



Asia
China
Utilities
Utilities

Industry
**Wind/Nuclear/
Diversified Equipment**

Date
19 November 2015

**Recommendation
Change**

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Time to add wind developers; Buy Fuxin/LY/HNR

We prefer wind developers for 2016

Proposed tariff cuts for wind developers were more severe than expected, but the impact as reflected by share prices has been significantly overstated. Now at trough valuations, Huadian Fuxin, Longyuan (LY), and Huaneng Renewables (HNR) are all rated as Buys supported by earnings growth of 13-30%. The reverse is true for turbine suppliers (Goldwind and CHSTE), which have outperformed but now face a pricing and margin threat with a flat demand outlook. We remain cautious on outlook for the nuclear sector and equipment suppliers but upgrade stocks following a major de-rating.

Wind developers: attractive value proposition despite tariff-cut noise

Even after factoring in the full extent of tariff cuts based on the NDRC proposal, we expect recurring earnings growth to continue for the wind developers under our coverage at 13-30% CAGRs in 2015-17E, driven by capacity growth and lower finance costs. After the share price slump caused by a wind tariff-cut proposal, wind developers are trading at historically low valuations, making the sector's risk-reward very attractive. When the new tariffs are finalized in 1H16, we expect them to be milder than our current assumptions and will thus provide a clear re-rating catalyst.

Wind equipment makers: limited further upside

Trading in wind equipment companies has been very different, outperforming their customers by 27-28%, due principally to strong financial results. After these gains, we are now concerned that equipment pricing will be under pressure as developers look to share the cost of tariff cuts. This poses a clear risk to Goldwind and CHSTE, which have been achieving high gross margins of 25-35%. This, together with a flat capacity growth outlook, makes the sector's risk-reward appear to be neutral. Thus, we downgrade CHSTE to Hold.

Nuclear power developers: upgrading CGN on valuation, but concerns remain

We upgrade CGN Power from Sell to Hold, as its current share price is close to our target price. However, we remain concerned about the delay in the Taishan project, tariff pressure arising from a coal tariff cut, and utilization pressure from a more severe oversupply. These concerns weigh on its multiples more than earnings.

Diversified power equipment makers: upgrading SH/DF after share price fall

2015 featured a strong spike in new coal project approvals. However, a severe power oversupply suggests this is not sustainable. Nuclear power and wind power growth tends to be secular, but these strong expectations are already reflected in their earnings outlook. Nevertheless, we upgrade both Dongfang Electric-H and Shanghai Electric-H from Sell to Hold, as they are trading close to our target prices after falling 50%/40% in the past six months.

Valuation and risks

Our target prices for wind developers are based on DCF, assuming WACCs of 8.3-9.8% and a TGR of 2%. Key sector risks: higher-than-expected tariff cuts and curtailment, lower-than-expected wind speed, lower-than-expected capacity addition, and risk of new equity issuance. We use target FY16E P/B to value wind and thermal power equipment makers. Key risks include better-/worse-than-expected new order inflow and delivery, product margins, the receivables situation, and the new business outlook.

Key Changes

Company	Target Price	Rating
0916.HK	10.10 to 9.70(HKD)	-
0958.HK	3.70 to 3.40(HKD)	-
0816.HK	4.50 to 4.00(HKD)	-
2208.HK	15.80 to 13.20(HKD)	-
0658.HK	9.20 to 7.20(HKD)	Buy to Hold
002202.SZ	12.60 to 11.40(CNY)	-
2727.HK	3.90 to 4.00(HKD)	Sell to Hold
601727.SS	3.06 to 3.50(CNY)	-
1072.HK	9.50 to 9.10(HKD)	Sell to Hold
600875.SS	7.76 to 7.90(CNY)	-
1816.HK	-	Sell to Hold

Source: Deutsche Bank

Top picks

Longyuan Power (0916.HK),HKD6.55	Buy
Huadian Fuxin (0816.HK),HKD2.14	Buy
Huaneng Renewables (0958.HK),HKD2.29	Buy

Source: Deutsche Bank



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Figure 1: Sector comps

Last updated: 11/18/2015 21:30							Performance		Valuations				Returns & Gearing (%)							
Company	Ticker	Price	Rating	Price target	% to target	Mkt. Cap. US\$m	Absolute 3m	Relative 3m	P/E 15E	P/E 16E	EV/EBITDA 15E	EV/EBITDA 16E	P/BV 15E	P/BV 16E	RoE 15E	RoE 16E	ROA 15E	ROA 16E	Gearing 15E	Div Yld 15E
China Wind																				
Longyuan Power	0916.HK	HKD6.55	Buy	HKD9.70	48%	6,792	(27%)	(22%)	11.0	9.4	8.3	7.7	1.2	1.1	11.3	12.0	3.0	3.2	163.3	1.7
Huaneng Renewables	0958.HK	HKD2.29	Buy	HKD3.40	48%	2,496	(26%)	(20%)	9.9	8.1	8.2	7.7	1.0	0.9	10.9	12.1	2.3	2.5	266.4	1.6
Huadian Fuxin	0816.HK	HKD2.14	Buy	HKD4.00	87%	2,322	(31%)	(26%)	6.8	5.3	7.9	7.9	0.9	0.7	13.6	15.1	2.4	2.8	292.0	2.9
Goldwind	2208.HK	HKD13.16	Hold	HKD13.20	0%	3,932	(11%)	(4%)	11.0	11.8	10.6	10.3	1.8	1.7	17.0	14.6	5.1	4.3	120.4	4.5
Goldwind - A	002202.SZ	CNY15.90	Sell	CNY11.40	(28%)	5,774	(9%)	(10%)	16.2	17.3	13.4	12.9	2.6	2.4	17.0	14.6	5.1	4.3	120.4	3.1
CHSTE	0658.HK	HKD6.36	Hold	HKD7.20	13%	1,118	4%	12%	9.2	9.3	3.5	3.5	0.9	0.8	10.1	9.2	3.5	3.5	17.3	-
China Nuclear																				
CGN Power	1816.HK	HKD3.20	Hold	HKD3.00	(6%)	18,765	(12%)	(6%)	18.1	14.5	21.6	16.7	2.1	1.9	12.3	13.7	3.4	3.4	149.8	1.8
China Power Equipment -H																				
Dongfang Elect.	1072.HK	HKD8.52	Hold	HKD9.10	7%	2,203	(17%)	(12%)	29.2	17.1	(3.2)	(3.9)	0.7	0.7	2.6	4.0	0.7	1.1	(76.8)	0.7
Shanghai Elect.	2727.HK	NA	Hold	HKD4.00	NA	7,958	NA	7%	20.3	19.8	4.0	3.5	1.4	1.3	7.0	7.0	1.7	1.7	(55.9)	1.5
China Power Equipment -A																				
Dongfang Elect. - A	600875.SS	CNY14.55	Sell	CNY7.90	(46%)	4,578	(12%)	(7%)	60.8	35.5	6.0	3.0	1.4	1.4	2.6	4.0	0.7	1.1	(76.8)	0.3
Shanghai Elect. - A	601727.SS	NA	Sell	CNY3.50	NA	22,593	(19%)	(14%)	57.7	56.2	17.0	15.8	4.0	3.8	7.0	7.0	1.7	1.7	(55.9)	0.5

All estimates are DB estimates and all stock data is from Datastream, Bloomberg Finance LP
 Definitions: 1) Gearing is net debt / shareholders equity; 2) EV is after deducting estimated value of associates. The stocks of Shanghai Electric (A&H) are suspended since 8 Oct 2015.

Source: Deutsche Bank, Bloomberg Finance LP

Figure 2: Share price performance

Last updated: 11/18/2015 21:30											Share price performance		Relative performance		Share price statistics		avg. daily trade						
Company	Price	Rating	local currency					US\$, 1m	local currency & local country index**					US\$, 6m	current / current/				US\$, 1y				
			1w	1m	3m	6m	12m		3y	1w	1m	3m	6m		12m	3y	52w H	52w L		52W H	52W L	10yr H	10yr L
China Wind																							
Longyuan Power	HKD6.55	Buy	(6%)	(22%)	(27%)	(31%)	(18%)	39%	21.8	(4%)	(17%)	(22%)	(5%)	(15%)	42%	15.7	11.27	6.33	0.58	1.03	11.27	4.36	16.0
Huaneng Renewabl	HKD2.29	Buy	(3%)	(21%)	(26%)	(33%)	(20%)	112%	12.4	(1%)	(16%)	(20%)	(7%)	(17%)	116%	10.7	3.77	2.15	0.61	1.07	3.80	0.85	10.6
Huadian Fuxin	HKD2.14	Buy	(3%)	(30%)	(31%)	(44%)	(49%)	54%	8.1	(1%)	(26%)	(26%)	(23%)	(47%)	57%	7.5	4.94	2.09	0.43	1.02	4.94	1.29	9.7
Goldwind	HKD13.16	Hold	2%	(16%)	(11%)	(25%)	13%	362%	17.6	4%	(12%)	(4%)	4%	17%	370%	10.1	19.21	10.47	0.68	1.26	19.48	2.28	9.7
Goldwind - A	CNY15.90	Sell	(3%)	0%	(9%)	(22%)	33%	216%	124.1	(0%)	(10%)	(10%)	(11%)	(19%)	15%	212.5	25.62	11.37	0.62	1.40	35.57	4.60	190.5
CHSTE	HKD6.36	Hold	(4%)	(16%)	4%	(17%)	12%	147%	9.0	(2%)	(11%)	12%	15%	16%	151%	7.7	8.39	4.49	0.76	1.42	23.05	2.07	6.6
China Nuclear																							
CGN Power	HKD3.20	Hold	(1%)	(10%)	(12%)	(29%)	15%	15%	25.1	1%	(5%)	(6%)	(2%)	19%	17%	64.4	5.53	2.78	0.58	1.15	5.53	2.78	73.5
China Power Equipment -H																							
Dongfang Elect.	HKD8.52	Hold	(3%)	(13%)	(17%)	(50%)	(39%)	(33%)	2.6	(1%)	(8%)	(12%)	(30%)	(37%)	(32%)	5.8	21.43	7.69	0.40	1.11	41.49	3.27	8.9
Shanghai Elect.	NA	Hold	NA	NA	NA	(39%)	18%	67%	NA	2%	6%	7%	(15%)	22%	70%	39.2	9.16	3.66	0.52	1.31	9.16	1.14	50.7
China Power Equipment -A																							
Dongfang Elect. - A	CNY14.55	Sell	(5%)	(6%)	(12%)	(45%)	(12%)	22%	112.4	(3%)	(11%)	(7%)	(34%)	(40%)	(31%)	216.6	32.77	11.22	0.44	1.30	45.33	4.92	242.1
Shanghai Elect. - A	NA	Sell	NA	NA	(19%)	(46%)	76%	203%	NA	NA	NA	(14%)	(35%)	21%	71%	524.7	24.90	6.03	NA	NA	24.90	3.00	479.4

* in USD millions
 **** Relative performance is 1) against Shanghai A share index for A share IPPs; 2) against HSI for HK utilities; 3) against HSCEI for the remainings

Source: Deutsche Bank, Bloomberg Finance LP



Figure 3: China's power demand and supply forecast

End of year capacity (GW)	2008	2009	2010	2011	2012	2013	2014	2015E	2016E	2017E	2018E	2019E	2020E
Coal	572	621	673	723	758	794	830	885	930	990	1025	1050	1070
addition	62	75	64	55	38	40	38	55	45	60	35	25	20
shut down	-17	-26	-12	-5	-3	-4	-2	0	0	0	0	0	0
Oil	9	10	10	10	15	19	24	24	24	24	24	24	24
chg.	2	1	0	0	5	4	4	0	0	0	0	0	0
Hydro	172	197	216	231	249	280	300	314	324	334	344	356	368
chg.	27	25	19	14	18	31	20	14	10	10	10	12	12
Nuclear	9	9	11	13	13	14	20	27	38	44	47	51	54
chg.	0	0	2	2	0	2	5	8	10	6	3	3	4
Gas	20	21	26	33	40	43	56	62	65	68	71	74	80
chg.	2	1	5	6	8	3	13	6	3	3	3	3	6
Wind	9	16	29	45	61	75	96	121	146	169	196	223	250
chg.	4	7	13	16	16	15	20	25	25	24	27	27	27
Solar			0	2	4	16	27	42	60	78	96	114	132
chg.			1	2	2	12	11	15	18	18	18	18	18
Biomass and others	1	2	0	0	6	8	11	14	17	20	23	26	29
chg.		1	-2	0	6	2	3	3	3	3	3	3	3
Total	792	876	966	1,063	1,147	1,250	1,362	1,488	1,602	1,726	1,825	1,916	2,006
Demand	2008	2009	2010	2011	2012	2013	2014	2015E	2016E	2017E	2018E	2019E	2020E
Power consumption(TWh)	3,438	3,643	4,192	4,693	4,959	5,322	5,523	5,590	5,757	5,988	6,227	6,476	6,735
Consumption % chg	5.2%	6.0%	15.1%	11.9%	5.7%	7.3%	3.8%	1.2%	3.0%	4.0%	4.0%	4.0%	4.0%
Utilization (hrs)	2008	2009	2010	2011	2012	2013	2014	2015E	2016E	2017E	2018E	2019E	2020E
Thermal	4,911	4,839	5,031	5,294	4,965	5,012	4,706	4,405	4,164	3,981	3,869	3,846	3,853
Coal-fired				5,433	5,134	5,283	4,982	4,583	4,314	4,117	3,997	3,975	3,987
Gas				3,548	2,995	2,742	2,500	1,800	2,000	2,000	2,000	2,000	2,000
Hydro	3,589	3,264	3,429	3,028	3,555	3,318	3,653	3,530	3,400	3,400	3,400	3,400	3,400
Wind		2,077	2,097	1,903	1,893	2,080	1,905	1,900	1,950	2,050	2,100	2,100	2,100
Nuclear		7,716	7,924	7,772	7,838	7,893	7,489	7,450	7,350	7,300	7,300	7,300	7,300
Solar						1,107	1,211	1,200	1,200	1,200	1,200	1,200	1,200
Biomass and others						5,844	5,500	5,500	5,500	5,500	5,500	5,500	5,500
Total	4,677	4,527	4,660	4,731	4,572	4,511	4,286	4,058	3,853	3,721	3,623	3,575	3,546
Power generation (bn kWh)	2008	2009	2010	2011	2012	2013	2014	2015E	2016E	2017E	2018E	2019E	2020E
Thermal	2,790	3,012	3,415	3,898	3,911	4,215	4,170	4,036	4,042	4,085	4,165	4,268	4,380
YoY %	2.5%	7.9%	13.4%	14.1%	0.3%	7.8%	-1.1%	-3.2%	0.1%	1.1%	2.0%	2.5%	2.6%
Coal	2,790	3,012	3,415	3,793	3,802	4,101	4,047	3,930	3,915	3,953	4,027	4,124	4,227
Gas				105	109	114	123	106	126	132	138	144	153
Conventional hydro	637	616	686	663	864	789	1,070	1,003	998	1,022	1,046	1,070	1,094
Wind			50	73	100	140	156	192	246	308	366	423	480
Nuclear			77	87	98	111	126	165	240	299	334	358	383
Solar						9	23	37	56	78	100	121	143
Biomass and others					21	36	59	76	92	109	125	142	158
Total	3,496	3,715	4,228	4,722	4,977	5,245	5,443	5,509	5,674	5,901	6,137	6,382	6,637

Source: Deutsche Bank estimates, National Energy Administration (NEA)



Positive on wind power developers

Key points

- The tariff-cut proposal has been negatively received by the market, as both the magnitude and timeline of the cut are harsher than expected.
- After the share price slump, wind developers are trading at historically low valuations. However, we still expect recurring earnings growth to continue for wind developers under our coverage at CAGRs of 13-30% in 2015-17E.
- This, together with historically low PEs on forward earnings, makes the sector's risk-reward appear very attractive. We expect the tariff cuts to be milder than our conservative assumptions once finalized in 1H16.
- The expected 22GW wind export by UHV lines should significantly improve the utilization outlook for local wind farms (c.400-500 hours).
- For projects in zone I-III, a 120bps interest rate cut will be able to offset an RMB2cents/kWh tariff cut in 2016, while a 500hr utilization improvement in 2017-20 would mitigate further tariff cuts in certain curtailed regions.
- Wind projects in most zone IV provinces could sustain an attractive higher-than-10% IRR level even after a RMB9cents/kWh cut by 2020.
- We have factored in tariff cuts through 2016-20 based on the NDRC proposal for Longyuan, HNR, and Huadian Fuxin. The earnings impact from the tariff cuts for Longyuan, HNR, and Huadian Fuxin would be insignificant at 1-2%, 2-3%, and 0.2-1%, respectively, in 2017-18E.

Recap of tariff-cut proposal

In Oct-2015, the National Development and Reform Commission (NDRC) proposed to progressively lower the feed-in wind/solar tariff each year for new projects throughout 2016-20. Its aim is to gradually achieve grid parity for renewable energy and reduce the renewable subsidy burden in the 13th five-year-plan (FYP) period. For wind power, the suggestion is to cut feed-in tariffs on newly operational projects in zone I-IV by RMB0.01-0.04/kWh p.a. during 2016-20. By end-2020, the wind tariff would have been cut by RMB0.09-0.12/kWh in total, which would be 15-22% lower than now (Figure 4).

The announced proposal has been negatively received by the market, as both the magnitude and timeline of the cuts are harsher than expected.

Figure 4: Wind FIT (feed-in tariff) adjustment proposed by NDRC in Oct-2015

Wind resources zone	Current FIT *	Proposed FIT					RMB/kWh change						% change					
		2016	2017	2018	2019	2020	2016	2017	2018	2019	2020	Total	2016	2017	2018	2019	2020	Total
I	0.49	0.47	0.45	0.43	0.41	0.38	-0.02	-0.02	-0.02	-0.02	-0.03	-0.11	-4.1%	-4.3%	-4.4%	-4.7%	-7.3%	-22.4%
II	0.52	0.49	0.47	0.45	0.43	0.40	-0.03	-0.02	-0.02	-0.02	-0.03	-0.12	-5.8%	-4.1%	-4.3%	-4.4%	-7.0%	-23.1%
III	0.56	0.54	0.52	0.50	0.48	0.45	-0.02	-0.02	-0.02	-0.02	-0.03	-0.11	-3.6%	-3.7%	-3.8%	-4.0%	-6.3%	-19.6%
IV	0.61	0.59	0.58	0.57	0.56	0.52	-0.02	-0.01	-0.01	-0.01	-0.04	-0.09	-3.3%	-1.7%	-1.7%	-1.8%	-7.1%	-14.8%

Source: Deutsche Bank, NDRC, Note*Current FIT is set in Jan-15, after a cut of RMB0.02/kWh for zone I-III based on the FIT set initially in 2009 (I: RMB0.51/kWh, II: RMB0.54/kWh, III: RMB0.58/kWh, IV: RMB0.61/kWh)

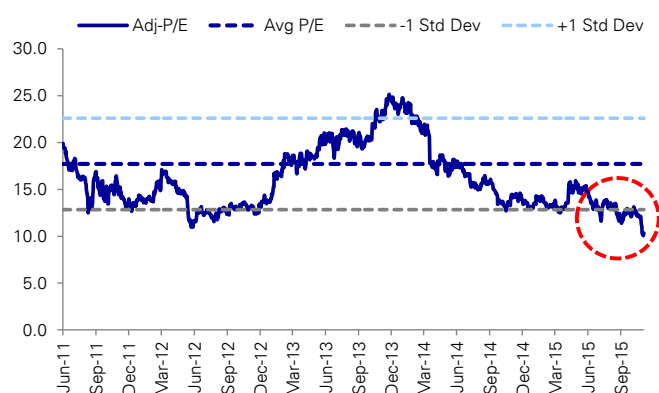


Valuations approaching historical trough on one-year forward PE

During the first half of 2015, Longyuan and HNR outperformed the HSCEI by 5-15% given their strong interim results, due to a wind speed recovery and capacity growth. However, starting from 3Q, both lost ground and underperformed the index by 21% in the past three months. We attribute this to 1) unexciting financial results in 3Q from weaker wind speeds and worse curtailment, and 2) a negative surprise posed by the tariff-cut proposal announced in Oct-2015.

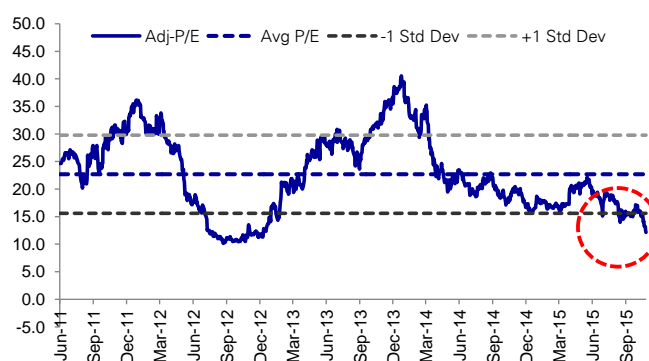
Wind developers are now trading at historically low valuations – with forward PE close to the 2012 level, when curtailment was at a record high. **Forward P/B is also close to the 2012 level, when ROE was 5-10%, but FY15 ROE is much higher at 11%** with lower funding cost and better utilization from a more favorable location mix. A 1x forward P/B implies either no growth beyond current operating capacity or value destruction of current operating capacity from the tariff cuts offsetting the new one; both of these scenarios are unreasonable, in our view.

Figure 5: Longyuan: 1-year forward PE



Source: Deutsche Bank, Datastream

Figure 6: HNR: 1-year forward PE



Source: Deutsche Bank, Datastream

Earnings growth intact after factoring in harsh tariff cut and curtailment

Even after factoring in harsh tariff cuts suggested by the NDRC proposal and further utilization contraction in 2016E without curtailment improvement, we expect recurring earnings growth of wind developers under our coverage to continue at 13-30% CAGR in 2015-17E (Figure 7), driven by 1) 13-20% average wind capacity growth and 2) finance cost savings thanks to interest-rate cuts.

This, together with historically lowest PEs on forward earnings, makes the sector's risk-reward appear very attractive. We conducted stress tests on project IRRs using various combinations of tariff, utilization, and interest rates. **Our conclusion is that wind farm IRRs would be largely acceptable under the proposed rate cuts and with visible utilization improvement.** This indicates that stocks have been oversold after falling 20-30% over the past three months out of exaggerated concern over the tariff cuts. **We expect the tariff cuts to be milder than our current conservative assumptions once finalized in 1H16 and thus provide a re-rating catalyst.**



Figure 7: China wind developers: recurring earnings growth estimates (2015E-17E)

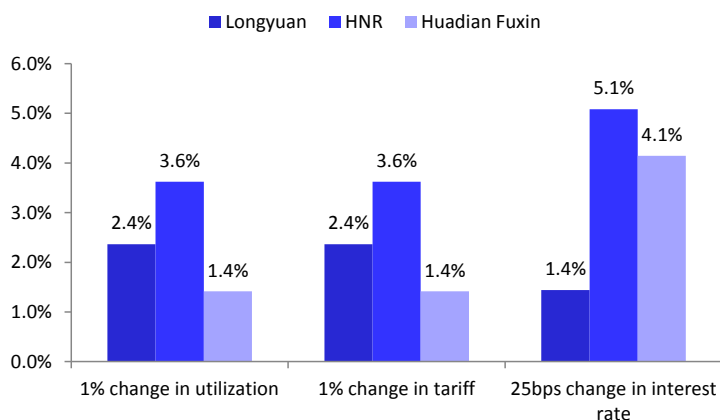
Net profit growth	2015E	2016E	2017E	2015E-17E CAGR
Longyuan	42%	14%	13%	13%
HNR	64%	29%	32%	30%
Huadian Fuxin	17%	24%	12%	18%

Source: Deutsche Bank estimates

Why we believe the tariff-cut concern is overdone

Putting aside our view that the final cuts will be milder than we have assumed, given strong objections by stakeholders, our IRR scenario analysis indicates the mitigation effects of rate cuts, utilization improvement in UHV operations, and location optimization are underplayed. To be conservative, we have factored in tariff cuts through 2016-20 based on the NDRC proposal for Longyuan, HNR, and Huadian Fuxin. The earnings impact from the tariff cuts for Longyuan, HNR, and Huadian Fuxin are insignificant at 1-2%, 2-3%, and 0.2-1%, respectively, in 2017-18E.

Figure 8: FY16E pre-tax sensitivity for wind developers



Source: Deutsche Bank

Tariff-cut scenario analysis – our approach

We assess wind equity IRR sensitivity based on proposed tariffs vs. interest rates and utilization hours, the other two major parameters that are most likely to be subjected to changes in the next few years, while unit investment cost should remain stable with limited downside potential. Also, given the different return profiles and utilization trends for projects in zone I-III and zone IV, we conducted sensitivity tests separately on these two location categories.



Figure 9: Equity IRR scenario analysis of wind projects in zone I-III

Equity IRR scenario analysis for zone I-III (interest rate vs. tariff)

		Wind tariff (Rmb/kWh, incl.VAT)								
		0.38	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56
Interest rate	4.00%	3.5%	5.7%	7.1%	8.6%	10.1%	11.6%	14.1%	15.7%	17.4%
	4.25%	3.3%	5.4%	6.8%	8.3%	9.8%	11.3%	13.6%	15.3%	17.0%
	4.50%	3.0%	5.1%	6.5%	8.0%	9.4%	10.9%	13.2%	14.9%	16.5%
	4.75%	2.8%	4.9%	6.3%	7.7%	9.1%	10.6%	12.9%	14.4%	16.1%
	5.00%	2.6%	4.6%	6.0%	7.4%	8.8%	10.2%	12.5%	14.0%	15.6%
	5.25%	2.4%	4.4%	5.7%	7.1%	8.5%	9.9%	12.1%	13.7%	15.2%
	5.50%	2.1%	4.1%	5.5%	6.8%	8.2%	9.6%	11.8%	13.3%	14.8%
	5.75%	1.9%	3.9%	5.2%	6.5%	7.9%	9.3%	11.4%	12.9%	14.4%
	6.00%	1.7%	3.7%	5.0%	6.3%	7.6%	9.0%	11.1%	12.5%	14.0%
	6.25%	1.5%	3.4%	4.7%	6.0%	7.3%	8.7%	10.8%	12.2%	13.7%

Equity IRR scenario analysis for zone I-III (utilization vs. tariff)

		Wind tariff (Rmb/kWh, incl.VAT)								
		0.38	0.41	0.43	0.45	0.47	0.49	0.52	0.54	0.56
Utilization hours	1,800	-0.4%	1.4%	2.6%	3.8%	5.0%	6.2%	8.0%	9.3%	10.6%
	1,900	0.9%	2.8%	4.0%	5.3%	6.6%	7.9%	9.9%	11.3%	12.7%
	2,000	2.1%	4.1%	5.5%	6.8%	8.2%	9.6%	11.8%	13.3%	14.8%
	2,100	3.4%	5.5%	6.9%	8.4%	9.8%	11.4%	13.7%	15.4%	17.1%
	2,200	4.7%	6.9%	8.4%	9.9%	11.5%	13.2%	15.8%	17.6%	19.4%
	2,300	5.9%	8.3%	9.9%	11.6%	13.3%	15.1%	17.9%	19.9%	21.9%
	2,400	7.2%	9.7%	11.5%	13.3%	15.1%	17.1%	20.1%	22.3%	24.5%
	2,500	8.5%	11.2%	13.1%	15.0%	17.0%	19.1%	22.5%	24.8%	27.2%
	2,600	9.9%	12.7%	14.7%	16.8%	19.0%	21.3%	24.9%	27.4%	30.0%
	2,700	11.3%	14.3%	16.5%	18.7%	21.1%	23.5%	27.4%	30.1%	33.0%

Source: Deutsche Bank

Wind projects in zone I-III: could maintain IRR with total 500hr improvement

In Figure 9, we take projects in zone I as example. The base-case IRR is c.9.6% based on the key assumptions of 1) tariff of RMB0.49/kWh (before the proposed tariff cut); 2) utilization at 2,000hrs (with curtailment at c.20%), 3) interest rate at 5.5% (2015 avg.), 4) unit investment cost at RMB7.6/w, and 5) 80% funded by debt.

- For 2016, we forecast new projects added in the year will sustain IRRs at 9-10%, as we believe a c.120bps interest rate reduction (benchmark interest rate cut by 165bps since Nov-14) would fully offset the impact of the tariff cut, though we do not expect any utilization improvement from curtailment relief at that point.
- Through 2017-20, assuming an interest rate of 4.3% after a c.120bps cut, we estimate a c.100hrs utilization improvement each year would protect IRR from the tariff cut impact. A c.100hrs annual utilization improvement in certain curtailed regions such as Inner Mongolia, Gansu, and Xinjiang is achievable, considering the expected UHV transmission line operation schedule (as illustrated in the next section).

In conclusion, for projects in zone I-III, a 120bps interest rate cut will be able to offset an RMB2cents/kWh tariff cut in 2016 while a 500hr utilization improvement in 2017-20 would mitigate further tariff cuts in certain curtailed regions to an extent that depends on the level of actual utilization enhancement. For Inner Mongolia, Xinjiang, and Northeast, with strong wind resources, utilization could reach 2,600-2,800hrs without any curtailment.



For wind projects in zone IV: IRR high enough to absorb tariff cut

Projects in zone IV could sustain a higher-than-10% IRR level for most of the region, even fully factoring in a RMB9cents/kWh cut by 2020 (Figure 10).

- Our base-case IRR is at c.15-16%, based on key assumptions of 1) a tariff of RMB0.61/kWh (before the proposed tariff cut), 2) utilization at 2,000hrs (without curtailment), 3) an interest rate of 5.5% (2015 average), 4) unit investment cost at RMB8.2/w to reflect the cost of larger wind turbines and higher installation cost in zone IV, and 5) 80% funded by debt.
- Our sensitivity test suggests that, amid a low interest rate environment (assumed at 4.3%), **wind projects in most zone IV provinces could sustain an attractive higher-than-10% IRR level even after a RMB9cents/kWh cut by 2020** (excluding provinces with average utilization hours below 2,000 even without curtailment, e.g., Guizhou, Hunan, Anhui).

Figure 10: Equity IRR scenario analysis for projects in zone IV

Equity IRR scenario analysis for zone IV (interest rate vs. tariff)

		Wind tariff (Rmb/kWh, incl.VAT)					
		0.52	0.56	0.57	0.58	0.59	0.61
Interest rate	4.00%	11.4%	14.4%	15.2%	15.9%	16.7%	18.4%
	4.25%	11.1%	14.0%	14.7%	15.5%	16.3%	17.9%
	4.50%	10.7%	13.6%	14.3%	15.1%	15.8%	17.4%
	4.75%	10.4%	13.2%	13.9%	14.7%	15.4%	17.0%
	5.00%	10.0%	12.8%	13.5%	14.3%	15.0%	16.5%
	5.25%	9.7%	12.4%	13.2%	13.9%	14.6%	16.1%
	5.50%	9.4%	12.1%	12.8%	13.5%	14.2%	15.7%
	5.75%	9.1%	11.7%	12.4%	13.1%	13.8%	15.2%
	6.00%	8.8%	11.4%	12.1%	12.7%	13.4%	14.8%
	6.25%	8.5%	11.1%	11.7%	12.4%	13.1%	14.5%

Equity IRR scenario analysis for zone IV (utilization vs. tariff)

Interest rate at 4.3% Unattractive scenario: IRR <10%

		Wind tariff (Rmb/kWh, incl.VAT)					
		0.52	0.56	0.57	0.58	0.59	0.61
Utilization hours	1,700	4.5%	6.6%	7.1%	7.7%	8.2%	9.3%
	1,750	5.3%	7.5%	8.0%	8.6%	9.2%	10.3%
	1,800	6.1%	8.4%	8.9%	9.5%	10.1%	11.3%
	1,850	6.9%	9.3%	9.9%	10.5%	11.1%	12.4%
	1,900	7.7%	10.2%	10.8%	11.5%	12.1%	13.4%
	1,950	8.6%	11.1%	11.8%	12.5%	13.1%	14.5%
	2,000	9.4%	12.1%	12.8%	13.5%	14.2%	15.7%
	2,050	10.3%	13.1%	13.8%	14.5%	15.3%	16.8%
	2,100	11.1%	14.1%	14.8%	15.6%	16.4%	18.0%
	2,150	12.0%	15.1%	15.9%	16.7%	17.5%	19.2%

Source: Deutsche Bank

Tariff-cut plan needs to be fine-tuned for provinces within the same zone

From a wind developer's point of view, the proposed tariff-cut plan, if realized, could dampen investment incentives in zone I-III to some extent if the utilization recovery fails to be realized later. **Given the various utilization outlooks for provinces within zone I-IV, we think more targeted and timed tariff cuts are required to create a level playing field.**

Also, as suggested in Figure 9 and Figure 10, wind IPPs should have more incentives to accelerate investment in zone IV in order to earn a more decent IRR without curtailment risk. Among the 4th and 5th batches of the national wind project approval plan, 80% or 50GW are located in zone IV. Hence, we think an investment shift toward zone IV would help defend capacity growth and protect overall project return of wind developers in the short term.



Tariff cut not likely to be applied to old wind projects in near term

In the proposal, the NDRC also mentioned that feed-in tariffs for wind/solar projects are effective for 20 years in principal but are subject to a review if a significant operating condition improvement boosts IRR after entering into operation.

We think the chance of tariff cuts for operating wind projects is remote in the near term since 1) wind project return is unlikely to be suddenly improved given limited further cost saving potential, except for financing cost to some degree, and it takes time for curtailment relief to filter through; 2) the NDRC is likely to keep the tariff adjustment scheme consistent with the proposal introduced in late 2014, which applied only to new capacity; and 3) the NDRC is likely to achieve its grid-parity purpose step by step to strike a balance between grid-parity and promoting industry development. **Nevertheless, we reckon that, if wind IPPs receive significant carbon revenue at some point, there could be a chance of tariff cuts for existing wind farms.**

Final tariff cuts could prove milder than proposed, just like the previous case

We highlight that our IRR scenario analysis is based on proposed tariff cuts, which are probably the harshest scenario. We expect the final tariff cut plan to be milder in terms of magnitude and timing than proposed after seeking opinions from interested parties in the industry, where a strong pushback has been expressed, just like what happened in the previous cut.

To recap, the previous round of tariff cuts – first proposed in Sep-2014 – to lower the wind FIT by RMB0.04/kWh for zone I-III and RMB0.02/kWh for zone IV (also an effective cut of RMB0.07/kWh for Yunnan/Shanxi/Fujian due to zone re-classification), would be applied to wind projects that entered operation after June 30, 2015. The final plan turned out to be a cut of RMB0.02/kWh for zone I-III only and applies only to projects approved before January 1, 2015, but which are operational after January 1, 2016, or those approved after January 1, 2015.

Insignificant earnings impact on LY/HNR/Huadian Fuxin from tariff cuts

To be conservative, we have factored in tariff cuts through 2016-20 based on the NDRC proposal for Longyuan, HNR, and Huadian Fuxin. The earnings impact from the tariff cuts for Longyuan, HNR, and Huadian Fuxin would be **insignificant at 1-2%, 2-3%, and 0.2-1%, respectively, in 2017-18E**, given that Longyuan/HNR have a large existing capacity installation base while wind power accounts for only one-third of Huadian Fuxin's total capacity.

Curtailed relief in sight after UHV operations

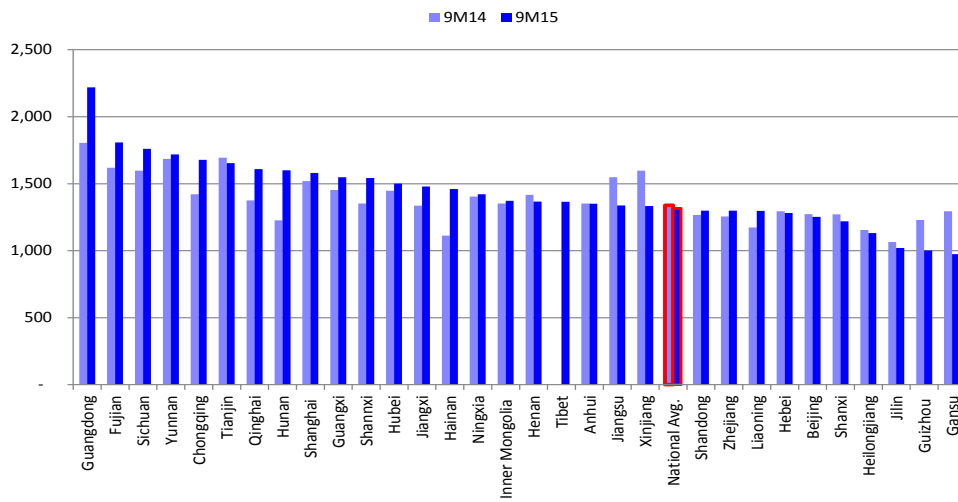
The curtailment of wind generation has turned worse in 2015. We believe UHV transmission is the game-changing solution to relieving grid bottlenecks and combating curtailment. UHV line approval/construction has been on a fast track. Based on the UHV schedule, we believe utilization in the curtailed regions may continue to be under pressure in 2016 but is likely to see a meaningful pickup only after 2017, when most of the planned lines come into operation. Huadian Fuxin should be the largest beneficiary in terms of utilization improvement from the UHV operation.



Curtailment rates getting worse in 2015

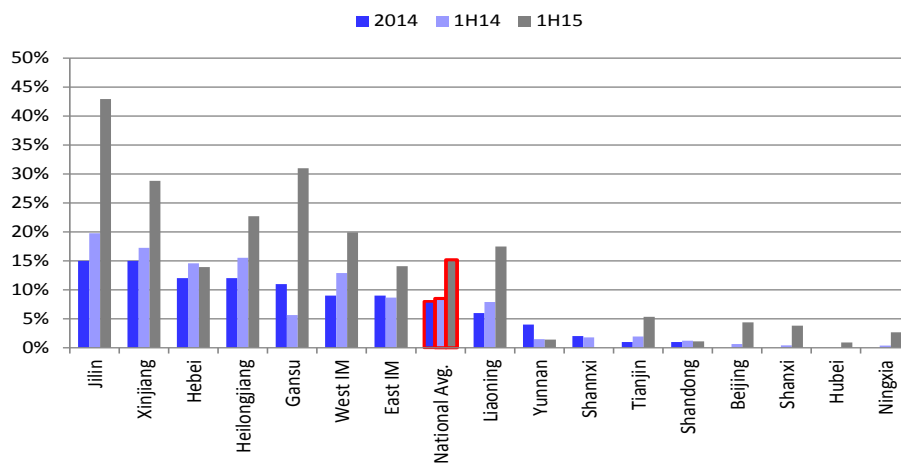
Into 2015, the national wind curtailment rate has been deteriorating due to lack of adequate local power demand to accommodate the fast-growing wind output that is driven by the capacity rush since 2014 in the absence of cross-province UHV lines. As a result, average utilization hours registered a slight yoy decline in 9M15 (Figure 11) despite better wind speed. The national wind curtailment rate climbed from 8.5% in 1H14 and 8% in 2014 to 15% in 1H15 (Figure 12), near the 2011-12 high levels when curtailment reached an historical high. Regions that suffered the most include Gansu (+25ppt), Jilin (+23ppt), Xinjiang (+12ppt), Liaoning (+10ppt), and West Inner Mongolia (+7ppt).

Figure 11: Wind utilization hours by province



Source: Deutsche Bank, NEA

Figure 12: Wind curtailment rate by province



Source: Deutsche Bank, NEA, Note 1) only provinces with curtailment are displayed; 2) IM refers to Inner Mongolia



UHV – 22GW wind export potential by 2018

To tackle the curtailment issue and promote wind industry development, the Chinese government has been rolling out a combination of favorable policies to encourage local wind power consumption, through direct trade or wind heating, etc. While these policies demonstrate the government's strong supportive stance, they are still far from evolving into a mature and economic scheme to help increase local wind power consumption to a large extent, in our view.

We believe UHV transmission is the game-changing solution to relieving grid bottlenecks and combating curtailment. Per our estimate, the nine UHV lines (out of the 12 power transmission lines listed in *Action Plan on Air Pollution Prevention* by the State Council), together with Jiuquan-Hunan (Figure 13), are expected to carry c.22GW of wind power export capacity upon full operation (assuming c.30% of the transmission capacity is utilized for wind power).

The expected 22GW wind export capacity accounts for nearly 40% of current wind capacity of several high-curtailment regions including Gansu, Inner Mongolia, Northeast, and Xinjiang; thus, it should significantly improve the utilization outlook for local wind farms (c.400-500 hours).

More importantly, a number of UHV lines are destined to provinces including Shandong, Jiangsu, and Guangdong where local thermal power is still running above-average utilization, with oversupply in a lesser degree. Hence, wind power absorption is more guaranteed than the existing UHV lines such as Hami-Zhengzhou, where end market Henan faces a more severe oversupply issue.

UHV approval/construction accelerated

UHV line approval/construction has been on a fast track – seven out of the nine UHV lines as well as Jiuquan–Hunan have secured approval and have started construction (except for Ximeng–Taizhou, which was approved only in Oct-2015); we expect several other lines to receive approval by year-end (or by 1Q16 at the latest), namely Shanghai-miao, IM–Shandong, and Northwest Yunnan–Guangdong.

Based on the UHV schedule, we believe utilization in the curtailed regions may continue to be under pressure in 2016 (except for wind farms around Ximeng in Inner Mongolia, which should see some improvement), but it is likely to see a meaningful pickup only after 2017, when most of the planned lines come into operation.



Figure 13: Planned UHV transmission lines by 2017 to alleviate curtailment issue

Project	Covered provinces	AC/DC	kV	Transmission capacity (GW)	Status	Approval	Operation	Investor
Huainan–Nanjing–Shanghai	Anhui, Jiangsu, Shanghai	AC	1000	5.6	Under construction since 2Q14	2014	2016E	SGCC
Ximeng–Shandong	IM, Hebei, Tianjin, Shandong	AC	1000	9	Under construction since 3Q14	2014	2016E	SGCC
East Ningxia–Zhejiang	Ningxia–Zhejiang	DC	±800	8	Under construction since 4Q14	2014	2016E	SGCC
West IM–South Tianjin	IM, Shanxi, Hebei, Tianjin	AC	1000	6	Under construction since 1Q15	2015	2017E	SGCC
Yuheng–Weifang	Shaanxi, Shanxi, Hebei, Shandong	AC	1000	10	Under construction since 2Q15	2015	2017E	SGCC
Jiuquan–Hunan	Gansu–Hunan	DC	±800	8	Under construction since 2Q15	2015	2017E	SGCC
North Shanxi–Nanjing	Shanxi–Jiangsu	DC	±800	8	Under construction since 2Q15	2015	2017E	SGCC
Ximeng–Taizhou	IM–Jiangsu	DC	±800	8	Approved in Oct-2015	2015	2017E	SGCC
Shanghaimiao–Linyi	IM–Shandong	DC	±800	10	Preliminarily approved; expected to be approved in 2H15	2015E	2017E	SGCC
Northwest Yunnan–Guangdong	Yunnan–Guangdong	DC	±800	5	Preliminarily approved; expected to be approved in 2H15	2015E	2017E	CSG

Source: Deutsche Bank, SGCC, CSG

Assessing utilization improvement potential from new UHV lines by 2017

For wind developers with a different capacity location mix, their potential utilization improvement brought by the UHV transmission will vary. We conduct a utilization test for Longyuan/HNR/Huadian Fuxin for 2016-20E, which we illustrate in Figure 14.

Our calculation is based on the assumptions of: 1) capacity geographical mix at end-2014; 2) an equal amount of utilization hour enhancement for all developers in the same curtailed region; and 3) a gradual utilization pickup to reflect the ramp-up after the start of UHV line operation. Consequently, we believe key regions with curtailment likely to be significantly relieved from the operation of the UHV lines include Inner Mongolia, Gansu, and Xinjiang.

- **For Inner Mongolia**, we expect c.10GW of total new capacity for wind power exports from Ximeng-Shandong/West IM–Tianjin (operational by end-2016E) and Ximeng–Jiangsu/Shanghaimiao-Shandong (operational by end-2017E). In addition, we expect another c.5GW to come online by 2018 from West IM–Changsha and Humeng–Shandong, per SGCC’s plan.
- **For Gansu**, we expect c.3GW of additional capacity for wind power export from Jiuquan–Hunan by end-2017.
- **For Xinjiang**, we expect c. 6GW of wind export capacity from Zhundong–Anhui and Zhundong–Chengdu by 2018, per SGCC’s plan. In addition, Xinjiang–Pakistan (under preliminary research) and North Hami–Chongqing (listed in Xinjiang’s 13th FYP) should contribute another c.5GW beyond 2018E.

Our utilization test suggests that, among the wind operators under our coverage, **Huadian Fuxin is the largest beneficiary in terms of utilization improvement from the UHV operation, followed by Longyuan and HNR**, attributable to their capacity location exposure differences – Huadian Fuxin has the most IM/Gansu/Xinjiang exposure, with an aggregate 65% (as of end-2014). During 2016-20E, utilization improvement from the UHV operation can be as large as c.400 hours for Huadian Fuxin and 200-300 hours for Longyuan/HNR.



Figure 14: Assessing utilization improvement potential from new UHV lines by 2017

Capacity exposure in key curtailed areas (End-14)			
	Longyuan	HNR	Huadian Fuxin
Inner Mongolia	17.6%	23.5%	31.0%
Gansu	8.4%	0.0%	25.4%
Xinjiang	9.5%	2.6%	8.1%
Sub-total	35.6%	26.1%	64.5%

Utilization improvement assumption on UHV transmission					
	2016E	2017E	2018E	2019E	2020E
Inner Mongolia		80	200	200	-
Gansu		50	300	200	100
Xinjiang		-	100	300	100

Utilization improvement potential for wind developers					
	2016E	2017E	2018E	2019E	2020E
Longyuan	1,982	2,010	2,121	2,221	2,258
yoy %	0.0%	1.4%	5.5%	4.8%	1.6%
HNR	1,930	1,950	2,033	2,120	2,137
yoy %	0.0%	1.0%	4.3%	4.3%	0.8%
Huadian Fuxin	1,860	1,897	2,051	2,199	2,235
yoy %	0.0%	2.0%	8.1%	7.2%	1.7%

Source: Deutsche Bank, Company data

According to our calculation, each 50 hours of utilization improvement (c.2.5% change) should translate into c.6% incremental earnings for Longyuan, c.9% for HNR, and c. 4% for Huadian Fuxin in FY17E.

165bps rate cut since 2014 not fully reflected yet

China has lowered the domestic benchmark interest rate by a total of six times since last November – 40bps in November 2014 and 25bps each in February/May/June/August/October 2015, with the accumulative rate cut at 165bps.

Thanks to the rate cuts, overall financing costs of Longyuan/HNR/Huadian Fuxin fell c.20/30/15bps, respectively, in 9M15. However, we think the merits of the 165bps cut since 2014 are not fully reflected yet. Considering the time lag effect, **we estimate the full-year effective rate cut for wind developers will be c.65/80bps in 2015-16 and another c.20bps in 2017.** Specifically, Huadian Fuxin and HNR are likely to see steeper overall financing cost saving given 80-90% of their total debt is floating, which can be re-financed flexibly, vs. 40-50% for Longyuan.

A 25bps average interest rate cut in 2016E would benefit the net profit of Longyuan/HNR/Huadian Fuxin by 1%/5%/4% in the year, respectively (Figure 8). HNR and Fuxin are likely to benefit more from a loosening financial environment due to their relatively higher effective finance cost and financial leverage.



Renewable surcharge hikes to address payment delay

The renewable surcharge has been raised four times, from RMB0.001/kWh to RMB0.015/kWh since its introduction in 2006, but is yet to catch up with the subsidy needed to cover the growing renewable capacity. From our discussion with industry experts, **renewable surcharge is likely to be raised by RMB0.01/kWh to RMB0.025/kWh (including VAT)** along with coal-fired on-grid tariff cuts of at least RMB0.02/kWh by early 2016 to relieve the prolonged delay in subsidy payment. The renewable surcharge collection rate is now nearly 90%. We believe a surcharge lift will help accelerate subsidy payments and improve wind developers' cash flow.

Renewable surcharge needs to be raised to RMB0.035/kWh by 2020

We forecast that the renewable subsidy (funded mainly by the renewable surcharge) will be running at a cumulative deficit of >RMB30bn nationwide by end-2015. Our calculation (Figure 15) suggests a RMB0.01/kWh surcharge hike in 2016 (effective Apr-2016) will help lower the subsidy deficit by c.RMB30bn/RMB40bn in 2016/17 but is still not enough to cover the expected total renewable subsidy required from 2017E given the high renewable capacity growth. **It is possible that NDRC approves another surcharge hike to achieve a more aggressive 2020 target on wind/solar.** By our estimate, if the surcharge can be raised again by RMB0.01/kWh to RMB0.035/kWh from 2018, the renewable fund would be able to turn into a surplus in the year and thus reduce the cumulative fund deficit balance to below RMB1bn by the end of 2020. **Besides renewable surcharges, the government can also provide subsidy supports using its fiscal budget on a discretionary basis.**

- Our other key assumptions through 2015-20 include: 1) flat yoy growth (1-4%) in total electricity consumption/sold during the period; 2) a RMB0.02-0.04/kWh tariff cut p.a. for newly operational wind/solar projects in the period as per NDRC proposal announced in Oct-2015; and 3) a RMB0.03/kWh thermal tariff cut effective 2016.



Figure 15: Renewable subsidy fund balance forecast

Renewable subsidy fund balance forecast	2011	2012	2013	2014	2015E	2016E	2017E	2018E	2019E	2020E
Renewable subsidy fund collected (Rmb m)	9,495	19,611	29,798	49,138	57,388	90,517	106,883	158,858	168,728	179,133
Total renewable subsidy needed (Rmb m)	15,966	24,374	38,609	51,762	63,783	90,095	115,488	138,341	156,078	171,384
Renewable fund surplus/(deficit) (Rmb m)	(6,471)	(4,763)	(8,811)	(2,624)	(6,395)	422	(8,604)	20,517	12,650	7,749
yoy growth %	-25.2%	-26.4%	85.0%	-70.2%	143.7%	-106.6%	-2139.5%	-338.5%	-38.3%	-38.7%
Accumulated renewable fund surplus/(deficit) (Rmb m)	(10,700)	(15,463)	(24,273)	(26,897)	(33,293)	(32,871)	(41,475)	(20,958)	(8,308)	(559)
yoy growth %	-435.0%	-44.5%	57.0%	10.8%	23.8%	-1.3%	-26.2%	-49.5%	-60.4%	-33.3%
Renewable net generation (bn kWh)	72	119	174	207	256	331	425	514	590	666
yoy growth %	43.4%	65.1%	47.1%	18.7%	23.4%	29.4%	28.5%	20.9%	14.8%	12.9%
Wind	71	97	136	152	186	231	291	346	401	456
Solar	1	3	8	22	24	41	62	83	104	125
Biomass	-	18	30	33	46	59	71	84	84	84
Electricity sold (bn kWh)	3,998	4,178	4,518	4,671	4,727	4,869	5,064	5,266	5,477	5,696
yoy growth %		4.5%	8.1%	3.4%	1.2%	3.0%	4.0%	4.0%	4.0%	4.0%
Agriculture	50	49	51	52	53	55	57	59	61	64
Residential	275	303	334	346	350	360	375	390	405	422
Industrial & Commercial	3,673	3,827	4,133	4,273	4,324	4,454	4,632	4,817	5,010	5,210
Renewable energy surcharge - residential (Rmb/kWh)	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Renewable energy surcharge - non residential (Rmb/kWh)	0.004	0.008	0.010	0.015	0.015	0.023	0.025	0.035	0.035	0.035
Theoretical surcharge collected (Rmb m)	14,968	30,917	40,630	64,440	65,213	100,574	116,177	168,998	175,758	182,788
Collection loss rate (%)	37%	37%	27%	24%	12%	10%	8%	6%	4%	2%
Renewable subsidy fund collected (Rmb m)	9,495	19,611	29,798	49,138	57,388	90,517	106,883	158,858	168,728	179,133
yoy growth %		106.5%	51.9%	64.9%	16.8%	57.7%	18.1%	48.6%	6.2%	6.2%
Wind										
Capacity (GW)	45	61	75	96	121	146	169	196	223	250
Utilisation hours (hours)	1,903	1,893	2,080	1,905	1,900	1,950	2,050	2,100	2,100	2,100
Power net generation (bn kWh)	71	97	136	152	186	231	291	346	401	456
Avg. wind tariff (incl.VAT) (Rmb/kWh)	0.56	0.56	0.57	0.57	0.56	0.56	0.55	0.55	0.54	0.53
Wind power tariff subsidy (Rmb/kWh)	0.20	0.18	0.19	0.20	0.20	0.22	0.21	0.20	0.20	0.19
Total wind subsidy (Rmb m)	14,201	17,530	26,092	30,322	37,173	49,650	61,367	70,838	79,300	85,957
yoy growth %		64.2%	23.4%	48.8%	16.2%	22.6%	33.6%	23.6%	15.4%	11.9%
Solar										
Capacity (GW)	2	4	12	21	36	54	72	90	108	126
Utilisation hours (hours)	1,200	1,200	1,107	1,211	1,200	1,200	1,200	1,200	1,200	1,200
Power net generation (bn kWh)	1	3	8	22	24	41	62	83	104	125
Avg. solar tariff (incl.VAT) (Rmb/kWh)	0.95	0.95	0.95	0.95	0.95	0.94	0.92	0.91	0.89	0.88
Solar power tariff subsidy (Rmb/kWh)	0.54	0.52	0.52	0.53	0.54	0.54	0.53	0.52	0.50	0.49
Total solar subsidy (Rmb m)	456	1,878	4,319	11,876	12,898	22,515	33,038	42,938	52,214	60,862
yoy growth %		268.1%	157.5%	175.0%	8.6%	74.6%	46.7%	30.0%	21.6%	16.6%
Biomass										
Capacity (GW)	0	6	8	11	14	17	20	20	20	20
Utilisation hours (hours)			5,844	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Power net generation (bn kWh)		18	30	33	46	59	71	84	84	84
Avg. biomass power tariff (incl. VAT) (Rmb/kWh)		0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65	0.65
Biomass power tariff subsidy (Rmb/kWh)		0.22	0.22	0.23	0.24	0.25	0.25	0.25	0.25	0.25
Total biomass subsidy (Rmb m)		3,864	6,567	7,449	10,777	14,828	18,053	21,279	21,279	21,279
yoy growth %			70.0%	13.4%	44.7%	37.6%	21.8%	17.9%	0.0%	0.0%
Grid connection expenses for renewable projects (Rmb m)	1,309	1,302	1,630	2,115	2,935	3,103	3,030	3,285	3,285	3,285
yoy growth %		-0.5%	25.2%	29.7%	38.8%	5.7%	-2.4%	8.4%	0.0%	0.0%

Source: Deutsche Bank estimates, NDRC, NEA, CEC

Carbon trade market still in infancy stages

According to the roadmap of carbon trading market development guided by the NDRC, the domestic carbon trading market build-out will be implemented in three phases: 1) 2014-15 as a preparatory period for trial pilots operation and for regulation/scheme optimization, 2) 2016-19 to establish a nationwide carbon trading market, and 3) 2020 and onwards as the final period to expand participant and trade product coverage as well as to establish linkage with international markets.



Pilot carbon trade operation paves way for building a nationwide market

The plan of the pilot carbon trade market operation was initiated in 2011 and the seven pilot markets (Shanghai, Shenzhen, Beijing, Guangdong, Tianjin, Chongqing, and Hubei) all commenced trading in 2013-14. Cumulative trade value since operation has reached RMB1.2bn with 40mn tons of carbon assets traded (Figure 16). In 1H15, total traded carbon amounted to 50mn tons with a trading volume of RMB830m, implying an average price of RMB16/ton.

Figure 16: Trade data of the pilot carbon trading markets

	Trade start date	Accum. trade volume	Accum. trade value	Avg. trade price	High	Low
		mn ton	RMB mn	RMB/ton	RMB/ton	RMB/ton
Shenzhen	Jun-13	4.7	224.3	48.1	123.0	21.5
Shanghai	Nov-13	3.1	100.9	32.3	44.9	9.5
Beijing	Nov-13	2.3	121.2	52.7	77.0	35.0
Guangdong	Dec-13	7.9	173.7	22.0	77.0	14.0
Tianjin	Dec-13	2.0	34.8	17.4	50.1	11.2
Hubei	Apr-14	19.9	490.6	24.7	28.0	20.0
Chongqing	Jun-14	0.3	6.8	24.7	30.7	10.4
Total		40.1	1,152.2	28.7		

Source: Deutsche Bank, WIND

- Carbon market dynamics:** According to the *Provisional Management Guidance on Carbon Emission Right Trade* issued by the NDRC in 2014, provincial authorities will determine the list of qualified carbon emission participants before submitting it to the State Council for approval. The State Council will be in charge of approving the qualified list and setting the total emission quota for provinces/municipal cities. In the early stages, most of the emission quota will be allocated for free, but the proportion of paid quota will increase gradually. The paid quota will be auctioned at local carbon markets in accordance with local auction schemes.

Carbon revenue and likely tariff cuts

According to the Climate Change Bureau of the NDRC, the trading volume of the national spot carbon market may grow several folds to up to RMB8.0bn by 2020, during which renewable players including wind/solar/hydro can benefit through selling their generated carbon credits. **The additional carbon revenue stream for wind IPPs (c.60% carbon market share in 2020E) could contribute to roughly 5-10% wind IPPs' bottom line based on our forecast 480bn KWh of wind output in 2020.** While the carbon trade may provide revenue/profit upside to wind developers in the future, the actual impact will depend on the standards implemented and actual demand and supply dynamics. Also, as mentioned earlier, **there is a likelihood of tariffs being cut for existing wind farms once carbon revenue leads to high project returns.**

Key assumption changes

We have made the following assumption changes for Longyuan, HNR, and Huadian Fuxin to incorporate the latest results/operational updates as well as industry policies:

- Wind tariff cuts:** We introduce new tariffs for the newly operational projects through 2016-20, with cuts ranging 2-8% yoy p.a. as per the



NDRC proposal, which reflects a conservative scenario, as the magnitude of the final cut may turn out to be milder.

- **Wind utilization:** We slightly revise downwards our wind utilization assumption for 2015E to reflect lower-than-expected utilization since 3Q15 and likely utilization decline in 2016, which is conservative in view of potential heightened curtailment. Also, we fine-tune assumptions for 2017 and onwards based on the UHV schedule.
- **Interest rates:** We are now assuming a 65/80/20bps interest rate cut in 2015E/16E/17E for floating debt, reflecting a time lag from the 165bps benchmark rate cut since 2014.
- **Specifically for Longyuan:** We factor in a one-off FX loss of RMB300m from RMB depreciation in 2015, which has already been reflected in the 9M15 financials. By 1H15, Longyuan had c.RMB10bn foreign debt balance on book, among which c.RMB7bn were exposed to FX volatility. We have not modeled any FX impact after 2015, as this is subject to the company's risk management. We assume thermal tariffs would be cut by RMB30cents/kWh effective 2016.
- **Specifically for HNR:** We raise our wind capacity addition assumption for 2015 from 1.8GW to 2GW while lowering the addition from 1.5GW to 1.3GW after 2015 to incorporate the company's latest guidance, which reflects its strategy of accelerating capacity ahead of the tariff cuts. Also, we factor in one-off items, including: 1) penalty income from Sinovel at c.RMB80m and 2) FX gain at c.RMB90m, both of which have been reflected in the 9M15 financials.
- **Specifically for Huadian Fuxin:** We assume the thermal tariff would be cut by RMB30cents/kWh effective 2016.

Primarily due to a more conservative utilization assumption in 2015-17E, our earnings forecasts for Longyuan, HNR, and Huadian Fuxin are revised downwards by 8-11% (6% impact from FX loss in 2015E), 0-3%, and 0-4%, respectively. Figure 17 gives a summary of the changes.

After incorporating the earnings revision, rolling forward the DCF valuation to FY16E and revising RMB/USD exchange rate assumption to 6.7 by end-2016 (based on Deutsche Bank economics team), our revised target prices are HK\$9.7 (previously HK\$10.1) for Longyuan, HK\$3.4 (previously HK\$3.7) for HNR, and HK\$4.0 (previously HK\$4.5) for Huadian Fuxin. **Compared with consensus, our earnings forecasts in FY16E are 3-5% below (Figure 18), probably due to our more conservative utilization assumption.**

Figure 17: Changes in earnings forecasts, ratings, and target prices

	DB Net Profit (CNYm)									Rating		Target Price HK\$		
	2015E			2016E			2017E							
	Before	Current	% chg.	Before	Current	% chg.	Before	Current	% chg.	Before	Current	Before	Current	% chg.
Longyuan	3,937	3,495	-11%	4,601	4,237	-8%	5,387	4,782	-11%	Buy	Buy	10.1	9.7	-4%
HNR	1,844	1,864	1%	2,267	2,232	-2%	3,069	2,935	-4%	Buy	Buy	3.7	3.4	-8%
Huadian Fuxin	2,168	2,190	1%	2,842	2,711	-5%	3,131	3,044	-3%	Buy	Buy	4.5	4.0	-11%

Source: Deutsche Bank estimates



Figure 18: Deutsche Bank vs. consensus FY15/16/17 estimates

Company	Stock Code	Rating	Price target	DB estimate			Consensus estimate			DB vs. consensus		
				2015E	2016E	2017E	2015E	2016E	2017E	2015E	2016E	2017E
Longyuan	0916.HK	Buy	HK\$9.7	3,495	4,237	4,782	3,714	4,371	5,015	-6%	-3%	-5%
HNR	0958.HK	Buy	HK\$3.4	1,864	2,232	2,935	1,861	2,385	2,943	0%	-6%	0%
Huadian Fuxin	0816.HK	Buy	HK\$4.0	2,190	2,711	3,044	2,263	2,817	3,444	-3%	-4%	-12%

Source: Deutsche Bank, Bloomberg Finance LP

Longyuan (0916.HK; Buy)

Investment thesis

We maintain our Buy rating on Longyuan Power. Its share price has underperformed the HSCEI by over 20% over the past one month, primarily attributable to a harsher-than-expected tariff cut plan for 2016-20 proposed by the NDRC. However, we think the stock is oversold and that tariff cut concern is exaggerated: even with the proposed rate cuts, wind farm IRRs should remain largely acceptable given visible potential utilization improvement. Earnings impact from the tariff cuts appear insignificant for Longyuan in 2017-18E at 1-2% given its application to only new projects and Longyuan's large existing capacity base. Moreover, we expect tariff cuts to be milder than our current conservative assumptions once finalized in 1H16 and thus provide a re-rating catalyst.

For the long term, despite the tariff cuts, we remain positive on the sector's outlook given that grid curtailment would be gradually relieved with most of the planned UHV lines operational in 2017-18E. We estimate UHV operations will offer additional 19GW capacity of wind power transmission in 2017-18 in areas of Inner Mongolia, Xinjiang, and Gansu, where Longyuan has c.36% of total capacity (by end-2014). In addition, a potential renewable surcharge hike (RMB0.01/kWh per our estimate) could further help accelerate subsidy payments and improve wind cash flow. The stock is trading at historically low forward PEs (10x FY16E) against a 2015-17E CAGR of 13%, even after factoring in harsh tariff cuts under the NDRC proposal and further utilization contraction in 2016 without curtailment improvement. Risk-reward appears attractive.

Valuation

Our target price is derived from a DCF analysis through to 2022E, based on an assumed WACC of 9.3%. Our WACC incorporates a cost of equity of 11.7% (a risk-free rate of 3.9%, ungeared beta of 1.4, ERP of 5.6%), after-tax cost of debt of 5.5%, and a 40%/60% debt/equity target capital structure. We assume terminal value growth of 2%, which is conservative, as less than 10% of China's wind resources are likely to be utilized by 2022. We have rolled forward our DCF valuation to 2016E.

Risks

Key downside risks: 1) grid bottlenecks resulting in lower-than-expected power dispatch, 2) steeper-than-expected final tariff cuts, 3) lower-than-expected wind speeds, 4) capacity addition plans falling short, and 5) lower-than-expected thermal plant utilization and margins.



Huaneng Renewables (0958.HK; Buy)

Investment thesis

We maintain a Buy rating on Huaneng Renewables. Its share price has underperformed the HSCEI by 20% over the past one month, primarily attributable to the harsher-than-expected tariff cut plan for 2016-20 proposed by the NDRC. However, we think the stock is oversold and the tariff-cut concern is exaggerated since wind farm IRRs should remain largely acceptable under proposed rate cuts given the visibility of utilization improvement. Earnings impact from the tariff cuts appears insignificant for HNR in 2017-18E at 2-3% given its application to only new projects and HNR's large existing capacity base. Moreover, we expect tariff cuts to be milder than our current conservative assumptions once finalized in 1H16 and thus provide a re-rating catalyst. For the long term, despite the tariff cuts, we remain positive on the sector's outlook given that grid curtailment would be gradually relieved with most of the planned UHV lines operational in 2017-18E. And a potential renewable surcharge hike (RMB0.01/kWh per our estimate) could further help accelerate subsidy payments and improve wind cash flow.

HNR is trading at historically low valuations – at a forward P/B (1x FY16E), close to the 2012 level when curtailment reached a record high and ROE was 5-10%, but FY15E ROE is much higher at 11%. Driven by a 17% average capacity growth and rate cut, we expect HNR to register a strong earnings CAGR at 27% in 2015-17, even after factoring in a harsh tariff cut and no utilization improvement in 2016. Risk-reward appears attractive.

Valuation

Our target price is derived from a DCF analysis through to 2022E, based on an assumed WACC of 9.8%. Our WACC incorporates a cost of equity of 12.3% (risk-free rate of 3.9%, geared beta of 1.5, ERP of 5.6%), after-tax cost of debt of 6%, and 40%/60% debt/equity target capital structure. We assume terminal value growth of 2%, which is conservative, as less than 10% of China's wind resources are likely to be utilized by 2022. We roll forward our DCF valuation to 2016E.

Risks

Key downside risks: 1) grid bottlenecks resulting in lower-than-expected power dispatch, 2) steeper-than-expected tariff cuts, 3) lower-than-expected wind speeds, 4) capacity addition plan falling short, 5) lower-than-expected reliability of its installed turbine and higher maintenance costs, and 6) potential share placement.

Huadian Fuxin (0816 HK, Buy)

Investment thesis

Huadian Fuxin has a balanced capacity portfolio with a roughly even capacity split across wind, coal, hydro, and others. We forecast an EPS CAGR of 18% in 2015-2017E, driven mainly by a strong capacity pipeline of nuclear/wind power and lower interest rates. As Fuqing Nuclear (39%-owned) commences operation in 2014-17, it should contribute 34% of Fuxin's 2017E earnings.



Despite a disappointing earnings growth of 1% in 9M15, 2016 should be a better year, with a forecast 24% EPS growth rate, to be driven by 1) a full-year contribution from Fuqing Unit 2 and an eight-month contribution from Fuqing Unit 3; 2) contributions from 1.0-1.5GW wind capacity added in 2015, 3) the lagging impact of six rounds of interest rate cuts from late 2014. Besides these, potential catalysts include 1) a hike in renewable surcharge to improve cash flow, 2) approval for the Kemen III project, and 3) a potential power demand recovery in Fujian.

Over the past one month, the stock has been oversold (underperforming the HSCEI by 25% over the past one month), primarily due to the proposed tariff cut and weak 3Q results. Huadian Fuxin is trading at an attractive 5x of 2016/17E PE and 0.9x 2015E P/B with a ROE of 13.6%. We maintain our Buy rating.

Valuation

Our target price is based on an SOTP-based valuation by applying DCF to the main business and PE multiples to associates. For its main business, we discount operating cash flow through 2025E and assume zero terminal growth. We apply a WACC of 8.3%, based on a 6.5% pre-tax cost of debt, a 3.9% risk-free rate, a 5.6% equity risk premium, a beta of 1.4, and a 50% target debt-to-capital ratio. We value associates by 12x 17E PE (when Fuqing Nuclear fully commences operations), discounted to 2016 by an 8.3% WACC.

Risks

Key downside risks include: 1) nuclear: delayed commissioning and capex overrun, and lower-than-expected utilization due to teething issues at new units or maintenance; 2) wind: steeper-than-expected tariff cuts, weak wind speeds, high grid curtailment, or less-than-expected capacity additions; 3) thermal: lower utilization due to unfavorable demand and supply in Fujian province, greater-than-expected coal tariff cuts relative to its coal price decline; 4) hydro: insufficient rainfall and thus lower hydro utilization hours; and 5) higher-than-expected effective finance cost and dilution from share placement.



Key operating metrics and financials

Figure 19: Longyuan's operating matrix (2011-18E)

	Unit	2011	2012	2013	2014	2015E	2016E	2017E	2018E
Total consolidated capacity	MW	10,472	12,418	13,785	15,418	17,718	19,718	21,718	23,718
Wind		8,597	10,543	11,910	13,543	15,843	17,843	19,843	21,843
YoY		31%	23%	13%	13.7%	17%	13%	11%	10%
Coal		1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875
YoY		0%	0%	0%	0%	0%	0%	0%	0%
Total average capacity	MW	8,467	10,154	12,263	13,461	15,929	17,827	19,827	21,827
Wind		6,592	8,279	10,388	11,586	14,054	15,952	17,952	19,952
YoY		45%	26%	25%	12%	21%	14%	13%	11%
Coal		1,875	1,875	1,875	1,875	1,875	1,875	1,875	1,875
YoY		0%	0%	0%	0%	0%	0%	0%	0%
Total capacity addition	MW	2,041	1,946	1,367	1,632	2,300	2,000	2,000	2,000
Wind		2,041	1,946	1,367	1,632	2,300	2,000	2,000	2,000
YoY		-1%	-5%	-30%	19%	41%	-13%	0%	0%
Coal		-	-	-	-	-	-	-	-
YoY		0%	0%	0%	0%	0%	0%	0%	0%
Gross power generation	GWh	25,103	28,052	32,994	32,729	37,679	41,152	45,354	51,195
Wind		13,355	16,820	21,929	23,088	28,231	31,941	36,373	42,393
YoY		32%	26%	30%	5%	22%	13%	14%	17%
Coal		11,749	11,232	11,065	9,641	9,448	9,212	8,981	8,802
YoY		3%	-4%	-1%	-13%	-2%	-3%	-3%	-2%
Net power generation	GWh	24,062	26,524	30,941	31,089	35,887	39,219	43,248	48,844
Wind		13,061	16,027	20,611	22,131	27,053	30,606	34,850	40,614
YoY		38%	23%	29%	7%	22%	13%	14%	17%
Coal		11,001	10,497	10,330	8,958	8,834	8,613	8,398	8,230
YoY		3%	-5%	-2%	-13%	-1%	-2%	-3%	-2%
Utilization hours	hrs								
Wind		2,026	1,985	2,111	1,980	1,995	1,985	2,005	2,102
YoY		-9%	-2%	6.3%	-6.2%	0.7%	-0.5%	1.0%	4.9%
Coal		6,266	5,990	5,901	5,142	5,039	4,913	4,790	4,694
YoY		3%	-4%	-1%	-13%	-2%	-3%	-3%	-2%
Average wind speed	m/s	6.55	6.66	6.77					
Average grid curtailment rate	ppt	11.9%	13.9%	11.8%	9.9%	12.0%	12.0%	10.0%	8.0%
Non-curtailed utilisation hours	hrs	2,300	2,305	2,393	2,198	2,192	2,111	2,077	2,167
Average on-grid Tariff (incl. VAT)	Rmb/MWh								
Wind		578	582	583	585	592	593	594	594
Coal		433	452	448	439	429	399	395	395
Average standard coal cost (incl.VAT)	Rmb/ton	245	234	201	181	152	144	144	144
% chg		1.6%	-4.5%	-14.0%	-10.2%	-16.0%	-5.0%	0.0%	0.0%

Source: Deutsche Bank estimates, Company data



Figure 20: Longyuan's income statement (2011-18E)

	2011	2012	2013	2014	2015E	2016E	2017E	2018E
Income statement (RMB million)								
Operating Revenue, Net	16,585	17,288	19,147	18,207	20,994	22,003	24,090	26,942
Wind Power	6,456	7,981	10,296	11,133	13,740	15,585	17,765	20,679
Coal Power	8,625	8,052	7,525	6,156	6,034	5,732	5,630	5,574
Other business	921	1,059	1,099	1,196	1,161	1,154	1,217	1,182
Others	583	196	226	(277)	58	(469)	(523)	(492)
Other net income	1,296	1,296	432	438	478	560	615	688
CERs and VERs income	746	742	54	0	0	0	0	0
Other government grants (incl. VAT rebate)	406	402	346	383	418	501	556	628
Others	144	152	32	55	59	59	59	59
Operating Expenses	(12,777)	(12,539)	(12,961)	(12,061)	(13,179)	(13,544)	(14,693)	(15,655)
Fuel (Coal Consumption)	(2,877)	(2,627)	(2,226)	(1,741)	(1,433)	(1,327)	(1,294)	(1,268)
Coal sales	(3,897)	(3,197)	(2,860)	(2,247)	(2,142)	(2,142)	(2,142)	(2,142)
Depreciation & Amortization	(2,998)	(3,697)	(4,401)	(5,001)	(5,741)	(6,461)	(7,231)	(7,956)
Personnel Costs	(805)	(925)	(1,116)	(1,225)	(1,383)	(1,502)	(1,628)	(1,746)
Material costs	(478)	(479)	(398)	(344)	(334)	(332)	(349)	(340)
Repairs and Maintenance	(257)	(305)	(521)	(450)	(610)	(736)	(945)	(1,027)
Administrative expenses	(308)	(402)	(399)	(378)	(441)	(462)	(506)	(566)
Service concession cost	(793)	(519)	(667)	(228)	(533)	0	0	0
Others operating expenses	(364)	(390)	(374)	(449)	(563)	(581)	(598)	(611)
Operating profit (excl. impairment cost)	5,103	6,045	6,617	6,584	8,292	9,020	10,012	11,974
Wind Power	4,434	5,109	5,368	5,686	7,185	8,139	9,244	11,191
Coal Power	783	990	1,162	816	1,108	891	799	817
Other business	51	158	238	199	160	164	155	164
Others	(116)	(244)	(536)	(200)	(464)	(177)	(188)	(200)
Operating profit margin								
Wind Power (exclude government grants and CDM)	51%	50%	48%	48%	49%	49%	49%	51%
Coal Power	9%	12%	15%	13%	18%	16%	14%	15%
Net Financial Expenses	(1,686)	(2,485)	(2,760)	(2,894)	(3,091)	(3,246)	(3,490)	(3,736)
Share of Profit of Associates	60	140	60	454	600	500	450	450
One off gain/loss	48	(32)	(384)	(82)	(300)	0	0	0
Profit Before Tax	3,526	3,667	3,533	4,062	5,501	6,274	6,972	8,689
Income Tax Expense	(305)	(342)	(561)	(510)	(751)	(819)	(934)	(1,277)
Effective Tax Rate	9%	9%	16%	13%	14%	13%	13%	15%
Profit Before Minority Interest	3,221	3,325	2,972	3,552	4,750	5,456	6,038	7,411
Minority Interest (incl. perp expense)	(642)	(732)	(921)	(993)	(1,256)	(1,219)	(1,255)	(1,427)
Net Profit Attributable to Shareholders	2,578	2,593	2,052	2,558	3,495	4,237	4,782	5,984
yoy	28%	1%	-21%	25%	37%	21%	13%	25%
Net Profit (Recurring)	2,542	2,617	2,340	2,619	3,720	4,237	4,782	5,984
yoy	32%	3%	-11%	12%	42%	14%	13%	25%
Per share (Rmb)								
Adjusted Weighted Ave. # of Shares	7,464	7,481	8,036	8,036	8,036	8,036	8,036	8,036
Basic EPS	0.345	0.347	0.255	0.318	0.435	0.527	0.595	0.745
yoy	27.8%	0.3%	(26.3%)	24.7%	36.6%	21.2%	12.9%	25.1%
DPS	0.069	0.064	0.048	0.060	0.082	0.158	0.179	0.223
yoy	27.8%	(7.7%)	(25.4%)	25.7%	36.6%	93.9%	12.9%	25.1%
Dividend payout ratio	20.0%	18.4%	18.6%	18.8%	18.8%	30.0%	30.0%	30.0%

Source: Deutsche Bank estimates, Company data



Figure 21: HNR's operating matrix (2011-18E)

Operating matrix (Summary)								
	2011	2012	2013	2014	2015E	2016E	2017E	2018E
Total consolidated capacity	4,904	5,458	6,551	8,012	10,212	11,712	13,212	14,712
yoy	39%	11%	20%	22%	27%	15%	13%	11%
Wind	4,904	5,458	6,221	7,527	9,527	10,827	12,127	13,427
yoy	39%	11%	14%	21%	27%	14%	12%	11%
Solar			330	485	685	885	1,085	1,285
yoy				47%	41%	29%	23%	18%
Total average capacity	3,488	4,736	5,491	6,581	8,410	10,407	11,927	13,447
yoy	126%	36%	16%	20%	28%	24%	15%	13%
Wind	3,488	4,736	5,491	6,227	7,856	9,633	10,933	12,233
yoy	126%	36%	16%	13%	26%	23%	13%	12%
Solar	-	-	-	354	554	774	994	1,214
yoy					56%	40%	28%	22%
Total capacity addition	1,382	553	1,094	1,461	2,200	1,500	1,500	1,500
yoy	-30%	-60%	98%	34%	51%	-32%	0%	0%
Wind	1,382	553	764	1,306	2,000	1,300	1,300	1,300
yoy	-30%	-60%	38%	71%	53%	-35%	0%	0%
Solar	-	-	330	155	200	200	200	200
yoy				-53%	29%	0%	0%	0%
Gross power generation	6,844	8,402	11,143	12,178	16,094	19,618	23,159	27,401
yoy	81%	23%	33%	9%	32%	22%	18%	18%
Wind	6,844	8,402	11,142	11,675	15,319	18,535	21,768	25,702
yoy	81%	23%	33%	5%	31%	21%	17%	18%
Solar	-	-	1	503	775	1,083	1,391	1,699
yoy					54%	40%	28%	22%
Net power generation	6,206	7,790	10,715	11,635	15,489	18,881	22,290	26,373
yoy	82%	26%	38%	9%	33%	22%	18%	18%
Wind	6,206	7,790	10,715	11,147	14,737	17,831	20,940	24,726
yoy	82%	26%	38%	4%	32%	21%	17%	18%
Solar	-	-	-	488	752	1,050	1,349	1,648
yoy						40%	28%	22%
Wind utilization	1,962	1,774	2,029	1,875	1,950	1,924	1,991	2,101
yoy	-13%	-10%	14%	-8%	4%	-1%	3%	6%
Solar utilization	-	-	-	1,420	1,400	1,400	1,400	1,400
yoy					0.0%	0.0%	0.0%	0.0%
Grid curtailment	12%	17%	11%	8%	9%	10%	9%	7%
Non-grid curtailed utilisation	2,230	2,137	2,275	2,143	2,143	2,138	2,188	2,259
Average on-grid wind tariff (incl. VAT)	596	605	594	598	596	593	591	588
yoy	-1.3%	1.5%	-1.8%	0.7%	-0.4%	-0.5%	-0.2%	-0.5%

Source: Deutsche Bank estimates, Company data



Figure 22: HNR's income statement (2011-18E)

	2011	2012	2013	2014	2015E	2016E	2017E	2018E
Income statement (RMBm)								
Operating Revenue, Net	3,196	4,027	5,909	6,151	8,127	9,840	11,623	13,701
Sales of Electricity	3,160	4,025	5,440	6,114	8,127	9,840	11,623	13,701
Service concession construction revenue	-	-	355	33	-	-	-	-
Others	36	1	2	4	-	-	-	-
Other net income	683	190	79	168	244	271	318	373
CDM income	484	105	-	-	-	-	-	-
Government grants	109	84	78	115	164	271	318	373
Others	90	1	0	53	80	-	-	-
Operating Expenses	(1,527)	(2,044)	(3,195)	(2,973)	(3,927)	(4,941)	(5,715)	(6,673)
Depreciation & Amortization	(1,169)	(1,612)	(1,962)	(2,270)	(2,889)	(3,607)	(4,146)	(4,684)
Service concession construction costs	0	0	(355)	(33)	0	0	0	0
Personnel costs	(118)	(151)	(211)	(260)	(335)	(419)	(485)	(553)
Repairs and Maintenance	(30)	(50)	(93)	(86)	(165)	(241)	(295)	(330)
Administrative cost	(118)	(127)	(151)	(187)	(241)	(301)	(342)	(383)
Others operating expenses	(92)	(104)	(422)	(136)	(297)	(374)	(448)	(723)
Operating profit	2,351	2,172	2,793	3,346	4,444	5,170	6,225	7,402
<i>Operating profit margin</i>	<i>74%</i>	<i>54%</i>	<i>47%</i>	<i>54%</i>	<i>55%</i>	<i>53%</i>	<i>54%</i>	<i>54%</i>
Net Financial Expenses	(1,019)	(1,530)	(1,703)	(2,091)	(2,466)	(2,688)	(2,925)	(3,128)
FX gain / (loss) and others	(194)	(12)	(78)	(20)	90	0	0	0
Share of Profit of Associates	-	-	(3)	(2)	0	0	0	0
Profit Before Tax	1,139	631	1,009	1,232	2,068	2,482	3,300	4,273
Income Tax Expense	(32)	(30)	(86)	(86)	(161)	(199)	(297)	(427)
<i>Effective Tax Rate</i>	<i>2.8%</i>	<i>4.7%</i>	<i>8.5%</i>	<i>6.9%</i>	<i>7.8%</i>	<i>8.0%</i>	<i>9.0%</i>	<i>10.0%</i>
Profit Before Minority Interest	1,107	601	924	1,147	1,907	2,283	3,003	3,846
Minority Interest	(84)	(43)	(29)	(26)	(43)	(51)	(67)	(86)
Net Profit Attributable to Shareholders	1,023	558	894	1,121	1,864	2,232	2,935	3,760
<i>yoy</i>	<i>94%</i>	<i>-45%</i>	<i>60%</i>	<i>25%</i>	<i>66%</i>	<i>20%</i>	<i>32%</i>	<i>28%</i>
Net Profit (Recurring)	1,168	567	1,015	1,061	1,736	2,232	2,935	3,760
<i>Net profit margin</i>	<i>37%</i>	<i>14%</i>	<i>17%</i>	<i>17%</i>	<i>21%</i>	<i>23%</i>	<i>25%</i>	<i>27%</i>
<i>yoy</i>	<i>123%</i>	<i>-51%</i>	<i>79%</i>	<i>5%</i>	<i>64%</i>	<i>29%</i>	<i>32%</i>	<i>28%</i>
Per share (Rmb)								
Adjusted Weighted Ave. # of Shares	7,275	8,447	8,562	9,045	9,728	9,728	9,728	9,728
Basic EPS	0.14	0.07	0.11	0.12	0.19	0.23	0.30	0.39
<i>yoy</i>	<i>54%</i>	<i>-53%</i>	<i>61%</i>	<i>16%</i>	<i>55%</i>	<i>20%</i>	<i>32%</i>	<i>28%</i>
DPS	0.00	0.02	0.02	0.02	0.03	0.04	0.05	0.06
<i>yoy</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>0%</i>	<i>55%</i>	<i>20%</i>	<i>32%</i>	<i>28%</i>
<i>Dividend payout ratio</i>	<i>0%</i>	<i>23%</i>	<i>19%</i>	<i>16%</i>	<i>16%</i>	<i>16%</i>	<i>16%</i>	<i>16%</i>

Source: Deutsche Bank estimates, Company data



Figure 23: Huadian Fuxin's operating matrix (2011-18E)

Operating metrics	Unit	2011	2012	2013	2014	2015E	2016E	2017E	2018E
Total consolidated capacity	MW	6,524	7,899	10,424	12,313	13,943	15,343	17,743	20,943
% chg		2.7%	21.1%	32.0%	18.1%	13.2%	10.0%	15.6%	18.0%
Thermal	MW	2,050	2,650	3,850	3,850	3,850	3,850	5,050	7,050
Hydro	MW	2,223	2,223	2,457	2,457	2,567	2,667	2,767	2,867
Wind	MW	2,171	2,717	3,501	4,889	6,089	7,289	8,289	9,289
Other renewables	MW	79	309	617	1,117	1,437	1,537	1,637	1,737
Total attributable capacity	MW	6,200	7,347	9,717	11,898	13,249	14,514	16,796	19,879
% chg		3.1%	18.5%	32.3%	22.4%	11.4%	9.5%	15.7%	18.4%
Annual utilisation hrs									
Thermal	Hours	6,045	4,762	5,063	5,018	4,516	4,245	4,075	3,953
Hydro	Hours	2,583	4,065	3,438	3,649	3,211	3,340	3,340	3,340
Wind	Hours	2,072	1,923	2,030	1,888	1,831	1,776	1,812	1,884
Consolidated gross output	Bn kWh	17.3	23.9	34.4	36.5	36.6	38.4	41.8	49.8
Thermal	Bn kWh	8.0	9.8	19.5	19.3	16.3	15.3	15.9	21.0
Hydro	Bn kWh	5.7	9.0	7.7	8.9	8.0	8.7	9.0	9.4
Wind	Bn kWh	3.1	4.3	6.2	6.8	9.5	11.1	13.5	15.9
Average tariff (ex. VAT)									
Thermal	Rmb/MWh	364	380	376	376	356	327	324	324
Hydro	Rmb/MWh	253	275	278	277	280	285	285	285
Wind	Rmb/MWh	481	484	482	489	489	489	488	485
Standard coal consumption	g/kWh	304	302	302	314	314	314	314	314
Avg. standard coal cost	Rmb/ton	740	755	666	617	543	505	505	505
% chg		-7.9%	2.0%	-11.8%	-7.4%	-12.0%	-7.0%	0.0%	0.0%

Source: Deutsche Bank estimates, Company data



Figure 24: Huadian Fuxin's income statement (2011-18E)

Income Statement (Rmb million)	2011	2012	2013	2014	2015E	2016E	2017E	2018E
Operating Revenue, Net	7,278	11,352	13,242	13,895	14,759	15,303	16,674	19,503
Hydro	1,441	2,414	2,075	2,404	2,219	2,449	2,543	2,638
Wind	1,214	1,901	2,767	3,153	4,307	5,061	6,118	7,176
Coal-fired	4,119	6,159	7,465	7,138	6,030	5,208	5,335	6,921
Other clean energy	453	597	289	485	673	852	944	1,035
Service concession construction	44	277	81	27	0	0	0	0
Others	7	3	4	4	0	0	0	0
Operating Expenses	(5,644)	(8,317)	(8,907)	(9,190)	(9,728)	(10,169)	(11,091)	(13,000)
Fuel	(2,010)	(4,107)	(4,362)	(4,218)	(4,050)	(3,810)	(3,902)	(4,710)
Cost of substituted electricity	(1,100)	(272)	(140)	(55)	0	0	0	0
Repairs and Maintenance	(168)	(335)	(440)	(426)	(508)	(584)	(674)	(786)
Administration expenses	(226)	(430)	(415)	(405)	(405)	(443)	(459)	(500)
Depreciation & Amortization	(1,244)	(1,798)	(2,175)	(2,667)	(3,330)	(3,799)	(4,309)	(4,945)
Service concession construction costs	(44)	(277)	(81)	(27)	0	0	0	0
Staff Costs	(661)	(801)	(955)	(1,052)	(1,072)	(1,156)	(1,337)	(1,578)
Other operating expenses(incomes)	(191)	(297)	(339)	(342)	(363)	(377)	(411)	(481)
Profit from Operations	1,945	3,478	4,397	4,942	5,118	5,221	5,670	6,590
<i>Operating margin</i>	27%	31%	33%	36%	35%	34%	34%	34%
Hydro	447	1,258	932	1,094	857	1,011	1,030	1,048
Wind	794	1,182	1,466	1,742	2,317	2,619	3,178	3,825
Coal-fired	656	907	1,966	1,899	1,620	1,162	1,068	1,282
Solar (incl distributed before 2013)	88	139	173	277	365	478	528	578
Other Income	310	443	61	237	87	87	87	87
Interest Income	71	74	120	173	163	129	115	119
Interest Expenses	(1,272)	(1,978)	(2,425)	(2,518)	(2,649)	(2,594)	(2,904)	(3,210)
Total Financial Expenses	(1,201)	(1,905)	(2,305)	(2,344)	(2,485)	(2,466)	(2,789)	(3,091)
Share of Profit of Associates	3	43	94	84	377	834	1,035	1,123
Profit Before Tax	748	1,616	2,185	2,681	3,009	3,590	3,916	4,622
Income Tax Expense	(95)	(261)	(484)	(534)	(534)	(583)	(556)	(650)
<i>Effective tax rate</i>	13%	17%	23%	21%	20%	21%	19%	19%
Profit Before Minority Interest	653	1,356	1,701	2,147	2,475	3,006	3,360	3,972
Minority Interest	(87)	(262)	(233)	(280)	(285)	(295)	(316)	(387)
Net Profit Attributable to Shareholders	566	1,093	1,468	1,867	2,190	2,711	3,044	3,585
<i>Net profit margin</i>	8%	10%	11%	13%	15%	18%	18%	18%
Recurring EPS (Rmb)	0.09	0.16	0.19	0.23	0.26	0.32	0.36	0.43
<i>growth yoy %</i>	NM	70%	20%	22%	11%	24%	12%	18%
DPS (Rmb)	-	0.03	0.04	0.04	0.05	0.06	0.07	0.09
<i>growth yoy %</i>	NM	NM	32%	14%	20%	24%	12%	18%
<i>Dividend payout ratio</i>	0%	18%	20%	19%	20%	20%	20%	20%

Source: Deutsche Bank estimates, Company data

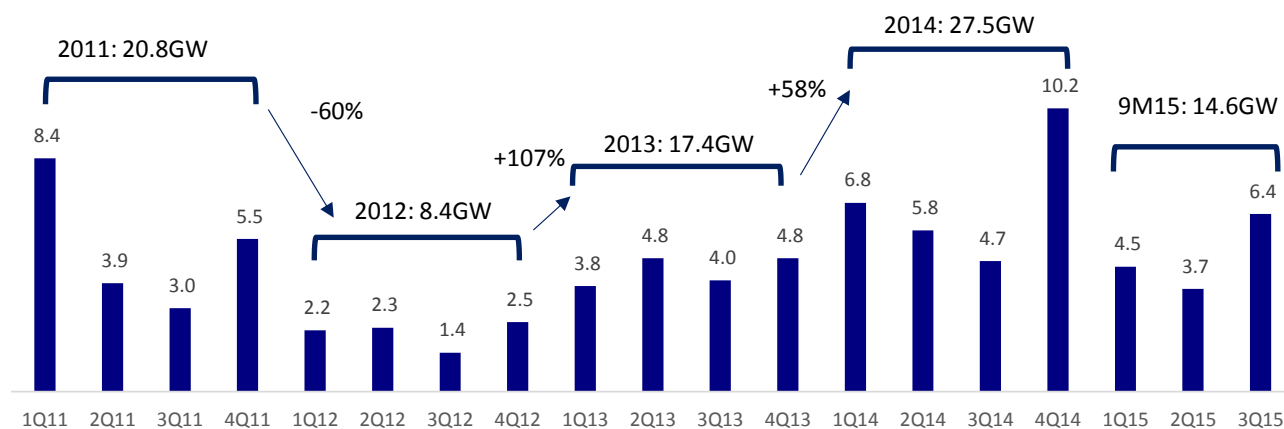


Neutral on wind power equipment

Key points

- China's public wind turbine tenders normalized in 2015. 9M15 tenders retreated 15% yoy to 14.6GW. We expect the full-year figure to be close to 20-25GW. For capacity addition, we expect an annual increase of 25GW to reach 250GW in 2020, higher than the current target of 200GW.
- Over the past 12 months, wind equipment makers have outperformed the market by 7-8% and wind developers by 27-28% thanks to strong financial results. Currently, Goldwind and CHSTE are trading at 12x/10x FY16E PE, with a largely flat earnings outlook in 2016.
- However, we are moderately concerned that ASP will be under pressure as wind developers may pass through the tariff cuts to wind turbine makers, which have less bargaining power. Goldwind and CHSTE are running with high GPMs of 25-35%. These factors, together with a flat capacity growth outlook, make the sector's risk-reward appear neutral.

Figure 25: Quarterly public tender volumes of wind turbines



Source: Deutsche Bank, Goldwind

Likely higher 2020 target still indicating largely flat capacity addition per year

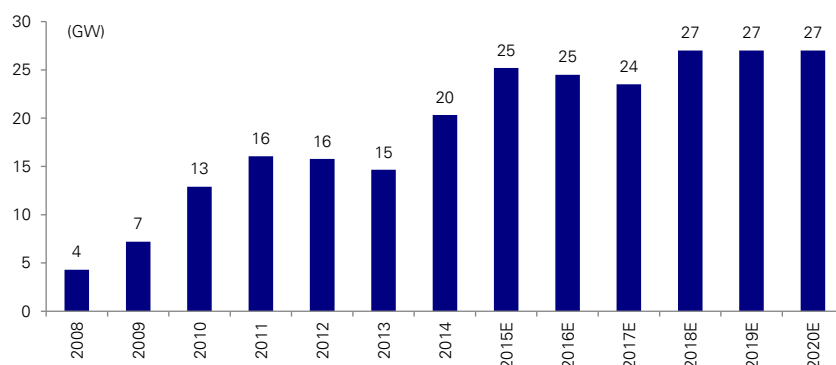
By end-9M15, 109GW of wind farms had been connected, up from 96GW by end-2014. We estimate China's total grid-connected wind capacity will reach 120GW by end 2015. Thus, it could exceed its 12th FYP wind capacity target of 100GW by 20%.



According to local news reports, the National Energy Administration (NEA) plans to raise the wind capacity installation target to 250-280GW by 2020 from 200GW, which would require average annual additions of over 25GW through 2015-20. **With technology breakthroughs in low-speed wind turbines, a slew of rate cuts mitigating the impact of tariff cuts, and increasing UHV investment to reduce the curtailment ratio, we believe a higher 2020 installation target is not only highly likely but also achievable.**

We introduce our new wind installation forecast as shown in Figure 26, with a 2020 capacity projection of 250GW.

Figure 26: China wind capacity installation forecast



Source: Deutsche Bank estimates, CWEA, NEA

For 2016, we expect a largely similar wind installation level to 2015 because **the 5th batch of the national wind approval plan** listed a historical high of 34GW wind projects, among which 23GW is specifically scheduled to commence operation in 2016. Moreover, the location mix is shifting toward more projects in zone IV (86% of the total) with a low curtailment ratio. In addition, the **plan for further tariff cuts** proposed by the NDRC could trigger a capacity rush despite tariff cuts at end-2015.

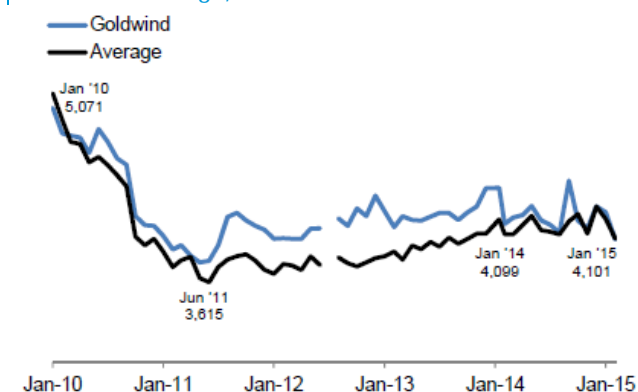
For the period 2017 to 2020, we believe capacity addition will remain at high levels, with utilization helped by UHV operations, which would bring the cumulative connected wind capacity to 250GW by end-2020.

ASP/margin at risk from tariff cut pass-through

The wind turbine tender ASP has been largely flat since 2014. Nevertheless, we are moderately concerned that ASP will be under pressure as wind developers may pass through the tariff cuts to wind turbine makers, which have less bargaining power. Leading wind turbine/gearbox makers, such as Goldwind and CHSTE, are running with 25-35% GPM and 10% NPM, implying room for a further squeeze.

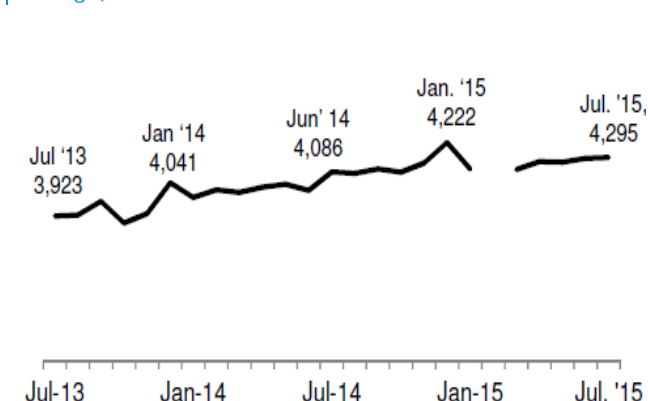


Figure 27: WTG tender ASP (1.5MW, RMB/kW, Goldwind vs. market average)



Source: Deutsche Bank, Goldwind

Figure 28: WTG tender ASP (2.0MW, RMB/kW, market average)



Source: Deutsche Bank, Goldwind

Key company-specific changes

To incorporate the latest results/operational updates and factor in our revised industry installation forecast, we made the following key assumption changes for Goldwind and CHSTE.

- **Wind turbine shipment:** Instead of assuming a decline in 2016, we now model flat shipment in 2016, supported by more wind farm investment in zone IV as listed in the fifth batch.
- **ASP:** We factor in a slight decline in wind turbine ASP in 2016-17 (1-3%), considering the risk of price cuts by wind developers to pass through the annual tariff cut.

Specifically for Goldwind,

- **Wind farm operation:** We assume 900MW/1,000MW/800MW capacity addition in 2015/16/17E, largely in line with the company's guidance of 1GW per year but with some delay in 2015. We also factor in the tariff cut proposed by the NDRC and a conservative utilization assumption to reflect deteriorating curtailment in Xinjiang.
- **Wind farm disposal:** We factored in a gain of c.RMB200m from the announced disposal of a 90% stake in Chifeng and 50% in Tongli, each with 99MW capacity. No more disposal is assumed afterwards.

As a result, we raise our 2015/16/17E earnings forecasts by 22%/24%/3% for Goldwind and 5%/19%/8% for CHSTE, mainly on higher shipment assumption. We expect a mild earnings decline in 2017E (6% for Goldwind and 4% for CHSTE) on concern of slight margin contraction. We summarize the changes to our earnings forecasts in Figure 29. We also decide to use a lower target P/B for Goldwind (from 2.0x to 1.7x) and CHSTE (from 1.2x to 1.0x) to reflect increasing risk in ASP and margin, due to the proposed tariff cut.

After incorporating the earnings revision and revising the RMB/USD exchange rate assumption to 6.7 by end-2016 (according to the Deutsche Bank economics team), we revise our target prices to HKD13.2 (previously HKD15.8) for Goldwind-H, RMB11.4 (previously RMB12.8) for Goldwind-A (based on an FX-adjusted TP for Goldwind-H), and HKD7.2 (previously HKD9.2) for CHSTE.



Figure 29: Earnings and target price changes

	DB Net Profit (CNYm)									Rating		Target Price HK\$		
	2015E			2016E			2017E							
	Before	Current	% chg.	Before	Current	% chg.	Before	Current	% chg.	Before	Current	Before	Current	% chg.
CHSTE	926	973	5%	920	1,098	19%	980	1,054	8%	Buy	Hold	9.2	7.2	-22%
Goldwind - H	2,653	3,239	22%	2,482	3,073	24%	2,816	2,903	3%	Hold	Hold	15.8	13.2	-16%
Goldwind - A	2,653	3,239	22%	2,482	3,073	24%	2,816	2,903	3%	Sell	Sell	12.6	11.4	-10%

Source: Deutsche Bank estimates

Figure 30: Deutsche Bank vs. consensus

Company	Stock Code	Rating		DB estimate			Consensus estimate			DB vs. consensus		
				2015E	2016E	2017E	2015E	2016E	2017E	2015E	2016E	2017E
CHSTE	0658.HK	Hold	HK\$7.2	973	1,098	1,054	929	994	996	5%	10%	6%
Goldwind-H	2208.HK	Hold	HK\$13.2	3,239	3,073	2,903	2,787	3,035	3,552	16%	1%	-18%
Goldwind-A	002202.SZ	Sell	11.4	3,239	3,073	2,903	2,868	3,194	3,838	13%	-4%	-24%

Source: Deutsche Bank estimates, Bloomberg Finance LP

Goldwind (2208.HK; Hold)

Investment thesis

We maintain Hold on Goldwind H shares. We expect China's wind capacity addition to come in largely flat at around 25GW in 2016-20 after record high capacity installation in 2015E. Thus, further growth in the wind turbine market will likely be limited. In addition, we are incrementally concerned that ASP will be under pressure as wind developers may pass through the tariff cuts to wind turbine makers, which have less bargaining power. The stock has risen 345% over the past three years with a recovery in the domestic wind turbine market since 2013. At 11x FY16E P/E with a flat earnings outlook, we believe the stock is fairly valued, and risk-reward is not especially attractive with a marginally declining possibility of a further positive surprise. We maintain our Hold rating.

Valuation

We view Goldwind as a cyclical industrial name. We use target P/B to value the stock, reflecting ROE expectations. We base our valuation on 1.7x 2016E P/B, given a relatively stable wind turbine business outlook and a rising mix in favor of the wind farm business, which deserves a higher P/B over peers such as CHSTE, which purely focus on manufacturing.

Risks

Key risks include 1) higher-/lower-than-expected wind turbine sales delivery, 2) higher-/lower-than-expected margins, 3) higher-/lower-than-expected wind farm addition, and 4) better-/worse-than expected wind farm operating results (affected by tariff cut and utilization performance) and disposal proceeds.

CHSTE (0658.HK; Hold)

Investment thesis

We downgrade CHSTE from Buy to Hold. We expect China's wind capacity addition to come in largely flat at around 25GW in 2016-20 after record high capacity installation in 2015E. This implies limited further growth in the wind turbine market. In addition, we are incrementally concerned that ASP will be under pressure as wind developers may pass through tariff cuts to wind turbine and gearbox makers, which have less bargaining power. On exports,



wind gearbox sales to GE (1/3 of total) should remain robust with larger-product procurement. CHSTE has also been dedicated to improve operation efficiency and cash flow by disposing of non-performing businesses and re-focusing on the core wind business.

After a share price outperformance (+20%) vs. the HSCEI over the past six months, the stock is now trading at 10x FY16E PE and 1x FY16E P/B vs. a 10% ROE – not an expensive valuation, but we believe the risk-reward is turning less attractive given limited and uncertain further growth.

Valuation

We view CHSTE as essentially a cyclical industrial stock. We use a target P/B approach to value market leaders such as CHSTE. We base our valuation on 1.0x 2016E P/B, which reflects a relatively stable business outlook and 11% FY15/16 ROE.

Risks

Key risks include 1) higher-/lower-than-expected wind gearbox deliveries; 2) a faster-/slower-than-expected traditional industrial gearbox recovery, which depends primarily on China's macro outlook and the end-market demand and supply outlook; and 3) the performance of new products such as LED.



Neutral on nuclear power developers and equipment makers

Key points

- For nuclear developers, we are still concerned about project delay, tariff pressure arising from a coal tariff cut, and utilization pressure from a more severe oversupply. We think that the impact of these concerns will weigh more on its multiples than near-term earnings. We upgrade CGN Power from Sell to Hold, as the current share price is close to our target price.
- Amid the macroeconomic slowdown and shift in growth structure, the thermal plant load factor is expected to slip below 50% for full-year 2015, which indicates a worse-than-normal power oversupply trend.
- 2015 had a strong spike in new coal project approvals, indicating a likely pick-up in thermal delivery through 2016-17. However, the current severe power oversupply suggests the spike is not sustainable.
- Thermal margin is also not likely to recover to the 20% level given the equipment capacity oversupply amid structurally lower national thermal demand. Nuclear and wind power have a secular growth profile, but this strong expectation has been incorporated into our earnings outlook.
- As Dongfang Electric-H and Shanghai Electric-H are trading close to our target prices after falling 50%/40% over the past six months, we upgrade both stocks from Sell to Hold.

2020 capacity target unlikely to be met despite positive progress in domestic/export nuclear

China has approved four nuclear units so far in 2015: Fuqing 5 and 6, and Hongyanhe 5 and 6. **We believe China is likely to approve at least six units a year in 2016-20 to allow its target of 30GW capacity under construction at end 2020 to be met.** However, it is unlikely to achieve its 2020 target of 58GW capacity in operation due to delays in new project starts. Based on cross-checks with various industry experts and news flow, we have identified 22 units that are more likely to receive approvals in 2016-18.

The main pump issue facing AP1000 pioneer projects – Sanmen and Haiyang – was finally resolved in October. Westinghouse Electric, Curtiss-Wright Corporation, and State Nuclear Power Technology Corporation (SNPTC) announced that the final performance testing of the AP1000 plant RCP (Reactor Cooling Pump) was successfully completed.

The achievement enables the first two RCPs of Sanmen Unit 1 to be delivered on site by the end of this year. It will also help speed up the approval/construction of other projects that use AP1000 or CAP1400 technology (based on AP1000 tech), such as Sanmen II, Haiyang II, Xudapu I,



Lufeng 1, and Taohuajiang. Among the 22 units (Figure 31), we believe Fangchenggang Units 3-4 and Shidaowan Units 1-2, using the technology of Hualong One and CAP1400, respectively, are the most likely to receive approval first. Also, Taohuajiang in Hubei is likely to be the first inland project to receive approval after a four-year suspension.

Figure 31: Construction and operation schedule of nuclear units in China

Project/Unit name	Province	(MW)	Reactor type	Developer	Constr. (FCD, DBE)	Operation (DBE)
24 units under construction						
Hongyanhe 4	Liaoning	1,080	CPR1000	CGNPC	Aug-09	Apr-16
Ningde 4	Fujian	1,080	CPR1000	CGNPC/Datang	Sep-10	Oct-16
Fuqing 1 - 3	Fujian	1,080	CNP1000	CNNC	Dec-10	Mar-16
Fuqing 1 - 4	Fujian	1,080	CNP1000	CNNC	Nov-12	Apr-17
Yangjiang 3	Guangdong	1,080	CPR1000	CGNPC	Nov-10	May-16
Yangjiang 4	Guangdong	1,080	CPR1000	CGNPC	Nov-12	Dec-17
Yangjiang 5	Guangdong	1,080	ACPR1000	CGNPC	Sep-13	Dec-18
Yangjiang 6	Guangdong	1,080	ACPR1000	CGNPC	Dec-13	Jun-19
Sanmen - 1	Zhejiang	1,250	AP1000	CNNC	Apr-09	Sep-16
Sanmen - 2	Zhejiang	1,250	AP1000	CNNC	Dec-09	Jan-17
Haiyang - 1	Shandong	1,250	AP1000	CPIG	Sep-09	Jul-16
Haiyang - 2	Shandong	1,250	AP1000	CPIG	Jun-10	Mar-17
Taishan - 1	Guangdong	1,700	EPR	CGNPC	Nov-09	Jul-16
Taishan - 2	Guangdong	1,700	EPR	CGNPC	Apr-10	Jul-17
Fangchenggang - 1	Guangxi	1,080	CPR1000	CGNPC	Jul-10	Dec-15
Fangchenggang - 2	Guangxi	1,080	CPR1000	CGNPC	Dec-10	Oct-16
Shidaowan	Shandong	210	HTGR	Huaneng	Dec-12	Jul-16
Changjiang - 2	Hainan	650	CNP600	CNNC/Huaneng	Nov-10	Feb-16
Tianwan - 3	Jiangsu	1,126	VVER-1000 (AES-91)	CNNC	Dec-12	Feb-18
Tianwan - 4	Jiangsu	1,126	VVER-1000 (AES-91)	CNNC	Sep-13	Dec-18
Fuqing - 5	Fujian	1,080	Hualong One	CNNC	May-15	Jun-20
Fuqing - 6	Fujian	1,080	Hualong One	CNNC	Mar-16	Apr-21
Hongyanhe - 5	Liaoning	1,080	ACPR1000	CGNPC	Mar-15	May-20
Hongyanhe - 6	Liaoning	1,080	ACPR1000	CGNPC	Jul-15	Aug-20
22 units likely to receive approvals in 2016-18						
Fangchenggang - 3	Guangxi	1,080	Hualong One	CGNPC	Dec-15	Feb-21
Fangchenggang - 4	Guangxi	1,080	Hualong One	CGNPC	Oct-16	Nov-21
Shidaowan - 1	Shandong	1,400	CAP1400	SNPTC/Huaneng	Mar-16	Apr-21
Shidaowan - 2	Shandong	1,400	CAP1400	SNPTC/Huaneng	Mar-17	Apr-22
Tianwan - 5	Jiangsu	1,060	VVER-1200/CPR1000	CNNC	Nov-15	Jan-21
Tianwan - 6	Jiangsu	1,060	VVER-1200/CPR1000	CNNC	Dec-15	Feb-21
Xudapu - 1	Liaoning	1,080	CNP1000	CNNC/Datang	Sep-16	Oct-21
Xudapu - 2	Liaoning	1,080	CNP1000	CNNC/Datang	Jun-17	Aug-22
Lufeng - 1	Guangdong	1,250	AP1000	CGNPC	Jun-16	Jul-21
Lufeng - 2	Guangdong	1,250	AP1000	CGNPC	Mar-17	May-22
Taohuajiang - 1	Hunan	1,250	AP1000	CNNC	Mar-16	Jan-21
Taohuajiang - 2	Hunan	1,250	AP1000	CNNC	Mar-16	Jan-22
Sanmen - 3	Zhejiang	1,250	AP1000	CNNC	Jun-16	Jul-21
Sanmen - 4	Zhejiang	1,250	AP1000	CNNC	Mar-17	May-22
Haiyang - 3	Shandong	1,250	AP1000	CPIG	Jun-16	Jul-21
Haiyang - 4	Shandong	1,250	AP1000	CPIG	Mar-17	May-22
Zhangzhou - 1	Fujian	1,250	AP1000	CNNC	Jun-16	Jul-21
Zhangzhou - 2	Fujian	1,250	AP1000	CNNC	Feb-17	Apr-22
Zhangzhou - 3	Fujian	1,250	AP1000	CNNC	Nov-17	Dec-22
Zhangzhou - 4	Fujian	1,250	AP1000	CNNC	Aug-18	Sep-23
Ningde - 5	Fujian	1,080	Hualong One	CGNPC/Datang	Mar-17	Dec-21
Ningde - 6	Fujian	1,080	Hualong One	CGNPC/Datang	Dec-17	Dec-22

Source: Deutsche Bank estimates



Breakthrough in nuclear export opens doors to more markets

After years of efforts, China achieved breakthroughs in nuclear export this year with two mega-size contracts signed with Britain and Argentina, respectively.

- In October 2015, China General Nuclear Corporation (CGN) reached an agreement with state-owned EDF Energy to co-invest in a Hinkley Point C nuclear project in England with respective 33.5% and 66.5% stakes in a deal worth GBP18bn. It is also worth mentioning that China will be able to bring its own Generation III nuclear technology of Hualong One to a subsequent project Bradwell B.
- In November 2015, China National Nuclear Corporation (CNNC) sealed a USD6bn deal with Argentina to build the country's fourth nuclear plant. According to media reports, CNNC also reached a framework agreement with Argentina on a fifth plant, which will use Hualong One technology if the deal is finalized.

China's first nuclear project based on Hualong One, Fuqing 5, achieved FCD in May. Its construction and operation, together with the recognition of developed countries with advanced nuclear tech and experience such as Britain, will help open doors to more markets for Hualong One. **However, all these projects will take at least seven to eight years to complete, which suggests limited near-term upside potential for nuclear equipment exports.**

Our concerns over nuclear developer prevail

Concerns over Taishan delay/tariff setting uncertainty

While management maintained its expected operational timeline for Taishan Nuclear Units 1-2 for 2016 during a 3Q15 call, we continue to view it as unrealistic: chances of further delays are high with cold testing of its first unit not yet started (**it normally requires at least 12 months from cold testing to operation**). In case of delays, the investment cost for Taishan could go up beyond the 46% overrun from the original RMB50bn estimate.

In addition, policy guidance is unclear regarding the tariff setting for GIII units. As Taishan's investment is 70-100% higher than CGN's GII+ units, we believe that even a higher tariff would be insufficient to generate a comparable return to GII units.

Concern over the negative impact from thermal tariff cuts

A further thermal tariff cut, which has been proposed by the NDRC according to media report, could pose a risk to the profitability of nuclear power in the following aspects.

- **Risk of nuclear tariff:** The first batch of GIII units is likely to be priced at an 8-16% tariff premium to local coal-fired units. The thermal tariff cut may expose the return to risk if the tariff is set at a lower premium.
- **Risk of utilization:** Currently, the nuclear benchmark tariff of RMB430/kWh for GII+ units is competitive in most provinces in China (with a 0.2-14.3% discount except for Liaoning). A thermal tariff cut reduces the competitiveness of nuclear power and thus affects utilization hours. Management of CGN Power has expressed more of a concern with the potential negative impact of nuclear utilization than with the on-grid tariff. The same tariff will apply to new units (Ningde 3-4 and Hongyanhe 3-4) and to operative ones, regardless of the potential thermal tariff cut.

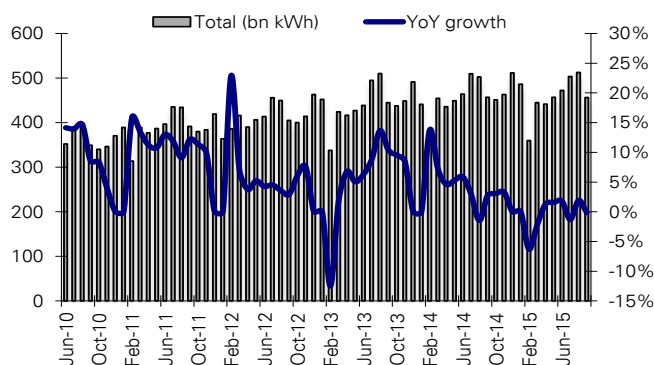


Our cautious view on Shanghai/Dongfang Electric is unchanged, but share price slump leads us to upgrade

Weak power demand; oversupply getting worse

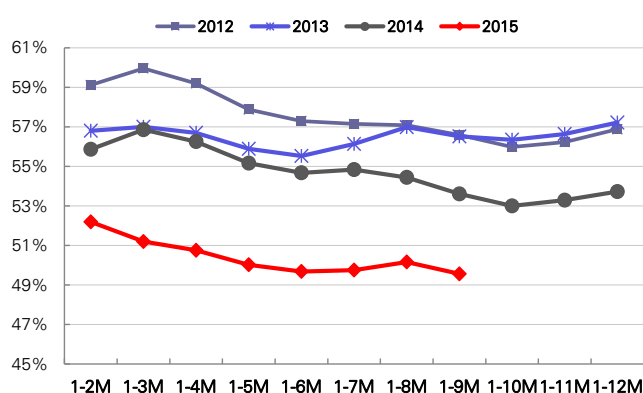
Amid the macroeconomic slowdown and shift in growth structure, the country's total power consumption growth further weakened to only 0.8% in 9M15 vs. 5.3% in 2014 (Figure 32). Consequently, the national average thermal utilization in 9M15 went down 8% yoy at 3,247hrs (Figure 33). **The thermal plant load factor is expected to slip below 50% for full-year 2015, which indicates a worse-than-normal power oversupply trend.**

Figure 32: Monthly power consumption and yoy growth



Source: Deutsche Bank, WIND

Figure 33: Thermal utilization (monthly accumulated)



Source: Deutsche Bank, WIND

Temporary approval hike does not suggest a fundamental industry turnaround

Despite depressed thermal utilization, new thermal projects had a surprising hike in new approvals granted since 2015. Total coal-fired capacity approved in 9M15 amounted to c.98GW, up substantially from an average of 40GW for the full year in 2011-14 (Figure 34). On the surface, this sounds like good news for power equipment makers, which expect to revive thermal orders/deliveries. However, we suspect several reasons behind the unusual approval hike and do not expect this high approval level to continue.

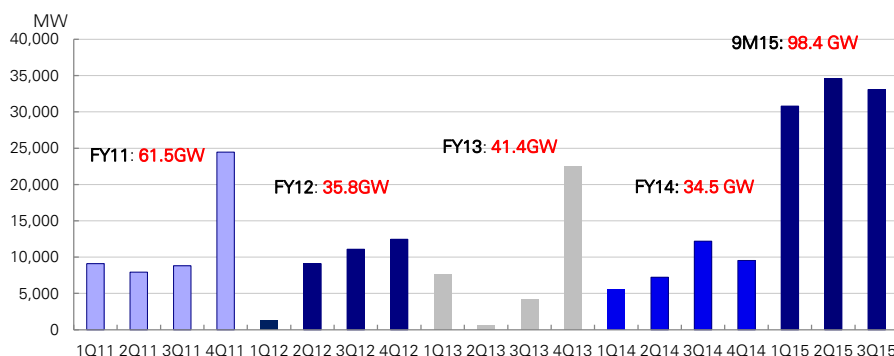
- Power projects for UHV transmission:** We estimate that, of the 98GW capacity approved in 9M15, at least 16.5GW was approved along with planned UHV projects in northern and western China, which include seven projects (13.2GW) in Xinjiang for the Zhundong-South Anhui ±1100kV DC line and four projects (3.2GW) in Inner Mongolia for the Ximeng-Shandong 1000kV AC line. In view of the high concentration of UHV lines commencing operation in 2017-18, the spike in new UHV-related coal projects would be seen only in 2015.
- Economic stimulus:** To combat the economic downturn, the government is relying more on infrastructure-related investment projects as part of its economic stimulus plan. Moreover, as 2015 is one year ahead of the 13th FYP period, project approvals this year have been geared toward planning for the whole period of 2016-20, instead of one single year.



Hence, a pick-up in thermal delivery could occur through 2016-17, but we do not expect equipment players to benefit significantly from an approval hike because:

- 1) The high level of approvals is not sustainable in the face of a power oversupply, depressed thermal utilization hours, and other reasons mentioned above; we expect new project approval to fall sharply to 20-30GW per year in 2016-17, as many industry participants have warned the severe power oversupply risk after seeing nearly 100GW new coal power projects approved this year.
- 2) Some approved projects may not be delivered in 2016-17 but are more likely in 2018-19, due to planning for the whole 2016-20 period.
- 3) Some of these projects approved recently would have been part of an order backlog, as the equipment tender process often starts right after preliminary approval.

Figure 34: Quarterly approved coal-fired projects (1Q11-3Q15)



Source: Deutsche Bank, NDRC

Slim chance of a margin rebound

Margin is also not likely to recover to the 20% level of 2011-12 given the equipment capacity oversupply amid structurally lower national thermal demand. Based on our checks, the price war in thermal equipment seems to have ended in 2014, but ASP recovery since then has been modest. With limited further downside to cost reductions (mainly steel-related materials), the low margin will continue to weigh on the profitability of thermal equipment makers. The appreciation of RMB over other currencies also poses a challenge for the margin in overseas orders (equipment + EPC).

Nuclear and wind are bright spots, but expectations have been already set high

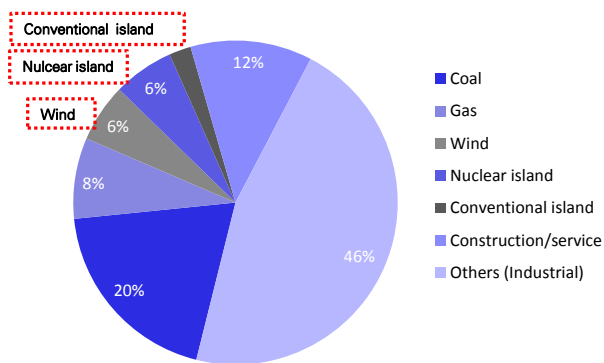
For power equipment makers, nuclear and wind are bright spots thanks to resumed approvals in domestic nuclear projects, breakthroughs in overseas nuclear orders, and a higher 2020 wind capacity target with UHV build-out.

Accordingly, we have incorporated CAGRs of 13%/18% into 2015-17 revenue forecasts for nuclear and wind for Shanghai/Dongfang. Nevertheless, nuclear/wind are not earnings turnaround drivers for equipment players, whose overall business continues to be dragged down by thermal. The contribution to gross profit from wind and nuclear is c.15%/28% in 2017E for Shanghai/Dongfang (Figure 35 and Figure 36).



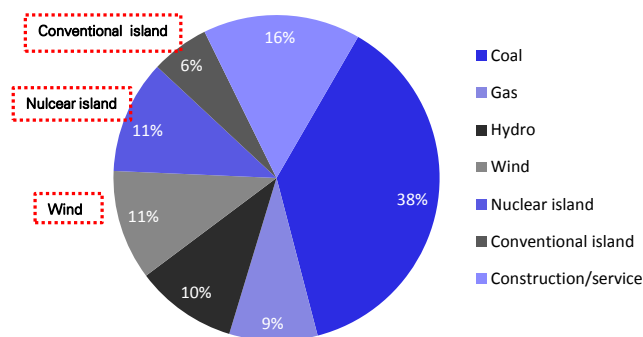
One more issue that needs to be pointed out is that many projects, such as Sanmen 3-4, Haiyang 3-4, Lufeng, Taohuajiang, Bailong, and Zhanzhou, have already tendered for equipment prior to final approval. Hence, the reported nuclear order backlog already reflects projects to be approved in advance. For instance, despite two new nuclear projects being approved this year, Shanghai Electric's new nuclear island orders dropped 65% yoy in 9M15.

Figure 35: Gross profit breakdown – Shanghai, 2017E



Source: Deutsche Bank

Figure 36: Gross profit breakdown – Dongfang, 2017E



Source: Deutsche Bank

National power D/S forecast: raising supply growth; cutting demand growth

Below, we provide an excerpt from our note *China IPPs - Introducing new demand and supply forecast for 2015-20E* published on 30 October 2015. **Overall, we have lowered our expectation in power demand growth, raised new coal-fired and renewable capacity additions, and derived a lower utilization forecast for coal-fired power plants.** A detailed power demand and supply forecast is provided in Figure 3.

Slowing power demand growth in 2015-20E

We have lowered our expectation of 2015 power demand growth from 2.5% yoy to 1.2% yoy, given disappointing 9M15 power consumption data. We expect power demand to **slightly recover to 3% yoy in 2016E and maintain a 4% CAGR in 2017-20E.** Previously, we expected 4% yoy growth in 2016E and a 5% CAGR in 2017-20E.

Lifting thermal capacity additions

We raise our thermal (mainly coal) capacity addition assumptions in 2015-17E from 43/40/45GW to 55/45/60GW for 2015/16/17E, respectively. New thermal capacity addition in 9M15 increased 53% yoy to 39.6GW, with no sign of a slowdown, given substantial new thermal project approvals in 1-3Q15. The total capacity of new coal-fired project approvals in 9M15 amounted to a **historically high level at c.98GW, up 178% yoy** (Figure 34).

Total approved new coal projects since the beginning of 2014 add up to 130GW, and they should start operation over the next three years. According to the China Electricity Council, 78GW thermal projects were under construction as of the end of September. In 9M15, total investment in new thermal projects was up 26% yoy.



Continuing downside on thermal utilization

We have lowered average 2015E utilization from the previous 4,133 (-153 hours or -4% yoy) to 4,058 hours (-228 hours or -5% yoy) on a bigger-than-expected drop in utilization in 9M15 (-232 hrs or -8% yoy). Coal-fired utilization is estimated to decrease by 8% yoy to 4,583 hours. With an increase in coal/wind/solar capacity addition forecast and a decrease in power consumption growth forecast, we expect **coal-fired utilization to trend down further to 4,314/4,117/4,067 hours in 2016-18E**. For 2019-20E, we forecast stabilized coal-fired utilization, as we **expect stricter control of new capacity approval in 2016-18** on rising concern on overcapacity, resulting in a sharp decline in new coal capacity addition in 2018-20.

Earnings/target price revisions

We revised our earnings forecasts for 2015-17 after incorporating the companies' 9M15 results and operational updates, and we adjusted our target prices accordingly. Our key changes are summarized in Figure 37.

Specifically for Shanghai Electric in 2015E, we factor in 1) a gain of RMB900m from GOSS disposal (a bottom-line impact of c.RMB420m after sharing with minority) and 2) a realized gain from financial assets' disposal of RMB480m. At the same time, we lower our core business forecasts mainly in nuclear island revenue/margin and modern services revenue after a slower-than-expected recovery in 9M15.

Figure 37: Changes in our earnings, ratings, and target prices

	DB Net Profit (CNYm)									Rating		Target Price HK\$		
	2015E			2016E			2017E							
	Before	Current	% chg.	Before	Current	% chg.	Before	Current	% chg.	Before	Current	Before	Current	% chg.
Shanghai Electric	2,465	2,365	-4%	2,563	2,109	-18%	2,859	2,467	-14%	Sell	Hold	3.9	4.0	3%
Dongfang Electric	560	552	-2%	960	940	-2%	1,329	1,299	-2%	Sell	Hold	9.5	9.1	-4%
Shanghai Electric - A	2,465	2,365	-4%	2,563	2,109	-18%	2,859	2,467	-14%	Sell	Sell	3.1	3.5	14%
Dongfang Electric - A	560	552	-2%	960	940	-2%	1,329	1,299	-2%	Sell	Sell	7.8	7.9	2%

Source: Deutsche Bank, Target prices for Shanghai Electric-A and Dongfang Electric-A are in RMB

Figure 38: Deutsche Bank estimates vs. consensus

Company	Stock Code	Rating	Price target	DB estimate (Rmb m)			Consensus estimate (Rmb m)			DB vs. consensus		
				2015E	2016E	2017E	2015E	2016E	2017E	2015E	2016E	2017E
Shanghai Electric	2727.HK	Hold	4.0	2,365	2,109	2,467	2,388	2,633	3,136	-1%	-20%	-21%
Dongfang Electric	1072.HK	Hold	9.1	552	940	1,299	570	836	1,202	-3%	12%	8%
Shanghai Electric - A	601727.SS	Sell	3.5	2,365	2,109	2,467	2,214	2,343	2,672	7%	-10%	-8%
Dongfang Electric - A	600875.SS	Sell	7.9	552	940	1,299	619	884	1,343	-11%	6%	-3%

Source: Deutsche Bank, Bloomberg Finance LP



CGN Power (1816.HK, Hold)

Investment thesis

We upgrade CGN Power from Sell to Hold. CGN Power is a prime beneficiary of government policy to steer energy consumption away from coal. However, our concerns over the risks to its earnings outlook still hold. First, further construction delays and a capex overrun for Taishan Nuclear could render the tariff insufficient to compensate for the higher costs. Meanwhile, another potentially acquired plant, Fangchenggang Nuclear (FCG) is likely to face low utilization due to a severe power oversupply in Guangxi province. Other risks to future earnings include 1) a tariff discount or profit-sharing scheme due to cuts in coal tariffs; 2) the expiration of Daya Bay's preferential VAT treatment; and 3) any potential upward revision in decommission liabilities would be a negative surprise for the market, even if the earnings impact is minor. All risks considered, we think the shares are now fairly valued at 15x FY16E PE, against an 18% of earnings CAGR in 2015-17E, backed by potential strong capacity growth.

Valuation

Our target price is based on a DCF projection through 2060E, where we assume zero terminal value, as all the units (except for Taishan) will be decommissioned by then. We have added in the value of Taishan (operative until 2076E) by assuming similar cash flow generation as of 2060E. We assume a WACC of 6.9%, based on a 6.5% pre-tax cost of debt, a 3.9% risk-free rate, a 5.6% equity risk premium, 1.2 beta, and a 60% target debt-to-capital ratio.

Risks

Key risks include: 1) higher/lower-than-expected capacity for all of its nuclear units, affected by power demand and operation efficiency; 2) higher-/lower-than expected earnings delivery from Taishan Nuclear, affected by the timing of start-ups, investment cost control, and tariff setting; 3) the pricing of parent company asset injections; and 4) a higher-/lower-than-expected interest rate cut.

Shanghai Electric (2727.HK, Hold)

Investment thesis

We upgrade Shanghai Electric from Sell to Hold, as it now trades close to our target price. We believe its core business (thermal/export/gas) outlook remains lackluster and is unlikely to be helped by growth in nuclear/wind. The thermal business remains bleak, and we think the recent spike in new coal project approvals is unsustainable. Nuclear and wind will be the bright spots with high growth expectation but would still be unable to offset the weakness in other segments. In the first nine months of 2015, the company's flat earnings were largely due to profit from financial business. With continued decline in new property construction starts, the outlook of its elevator business looks gloomy. In exports, Shanghai Electric has already penetrated countries along One Belt One Road for years; thus, further upside would not be anything substantial or imminent. In addition, we think the market's upbeat expectation of asset injections is unfounded since earnings upside from any potential asset injection would be limited, based on our knowledge of the financial and



operating performance of assets retained at the parentco level. Our target price-implied FY16/17E PE is at 21x/18x, which we believe is fair with a stable earnings outlook on diversified business.

Valuation

We view Shanghai Electric as a cyclical industrial name. We use target P/B to value the stock, reflecting ROE expectations. We base our valuation on 1.2x 2016E P/B, higher than Dongfang Electric's 0.75x, reflecting its higher ROE of 6-7% in 2016-17E, its more diversified business that should help it weather industry down-cycles, and a higher potential to develop new business through M&A.

Risks

Key risks: 1) higher-/lower-than-expected thermal/gas/wind/export/nuclear deliveries and new orders than our forecasts; 2) higher-/lower-than-expected margin from ASP recovery or a significant decline in raw material prices; and 3) higher-/lower-than-expected receivables and onerous contract provisions. Other risks are from non-power businesses, such as elevators, forging, machinery tools, printing machinery, and industrial robots.

Dongfang Electric (1072.HK, Hold)

Investment thesis

We upgrade Dongfang Electric from Sell to Hold, as it now trades close to our target price. We believe its core business (thermal/export/gas/hydro) outlook remains lackluster and cannot be helped by growth in nuclear/wind. The thermal business remains bleak. Nuclear and wind will be the bright spots with high growth expectation but still not adequate to offset the weakness in other segments, as demonstrated by its 77% earnings decline in 9M15. On the export front, Dongfang Electric has already penetrated countries along One Belt One Road for years; thus, further upside would not be anything substantial or imminent. Our target price implies a 20x/14x FY16/17E PE, which we believe is fair to value the stock from a FY17E PE perspective – earnings in 2017 are likely to be normalized, with thermal ASP bottoming out and nuclear equipment delivery accelerated, while FY16E PE may be distorted given an anticipated continuous subdued performance next year.

Valuation

We view Dongfang Electric as a cyclical industrial name. We use target P/B to value the stock, reflecting ROE expectations. We base our valuation on 0.75x 2016E P/B, which reflects a low 2016-17E ROE outlook at 4-5% due to the continuous sluggish thermal equipment industry.

Risks

Key risks include: 1) higher-/lower-than-expected thermal/hydro/export/wind/nuclear deliveries and new orders than we assume in our forecasts, which could come from uncertainty in the execution of orders and the competitive position in new order tenders; 2) higher-/lower-than-expected receivables and onerous contract provisions; 3) and higher-/lower-than expected margin from ASP recovery or a significant decline in raw material prices)..



Model updated: 17 November 2015

Running the numbers

Asia
 China
 Utilities

Huaneng Renewables

Reuters: 0958.HK Bloomberg: 958 HK

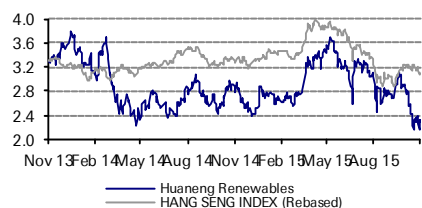
Buy

Price (18 Nov 15) HKD 2.29
 Target Price HKD 3.40
 52 Week range HKD 2.17 - 3.70
 Market Cap (m) HKDm 19,343
 USDm 2,496

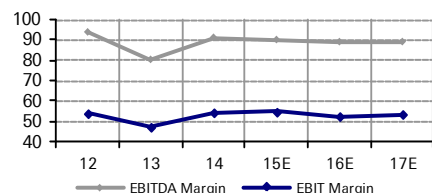
Company Profile

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.

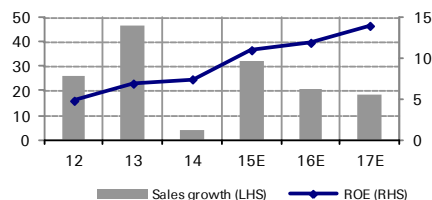
Price Performance



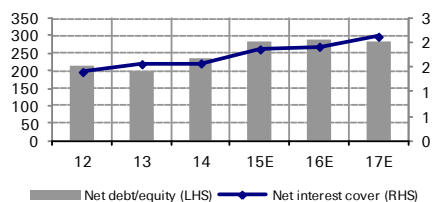
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	0.07	0.13	0.12	0.18	0.23	0.30
Reported EPS (CNY)	0.07	0.10	0.12	0.19	0.23	0.30
DPS (CNY)	0.02	0.02	0.02	0.03	0.04	0.05
BVPS (CNY)	1.4	1.6	1.8	1.8	2.0	2.3
Weighted average shares (m)	8,447	8,562	9,045	9,728	9,728	9,728
Average market cap (CNYm)	9,607	17,596	20,137	15,917	15,917	15,917
Enterprise value (CNYm)	34,543	46,709	55,228	62,466	72,522	81,876

Valuation Metrics

P/E (DB) (x)	16.9	16.1	19.0	10.6	8.2	6.2
P/E (Reported) (x)	17.2	19.7	18.0	9.8	8.2	6.2
P/BV (x)	0.80	1.80	1.12	1.03	0.93	0.82
FCF Yield (%)	nm	nm	nm	nm	nm	nm
Dividend Yield (%)	1.3	1.0	0.9	1.6	2.0	2.6
EV/Sales (x)	8.6	7.9	9.0	7.7	7.4	7.0
EV/EBITDA (x)	9.1	9.8	9.8	8.5	8.3	7.9
EV/EBIT (x)	15.9	16.7	16.5	14.1	14.0	13.2

Income Statement (CNYm)

Sales revenue	4,027	5,909	6,151	8,127	9,840	11,623
Gross profit	3,595	4,676	5,448	7,090	8,506	10,053
EBITDA	3,784	4,755	5,616	7,333	8,777	10,371
Depreciation	1,612	1,962	2,270	2,889	3,607	4,146
Amortisation	0	0	0	0	0	0
EBIT	2,172	2,793	3,346	4,444	5,170	6,225
Net interest income/(expense)	-1,542	-1,780	-2,112	-2,376	-2,688	-2,925
Associates/affiliates	0	-3	-2	0	0	0
Exceptionals/extraordinaries	0	0	0	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	631	1,009	1,232	2,068	2,482	3,300
Income tax expense	30	86	86	161	199	297
Minorities	43	29	26	43	51	67
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	558	894	1,121	1,864	2,232	2,935
DB adjustments (including dilution)	9	196	-60	-128	0	0
DB Net profit	567	1,090	1,061	1,736	2,232	2,935

Cash Flow (CNYm)

Cash flow from operations	1,255	4,075	3,897	5,487	5,504	6,921
Net Capex	-6,772	-7,159	-13,755	-18,100	-12,360	-12,360
Free cash flow	-5,516	-3,084	-9,858	-12,613	-6,856	-5,439
Equity raised/(bought back)	0	1,230	1,358	0	0	0
Dividends paid	-32	-221	-213	-195	-301	-360
Net inc/(dec) in borrowings	4,263	2,709	10,489	11,182	7,154	3,771
Other investing/financing cash flows	-2,453	-1	277	0	0	0
Net cash flow	-3,739	633	2,053	-1,626	-2	-2,028
Change in working capital	-619	1,116	689	692	-386	-227

Balance Sheet (CNYm)

Cash and other liquid assets	5,469	6,270	7,786	6,161	6,158	4,130
Tangible fixed assets	39,859	46,300	57,873	70,454	77,411	83,830
Goodwill/intangible assets	364	703	696	696	696	696
Associates/investments	207	220	269	269	269	269
Other assets	7,801	7,178	7,513	10,323	12,822	15,351
Total assets	53,699	60,671	74,138	87,903	97,358	104,276
Interest bearing debt	32,900	35,928	47,351	58,670	65,643	69,414
Other liabilities	8,108	9,882	9,902	10,636	11,135	11,640
Total liabilities	41,008	45,810	57,253	69,306	76,778	81,054
Shareholders' equity	11,820	14,025	16,101	17,771	19,702	22,277
Minorities	871	836	784	827	878	945
Total shareholders' equity	12,691	14,861	16,885	18,597	20,580	23,223
Net debt	27,431	29,658	39,565	52,509	59,484	65,284

Key Company Metrics

Sales growth (%)	26.0	46.7	4.1	32.1	21.1	18.1
DB EPS growth (%)	-58.2	89.6	-7.8	52.1	28.6	31.5
EBITDA Margin (%)	94.0	80.5	91.3	90.2	89.2	89.2
EBIT Margin (%)	53.9	47.3	54.4	54.7	52.5	53.6
Payout ratio (%)	22.7	19.1	16.1	16.1	16.1	16.1
ROE (%)	4.8	6.9	7.4	11.0	11.9	14.0
Capex/sales (%)	168.2	121.2	223.6	222.7	125.6	106.3
Capex/depreciation (x)	4.2	3.6	6.1	6.3	3.4	3.0
Net debt/equity (%)	216.1	199.6	234.3	282.3	289.0	281.1
Net interest cover (x)	1.4	1.6	1.6	1.9	1.9	2.1

Source: Company data, Deutsche Bank estimates

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Model updated: 18 November 2015

Running the numbers

Asia

China

Utilities

Huadian Fuxin

Reuters: 0816.HK

Bloomberg: 816 HK

Buy

Price (18 Nov 15) HKD 2.14

Target Price HKD 4.00

52 Week range HKD 2.10 - 4.72

Market Cap (m) HKDm 17,993

USDm 2,322

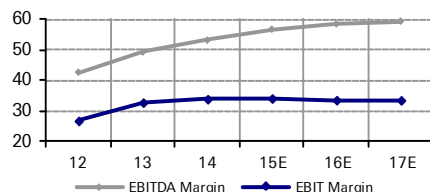
Company Profile

Huadian Fuxin is a leading diversified clean energy player in China with a balanced capacity portfolio of hydro, wind, coal-fired and other renewable energy. It also holds a 39% interest in Fuding nuclear. Its total consolidated capacity reached 12.3GW as of end-2014 (including 3.8GW thermal, 2.5GW hydro, 4.9GW wind and 1.1GW other renewables). China Huadian Corporation is its controlling shareholder, with 62.7% interest as of end-2014.

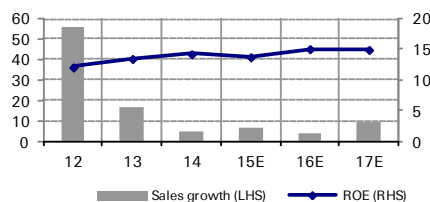
Price Performance



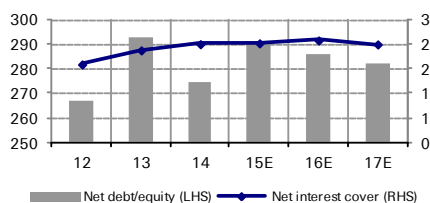
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	0.15	0.22	0.24	0.26	0.32	0.36
Reported EPS (CNY)	0.16	0.19	0.23	0.26	0.32	0.36
DPS (CNY)	0.03	0.04	0.04	0.05	0.06	0.07
BVPS (CNY)	1.4	1.5	1.8	2.0	2.3	2.6
Weighted average shares (m)	6,820	7,623	7,979	8,408	8,408	8,408
Average market cap (CNYm)	8,235	13,402	25,449	14,805	14,805	14,805
Enterprise value (CNYm)	39,272	49,669	68,375	65,798	72,806	82,268

Valuation Metrics

P/E (DB) (x)	8.3	8.0	13.6	6.8	5.5	4.9
P/E (Reported) (x)	7.5	9.1	13.6	6.8	5.5	4.9
P/BV (x)	0.85	1.65	1.62	0.88	0.77	0.69
FCF Yield (%)	nm	nm	nm	nm	nm	nm
Dividend Yield (%)	2.4	2.2	1.4	3.0	3.7	4.1
EV/Sales (x)	3.5	3.8	4.9	4.5	4.8	4.9
EV/EBITDA (x)	8.1	7.6	9.3	7.9	8.1	8.3
EV/EBIT (x)	12.9	11.5	14.5	13.1	14.2	14.7

Income Statement (CNYm)

Sales revenue	11,352	13,242	13,895	14,759	15,303	16,674
Gross profit	6,972	8,740	9,623	10,708	11,493	12,772
EBITDA	4,833	6,510	7,372	8,361	8,934	9,892
Depreciation	1,798	2,175	2,667	3,330	3,799	4,309
Amortisation	0	0	0	0	0	0
EBIT	3,035	4,335	4,705	5,031	5,134	5,583
Net interest income/(expense)	-1,905	-2,305	-2,344	-2,485	-2,466	-2,789
Associates/affiliates	43	94	84	377	834	1,035
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	443	61	237	87	87	87
Profit before tax	1,616	2,185	2,681	3,009	3,590	3,916
Income tax expense	261	484	534	534	583	556
Minorities	262	233	280	285	295	316
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	1,093	1,468	1,867	2,190	2,711	3,044
DB adjustments (including dilution)	-102	203	10	0	0	0
DB Net profit	991	1,670	1,877	2,190	2,711	3,044

Cash Flow (CNYm)

Cash flow from operations	4,677	6,622	7,175	7,574	8,301	9,103
Net Capex	-7,062	-7,186	-12,755	-12,843	-11,078	-12,404
Free cash flow	-2,385	-565	-5,580	-5,269	-2,777	-3,301
Equity raised/(bought back)	2,118	0	2,244	0	0	0
Dividends paid	-338	-377	-498	-366	-438	-542
Net inc/(dec) in borrowings	3,016	5,006	9,322	7,632	5,309	7,303
Other investing/financing cash flows	-1,591	-4,871	-3,966	-3,465	-2,944	-3,260
Net cash flow	820	-807	1,522	-1,468	-850	199
Change in working capital	-275	551	5	-340	-136	-320

Balance Sheet (CNYm)

Cash and other liquid assets	2,576	1,769	3,291	1,823	973	1,172
Tangible fixed assets	46,639	52,265	66,074	76,047	83,712	92,186
Goodwill/intangible assets	970	1,096	1,100	1,100	1,100	1,100
Associates/investments	2,668	3,546	4,433	5,329	6,255	7,382
Other assets	8,487	9,001	11,037	11,361	11,556	12,100
Total assets	61,341	67,676	85,935	95,661	103,596	113,940
Interest bearing debt	36,539	41,918	51,827	59,459	64,768	72,071
Other liabilities	12,092	12,048	16,450	16,434	16,492	16,717
Total liabilities	48,632	53,966	68,277	75,893	81,260	88,787
Shareholders' equity	10,574	11,211	15,013	16,837	19,110	21,612
Minorities	2,135	2,500	2,646	2,930	3,225	3,541
Total shareholders' equity	12,709	13,711	17,659	19,768	22,336	25,153
Net debt	33,964	40,149	48,536	57,636	63,795	70,898

Key Company Metrics

Sales growth (%)	56.0	16.7	4.9	6.2	3.7	9.0
DB EPS growth (%)	71.8	50.8	7.3	10.8	23.8	12.3
EBITDA Margin (%)	42.6	49.2	53.1	56.6	58.4	59.3
EBIT Margin (%)	26.7	32.7	33.9	34.1	33.6	33.5
Payout ratio (%)	18.0	19.8	18.6	20.0	20.0	20.0
ROE (%)	12.1	13.5	14.2	13.8	15.1	15.0
Capex/sales (%)	62.2	54.3	91.8	87.0	72.4	74.4
Capex/depreciation (x)	3.9	3.3	4.8	3.9	2.9	2.9
Net debt/equity (%)	267.2	292.8	274.9	291.6	285.6	281.9
Net interest cover (x)	1.6	1.9	2.0	2.0	2.1	2.0

Source: Company data, Deutsche Bank estimates

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Model updated: 16 November 2015

Running the numbers

Asia
 China
 Alternative Energy

Longyan Power

Reuters: 0916.HK Bloomberg: 916 HK

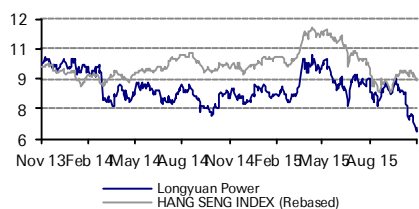
Buy

Price (18 Nov 15) HKD 6.55
 Target Price HKD 9.70
 52 Week range HKD 6.34 - 10.18
 Market Cap (m) HKDm 52,638
 USDm 6,792

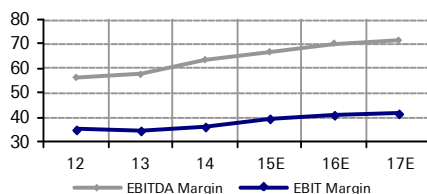
Company Profile

China Longyan 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.

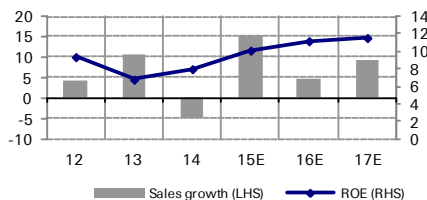
Price Performance



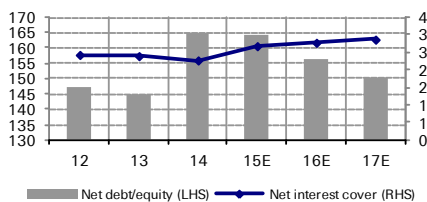
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	0.35	0.30	0.33	0.46	0.53	0.60
Reported EPS (CNY)	0.35	0.26	0.32	0.43	0.53	0.60
DPS (CNY)	0.06	0.05	0.06	0.08	0.16	0.18
BVPS (CNY)	3.9	3.9	4.1	4.5	4.9	5.4
Weighted average shares (m)	7,481	8,036	8,036	8,036	8,036	8,036
Average market cap (CNYm)	33,381	50,629	53,798	43,313	43,313	43,313
Enterprise value (CNYm)	88,603	109,856	119,301	118,688	124,436	130,873

Valuation Metrics

P/E (DB) (x)	12.8	20.8	20.5	11.6	10.2	9.1
P/E (Reported) (x)	12.9	24.7	21.0	12.4	10.2	9.1
P/BV (x)	1.11	2.06	1.56	1.20	1.09	1.00
FCF Yield (%)	nm	0.2	nm	nm	nm	nm
Dividend Yield (%)	1.4	0.8	0.9	1.5	2.9	3.3
EV/Sales (x)	5.1	5.7	6.6	5.7	5.7	5.4
EV/EBITDA (x)	9.1	10.0	10.3	8.5	8.0	7.6
EV/EBIT (x)	14.7	16.6	18.1	14.3	13.8	13.1

Income Statement (CNYm)

Sales revenue	17,288	19,147	18,207	20,994	22,003	24,090
Gross profit	8,446	10,586	11,147	13,555	14,921	16,628
EBITDA	9,742	11,018	11,584	14,033	15,481	17,243
Depreciation	3,697	4,401	5,001	5,741	6,461	7,231
Amortisation	0	0	0	0	0	0
EBIT	6,045	6,617	6,584	8,292	9,020	10,012
Net interest income/(expense)	-2,485	-2,760	-2,894	-3,091	-3,246	-3,490
Associates/affiliates	140	60	454	600	500	450
Exceptionals/extraordinary	-32	-384	-82	-300	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	3,667	3,533	4,062	5,501	6,274	6,972
Income tax expense	342	561	510	751	819	934
Minorities	732	921	993	1,256	1,219	1,255
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	2,593	2,052	2,558	3,495	4,237	4,782
DB adjustments (including dilution)	24	384	61	225	0	0
DB Net profit	2,617	2,436	2,619	3,720	4,237	4,782

Cash Flow (CNYm)

Cash flow from operations	3,973	10,360	9,492	10,366	11,214	12,529
Net Capex	-13,392	-10,275	-20,821	-18,486	-16,680	-17,420
Free cash flow	-9,419	85	-11,329	-8,121	-5,466	-4,891
Equity raised/(bought back)	0	0	0	0	0	0
Dividends paid	-515	-512	-382	-480	-655	-1,271
Net inc/(dec) in borrowings	10,543	-1,415	11,887	5,641	4,591	3,280
Other investing/financing cash flows	-1,167	-509	-501	2,297	2,367	2,473
Net cash flow	-559	-2,351	-325	-662	836	-409
Change in working capital	-2,161	3,085	2,231	529	-163	-250

Balance Sheet (CNYm)

Cash and other liquid assets	5,138	2,719	2,389	1,727	2,562	2,154
Tangible fixed assets	74,770	81,642	90,179	100,239	108,034	115,692
Goodwill/intangible assets	8,322	8,685	8,530	8,530	8,530	8,530
Associates/investments	2,127	2,297	3,602	4,202	4,702	5,152
Other assets	17,483	15,763	18,818	18,726	19,133	19,927
Total assets	107,840	111,106	123,518	133,424	142,962	151,455
Interest bearing debt	58,652	57,902	69,832	75,604	80,325	83,736
Other liabilities	12,766	15,074	12,837	12,831	12,978	13,425
Total liabilities	71,418	72,976	82,668	88,435	93,303	97,161
Shareholders' equity	29,429	30,954	33,057	36,072	39,653	43,165
Minorities	6,992	7,176	7,792	8,917	10,005	11,130
Total shareholders' equity	36,422	38,130	40,849	44,989	49,659	54,295
Net debt	53,515	55,182	67,443	73,877	77,763	81,582

Key Company Metrics

Sales growth (%)	4.2	10.7	-4.9	15.3	4.8	9.5
DB EPS growth (%)	2.7	-13.4	7.5	42.0	13.9	12.9
EBITDA Margin (%)	56.3	57.5	63.6	66.8	70.4	71.6
EBIT Margin (%)	35.0	34.6	36.2	39.5	41.0	41.6
Payout ratio (%)	18.4	18.6	18.8	18.8	30.0	30.0
ROE (%)	9.4	6.8	8.0	10.1	11.2	11.5
Capex/sales (%)	79.5	53.9	114.5	88.1	75.8	72.3
Capex/depreciation (x)	3.7	2.3	4.2	3.2	2.6	2.4
Net debt/equity (%)	146.9	144.7	165.1	164.2	156.6	150.3
Net interest cover (x)	2.4	2.4	2.3	2.7	2.8	2.9

Source: Company data, Deutsche Bank estimates

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Model updated: 18 November 2015

Running the numbers

Asia

China

Alternative Energy

Goldwind Sci & Tech

Reuters: 002202.SZ Bloomberg: 002202 CS

Sell

Price (18 Nov 15) CNY 15.90

Target Price CNY 11.40

52 Week range CNY 11.67 - 25.29

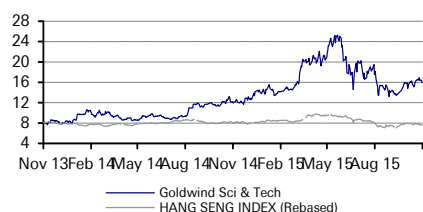
Market Cap (m) CNYm 36,821

USDm 5,774

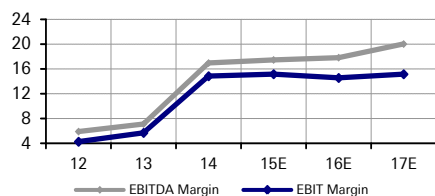
Company Profile

Headquartered in Xinjiang, Goldwind is one of the top three wind turbine manufacturers in China. Its major products include 1.5MW and 3MW direct-drive wind turbines. Goldwind also provides wind power technology services and the development and sale of wind power projects. As of end-2011, the company had installed more than 12.7GW of wind turbines, with sales mainly from the domestic market.

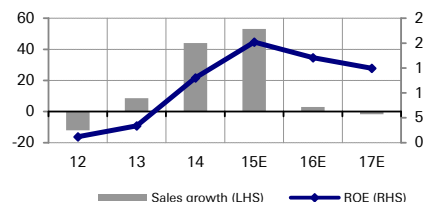
Price Performance



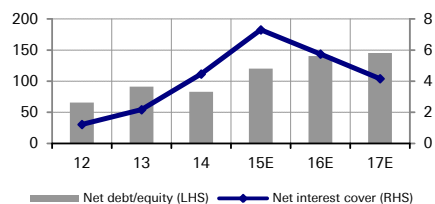
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	-0.01	0.13	0.59	1.14	1.12	1.06
Reported EPS (CNY)	0.06	0.16	0.68	1.19	1.12	1.06
DPS (CNY)	0.01	0.08	0.40	0.60	0.56	0.53
BVPS (CNY)	4.8	5.0	5.5	6.3	6.8	7.3
Weighted average shares (m)	2,695	2,695	2,695	2,715	2,736	2,736
Average market cap (CNYm)	17,719	17,197	27,563	36,821	36,821	36,821
Enterprise value (CNYm)	25,475	28,628	38,870	56,877	62,536	65,499

Valuation Metrics

	2012	2013	2014	2015E	2016E	2017E
P/E (DB) (x)	nm	50.0	17.4	14.0	14.2	15.0
P/E (Reported) (x)	115.8	38.7	15.0	13.3	14.2	15.0
P/BV (x)	1.10	1.68	2.58	2.52	2.32	2.16
FCF Yield (%)	nm	nm	5.0	nm	nm	nm
Dividend Yield (%)	0.2	1.3	3.9	3.8	3.5	3.3
EV/Sales (x)	2.3	2.3	2.2	2.1	2.3	2.4
EV/EBITDA (x)	38.5	33.0	13.0	12.1	12.7	12.0
EV/EBIT (x)	53.2	41.2	14.9	13.9	15.5	15.9

Income Statement (CNYm)

Sales revenue	11,225	12,196	17,573	26,908	27,706	27,220
Gross profit	1,592	2,471	4,568	7,065	7,417	7,446
EBITDA	662	868	2,980	4,698	4,940	5,451
Depreciation	184	174	372	617	906	1,324
Amortisation	0	0	0	0	0	0
EBIT	479	694	2,608	4,082	4,034	4,127
Net interest income(expense)	-392	-320	-584	-559	-702	-991
Associates/affiliates	120	148	87	210	210	210
Exceptionals/extraordinaries	0	0	0	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	87	374	2,024	3,523	3,332	3,136
Income tax expense	41	72	255	452	429	405
Minorities	12	6	24	42	40	38
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	153	445	1,832	3,239	3,073	2,903
DB adjustments (including dilution)	-183	-100	-250	-156	0	0
DB Net profit	-30	344	1,582	3,082	3,073	2,903

Cash Flow (CNYm)

Cash flow from operations	2,500	1,930	2,829	4,161	4,559	5,165
Net Capex	-2,599	-6,176	-1,459	-6,750	-7,500	-6,000
Free cash flow	-99	-4,246	1,370	-2,589	-2,941	-835
Equity raised/(bought back)	0	0	0	347	0	0
Dividends paid	-158	-157	-235	-1,078	-1,619	-1,537
Net inc/(dec) in borrowings	-746	2,491	5,022	1,020	5,314	4,161
Other investing/financing cash flows	52	-416	-911	-505	-657	-943
Net cash flow	-950	-2,328	5,248	-2,805	96	846
Change in working capital	-2,077	-1,408	-557	280	39	-37

Balance Sheet (CNYm)

Cash and other liquid assets	6,962	4,455	10,104	7,128	7,230	8,127
Tangible fixed assets	5,367	10,349	10,482	16,615	23,209	27,886
Goodwill/intangible assets	740	681	508	508	508	508
Associates/investments	1,365	1,571	1,768	1,824	1,880	1,936
Other assets	17,963	18,288	22,916	29,519	30,185	29,711
Total assets	32,396	35,345	45,777	55,594	63,012	68,168
Interest bearing debt	15,700	17,032	22,719	28,507	34,284	38,163
Other liabilities	3,411	4,520	7,831	9,310	9,457	9,329
Total liabilities	19,111	21,552	30,550	37,817	43,741	47,492
Shareholders' equity	12,903	13,368	14,768	17,275	18,729	20,096
Minorities	383	425	459	501	541	579
Total shareholders' equity	13,286	13,793	15,227	17,777	19,271	20,675
Net debt	8,738	12,577	12,616	21,379	27,054	30,036

Key Company Metrics

Sales growth (%)	-12.0	8.7	44.1	53.1	3.0	-1.8
DB EPS growth (%)	na	na	359.6	93.4	-1.0	-5.5
EBITDA Margin (%)	5.9	7.1	17.0	17.5	17.8	20.0
EBIT Margin (%)	4.3	5.7	14.8	15.2	14.6	15.2
Payout ratio (%)	21.7	48.5	58.8	50.0	50.0	50.0
ROE (%)	1.2	3.4	13.0	20.2	17.1	15.0
Capex/sales (%)	23.1	50.7	13.5	25.1	27.1	22.0
Capex/depreciation (x)	14.2	35.7	6.4	10.9	8.3	4.5
Net debt/equity (%)	65.8	91.2	82.9	120.3	140.4	145.3
Net interest cover (x)	1.2	2.2	4.5	7.3	5.7	4.2

Source: Company data, Deutsche Bank estimates

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Model updated: 17 November 2015

Running the numbers

Asia

China

Manufacturing

China High Speed Trans

Reuters: 0658.HK

Bloomberg: 658 HK

Hold

Price (18 Nov 15) HKD 6.36

Target Price HKD 7.20

52 Week range HKD 4.50 - 8.15

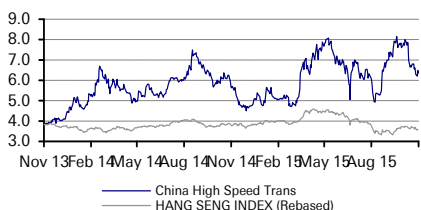
Market Cap (m) HKDm 8,663

USDm 1,118

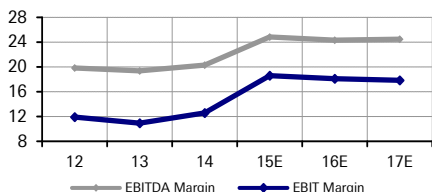
Company Profile

China High Speed Transmission Equipment (CHSTE) is one of the leading mechanical transmission equipment producers in China. The company is engaged in the research, design and manufacturing of a broad range of mechanical transmission equipment used in various applications including wind power, marine vessels, rail transport, aerospace, metallurgy, petrochemicals, construction and mining. CHSTE is the number one wind gearbox player in China and among the top five in China's overall gearbox market.

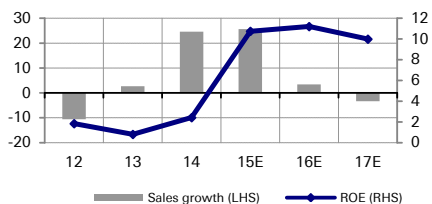
Price Performance



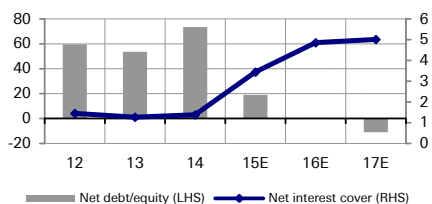
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	0.17	0.29	0.28	0.57	0.67	0.65
Reported EPS (CNY)	0.10	0.05	0.13	0.60	0.67	0.65
DPS (CNY)	0.00	0.00	0.00	0.15	0.20	0.19
BVPS (CNY)	5.5	5.2	5.3	5.8	6.2	6.7
Weighted average shares (m)	1,362	1,372	1,635	1,635	1,635	1,635
Average market cap (CNYm)	3,561	4,023	7,342	7,128	7,128	7,128
Enterprise value (CNYm)	7,516	8,155	13,702	8,851	7,111	5,865

Valuation Metrics

P/E (DB) (x)	15.5	10.3	15.9	9.2	7.8	8.1
P/E (Reported) (x)	25.7	62.3	35.2	8.8	7.8	8.1
P/BV (x)	0.44	0.64	0.72	0.91	0.84	0.78
FCF Yield (%)	nm	nm	nm	57.4	28.4	22.1
Dividend Yield (%)	0.0	0.0	0.0	2.8	3.9	3.7
EV/Sales (x)	1.2	1.2	1.7	0.9	0.7	0.6
EV/EBITDA (x)	5.9	6.4	8.3	3.5	2.8	2.3
EV/EBIT (x)	9.9	11.4	13.4	4.6	3.7	3.2

Income Statement (CNYm)

Sales revenue	6,369	6,539	8,147	10,238	10,586	10,230
Gross profit	1,553	1,631	2,020	2,906	3,064	2,932
EBITDA	1,263	1,266	1,654	2,542	2,574	2,504
Depreciation	505	552	630	637	658	679
Amortisation	0	0	0	0	0	0
EBIT	759	714	1,024	1,905	1,917	1,825
Net interest income(expense)	-524	-564	-742	-554	-395	-364
Associates/affiliates	-27	-62	24	0	3	3
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	235	150	283	1,351	1,522	1,461
Income tax expense	79	57	131	338	381	366
Minorities	-10	-33	-33	41	46	44
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	138	65	208	973	1,098	1,054
DB adjustments (including dilution)	91	327	253	-41	0	0
DB Net profit	229	392	461	932	1,098	1,054

Cash Flow (CNYm)

Cash flow from operations	1,542	-7	482	3,108	2,028	2,188
Net Capex	-1,563	-682	-514	1,800	400	-300
Free cash flow	-22	-689	-32	4,908	2,428	1,888
Equity raised/(bought back)	0	852	0	0	0	0
Dividends paid	0	0	0	-243	-329	-316
Net inc/(dec) in borrowings	1,119	720	1,352	-3,364	-373	-347
Other investing/financing cash flows	-867	-1,052	-1,890	14	-315	-284
Net cash flow	230	-169	-570	1,315	1,411	941
Change in working capital	-319	218	1,259	-465	130	-144

Balance Sheet (CNYm)

Cash and other liquid assets	4,302	4,750	4,422	5,737	7,147	8,088
Tangible fixed assets	6,238	6,633	5,940	5,602	4,545	4,165
Goodwill/intangible assets	296	287	234	234	234	234
Associates/investments	864	813	338	338	340	342
Other assets	8,182	10,487	15,629	14,128	14,532	14,107
Total assets	19,882	22,971	26,562	26,039	26,797	26,936
Interest bearing debt	8,917	9,447	10,939	7,575	7,202	6,855
Other liabilities	3,222	4,762	6,753	8,823	9,141	8,845
Total liabilities	12,139	14,209	17,692	16,398	16,343	15,700
Shareholders' equity	7,538	8,514	8,688	9,418	10,187	10,925
Minorities	205	248	182	222	268	312
Total shareholders' equity	7,744	8,762	8,870	9,640	10,455	11,237
Net debt	4,615	4,697	6,517	1,838	55	-1,233

Key Company Metrics

Sales growth (%)	-10.6	2.7	24.6	25.7	3.4	-3.4
DB EPS growth (%)	-70.8	69.5	-1.1	102.2	17.8	-4.0
EBITDA Margin (%)	19.8	19.4	20.3	24.8	24.3	24.5
EBIT Margin (%)	11.9	10.9	12.6	18.6	18.1	17.8
Payout ratio (%)	0.0	0.0	0.0	25.0	30.0	30.0
ROE (%)	1.8	0.8	2.4	10.7	11.2	10.0
Capex/sales (%)	24.6	14.4	7.1	2.9	2.8	2.9
Capex/depreciation (x)	3.1	1.7	0.9	0.5	0.5	0.4
Net debt/equity (%)	59.6	53.6	73.5	19.1	0.5	-11.0
Net interest cover (x)	1.4	1.3	1.4	3.4	4.9	5.0

Source: Company data, Deutsche Bank estimates

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Model updated: 16 November 2015

Running the numbers

Asia
 China
 Utilities

CGN Power

Reuters: 1816.HK Bloomberg: 1816 HK

Hold

Price (18 Nov 15) HKD 3.20
 Target Price HKD 3.00
 52 Week range HKD 2.88 - 5.43
 Market Cap (m) HKDm 145,436
 USDm 18,765

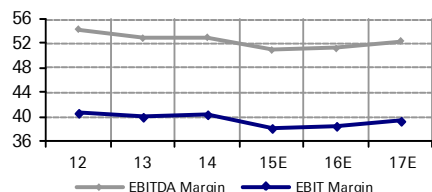
Company Profile

CGN Power Co., Ltd. (CGN Power) is the largest nuclear developer in China by both total installed capacity and attributable capacity, and among one of the only three licensed nuclear operator in China. As of June 2014, CGN Power operated and managed 11 nuclear generating units with a total installed capacity of 11.6GW. China General Nuclear Power Corporation (CGNPC), a central SOE under SASAC, is its parentco with 66.38% of stake.

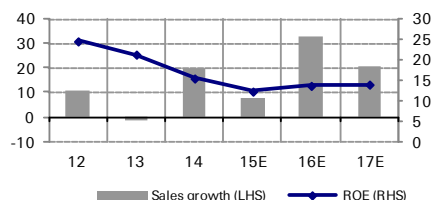
Price Performance



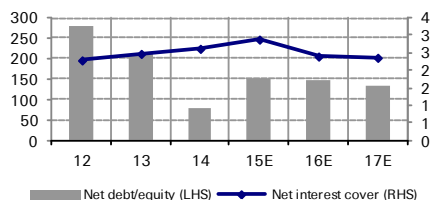
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	0.17	0.15	0.13	0.15	0.18	0.21
Reported EPS (CNY)	0.17	0.15	0.13	0.15	0.18	0.21
DPS (CNY)	0.00	0.00	0.00	0.05	0.06	0.07
BVPS (CNY)	0.6	0.8	1.1	1.3	1.4	1.5
Weighted average shares (m)	25,088	27,369	45,449	45,449	45,449	45,449
Average market cap (CNYm)	na	na	125,273	119,671	119,671	119,671
Enterprise value (CNYm)	na	na	167,479	246,781	254,915	255,252

Valuation Metrics

P/E (DB) (x)	na	na	21.9	18.1	14.5	12.8
P/E (Reported) (x)	na	na	21.9	18.1	14.5	12.8
P/BV (x)	0.00	0.00	2.40	2.09	1.89	1.71
FCF Yield (%)	na	na	nm	nm	2.6	9.1
Dividend Yield (%)	na	na	0.1	1.8	2.3	2.6
EV/Sales (x)	nm	nm	8.1	11.0	8.6	7.1
EV/EBITDA (x)	nm	nm	15.2	21.6	16.7	13.5
EV/EBIT (x)	nm	nm	19.9	28.8	22.2	18.0

Income Statement (CNYm)

Sales revenue	17,575	17,365	20,793	22,458	29,784	35,974
Gross profit	10,830	10,644	13,020	13,661	18,155	22,320
EBITDA	9,553	9,182	11,024	11,438	15,245	18,862
Depreciation	2,413	2,240	2,626	2,872	3,781	4,717
Amortisation	0	0	0	0	0	0
EBIT	7,141	6,942	8,398	8,565	11,464	14,145
Net interest income/(expense)	-3,118	-2,804	-3,204	-2,969	-4,776	-5,982
Associates/affiliates	-9	292	461	1,122	1,603	2,050
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	1,853	1,639	2,145	1,968	2,742	3,181
Profit before tax	5,867	6,070	7,800	8,686	11,033	13,394
Income tax expense	890	998	925	847	936	1,498
Minorities	833	877	1,162	1,209	1,849	2,574
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	4,144	4,195	5,713	6,629	8,248	9,321
DB adjustments (including dilution)	0	0	0	0	0	0
DB Net profit	4,144	4,195	5,713	6,629	8,248	9,321

Cash Flow (CNYm)

Cash flow from operations	8,660	9,493	10,955	12,101	14,917	18,588
Net Capex	-7,774	-9,923	-12,187	-17,409	-11,816	-7,698
Free cash flow	886	-430	-1,232	-5,308	3,101	10,890
Equity raised/(bought back)	2,823	1,832	10,124	0	0	0
Dividends paid	-9,843	-1,655	-5,247	-83	-2,188	-2,722
Net inc/(dec) in borrowings	11,394	190	-2,834	10,356	4,116	1,344
Other investing/financing cash flows	-10,279	1,138	1,020	-17,180	-10,178	-8,417
Net cash flow	-5,018	1,075	1,831	-12,215	-5,149	1,094
Change in working capital	2,540	1,168	2,201	1,285	3,201	3,049

Balance Sheet (CNYm)

Cash and other liquid assets	5,434	6,640	26,712	14,497	9,348	10,442
Tangible fixed assets	79,185	87,042	93,983	184,315	197,123	202,736
Goodwill/intangible assets	629	765	730	679	679	679
Associates/investments	11,287	13,568	14,297	13,673	15,903	18,390
Other assets	25,728	19,660	21,205	25,612	30,042	33,793
Total assets	122,263	127,675	156,926	238,775	253,095	266,040
Interest bearing debt	73,391	73,819	74,587	133,310	136,676	138,020
Other liabilities	24,722	22,164	22,923	26,161	29,205	31,633
Total liabilities	98,114	95,983	97,510	159,471	165,881	169,653
Shareholders' equity	16,304	23,052	50,789	57,335	63,395	69,994
Minorities	7,845	8,640	8,628	21,969	23,818	26,393
Total shareholders' equity	24,150	31,692	59,416	79,304	87,213	96,387
Net debt	67,957	67,179	47,875	118,813	127,328	127,578

Key Company Metrics

Sales growth (%)	10.7	-1.2	19.7	8.0	32.6	20.8
DB EPS growth (%)	-42.7	-7.2	-18.0	16.0	24.4	13.0
EBITDA Margin (%)	54.4	52.9	53.0	50.9	51.2	52.4
EBIT Margin (%)	40.6	40.0	40.4	38.1	38.5	39.3
Payout ratio (%)	0.0	0.0	2.0	33.0	33.0	33.0
ROE (%)	24.6	21.3	15.5	12.3	13.7	14.0
Capex/sales (%)	44.4	57.2	59.2	77.5	39.7	21.4
Capex/depreciation (x)	3.2	4.4	4.7	6.1	3.1	1.6
Net debt/equity (%)	281.4	212.0	80.6	149.8	146.0	132.4
Net interest cover (x)	2.3	2.5	2.6	2.9	2.4	2.4

Source: Company data, Deutsche Bank estimates

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Model updated: 16 November 2015

Running the numbers

Asia

China

Manufacturing

Shanghai Electric

Reuters: 2727.HK

Bloomberg: 2727 HK

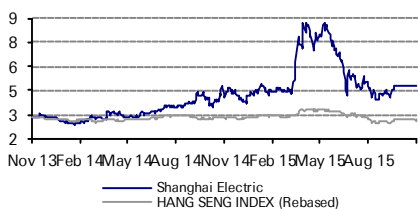
Hold

Price (18 Nov 15)	HKD 4.81
Target Price	HKD 4.00
52 Week range	HKD 3.72 - 8.76
Market Cap (m)	HKDm 61,682 USDm 7,958

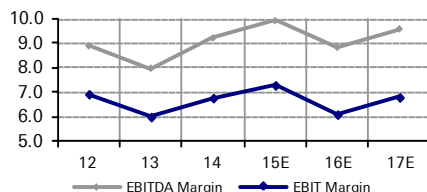
Company Profile

Shanghai Electric Group Company Limited designs, manufactures, sells, and services a wide range of products and services in the power equipment, electromechanical equipment and environmental system industries. The company (through its JV with Siemens) is one of the top three power equipment companies in China, together with Harbin Electric and Dongfang Electric.

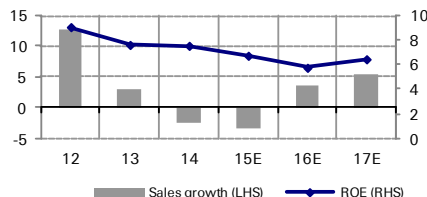
Price Performance



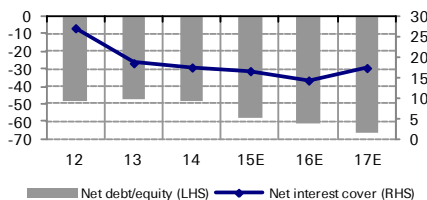
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	0.21	0.19	0.20	0.16	0.16	0.19
Reported EPS (CNY)	0.21	0.19	0.20	0.19	0.16	0.19
DPS (CNY)	0.06	0.07	0.06	0.06	0.05	0.06
BVPS (CNY)	2.4	2.5	2.7	2.8	2.9	3.0
Weighted average shares (m)	12,824	12,824	12,824	12,824	12,824	12,824
Average market cap (CNYm)	35,862	29,502	33,699	50,754	50,754	50,754
Enterprise value (CNYm)	21,025	15,009	14,639	28,077	25,685	22,241

Valuation Metrics

P/E (DB) (x)	13.0	12.2	13.3	24.0	24.1	20.6
P/E (Reported) (x)	13.0	12.2	13.3	21.2	24.1	20.6
P/BV (x)	1.13	0.89	1.23	1.42	1.36	1.30
FCF Yield (%)	12.4	19.4	11.6	12.6	9.5	12.0
Dividend Yield (%)	2.3	3.2	2.2	1.4	1.2	1.5
EV/Sales (x)	0.3	0.2	0.2	0.4	0.3	0.3
EV/EBITDA (x)	3.1	2.4	2.1	3.8	3.8	2.9
EV/EBIT (x)	4.0	3.2	2.8	5.2	5.5	4.1

Income Statement (CNYm)

Sales revenue	76,591	78,795	76,785	74,142	76,706	80,746
Gross profit	13,989	13,710	14,367	13,401	13,806	14,858
EBITDA	6,818	6,289	7,080	7,362	6,782	7,748
Depreciation	1,507	1,564	1,877	1,952	2,104	2,256
Amortisation	0	0	0	0	0	0
EBIT	5,310	4,725	5,203	5,409	4,678	5,491
Net interest income/(expense)	-196	-254	-296	-325	-326	-315
Associates/affiliates	611	812	533	500	500	500
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	5,726	5,283	5,439	5,585	4,852	5,676
Income tax expense	1,344	1,073	895	1,005	873	1,022
Minorities	1,667	1,817	2,033	2,215	1,870	2,188
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	2,715	2,393	2,511	2,365	2,109	2,467
DB adjustments (including dilution)	0	0	0	-277	0	0
DB Net profit	2,715	2,393	2,511	2,088	2,109	2,467

Cash Flow (CNYm)

Cash flow from operations	6,723	7,178	4,411	8,353	6,739	8,022
Net Capex	-2,292	-1,445	-508	-1,943	-1,943	-1,943
Free cash flow	4,431	5,733	3,903	6,410	4,797	6,080
Equity raised/(bought back)	0	0	53	0	0	0
Dividends paid	-1,641	-2,196	-2,373	-2,295	-2,011	-2,156
Net inc/(dec) in borrowings	1,241	513	1,893	3,360	-5,000	-4,353
Other investing/financing cash flows	-3,969	-3,785	-637	203	201	212
Net cash flow	63	266	2,841	7,678	-2,013	-217
Change in working capital	-3,032	739	-2,147	1,996	831	1,296

Balance Sheet (CNYm)

Cash and other liquid assets	25,346	26,111	29,986	38,825	36,812	36,595
Tangible fixed assets	15,226	15,127	14,066	14,057	13,895	13,581
Goodwill/intangible assets	1,163	1,139	1,063	1,063	1,063	1,063
Associates/investments	12,272	16,862	21,310	21,283	21,255	21,228
Other assets	64,693	70,054	77,124	74,363	76,139	78,764
Total assets	118,700	129,293	143,551	149,591	149,164	151,231
Interest bearing debt	5,448	5,973	7,856	11,216	6,216	1,862
Other liabilities	72,569	80,611	90,270	90,666	93,272	97,193
Total liabilities	78,017	86,584	98,125	101,881	99,488	99,056
Shareholders' equity	30,507	32,206	34,236	35,848	37,247	39,082
Minorities	10,176	10,503	11,189	11,861	12,429	13,094
Total shareholders' equity	40,682	42,709	45,425	47,709	49,677	52,175
Net debt	-19,898	-20,138	-22,131	-27,609	-30,596	-34,732

Key Company Metrics

Sales growth (%)	12.8	2.9	-2.6	-3.4	3.5	5.3
DB EPS growth (%)	-16.9	-11.9	4.9	-16.8	-0.3	17.0
EBITDA Margin (%)	8.9	8.0	9.2	9.9	8.8	9.6
EBIT Margin (%)	6.9	6.0	6.8	7.3	6.1	6.8
Payout ratio (%)	30.1	40.0	30.0	30.0	30.0	30.0
ROE (%)	9.1	7.6	7.6	6.7	5.8	6.5
Capex/sales (%)	3.2	2.2	2.2	2.6	2.5	2.4
Capex/depreciation (x)	1.6	1.1	0.9	1.0	0.9	0.9
Net debt/equity (%)	-48.9	-47.2	-48.7	-57.9	-61.6	-66.6
Net interest cover (x)	27.2	18.6	17.5	16.7	14.4	17.4

Source: Company data, Deutsche Bank estimates



Model updated: 15 November 2015

Running the numbers

Asia

China

Manufacturing

Dongfang Electric

Reuters: 1072.HK

Bloomberg: 1072 HK

Hold

Price (18 Nov 15) HKD 8.52

Target Price HKD 9.10

52 Week range HKD 7.71 - 20.15

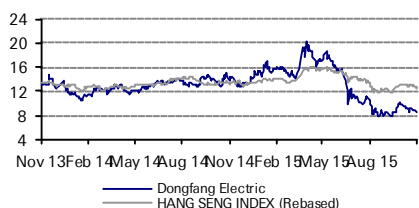
Market Cap (m) HKDm 17,073

USDm 2,203

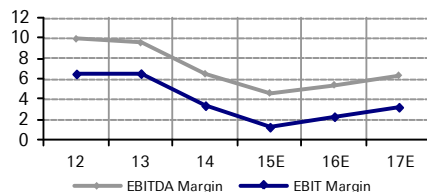
Company Profile

One of the three major power generation equipment makers in China, Dongfang Electric is engaged in the manufacture of various types of power equipment including coal, gas, hydro, nuclear, and wind power. The company was listed in Hong Kong in 1994 and in the China A share market in 1995. In 2007, Dongfang Electric completed a whole group listing exercise with its boiler and turbine subsidiaries injected.

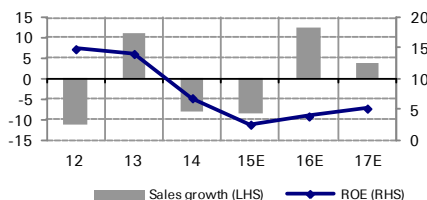
Price Performance



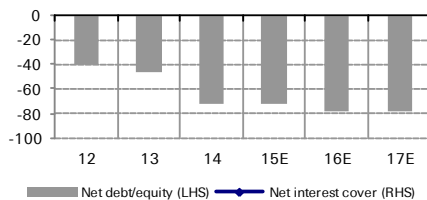
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	1.09	1.17	0.64	0.24	0.40	0.56
Reported EPS (CNY)	1.09	1.17	0.64	0.24	0.40	0.56
DPS (CNY)	0.11	0.18	0.09	0.05	0.08	0.11
BVPS (CNY)	7.8	8.8	9.8	10.2	10.5	11.0
Weighted average shares (m)	2,004	2,004	2,004	2,337	2,337	2,337
Average market cap (CNYm)	26,884	20,045	20,512	14,048	14,048	14,048
Enterprise value (CNYm)	19,135	11,115	5,577	-3,959	-6,398	-7,726

Valuation Metrics

P/E (DB) (x)	12.3	8.5	16.0	29.7	17.4	12.6
P/E (Reported) (x)	12.3	8.5	16.0	29.7	17.4	12.6
P/BV (x)	1.63	1.22	1.16	0.69	0.67	0.64
FCF Yield (%)	nm	11.2	12.7	nm	13.3	7.0
Dividend Yield (%)	0.8	1.8	0.9	0.7	1.1	1.6
EV/Sales (x)	0.5	0.3	0.1	-0.1	-0.2	-0.2
EV/EBITDA (x)	5.1	2.7	2.2	-2.4	-2.9	-2.9
EV/EBIT (x)	7.7	4.0	4.2	-8.7	-6.9	-5.7

Income Statement (CNYm)

Sales revenue	38,079	42,391	39,036	35,701	40,172	41,778
Gross profit	8,077	8,648	6,540	5,275	6,099	6,661
EBITDA	3,782	4,051	2,535	1,645	2,173	2,650
Depreciation	1,300	1,274	1,209	1,188	1,245	1,295
Amortisation	0	0	0	0	0	0
EBIT	2,482	2,777	1,326	456	928	1,355
Net interest income/(expense)	85	134	181	148	156	167
Associates/affiliates	180	227	212	194	241	251
Exceptionals/extraordinary	0	0	0	0	0	0
Other pre-tax income/(expense)	-128	-350	-217	-165	-221	-241
Profit before tax	2,619	2,787	1,502	633	1,105	1,532
Income tax expense	365	388	182	63	134	185
Minorities	63	50	42	18	31	47
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	2,191	2,349	1,278	552	940	1,299
DB adjustments (including dilution)	0	0	0	0	0	0
DB Net profit	2,191	2,349	1,278	552	940	1,299

Cash Flow (CNYm)

Cash flow from operations	-179	3,004	2,833	-184	2,883	1,945
Net Capex	-889	-768	-230	-700	-700	-800
Free cash flow	-1,067	2,236	2,603	-884	2,183	1,145
Equity raised/(bought back)	0	0	0	3,996	0	0
Dividends paid	-491	-367	-512	-361	-110	-188
Net inc/(dec) in borrowings	430	1,364	3,603	-1,024	329	200
Other investing/financing cash flows	-271	34	27	191	156	167
Net cash flow	-1,399	3,267	5,721	1,919	2,558	1,325
Change in working capital	-9,529	-7,043	693	-1,482	994	-330

Balance Sheet (CNYm)

Cash and other liquid assets	8,961	12,132	17,823	19,742	22,300	23,624
Tangible fixed assets	9,873	9,244	8,538	8,261	7,716	7,131
Goodwill/intangible assets	156	1,013	989	989	989	989
Associates/investments	1,902	1,191	1,118	1,265	1,506	1,757
Other assets	57,434	54,257	56,763	51,672	56,592	58,559
Total assets	78,326	77,837	85,230	81,929	89,103	92,059
Interest bearing debt	2,244	3,492	3,080	2,056	2,384	2,585
Other liabilities	59,534	55,751	61,681	55,198	61,183	62,781
Total liabilities	61,778	59,243	64,761	57,253	63,567	65,366
Shareholders' equity	15,678	17,694	19,544	23,731	24,561	25,672
Minorities	869	900	925	943	975	1,022
Total shareholders' equity	16,547	18,593	20,469	24,675	25,536	26,694
Net debt	-6,716	-8,639	-14,743	-17,686	-19,915	-21,040

Key Company Metrics

Sales growth (%)	-11.3	11.3	-7.9	-8.5	12.5	4.0
DB EPS growth (%)	-28.3	7.2	-45.6	-63.0	70.4	38.2
EBITDA Margin (%)	9.9	9.6	6.5	4.6	5.4	6.3
EBIT Margin (%)	6.5	6.6	3.4	1.3	2.3	3.2
Payout ratio (%)	10.1	15.4	14.1	20.0	20.0	20.0
ROE (%)	14.9	14.1	6.9	2.5	3.9	5.2
Capex/sales (%)	3.1	1.8	1.7	2.0	1.7	1.9
Capex/depreciation (x)	0.9	0.6	0.6	0.6	0.6	0.6
Net debt/equity (%)	-40.6	-46.5	-72.0	-71.7	-78.0	-78.8
Net interest cover (x)	nm	nm	nm	nm	nm	nm

Source: Company data, Deutsche Bank estimates

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Model updated: 14 November 2015

Running the numbers

Asia

China

Manufacturing

Dongfang Electric

Reuters: 600875.SS Bloomberg: 600875 CH

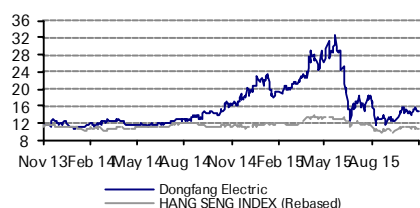
Sell

Price (18 Nov 15)	CNY 14.57
Target Price	CNY 7.90
52 Week range	CNY 11.61 - 32.43
Market Cap (m)	CNYm 29,196 USDm 4,578

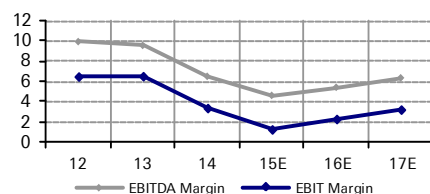
Company Profile

One of the three major power generation equipment makers in China, Dongfang Electric is engaged in the manufacture of various types of power equipment including coal, gas, hydro, nuclear, and wind power. The company was listed in Hong Kong in 1994 and in the China A share market in 1995. In 2007, Dongfang Electric completed a whole group listing exercise with its boiler and turbine subsidiaries injected.

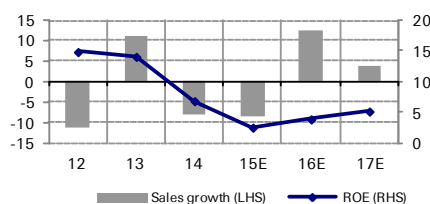
Price Performance



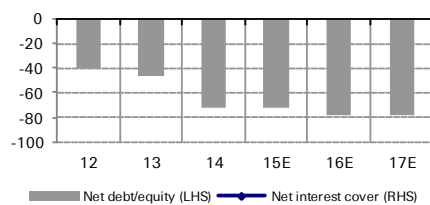
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	1.09	1.17	0.64	0.24	0.40	0.56
Reported EPS (CNY)	1.09	1.17	0.64	0.24	0.40	0.56
DPS (CNY)	0.11	0.18	0.09	0.05	0.08	0.11
BVPS (CNY)	7.8	8.8	9.8	10.2	10.5	11.0
Weighted average shares (m)	2,004	2,004	2,004	2,337	2,337	2,337
Average market cap (CNYm)	35,323	24,111	26,567	29,196	29,196	29,196
Enterprise value (CNYm)	27,574	15,181	11,631	11,189	8,750	7,422

Valuation Metrics

P/E (DB) (x)	16.1	10.3	20.8	61.7	36.2	26.2
P/E (Reported) (x)	16.1	10.3	20.8	61.7	36.2	26.2
P/BV (x)	1.73	1.40	2.12	1.43	1.39	1.33
FCF Yield (%)	nm	9.3	9.8	nm	6.4	3.4
Dividend Yield (%)	0.6	1.5	0.7	0.3	0.6	0.8
EV/Sales (x)	0.7	0.4	0.3	0.3	0.2	0.2
EV/EBITDA (x)	7.3	3.7	4.6	6.8	4.0	2.8
EV/EBIT (x)	11.1	5.5	8.8	24.5	9.4	5.5

Income Statement (CNYm)

Sales revenue	38,079	42,391	39,036	35,701	40,172	41,778
Gross profit	8,077	8,648	6,540	5,275	6,099	6,661
EBITDA	3,782	4,051	2,535	1,645	2,173	2,650
Depreciation	1,300	1,274	1,209	1,188	1,245	1,295
Amortisation	0	0	0	0	0	0
EBIT	2,482	2,777	1,326	456	928	1,355
Net interest income/(expense)	85	134	181	148	156	167
Associates/affiliates	180	227	212	194	241	251
Exceptionals/extraordinaries	0	0	0	0	0	0
Other pre-tax income/(expense)	-128	-350	-217	-165	-221	-241
Profit before tax	2,619	2,787	1,502	633	1,105	1,532
Income tax expense	365	388	182	63	134	185
Minorities	63	50	42	18	31	47
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	2,191	2,349	1,278	552	940	1,299
DB adjustments (including dilution)	0	0	0	0	0	0
DB Net profit	2,191	2,349	1,278	552	940	1,299

Cash Flow (CNYm)

Cash flow from operations	-179	3,004	2,833	-184	2,883	1,945
Net Capex	-889	-768	-230	-700	-700	-800
Free cash flow	-1,067	2,236	2,603	-884	2,183	1,145
Equity raised/(bought back)	0	0	0	3,996	0	0
Dividends paid	-491	-367	-512	-361	-110	-188
Net inc/(dec) in borrowings	430	1,364	3,603	-1,024	329	200
Other investing/financing cash flows	-271	34	27	191	156	167
Net cash flow	-1,399	3,267	5,721	1,919	2,558	1,325
Change in working capital	-9,529	-7,043	693	-1,482	994	-330

Balance Sheet (CNYm)

Cash and other liquid assets	8,961	12,132	17,823	19,742	22,300	23,624
Tangible fixed assets	9,873	9,244	8,538	8,261	7,716	7,131
Goodwill/intangible assets	156	1,013	989	989	989	989
Associates/investments	1,902	1,191	1,118	1,265	1,506	1,757
Other assets	57,434	54,257	56,763	51,672	56,592	58,559
Total assets	78,326	77,837	85,230	81,929	89,103	92,059
Interest bearing debt	2,244	3,492	3,080	2,056	2,384	2,585
Other liabilities	59,534	55,751	61,681	55,198	61,183	62,781
Total liabilities	61,778	59,243	64,761	57,253	63,567	65,365
Shareholders' equity	15,678	17,694	19,544	23,731	24,561	25,672
Minorities	869	900	925	943	975	1,022
Total shareholders' equity	16,547	18,593	20,469	24,675	25,536	26,694
Net debt	-6,716	-8,639	-14,743	-17,686	-19,915	-21,040

Key Company Metrics

Sales growth (%)	-11.3	11.3	-7.9	-8.5	12.5	4.0
DB EPS growth (%)	-28.3	7.2	-45.6	-63.0	70.4	38.2
EBITDA Margin (%)	9.9	9.6	6.5	4.6	5.4	6.3
EBIT Margin (%)	6.5	6.6	3.4	1.3	2.3	3.2
Payout ratio (%)	10.1	15.4	14.1	20.0	20.0	20.0
ROE (%)	14.9	14.1	6.9	2.5	3.9	5.2
Capex/sales (%)	3.1	1.8	1.7	2.0	1.7	1.9
Capex/depreciation (x)	0.9	0.6	0.6	0.6	0.6	0.6
Net debt/equity (%)	-40.6	-46.5	-72.0	-71.7	-78.0	-78.8
Net interest cover (x)	nm	nm	nm	nm	nm	nm

Source: Company data, Deutsche Bank estimates

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Model updated: 16 November 2015

Running the numbers

Asia

China

Manufacturing

Shanghai Electric

Reuters: 601727.SS Bloomberg: 601727.CH

Sell

Price (13 Nov 15) CNY 11.23

Target Price CNY 3.50

52 Week range CNY 6.08 - 25.00

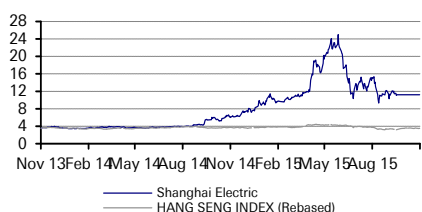
Market Cap (m) CNYm 144,009

USDm 22,581

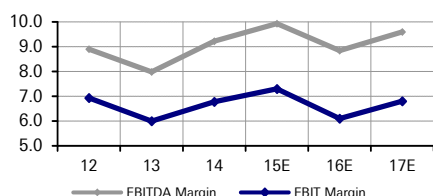
Company Profile

Shanghai Electric Group Company Limited designs, manufactures, sells, and services a wide range of products and services in the power equipment, electromechanical equipment and environmental system industries. The company (through its JV with Siemens) is one of the top three power equipment companies in China, together with Harbin Electric and Dongfang Electric.

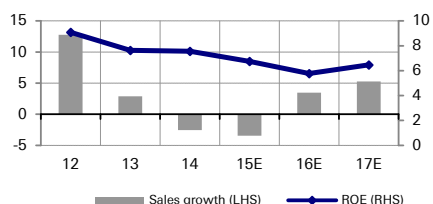
Price Performance



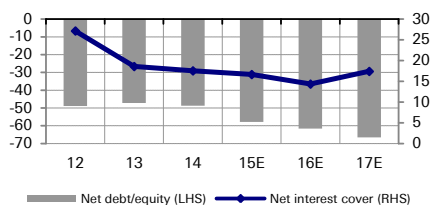
Margin Trends



Growth & Profitability



Solvency



Fiscal year end 31-Dec

Financial Summary

	2012	2013	2014	2015E	2016E	2017E
DB EPS (CNY)	0.21	0.19	0.20	0.16	0.16	0.19
Reported EPS (CNY)	0.21	0.19	0.20	0.19	0.16	0.19
DPS (CNY)	0.06	0.07	0.06	0.06	0.05	0.06
BVPS (CNY)	2.4	2.5	2.7	2.8	2.9	3.0
Weighted average shares (m)	12,824	12,824	12,824	12,824	12,824	12,824
Average market cap (CNYm)	58,544	47,251	57,509	144,009	144,009	144,009
Enterprise value (CNYm)	43,707	32,758	38,449	121,332	118,940	115,496

Valuation Metrics

P/E (DB) (x)	21.3	19.5	22.6	68.1	68.3	58.4
P/E (Reported) (x)	21.3	19.5	22.6	60.1	68.3	58.4
P/BV (x)	1.65	1.45	3.09	4.02	3.87	3.68
FCF Yield (%)	7.6	12.1	6.8	4.5	3.3	4.2
Dividend Yield (%)	1.4	2.0	1.3	0.5	0.4	0.5
EV/Sales (x)	0.6	0.4	0.5	1.6	1.6	1.4
EV/EBITDA (x)	6.4	5.2	5.4	16.5	17.5	14.9
EV/EBIT (x)	8.2	6.9	7.4	22.4	25.4	21.0

Income Statement (CNYm)

Sales revenue	76,591	78,795	76,785	74,142	76,706	80,746
Gross profit	13,989	13,710	14,367	13,401	13,806	14,858
EBITDA	6,818	6,289	7,080	7,362	6,782	7,748
Depreciation	1,507	1,564	1,877	1,952	2,104	2,256
Amortisation	0	0	0	0	0	0
EBIT	5,310	4,725	5,203	5,409	4,678	5,491
Net interest income/(expense)	-196	-254	-296	-325	-326	-315
Associates/affiliates	611	812	533	500	500	500
Exceptionals/extraordinaries	0	0	0	0	0	0
Other pre-tax income/(expense)	0	0	0	0	0	0
Profit before tax	5,726	5,283	5,439	5,585	4,852	5,676
Income tax expense	1,344	1,073	895	1,005	873	1,022
Minorities	1,667	1,817	2,033	2,215	1,870	2,188
Other post-tax income/(expense)	0	0	0	0	0	0
Net profit	2,715	2,393	2,511	2,365	2,109	2,467
DB adjustments (including dilution)	0	0	0	-277	0	0
DB Net profit	2,715	2,393	2,511	2,088	2,109	2,467

Cash Flow (CNYm)

Cash flow from operations	6,723	7,178	4,411	8,353	6,739	8,022
Net Capex	-2,292	-1,445	-508	-1,943	-1,943	-1,943
Free cash flow	4,431	5,733	3,903	6,410	4,797	6,080
Equity raised/(bought back)	0	0	53	0	0	0
Dividends paid	-1,641	-2,196	-2,373	-2,295	-2,011	-2,156
Net inc/(dec) in borrowings	1,241	513	1,893	3,360	-5,000	-4,353
Other investing/financing cash flows	-3,969	-3,785	-637	203	201	212
Net cash flow	63	266	2,841	7,678	-2,013	-217
Change in working capital	-3,032	739	-2,147	1,996	831	1,296

Balance Sheet (CNYm)

Cash and other liquid assets	25,346	26,111	29,986	38,825	36,812	36,595
Tangible fixed assets	15,226	15,127	14,066	14,057	13,895	13,581
Goodwill/intangible assets	1,163	1,139	1,063	1,063	1,063	1,063
Associates/investments	12,272	16,862	21,310	21,283	21,255	21,228
Other assets	64,693	70,054	77,124	74,363	76,139	78,764
Total assets	118,700	129,293	143,551	149,591	149,164	151,231
Interest bearing debt	5,448	5,973	7,856	11,216	6,216	1,862
Other liabilities	72,569	80,611	90,270	90,666	93,272	97,193
Total liabilities	78,017	86,584	98,125	101,881	99,488	99,056
Shareholders' equity	30,507	32,206	34,236	35,848	37,247	39,082
Minorities	10,176	10,503	11,189	11,861	12,429	13,094
Total shareholders' equity	40,682	42,709	45,425	47,709	49,677	52,175
Net debt	-19,898	-20,138	-22,131	-27,609	-30,596	-34,732

Key Company Metrics

Sales growth (%)	12.8	2.9	-2.6	-3.4	3.5	5.3
DB EPS growth (%)	-16.9	-11.9	4.9	-16.8	-0.3	17.0
EBITDA Margin (%)	8.9	8.0	9.2	9.9	8.8	9.6
EBIT Margin (%)	6.9	6.0	6.8	7.3	6.1	6.8
Payout ratio (%)	30.1	40.0	30.0	30.0	30.0	30.0
ROE (%)	9.1	7.6	7.6	6.7	5.8	6.5
Capex/sales (%)	3.2	2.2	2.2	2.6	2.5	2.4
Capex/depreciation (x)	1.6	1.1	0.9	1.0	0.9	0.9
Net debt/equity (%)	-48.9	-47.2	-48.7	-57.9	-61.6	-66.6
Net interest cover (x)	27.2	18.6	17.5	16.7	14.4	17.4

Source: Company data, Deutsche Bank estimates

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Appendix 1

Important Disclosures

Additional information available upon request

*Prices are current as of the end of the previous trading session unless otherwise indicated and are sourced from local exchanges via Reuters, Bloomberg and other vendors . Other information is sourced from Deutsche Bank, subject companies, and other sources. For disclosures pertaining to recommendations or estimates made on securities other than the primary subject of this research, please see the most recently published company report or visit our global disclosure look-up page on our website at <http://gm.db.com/ger/disclosure/DisclosureDirectory.eqsr>

Analyst Certification

The views expressed in this report accurately reflect the personal views of the undersigned lead analyst about the subject issuers and the securities of those issuers. In addition, the undersigned lead analyst has not and will not receive any compensation for providing a specific recommendation or view in this report. Michael Tong

Equity rating key

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 projected 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

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1. Newly issued research recommendations and target prices always supersede previously published research.

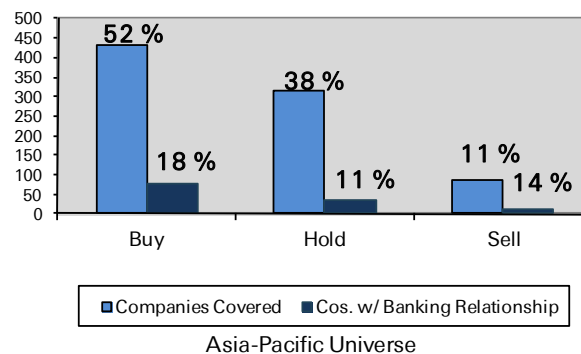
2. Ratings definitions prior to 27 January, 2007 were:

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Sell: Expected total return (including dividends) of -10% or worse over a 12-month period

Equity rating dispersion and banking relationships



Asia-Pacific Universe

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