our assumed WACC and terminal growth, which is subjective. Nonetheless, we have assumed a relatively more conservative WACC by using a higher beta given current market conditions and low terminal growth rates despite China's vast wind resources.

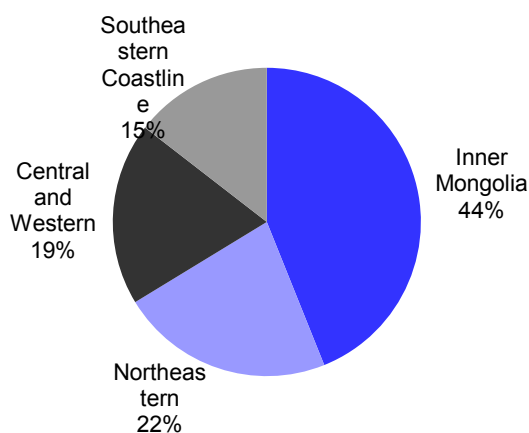


# Company background

## A wind developer with a significant growth opportunity

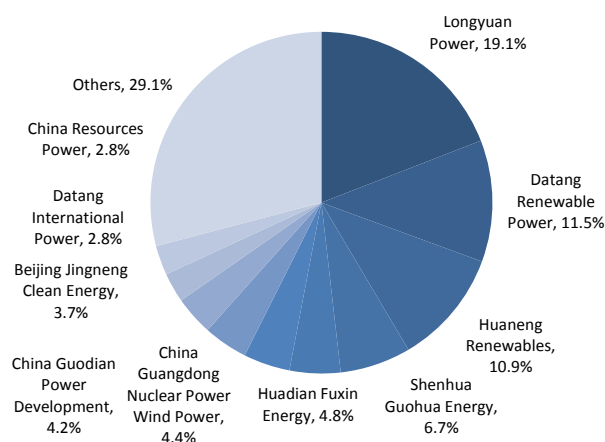
DTR is the listed wind power arm of China Datang Group (CDT), which is one of the largest power producers in China. The company is the second-largest wind operator in China (Figure 93). The company's wind farms are located mainly in Inner Mongolia and the Northeast Provinces, accounting for 66% of total capacity in 2011. By end-2011, the company's consolidated installed capacity reached 5,259MW (Figure 92).

Figure 92: 2011 capacity breakdown by region



Source: Company data

Figure 93: 2011 domestic wind developers' market share



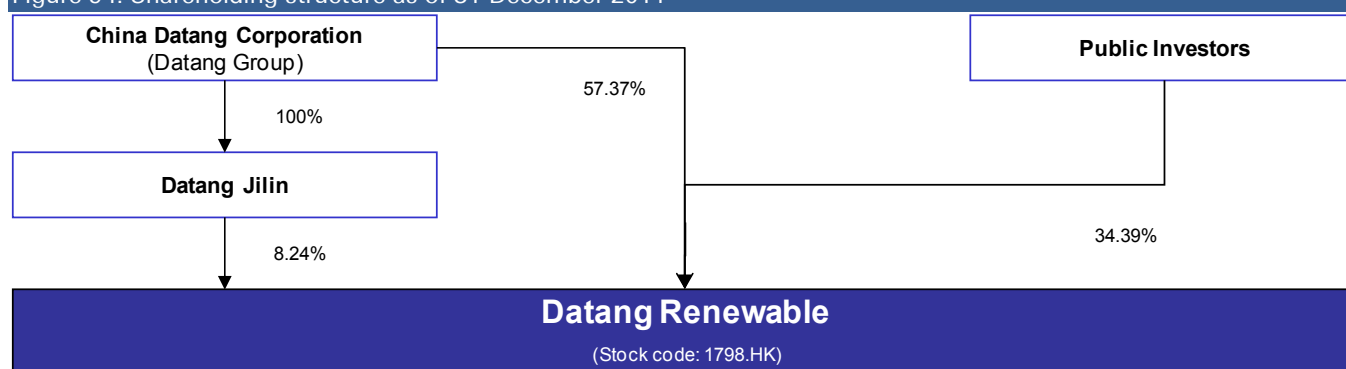
Source: Huadian Fuxin IPO prospectus

## China Datang Group – parent company

China Datang Group (CDT), a state owned enterprise (SOE) and one of the largest power producers in China, is the largest shareholder of the company, and has a 65.61% stake. It is engaged mainly in power generation and coal production. By end-2011, the group had total installed capacity of 111GW.



Figure 94: Shareholding structure as of 31 December 2011



Source: Deutsche Bank, Company data

## Management profile

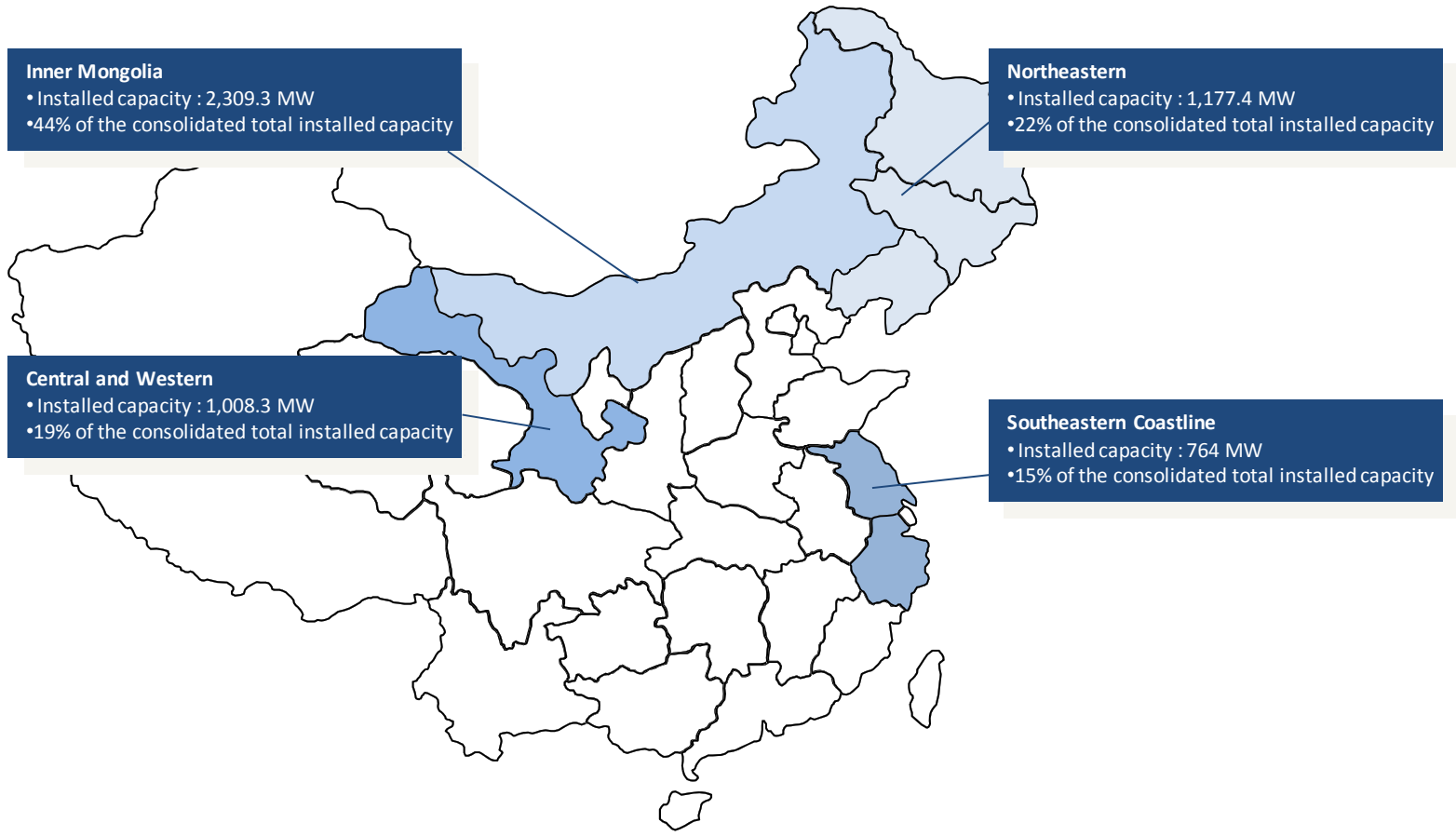
Figure 95: Details of senior management profile

Name	Age	Title	Education and credentials
Chen Jinhang	57	Chairman	Master's degree in Electronic Engineering and is a professor-grade senior engineer Vice President of State Grid Corporation from 2002 to 2010 President of Shanxi Electric Power, Chairman of Shanxi Zhangze Electric Power from 2001 to 2002 President of Shandong Electric Power from 2000 to 2001
Wu Jing	55	Vice Chairman	Master's degree in Electronics and Information Engineering and is a professor-grade senior engineer Chief Economist of China Datang Corporation since 2006 Vice President of Shaanxi Electric Power from 2000 to 2003 Vice President of Xinjiang Electric Power from 1998 to 2000
Hu Yongsheng	49	Executive Director	Master's degree in management engineering and is a senior economist President of Datang Renewable Deputy Chief of Electric Power Bureau of Tongliao, Inner Mongolia from 2003 to 2004 Deputy Chairman of Trade Union of Yuanbaoshan Power Plant from 2002 to 2003 Vice President and president of Dongyuan Electric Power Development from 2000 to 2002

Source: Company data



Figure 96: Operational locations for Datang Renewables (capacity as of 2011)



Source: Deutsche Bank, Company data





Rating

Buy

Asia  
 China

Energy

Alternative Energy

Company

Longyuan Power

Reuters

0916.HK

Bloomberg

916 HK

Price at 3 Jul 2012 (HKD)	5.07
Price target - 12mth (HKD)	8.30
52-week range (HKD)	7.67 - 4.49
HANG SENG INDEX	19,736

## Strong capacity growth backed by quality pipeline

### Predicting tailwinds with sector fundamentals well positioned for improvement

Longyuan has fallen 32% in the past 12 months, driven by worsening grid congestion, falling carbon prices and heightened placement risk. We believe industry dynamics are well placed to improve and reiterate Buy as: 1) valuation is at historical lows, 2) grid curtailment is likely to improve gradually, and 3) a visible quality capacity pipeline. Our target price implies 64% upside. This note marks the transfer of coverage from Michael Tong to Kai Ting Wong.

### Highly visible quality capacity pipeline

Longyuan targets to add 4.6GW of wind projects in the next three years, which we think is feasible given the company won 5.8GW of wind projects in the last two rounds of the national wind project tender, the highest allocation among wind operators in China. In addition, 60% of these projects are located in regions with strong grid networks, enabling Longyuan to avoid project development in high grid curtailment provinces.

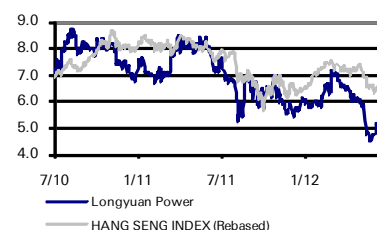
### Long-term fundamentals well placed for improvement

With a national grid code in place and the potential implementation of the Renewable Portfolio Standard (RPS), grid connection should improve steadily in the near term. The commencement of UHV lines and pump storage facilities in 2014/15 should largely resolve grid curtailment problems. Potential credit easing and higher carbon price could present upside to our forecasts. Please refer to our industry report *"Fly with the wind"*, dated 4th July, which provides greater detail on the outlook for improving industry fundamentals.

### Target price of HK\$8.3 based on DCF (see page 12 for detail)

We fine-tune assumptions on utilization and interest rates, and consequently tweak our earnings marginally. Our DCF-derived TP (through 2020E) is based on a TGR of 2% and WACC of 8.9%. Risks: lower-than-expected power dispatch and capacity growth, uncertainty over CDM income and new share placement plan.

### Price/price relative



Performance (%)	1m	3m	12m
Absolute	6.5	-21.5	-32.7
HANG SENG INDEX	6.3	-5.1	-11.9

### Forecasts And Ratios

Year End Dec 31	2011A	2012E	2013E	2014E
Sales (CNYm)	16,159.4	18,087.0	20,133.7	22,086.2
EBITDA (CNYm)	7,881.8	10,369.6	11,720.5	13,487.0
Reported NPAT (CNYm)	2,638.0	3,065.8	3,639.7	4,439.9
Reported EPS FD(CNY)	0.35	0.41	0.49	0.59
DB EPS FD(CNY)	0.35	0.41	0.49	0.59
DB EPS growth (%)	34.6	17.9	18.7	22.0
PER (x)	16.5	10.1	8.5	7.0
EV/EBITDA (x)	10.9	8.0	7.5	6.9
DPS (net) (CNY)	0.07	0.08	0.10	0.12
Yield (net) (%)	1.2	1.9	2.3	2.8

Source: Deutsche Bank estimates, company data

<sup>1</sup> DB EPS is fully diluted and excludes non-recurring items



Model updated: 01 July 2012

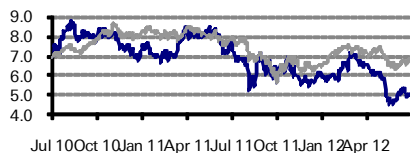
### Running the numbers

Asia	
China	
Alternative Energy	
<b>Longyuan Power</b>	
Reuters: 0916.HK	Bloomberg: 916 HK
<b>Buy</b>	
Price (3 Jul 12)	HKD 5.07
Target Price	HKD 8.30
52 Week range	HKD 4.49 - 7.67
Market Cap (m)	HKDm 37,842
	USDm 4,878

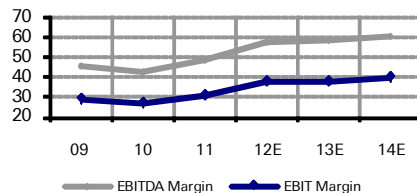
### Company Profile

China Longyuan Power is the listed wind power arm of China Guodian Group, which is one of the largest power producers in China. The company is the largest wind farm operator in China and Asia. Its wind farms are located mainly in six geographically diverse areas: the Three Northeast Provinces, Inner Mongolia, the Southeast Coastal Provinces, Xinjiang, Gansu and Hebei. Besides wind, the company also has 1,875MW of coal fired plants.

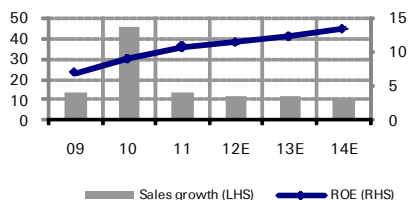
### Price Performance



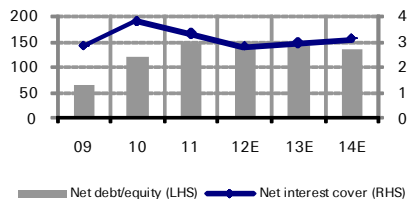
### Margin Trends



### Growth & Profitability



### Solvency



Fiscal year end 31-Dec

### Financial Summary

	2009	2010	2011	2012E	2013E	2014E
DB EPS (CNY)	0.17	0.26	0.35	0.41	0.49	0.59
Reported EPS (CNY)	0.17	0.27	0.35	0.41	0.49	0.59
DPS (CNY)	0.00	0.05	0.07	0.08	0.10	0.12
BVPS (CNY)	4.3	3.1	3.4	3.8	4.2	4.7
Weighted average shares (m)	5,138	7,464	7,464	7,464	7,464	7,464
Average market cap (CNYm)	43,539	54,114	42,923	30,970	30,970	30,970
Enterprise value (CNYm)	66,057	83,080	85,758	82,632	88,147	92,771

### Valuation Metrics

P/E (DB) (x)	48.7	28.0	16.5	10.1	8.5	7.0
P/E (Reported) (x)	48.7	26.7	16.3	10.1	8.5	7.0
P/BV (x)	2.08	1.99	1.48	1.10	1.00	0.89
FCF Yield (%)	nm	nm	nm	nm	nm	nm
Dividend Yield (%)	0.0	0.7	1.2	1.9	2.3	2.8
EV/Sales (x)	6.8	5.8	5.3	4.6	4.4	4.2
EV/EBITDA (x)	14.8	13.6	10.9	8.0	7.5	6.9
EV/EBIT (x)	23.1	21.3	17.0	12.2	11.5	10.5

### Income Statement (CNYm)

Sales revenue	9,744	14,213	16,159	18,087	20,134	22,086
Gross profit	3,875	5,331	6,610	8,835	10,659	12,410
EBITDA	4,449	6,130	7,882	10,370	11,721	13,487
Depreciation	1,590	2,236	2,845	3,599	4,079	4,621
Amortisation	0	0	0	0	0	0
EBIT	2,858	3,894	5,036	6,771	7,642	8,866
Net interest income/(expense)	-1,020	-1,029	-1,536	-2,429	-2,616	-2,861
Associates/affiliates	105	228	60	160	160	160
Exceptionals/extraordinaries	0	130	49	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	1,944	3,223	3,609	4,502	5,185	6,165
Income tax expense	296	441	305	515	583	754
Minorities	753	751	667	920	963	972
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	894	2,030	2,638	3,066	3,640	4,440
DB adjustments (including dilution)	0	-98	-37	0	0	0
DB Net profit	894	1,933	2,601	3,066	3,640	4,440

### Cash Flow (CNYm)

Cash flow from operations	6,459	4,021	5,624	10,490	10,986	12,588
Net Capex	-16,277	-17,770	-13,045	-13,800	-13,800	-13,800
Free cash flow	-9,818	-13,749	-7,421	-3,310	-2,814	-1,212
Equity raised/(bought back)	17,022	0	0	0	0	0
Dividends paid	0	-632	-404	-515	-599	-711
Net inc/(dec) in borrowings	10,952	3,677	10,506	6,127	5,514	4,516
Other investing/financing cash flows	-278	-1,661	-3,454	-1,039	-826	-1,144
Net cash flow	17,879	-12,366	-774	1,262	1,276	1,449
Change in working capital	-83	-1,813	-1,633	252	-536	-529

### Balance Sheet (CNYm)

Cash and other liquid assets	16,503	4,089	3,645	4,907	6,183	7,632
Tangible fixed assets	38,045	51,518	62,497	70,693	78,409	85,583
Goodwill/intangible assets	6,086	7,673	8,162	8,162	8,162	8,162
Associates/investments	799	1,315	1,554	1,714	1,874	2,034
Other assets	6,520	10,039	14,248	14,671	15,174	15,721
Total assets	67,954	74,633	90,107	100,147	109,803	119,134
Interest bearing debt	33,306	37,175	47,677	53,804	59,319	63,835
Other liabilities	8,967	10,045	12,564	13,007	13,144	13,257
Total liabilities	42,274	47,220	60,241	66,811	72,462	77,092
Shareholders' equity	21,900	23,275	25,490	28,041	31,082	34,811
Minorities	3,780	4,139	4,375	5,296	6,259	7,230
Total shareholders' equity	25,680	27,414	29,866	33,337	37,341	42,042
Net debt	16,803	33,086	44,032	48,897	53,136	56,202

### Key Company Metrics

Sales growth (%)	13.9	45.9	13.7	11.9	11.3	9.7
DB EPS growth (%)	157.7	48.8	34.6	17.9	18.7	22.0
EBITDA Margin (%)	45.7	43.1	48.8	57.3	58.2	61.1
EBIT Margin (%)	29.3	27.4	31.2	37.4	38.0	40.1
Payout ratio (%)	0.0	19.9	19.5	19.5	19.5	19.5
ROE (%)	6.9	9.0	10.8	11.5	12.3	13.5
Capex/sales (%)	167.7	125.6	80.7	76.3	68.5	62.5
Capex/depreciation (x)	10.3	8.0	4.6	3.8	3.4	3.0
Net debt/equity (%)	65.4	120.7	147.4	146.7	142.3	133.7
Net interest cover (x)	2.8	3.8	3.3	2.8	2.9	3.1

Source: Company data, Deutsche Bank estimates

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# Positive business outlook

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## Visible quality capacity growth ahead

### Conservative 1.6GW capacity addition target in 2012

In view of the grid congestion issue, Longyuan has reduced its new wind capacity addition from 2GW in 2011 to 1.6GW in 2012. For 2013E and 2014E, due to the improving grid network in the northeast region (Liaoning, Heilongjiang and Jilin), Gansu and Inner Mongolia, management said it will develop 2GW of wind projects annually, and is highly confident it can achieve its target given it was awarded 5.8GW of wind projects, of which 60% are located in the strong grid network regions.

Longyuan's capex plan for 2012 is c.RMB15bn, with RMB13bn allocated to wind projects (onshore and offshore), RMB1bn to solar projects and the remaining RMB1bn to overseas projects. Management also said solar development will be on a selective basis, and the capex planned will not exceed 15% of total capex in the next two years. In our model, we have not factored in the company's solar capacity expansion plan given its investment is relatively small at the current stage.

### New capacity to be constructed mainly in strong grid network regions

Of the 43 projects that are scheduled for commercial operation this year, only eight projects are located in the grid-congested regions (Liaoning, Jilin, Gansu and Inner Mongolia), with the rest evenly distributed in Yunnan, Hebei, Anhui, Jiangsu and some other coastal cities.

### Potential upside from overseas and offshore wind projects

Longyuan expects a breakthrough in overseas projects this year and plans to start construction on its 100MW wind farm in Ontario, Canada, by the end of the year. It has also submitted bids for 150MW of wind projects in South Africa. Management expects to generate an equity IRR of more than 15%. Longyuan also plans to accelerate the development of inter-tidal given that its Rudong inter-tidal wind project has been quite successful and, based on 2011 utilization rates, is likely to yield an equity IRR of >12%. For offshore wind projects, Longyuan said the progress has been slower than expected due to various approvals; however, it expects to commission its first offshore project in 2013.

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## Wind utilization to gradually improve

Management expects 2012 utilization rates to be similar to 2011 at c. 2,000 hours. Although wind utilization rates for the first 5 months declined yoy by c.12%, due to both grid curtailment and low wind speed, management expects that as long as wind speed normalizes in 2H12, it will be able to achieve its 2,000-hour utilization rate. Note in 2011, utilization rates were below expectations mainly due to much lower wind utilization in 4Q11, which is traditionally the peak power output season.

In 2011, Longyuan had 12% of wind output curtailed due to grid congestion. Although we believe the grid congestion issue will take two to three years to be fully resolved, there could be potential upside from the implementation of favourable government regulations.



- **Gencos to provide wind power forecasts to gridcos:** On 28 February 2012, the National Energy Administration (NEA) issued a new document stating that grid operators should maximize wind power dispatch by taking into consideration wind operators' power generation forecasting reports. Previously, grid operators were reluctant to dispatch wind power given its intermittent power generation nature and lack of forecasting ability, which makes it difficult for the grid network to operate. Thus, in July 2011, the NEA mandated that all wind farms should be equipped with wind forecasting ability. The new document is a follow-up to the previous mandate to ensure that grid operators fully utilize the wind forecasting reports, and in doing so maximize the wind power dispatch.
- **RPS may reduce Longyuan's grid congestion by 50%:** According to the NDRC, China will implement Renewable Portfolio Standards (RPS) in 2012, in which it will set a renewable energy quota for each province's total power consumption and total power purchased by grid companies from generation companies. The objective of the RPS is to help achieve China's renewable energy target of 11.4% by 2015 and 15% by 2020. Based on the RPS, renewable power will account for at least 6%, 3%, 15% of total power consumption for the State Grid, Southern Grid, and Inner Mongolia Grid, respectively, by 2015 and 10%, 6%, 20% by 2020.
- Longyuan's FY11 grid congestion rate is 11.92% and Mr. Xie, President of the company, expects grid congestion to be **reduced by at least 50%** if the RPS is fully implemented. He added that grid operators are "overly" cautious on the stability of the grid network and believes that they can absorb a lot more wind power without causing much disruption to the grid network. Mr. Xie expects the RPS to be implemented by the end of this year. **Although we think that Mr. Xie's guidance on the resulting upside could be optimistic, it would clearly be a positive step for wind power development in China, if implemented.**

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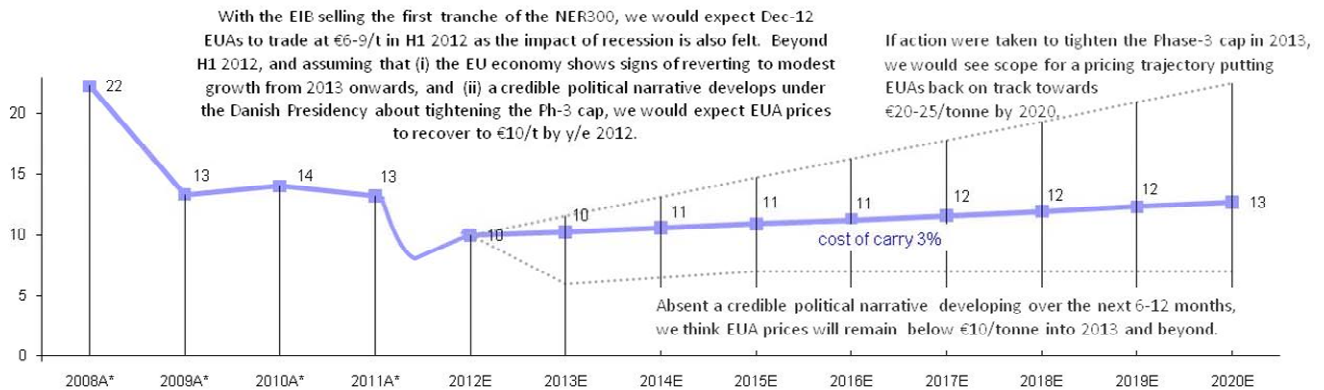
## 2013 carbon prices likely to be higher than EUR5/t

Management maintains an optimistic outlook for the CDM market, and expects 1) 2012 CDM income to exceed RMB1bn, and 2) 2013 CDM income to be at least the same as in 2012 given the likely decline in CDM prices will be offset by the increased registered CDM projects and 3) the carbon price will remain more than EUR5 per ton, citing its customer composition as mainly skewed towards final buyers such as utility and industrial corporates in Europe, rather than carbon brokers.

Deutsche Bank's carbon analyst, Isabelle Curien, believes that EUA (carbon price in Europe ETS) prices could potentially recover to EUR10/t by year end 2012 (Figure 97), assuming that 1) the EU economy shows signs of reverting to modest growth from 2013 onwards (as our Deutsche Bank macro colleagues expect), and 2) a credible political narrative about tightening the Phase-3 supply of EUAs is established and confirmed. After 2012, provided action is taken to tighten the Phase-3 cap in 2013, Isabelle thinks there is scope for a pricing trajectory putting EUAs back on track towards EUR20-25/t by 2020. Although we are positive on carbon prices, we have conservatively assumed a price of EUR5/t post 2012 given the lack of visibility. An additional EUR1/t on our expected carbon price would translate into 1.6% upside potential to our FY13 earnings forecast.



Figure 97: Deutsche Bank base-case scenario for year-end EUA prices, 2012-20E (EUR/EUA), with schematic options to the upside and the downside



Source: Deutsche Bank, Bloomberg Finance LP; \*The prices shown for 2008-11 are the actual average prices over the course of the year.

Management expects 30 new CDM projects in 2012 and total CDM projects to reach 160 by end-2012. Management expects the price for its carbon credits post 2013 to be confirmed in 4Q12.

### Wind turbine cost to stay low with improved quality

Wind turbine prices have been falling rapidly since 2H08 and Longyuan reported a 9.8% decline in wind turbine price in FY11 to RMB4,200/kW. As a result, the company's unit construction cost declined by 5% yoy to RMB7,880/kW due to the increase in cost of land, engineering construction and roads. Management does not expect a further decline in wind turbine prices but expects the quality of wind turbines to improve given the intense competition in the sector. We note that WTG manufacturers are increasing their warranty period from one to three years and increasing their service levels to win market share.

The lower wind turbine prices will also make the development of wind farms in lower wind speed areas, such as the central region, more viable. This gives wind developers more flexibility on their wind farm development plans, and will help them avoid areas with severe grid bottleneck problems.

### Wind tariff unlikely to be cut in the near term

China's current wind tariff was set in November 2009. The NDRC had set the tariff at such a level that the wind developers were able to earn a reasonable return of 8% project IRR. The key assumptions factored in were the construction cost for wind farms and utilization rates. However, since late-2009, wind turbine prices have fallen by 30%, resulting in c.15% decline in construction costs. While this may warrant a cut in the wind tariff by the NDRC, we believe this is unlikely given:

- Grid congestion has worsened:** China's wind capacity has increased significantly in the past two years (2010-11), by c.18GW per year. The greatest increase in capacity was seen in the grid-congested regions such as Inner Mongolia, Jilin and Gansu provinces. This, together with lack of inter-provincial transmission capacity, has resulted in a worsening grid-congestion situation. As a result, the profitability of the wind farms has not improved significantly despite the decline in construction cost. Our channel checks with industry experts and wind operators suggest that the ROE of an average wind farm is only 7-8%, while better wind operators may yield a return of 12-15%. Therefore, we believe a wind tariff cut would be unfair to the sector and would act as an impediment to achieving the government's 2020 capacity target.



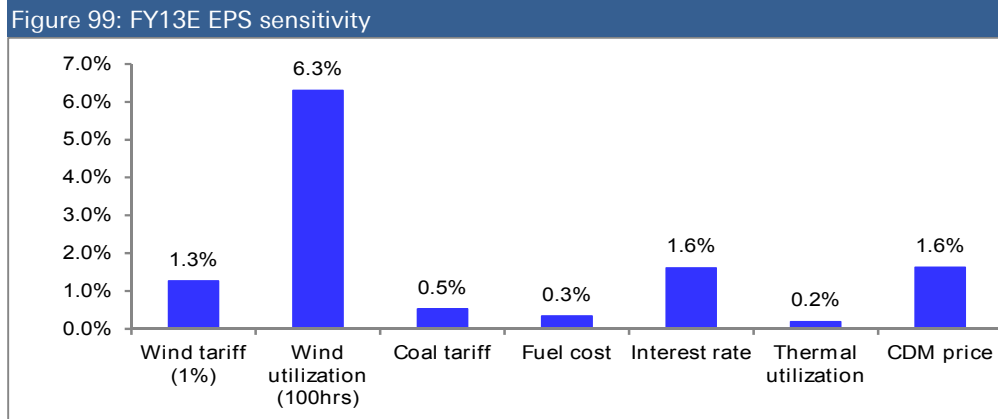
## New H-share placement plan approved by shareholders

On May 11, Longyuan announced it plans to place a maximum of 50% of the total H-shares (or 18% of its total share capital) at less than 20% discount to its share price. The proceeds will be used as follows: 50% for onshore wind, 20% for offshore wind, 15% for overseas wind, 5% for solar and 10% to replenish working capital. On June 15, the company amended the proposal by reducing the original maximum number of new H-shares from 50% to 30% (or 11% of its total share capital), citing uncertainties in the financial market and safeguard of shareholders interest. On July 3, the company announced that the H-share placement plan was approved at both the domestic shareholders class meeting and the H-shareholders class meeting. Assuming the H-share placement at maximum numbers is completed at end 2012 at HK\$4.5/sh (10% discount to close price on July 3rd), this should raise c.US\$0.5bn proceeds and result in 6-7% dilution to our FY13E EPS estimates (after factoring in interest cost savings without lifting our capacity addition assumption of 1.5GW p.a vs. 2.0GW guided by management). We have not yet factored in the share placement in our forecast.

Figure 98: Longyuan operating matrix/key assumptions

	Unit	2009	2010	2011	2012E	2013E	2014E
Total consolidated capacity	MW	6,378	8,431	10,724	12,224	13,724	15,224
Wind		4,503	6,556	8,849	10,349	11,849	13,349
Coal		1,875	1,875	1,875	1,875	1,875	1,875
Total average capacity	MW	4,606	6,452	8,683	10,888	12,388	13,888
Wind		2,731	4,577	6,808	9,013	10,513	12,013
Coal		1,875	1,875	1,875	1,875	1,875	1,875
Total capacity addition	MW	2,001	2,053	2,292	1,500	1,500	1,500
Wind		2,001	2,053	2,292	1,500	1,500	1,500
Gross power generation							
Wind	GWh	6,212	10,094	13,355	17,613	21,256	24,897
Coal	GWh	10,910	11,353	11,749	11,749	11,749	11,749
Net power generation							
Wind	GWh	5,684	9,442	12,553	16,380	19,981	23,403
Coal	GWh	10,215	10,630	10,868	10,868	10,868	10,868
Utilization hours							
Wind		2,268	2,217	1,962	1,954	2,022	2,073
Coal		5,819	6,055	6,266	6,266	6,266	6,266
Average on-grid Tariff (incl. VAT)	Rmb/MWh						
Wind		567	572	574	571	572	572
Coal		421	423	433	459	459	459
Average standard coal cost (incl.VAT)	Rmb/ton	210	241	245	233	233	233
% chg		-15.0%	14.8%	1.6%	-5.0%	0.0%	0.0%
Unit operating profit	Rmb/MWh						
Wind		339	335	343	334	314	320
Coal		96	75	72	114	119	119
Adjusted unit operating profit*	Rmb/MWh						
Wind		238	251	242	240	261	274
Carbon price	Euro/per ton	12	12	10	10	5	5
% chg		-20%	-4%	-13%	0%	-50%	0%

Source: Deutsche Bank estimates, Company data



Source: Deutsche Bank





## Summary of key financial statements

Figure 100: Longyuan P&L statement

	2008	2009	2010	2011	2012E	2013E	2014E
<b>Income statement (RMB million)</b>							
<b>Operating Revenue, Net</b>	<b>8,555</b>	<b>9,744</b>	<b>14,213</b>	<b>16,159</b>	<b>18,087</b>	<b>20,134</b>	<b>22,086</b>
<i>Wind Power</i>	1,638	2,754	4,620	6,212	8,242	10,226	12,115
<i>Coal Power</i>	4,373	5,547	7,714	8,625	9,158	9,158	9,158
<i>Other business</i>	455	563	695	740	853	933	1,012
<i>Others</i>	2,088	553	1,183	583	(167)	(183)	(199)
<b>Other net income</b>	<b>390</b>	<b>574</b>	<b>799</b>	<b>1,271</b>	<b>1,534</b>	<b>1,061</b>	<b>1,077</b>
CERs and VERs income	118	210	392	727	1,132	659	675
Other government grants (incl. VAT rebate)	208	327	362	400	370	370	370
Others	65	36	45	144	32	32	32
<b>Operating Expenses</b>	<b>(7,524)</b>	<b>(7,459)</b>	<b>(11,118)</b>	<b>(12,395)</b>	<b>(12,851)</b>	<b>(13,553)</b>	<b>(14,297)</b>
Fuel (Coal Consumption)	(3,128)	(2,290)	(2,737)	(2,877)	(2,733)	(2,733)	(2,733)
Depreciation & Amortization	(1,083)	(1,590)	(2,236)	(2,845)	(3,599)	(4,079)	(4,621)
Personnel Costs	(384)	(540)	(662)	(769)	(854)	(882)	(900)
Material costs	(295)	(150)	(278)	(328)	(328)	(367)	(397)
Repairs and Maintenance	(87)	(108)	(184)	(254)	(335)	(404)	(473)
Administrative expenses	(107)	(148)	(219)	(294)	(329)	(366)	(402)
Others operating expenses	(2,440)	(1,080)	(1,756)	(1,131)	(409)	(458)	(508)
<b>Operating profit</b>	<b>1,421</b>	<b>2,858</b>	<b>3,894</b>	<b>5,036</b>	<b>6,771</b>	<b>7,642</b>	<b>8,866</b>
<i>Wind Power</i>	1,076	1,924	3,164	4,309	5,463	6,269	7,480
<i>Coal Power</i>	330	985	794	783	1,236	1,298	1,298
<i>Other business</i>	74	110	124	109	238	258	288
<i>Others</i>	(59)	(160)	(59)	(116)	(167)	(183)	(199)
Net Financial Expenses	(858)	(1,020)	(1,041)	(1,536)	(2,429)	(2,616)	(2,861)
Share of Profit of Associates	53	105	228	60	160	160	160
One off gain	0	0	130	49	0	0	0
<b>Profit Before Tax</b>	<b>616</b>	<b>1,944</b>	<b>3,211</b>	<b>3,609</b>	<b>4,502</b>	<b>5,185</b>	<b>6,165</b>
<b>Income Tax Expense</b>	<b>(2)</b>	<b>(296)</b>	<b>(441)</b>	<b>(305)</b>	<b>(515)</b>	<b>(583)</b>	<b>(754)</b>
<i>Effective Tax Rate</i>	0%	15%	14%	8%	11%	11%	12%
<b>Profit Before Minority Interest</b>	<b>614</b>	<b>1,647</b>	<b>2,770</b>	<b>3,304</b>	<b>3,986</b>	<b>4,603</b>	<b>5,411</b>
Minority Interest	(277)	(753)	(751)	(667)	(920)	(963)	(972)
<b>Net Profit Attributable to Shareholders</b>	<b>338</b>	<b>894</b>	<b>2,018</b>	<b>2,638</b>	<b>3,066</b>	<b>3,640</b>	<b>4,440</b>
<i>yoy</i>	57%	165%	126%	31%	16%	19%	22%
<b>Net Profit (Recurring)</b>	<b>338</b>	<b>894</b>	<b>1,921</b>	<b>2,601</b>	<b>3,066</b>	<b>3,640</b>	<b>4,440</b>
<i>yoy</i>	57%	165%	115%	35%	18%	19%	22%
<b>Per share (Rmb)</b>							
Adjusted Weighted Ave. # of Shares	5,000	5,138	7,464	7,464	7,464	7,464	7,464
<b>Basic EPS</b>	<b>0.068</b>	<b>0.174</b>	<b>0.270</b>	<b>0.353</b>	<b>0.411</b>	<b>0.488</b>	<b>0.595</b>
<i>yoy</i>	57.1%	157.7%	55.4%	30.7%	16.2%	18.7%	22.0%
<b>DPS</b>	<b>0.000</b>	<b>0.000</b>	<b>0.054</b>	<b>0.069</b>	<b>0.080</b>	<b>0.095</b>	<b>0.116</b>
<i>yoy</i>	NA	NA	NA	27.8%	16.2%	18.7%	22.0%
<i>Dividend payout ratio</i>	0.0%	0.0%	20.0%	19.5%	19.5%	19.5%	19.5%

Source: Deutsche Bank estimates, Company data



Figure 101: Longyuan balance sheet statement

Balance Sheet (Rmb million)	2008	2009	2010	2011	2012E	2013E	2014E
<b>Total Non-Current Assets</b>	<b>31,169</b>	<b>47,587</b>	<b>64,271</b>	<b>77,133</b>	<b>85,720</b>	<b>93,426</b>	<b>100,665</b>
Property, Plant and Equipment, Net	24,290	37,304	50,641	61,337	69,533	77,249	84,424
Investment properties	172	133	101	98	98	98	98
Lease Prepayments	557	741	876	1,160	1,160	1,160	1,160
Intangible assets	5,083	6,086	7,673	8,162	8,162	8,162	8,162
Investments in associates and JC	527	799	1,315	1,554	1,714	1,874	2,034
Other assets	350	2,319	3,459	4,640	4,871	4,702	4,606
Deferred tax assets	190	205	206	181	181	181	181
<b>Total Current Assets</b>	<b>4,880</b>	<b>20,367</b>	<b>10,362</b>	<b>12,974</b>	<b>14,428</b>	<b>16,376</b>	<b>18,469</b>
Inventories	279	333	632	890	872	892	911
Deposits, Other Debtors and Prepayments	1,241	2,181	3,474	5,157	5,772	6,426	7,049
Trade Receivables	1,805	853	1,502	2,772	2,772	2,772	2,772
Cash and Cash Equivalents	1,055	16,503	4,089	3,645	4,907	6,183	7,632
Others	501	497	664	510	104	104	104
<b>Total Assets</b>	<b>36,049</b>	<b>67,954</b>	<b>74,633</b>	<b>90,107</b>	<b>100,147</b>	<b>109,803</b>	<b>119,134</b>
<b>Current Liabilities</b>	<b>9,413</b>	<b>23,692</b>	<b>24,915</b>	<b>26,345</b>	<b>26,576</b>	<b>26,701</b>	<b>26,796</b>
Trade Creditors, Other Creditors & Accruals	2,729	1,943	1,515	1,597	1,687	1,728	1,765
Tax Payable	80	140	196	158	158	158	158
Short-Term debt	4,686	17,087	17,200	16,369	16,044	15,919	15,788
Other	1,918	4,521	6,004	8,222	8,687	8,896	9,086
<b>Non-Current Liabilities</b>	<b>19,564</b>	<b>18,582</b>	<b>22,304</b>	<b>33,896</b>	<b>40,235</b>	<b>45,761</b>	<b>50,296</b>
Long-Term debt	17,345	16,219	19,975	31,308	37,761	43,400	48,047
Other long term liability	446	2,219	2,363	2,330	2,587	2,474	2,362
<b>Total Equity</b>	<b>7,073</b>	<b>25,680</b>	<b>27,414</b>	<b>29,866</b>	<b>33,337</b>	<b>37,341</b>	<b>42,042</b>
Shareholders Equity	3,875	21,900	23,275	25,490	28,041	31,082	34,811
Minority Interest	3,198	3,780	4,139	4,375	5,296	6,259	7,230
<b>Total Liabilities &amp; Equity</b>	<b>36,049</b>	<b>67,954</b>	<b>74,634</b>	<b>90,107</b>	<b>100,148</b>	<b>109,803</b>	<b>119,134</b>
<b>Balance sheet ratios</b>							
BVPS (Rmb)	1.4	4.3	3.1	3.4	3.8	4.2	4.7
Total debt (Rmb million)	22,031	33,306	37,175	47,677	53,804	59,319	63,835
Net debt (Rmb million)	20,976	16,803	33,086	44,032	48,897	53,136	56,202
Net debt / equity	297%	65%	121%	147%	147%	142%	134%
Net debt / total capital	75%	40%	55%	60%	59%	59%	57%

Source: Deutsche Bank estimates, Company data



Figure 102: Longyuan cash flow statement

Cash Flow (Rmb million)	2008	2009	2010	2011	2012E	2013E	2014E
<b>Profit Before Tax</b>	<b>616</b>	<b>1,944</b>	<b>3,211</b>	<b>3,609</b>	<b>4,502</b>	<b>5,185</b>	<b>6,165</b>
Depreciation & Amortization	1,083	1,590	2,236	2,845	3,599	4,079	4,621
Impairment loss	104	0	81	0	0	0	0
Gain / Loss on Disposals	(21)	(5)	(185)	(323)	0	0	0
Interest expenses on financial assets	932	1,024	1,088	1,677	2,959	3,161	3,433
FX exchange difference	(53)	6	30	51	0	0	0
Interest income on financial assets	(37)	(33)	(58)	(110)	(96)	(111)	(138)
Dividend income	(47)	(16)	(1)	(62)	(50)	(50)	(50)
Share of Profit/Loss of JCs/Associates	(53)	(105)	(228)	(60)	(160)	(160)	(160)
Government Grants	0	0	0	0	0	0	0
Change in Working Cap	360	(83)	(1,813)	(1,633)	252	(536)	(529)
Less Tax Paid	(45)	(236)	(340)	(371)	(515)	(583)	(754)
<b>Operating Cashflow</b>	<b>2,840</b>	<b>4,085</b>	<b>4,021</b>	<b>5,624</b>	<b>10,490</b>	<b>10,986</b>	<b>12,588</b>
Capex	(11,603)	(16,341)	(17,845)	(13,048)	(13,800)	(13,800)	(13,800)
Net acquisition	(228)	(362)	(151)	(725)	0	0	0
<b>Free cashflow</b>	<b>(8,991)</b>	<b>(12,618)</b>	<b>(13,976)</b>	<b>(8,149)</b>	<b>(3,310)</b>	<b>(2,814)</b>	<b>(1,212)</b>
Government grant received	655	1,184	180	118	1,774	2,175	2,101
Dividends received	96	30	45	161	50	50	50
Interest received	48	32	58	124	96	111	138
Time deposits and others	(53)	302	14	(663)	0	0	0
<b>Investing cashflow</b>	<b>(11,086)</b>	<b>(15,156)</b>	<b>(17,700)</b>	<b>(14,034)</b>	<b>(11,880)</b>	<b>(11,464)</b>	<b>(11,511)</b>
Capital contributions from the equity owners	1,500	492	126	72	0	0	0
Capital contributions from minority interest	451	0	0	0	0	0	0
Net borrowings	7,922	10,952	3,677	10,506	6,127	5,514	4,516
Dividends paid	0	0	(632)	(404)	(515)	(599)	(711)
Share issuance	0	17,022	0	0	0	0	0
Others	(1,429)	(1,891)	(1,857)	(2,537)	(2,959)	(3,161)	(3,433)
<b>Financing cashflow</b>	<b>8,444</b>	<b>26,575</b>	<b>1,314</b>	<b>7,636</b>	<b>2,653</b>	<b>1,755</b>	<b>372</b>
<b>Net Cashflow</b>	<b>198</b>	<b>15,505</b>	<b>(12,366)</b>	<b>(774)</b>	<b>1,262</b>	<b>1,276</b>	<b>1,449</b>

Source: Deutsche Bank estimates, Company data



Figure 103: Longyuan key financial ratios

Key Company Metrics	2009	2010	2011	2012E	2013E	2014E
<b>Growth</b>						
Sales growth (%)	13.9%	45.9%	13.7%	11.9%	11.3%	9.7%
Net earnings growth (%)	164.8%	125.7%	30.7%	16.2%	18.7%	22.0%
DB EPS growth (%)	157.7%	55.4%	30.7%	16.2%	18.7%	22.0%
<b>Margin</b>						
EBITDA Margin (%)	50.2%	48.0%	51.3%	57.3%	58.2%	61.1%
EBIT Margin (%)	32.3%	30.5%	32.8%	37.4%	38.0%	40.1%
Net Margin (%)	9.2%	14.2%	16.3%	17.0%	18.1%	20.1%
<b>Return</b>						
Return on Shareholder Equity	6.9%	8.5%	10.8%	11.5%	12.3%	13.5%
ROA	1.3%	2.7%	2.9%	3.1%	3.3%	3.7%
ROIC	3.2%	4.4%	4.4%	4.5%	4.7%	5.2%
<b>Capitlization</b>						
Payout ratio (%)	0.0%	20.0%	19.5%	19.5%	19.5%	19.5%
Capex/sales (%)	143.3%	107.3%	69.0%	65.2%	58.6%	53.4%
Capex/depreciation (x)	8.8	6.8	3.9	3.3	2.9	2.6
Net interest cover (x)	2.7	3.6	3.0	2.6	2.8	2.9
EBITDA / Interest	4.2	5.6	4.7	4.0	4.2	4.4
EBITDA/ (Interest + Debt Payment)	(0.4)	1.2	(7.1)	1.5	1.5	1.5
EBITDA / Cash Interest	2.7	4.2	3.5	3.5	3.7	3.9
<b>Net Gearing %</b>	<b>65%</b>	<b>121%</b>	<b>147%</b>	<b>147%</b>	<b>142%</b>	<b>134%</b>
Net Debt to Total Capital %	39.6%	54.7%	59.6%	59.5%	58.7%	57.2%
Total Debt	33,306	37,175	47,677	53,804	59,319	63,835
Net Debt	16,803	33,086	44,032	48,897	53,136	56,202
Total Capital	42,483	60,499	73,898	82,234	90,477	98,244

Source: Deutsche Bank estimates, Company data

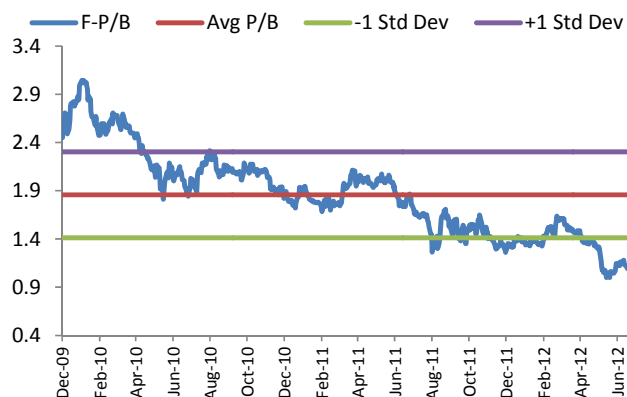


# Valuation at historical low

## Trading at the low-end of the historical valuation band

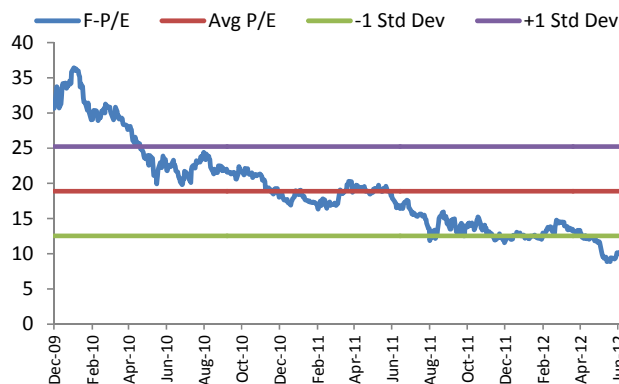
Longyuan is trading at the low-end of its historical P/E and P/B valuation bands and 50% of its IPO price. The current price implies attractive valuation multiples of 10.1x FY12E P/E vs. 20% EPS CAGR (2012-14E) and 1.1x FY12E P/B vs. 11.5% ROE improving to 13.5% by 2014E.

Figure 104: Longyuan one-year forward P/B band



Source: Deutsche Bank, Datastream

Figure 105: Longyuan one-year forward P/E band



Source: Deutsche Bank, Datastream

We derive our target price of HK\$8.3 based on a DCF analysis through 2020E, following which we assume a terminal growth of 2%. Our WACC of 8.9% incorporates cost of equity of 11% (a risk-free rate of 3%, geared beta of 1.45 and an ERP of 5.6%), after-tax cost of debt of 5.5% and a 60/40% debt/equity target capital structure.

A target price of HK\$8.3 implies FY12E and FY13E P/E of 16.1x and 13.6x, respectively, vs. EPS CAGR of 23% in 2012-14E, and 1.8x FY12E and 1.6x FY13E P/B vs. FY12E and FY13E ROE of 11.3% and 12.3% and which are undemanding, in our view, considering its earnings growth and returns.

The main downside risks to our valuation include: 1) grid bottlenecks resulting in lower-than-expected power dispatch, 2) lower-than-expected wind speeds, 3) rising competition for wind projects and 4) lower-than-expected quality and reliability of the newly installed turbine, as it lacks a long operating track record.



Figure 106: DCF valuation

(Rmb mn)	2010	2011	2012E	2013E	2014E	2015E	2016E	2017E	2018E	2019E	2020E
<b>EBIT</b>				<b>7,642</b>	<b>8,866</b>	<b>10,646</b>	<b>12,246</b>	<b>13,429</b>	<b>14,747</b>	<b>16,147</b>	<b>16,523</b>
Tax Rate				11.2%	12.2%	11.8%	13.1%	14.7%	16.3%	18.1%	19.8%
EBIT after tax				6,783	7,782	9,395	10,641	11,461	12,341	13,231	13,252
add back Depreciation & Amortization				4,079	4,621	5,162	5,704	6,246	6,724	7,117	7,640
less: Capex				(13,800)	(13,800)	(13,800)	(13,800)	(13,800)	(13,800)	(13,800)	(8,300)
movement in WC				(536)	(529)	(663)	(606)	(507)	(523)	(528)	(490)
<b>Cashflow proxy</b>				<b>(3,474)</b>	<b>(1,926)</b>	<b>94</b>	<b>1,938</b>	<b>3,400</b>	<b>4,741</b>	<b>6,021</b>	<b>12,102</b>
Discount factor			1.00	1.09	1.19	1.29	1.41	1.53	1.67	1.81	1.98
Discounted Cashflow ex TV				(3,191)	(1,625)	73	1,379	2,221	2,846	3,319	6,127
Sum of DCF ex TV			11,149								
Terminal Value (TV)											179,371
Present Value of TV			90,804								
<b>Total DCF (inc TV)</b>			<b>101,953</b>								
Add Associates			1,714								
Less Net Debt (cash)			48,897								
Less Minority Interest			5,296			1.5%	10.8	8.9	7.2	5.7	4.5
Equity NPV			49,474	<b>Terminal growth</b>		2.0%	12.4	10.2	<b>8.3</b>	6.7	5.3
Equity NPV/Share (RMB)			6.63			2.5%	14.3	11.7	9.6	7.7	6.2
<b>Target price (HK\$)</b>			<b>8.3</b>			3.0%	16.5	13.5	11.0	9.0	7.2

		Sensitivity table				
		WACC				
		7.9%	8.4%	8.9%	9.4%	9.9%
WACC	8.9%					
TV Growth	2.0%					

	rf	beta	mrp	kd	implied ke	after tax debt	Tax Rate	% equity	% debt
WACC	3.0%	1.45	5.6%	6.5%	11.12%	5.5%	15.0%	60%	40%
TV Growth	2.0%								

Source: Deutsche Bank estimates

### Key risks

The main downside risks to our valuation include 1) grid bottlenecks resulting in lower-than-expected power dispatch; 2) lower-than-expected wind speeds; 3) increasing competition for wind projects; and 4) inferior quality and unreliability of the newly installed turbines, as it lacks a long operating track record.

Our DCF valuation is sensitive to our assumed WACC and terminal growth rates, which are subjective. However, we have assumed a relatively conservative WACC by using higher beta given current market conditions and low terminal growth rates despite China's vast wind resources.



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# Appendix 1

## Important Disclosures

Additional information available upon request

### Disclosure checklist

Company	Ticker	Recent price*	Disclosure
Huaneng Renewables	0958.HK	1.20 (HKD) 3 Jul 12	NA
Datang Renewable	1798.HK	1.07 (HKD) 3 Jul 12	NA
Longyuan Power	0916.HK	5.07 (HKD) 3 Jul 12	NA

\*Prices are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank and subject companies

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### Historical recommendations and target price: Huaneng Renewables (0958.HK)

(as of 7/3/2012)



1. 03/07/2012: Upgrade to Buy, Target Price Change HKD2.00





**Historical recommendations and target price: Datang Renewable (1798.HK)**

(as of 7/3/2012)



Previous Recommendations

- Strong Buy
- Buy
- Market Perform
- Underperform
- Not Rated
- Suspended Rating

Current Recommendations

- Buy
- Hold
- Sell
- Not Rated
- Suspended Rating

\*New Recommendation Structure as of September 9,2002

1. 03/07/2012: Upgrade to Buy, Target Price Change HKD1.50

**Historical recommendations and target price: Longyuan Power (0916.HK)**

(as of 7/3/2012)



Previous Recommendations

- Strong Buy
- Buy
- Market Perform
- Underperform
- Not Rated
- Suspended Rating

Current Recommendations

- Buy
- Hold
- Sell
- Not Rated
- Suspended Rating

\*New Recommendation Structure as of September 9,2002

- |  |   |
|--|---|
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| 2. 22/08/2010: Buy, Target Price Change HKD9.30            | 5. 29/02/2012: Buy, Target Price Change HKD9.00 |
| 3. 15/03/2011: Buy, Target Price Change HKD9.90            | 6. 26/04/2012: Buy, Target Price Change HKD8.30 |



Equity rating key

Equity rating dispersion and banking relationships

Buy: Based on a current 12- month view of total share-holder return (TSR = percentage change in share price from current price to projected target price plus pro-jected dividend yield ) , we recommend that investors buy the stock.

Sell: Based on a current 12-month view of total share-holder return, we recommend that investors sell the stock

Hold: We take a neutral view on the stock 12-months out and, based on this time horizon, do not recommend either a Buy or Sell.

Notes:

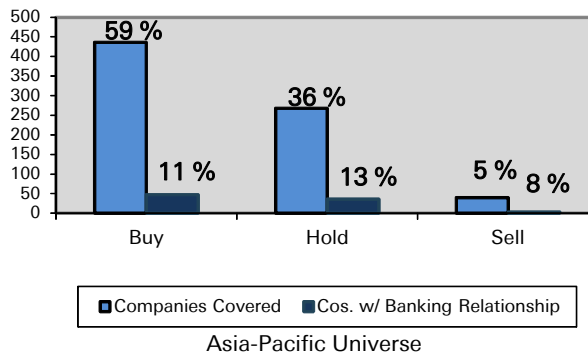
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2. Ratings definitions prior to 27 January, 2007 were:

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