China Wind

Power & Utilities

NOMURA
EQUITY RESEARCH

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Easing forewinds ahead

Prefer quality component plays with unique bargaining power in the crowded space

Action: Expanding at the expense of ROE; Neutral sector view

China's annual wind capacity doubled over 2006-10 to 31GW. We expect wind capacity to reach 200GW by 2020F (higher than Beijing's target of 120-150GW), implying slower growth (a 20% CAGR) and flattish new adds (17-18GW pa) over 2011-15F. This is not a positive backdrop for the wind sector, especially equipment providers, unless they find a way to export. Wind operators remain unappealing, in our view, with an unfavourable tariff scheme, grid connection bottlenecks and uneconomical competition for capacity resulting in low project ROE and poor FCF; CDM uncertainty is also a concern. Wind turbine production remains in overcapacity in China. The turn-key business model and low barriers of entry have driven manufacturers to compete purely on pricing and volume. We see components, with high degrees of specification and precision, as the best plays in the value chain, despite also facing risk of a slowing local market. Europe's experience tells us that "direct drive" is not a threat to "gearbox".

Catalysts: Growth prospects for quality plays amid easing forewinds

- Slowing demand growth amid grid bottlenecks and higher base. Despite wind being the cheapest of the scalable non-fossil energies, grid bottlenecks are likely to dampen wind capacity growth in China.
- Consolidation squeezing ASP and gross margin. Wind turbine ASPs dropped sharply in FY10 and will likely continue to trend down in 2011F and 2012F owing to overcapacity, leading to weaker gross margins.
- As domestic demand slows, players with export visibility may see upside volume growth. Off-shore turbines also offer potential for quality plays.
- Bargaining power the key to success. In the wind value chain, we prefer those with unique bargaining power as we believe this will help to defend ASP/gross margin pressure amid difficult market dynamics.

Stock picks: CHST our top pick; initiate Goldwind with REDUCE

We like CHST's unique market position and solid market share, plus its technical know-how makes it hard to replace as a supplier. We believe concerns on ASP and volume growth are overdone, and growth prospects have yet to be priced in. BUY. Despite improving earnings, Longyuan (NEUTRAL) remains expensive relative to peers. Lack of catalysts in the near term, declining ASP and confined capacity growth have us initiating coverage on Goldwind with a REDUCE call.

Fig. 1: China wind: coverage summary

Stock	Ticker	Rating	Price	Price target
China High Speed	658 HK	BUY	9.57	14.80↓
Longyuan	916 HK	NEUTRAL	8.18	7.60
Xinjiang Goldwind	2208 HK	REDUCE*	10.12	9.40

Note: pricing as of May 30, 2011, local currency * Initiating coverage Source: Bloomberg, Nomura Research

Rating: *See report end for details of Nomura's rating system.*

Anchor themes

In the wind value chain, we like component manufacturers with unique market positioning, bargaining power and export visibility.

Nomura vs consensus

Our 2020F wind capacity forecast of 200GW is in-line with consensus.

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Executive summary

In light of China's energy mix target (aiming for non-fossil fuel to contribute 15% of its primary energy consumption by 2020), carbon reduction goal (to reduce its carbon intensity by 17% over 2011-15) and energy intensity goal (to reduce energy intensity by 16% over 2011-15), we look for wind power development in China to continue. However, the pace of growth is likely to slow, mainly owing to a high base and grid bottleneck issues. In our view, the wind turbine market will continue to see fierce competition well into 2011F and beyond, driven by industry over-capacity and limited demand growth. We forecast ASP for FY11F delivery will come down by 10% y-y, and then fall by a slower 5% y-y for FY12F delivery, given our expectation for ASP to stabilise for a period on new contracts signed in 1Q11 (as per our industry checks).

For a full view of the China Power Equipment space, please refer to our China Power Equipment report "Powerful growth ahead" published on 2 June, 2011."

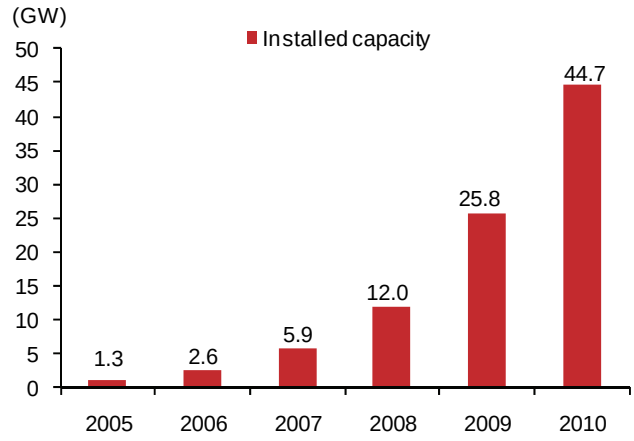
Wind turbine market – fierce competition likely to continue in the domestic market

We believe the wind turbine industry in China will go through industry consolidation and fierce competition will continue, considering that:

- Strong demand growth appears to be yesterday's news;
- The industry is facing overcapacity; and
- The Chinese government appears to favour a more concentrated playing ground.

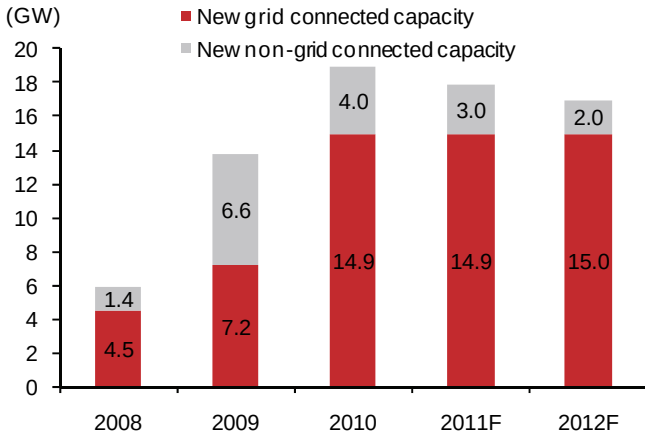
Flat demand ahead; explosive growth a thing of the past

Fig. 2: China: installed wind capacity (2005-10)



Note: Includes non-grid connected capacity
Source: CWEA

Fig. 3: China: wind capacity installation forecast (2008-12F)



Source: CEC, CWEA, Nomura estimates

After nearly doubling the wind capacity installed every year between 2005 and 2010, China is likely to see its wind capacity growth slow, owing to: 1) grid connection issues; and 2) a high base. In our view, new capacity installation is likely to slow to 17.9GW in 2011F and 17GW in 2012F, down from 18.9GW in FY10, as wind farm investors become more rational on grid connection issues.

Industry overcapacity evidenced by falling ASP in FY10

We believe the sharp decline in ASP from RMB5,000/kw at the beginning of 2010 to RMB4,000/kw towards the end of 2010 (source: industry checks) for new contracts are clear evidence of overcapacity in the industry.

Government aims to better manage the wind supply chain
On 3 March, 2011, following a guideline issued last year to prevent overcapacity in the wind power equipment industry, the National Intellectual-Property Strategy Office issued a directive for municipal governments to follow in controlling the crowded market. According to the directive, the state aims to have 3-5 competitive turbine manufacturers with R&D capability for new product development in the wind equipment industry in the long term. We see the policy raising the barrier for new entrants and driving further industry consolidation, and thus supporting only the qualified players in the market.

Moreover, under the 2011 edition of the Guideline Catalogue for Industrial Structuring published by the National Development and Reform Commission (NDRC) published on 26 April, 2011, China will not extend the preferential policies to companies that produce wind turbines with a capacity of less than 2.5MW nor wind turbine components/gearboxes of 2MW capacity or lower. This is yet another effort by the government to push for higher capacity turbine development and industry consolidation. According to Shen Dechang, Deputy Secretary-General of the wind power equipment branch of the China Association of Agricultural Machinery Manufacturers (CAAMM), “In the next 3 to 5 years, about 80% of China’s wind turbine makers will disappear through mergers and acquisitions”.

Thus, we prefer quality plays with strong bargaining power

We believe the overall wind turbine market will experience ASP pressure, a margin squeeze and limited volume growth, making earnings growth more difficult. However, we see sizeable export sales (such as the USD203mn contract between KSK and Dongfang, and the 250MW contract between Shanghai Electric and KSK) and exposure in off-shore, high-capacity premium wind turbines as catalysts for quality plays in facilitating development.

In the wind value chain, we like component makers with unique market positioning, namely gearbox plays, given that: 1) it is hard to replace a gearbox supplier once the turbine design is finalised; and 2) we see smaller ASP declines than for wind turbines, confirming our view on wind gear makers’ bargaining power.

The winner is…

China High Speed Transmission (658 HK, BUY): Unique market position; export visibility not in the price
CHST is the top BUY call in our wind power equipment universe, supported by its dominant market position which we believe will help to defend against further ASP pressure. While volume growth is likely to slow, we believe it will remain positive. We look for CHST to continue to gain domestic market share on its product quality and scale. Export visibility (10-15% of wind gears delivery in FY11F, largely from partner GE) provides added fuel for growth, in our view. Direct-drive and in-house developments are not major concerns, in our view. As at 30 May, 2011, CHST traded at 7.0x FY11F P/E, which we believe is attractive considering our forecasts for recurring earnings growth of 16% y-y and 5% y-y for FY11F and FY12F, respectively. Moreover, concerns on ASP and volume growth appear to be overdone, and we believe moderate growth prospects are not yet in the price.

NEUTRAL call…

Longyuan (916 HK, NEUTRAL): Growth intact, but utilisation concerns linger. NEUTRAL
As the market leading wind farm operator in China’s high-growth wind power industry, we believe Longyuan is well-placed to sustain growth. Over the near-term, domestic greenfield initiatives should see the group’s FY11F capacity base swell by 2GW (+31%), with the planned 400MW asset injection from Longyuan’s parent in 3QFY11 a potential upside risk to our assumptions. Over a more extended horizon, supportive policy, international expansion initiatives and diversification into alternative renewables should

support a healthy earnings run-rate. However, grid interconnectivity, competition and power rationing remain as lingering constraints to utilisation over our forecast period. Although we believe a premium is justified given Longyuan's superior scale, at 17.2x and 1.8x FY12F P/E and P/BV, and with ROE languishing between 10.6% and 10.8% over our forecast period, we see Longyuan's valuations as full, both in isolation and relative to China wind farm operator peers (trading at average FY12F P/E and P/BV of 11.3x and 1.2x.

And the loser is…

Xinjiang Goldwind (2208 HK, REDUCE): Disappointing FY11F earnings; lacking positive catalysts in the near term

We initiate coverage of Xinjiang Goldwind with a REDUCE and a TP of HKD 9.40. We believe that Goldwind will experience lower ASPs and gross margins. We expect the wind turbine ASP (for delivery) to drop 10% in FY11F on overcapacity. As the decline in ASP is expected to outpace the drop in production cost, we estimate its gross margin will narrow to 19.7% in FY11F from 22.7% in FY10. There is limited sales volume growth near term. Due to slowing domestic demand (we forecast China will install 17.9GW of wind turbines in FY11F vs 18.9GW in FY10) and lack of export visibility, Goldwind's significant sales volume growth (over 70% CAGR in FY07-10) is a thing of the past, in our view. With the bleak growth prospects, likely disappointing FY11F results and lack of positive catalysts, we have a REDUCE rating on the stock.

Valuation comparison

Fig. 4: Valuation comparison (1/3)

Company	Ticker	Rating	Price target L. Curr.	Price L. Curr.	Market cap (US$mn)	Free float (%)	Rept'g curr.	Fiscal Y/E	Net profit (Local $ m) 11F	12F	13F	Net earnings growth (%) 11F	12F	13F
China														
Power equipment manufacturer														
Shanghai Electric	2727 HK	Buy	4.9	4.06	12,142	37	CNY	Dec	3,199	3,631	4,052	15	14	12
Dongfang Electric	1072 HK	Buy	34.4	29.00	7,738	49	CNY	Dec	2,966	3,249	3,705	14	10	14
Harbin Electric	1133 HK	Neutral	8.9	9.23	1,634	49	CNY	Dec	884	922	1,013	(14)	4	10
Average												5	9	12
Heavy equipment player with exposure to forging parts for nuclear equipment														
China First Heavy	601106 CH	Not rated	n.a.	5.06	4,780	31	CNY	Dec	1,408	1,808	1,437	78	28	(21)
China Erzhong	601268 CH	Not rated	n.a.	9.76	2,544	18	CNY	Dec	497	772	1,054	78	55	37
Average												78	42	8
Wind turbine / components manufacturer														
China High Speed	658 HK	Buy	14.8	9.57	1,676	78	CNY	Dec	1,475	1,546	1,663	7	5	8
Sinovel	601558 CH	Not rated	n.a.	56.04	8,688	10	CNY	Dec	3,747	4,757	8,420	31	27	77
Xinjiang Goldwind	2208 HK	Reduce	9.4	10.12	5,877	66	CNY	Dec	2,109	2,231	2,352	(8)	6	5
Ming Yang Wind	MY US	Not rated	n.a.	7.33	916	100	USD	Dec	170	188	227	64	11	21
Average												23	13	28
Wind farm operator														
China Long Yuan Power Group	916 HK	Neutral	7.6	8.18	7,849	77	CNY	Dec	2,587	2,879	n.a.	28	11	n.a.
China Power New Energy	735 HK	Not rated	n.a.	0.57	578	29	HKD	Dec	428	616	741	59	44	20
China Windpower Group	182 HK	Not rated	n.a.	0.76	722	45	HKD	Dec	589	781	941	38	33	20
Datang Renewables	1798 HK	Not rated	n.a.	2.29	2,145	52	CNY	Dec	1,003	1,321	1,553	120	32	18
Average												61	30	19
China Average												**39**	**21**	**18**
Non-China														
Power equipment player (incl. forging parts manufacturer)														
GE	GE US	Buy	24	19.44	206,170	99	USD	Dec	14,455	17,339	n.a.	17	20	n.a.
Mitsubishi Heavy	7011 JP	Buy	465	376.00	15,697	92	JPY	Mar	30,117	51,500	75,500	113	71	47
BHI Co. Ltd	083650 KS	Not rated	n.a.	17,400.00	211	29	KRW	Dec	27,931	n.a.	n.a.	27	n.a.	n.a.
Doosan	034020 KS	Not rated	n.a.	58,100.00	5,693	42	KRW	Dec	452,897	555,867	908,596	307	23	63
BHEL	BHEL IN	Reduce	1,850	1,936.90	20,976	22	INR	Mar	53,552	66,843	71,830	24	25	7
Japan Steel Works	5631 JP	Neutral	880	570.00	2,620	88	JPY	Mar	18,000	18,200	23,600	3	1	30
Toshiba Plant	1983 JP	Buy	1,350	804.00	972	37	JPY	Mar	8,300	9,200	10,200	6	11	11
Siemens	SIE GR	Neutral	100	90.82	58,106	87	EUR	Sep	7,471	8,567	6,606	92	15	(23)
Alstom	ALO FP	Buy	49	42.12	8,678	63	EUR	Mar	462	944	1,180	(62)	104	25
Areva SA	AREVA FP	Not rated	n.a.	30.25	7,748	96	EUR	Dec	525	756	797	(41)	44	5
Average												49	35	21
Wind turbine / components manufacturer														
Hansen Transmissions	HSN LN	Not rated	n.a.	42.75	174	70	EUR	Mar	(16)	(1)	13	n.a.	n.a.	n.a.
Gamesa	GAM SM	Suspended	n.a.	6.45	1,109	80	EUR	Dec	68	88	114	35	30	30
Vesta	VWS DC	Suspended	n.a.	151.30	5,907	n.a.	EUR	Dec	287	355	461	84	24	30
Repower	RPW GR	Not rated	n.a.	133.05	857	9	EUR	Mar	51	60	77	(13)	17	30
Suzlon	SUEL IN	Suspended	n.a.	51.10	2,015	38	INR	Mar	(11,034)	2,060	6,833	n.a.	n.a.	232
Average												35	24	80
Wind farm operator														
Acciona	ANA SM	Buy	105	73.18	3,255	40	EUR	Dec	206	320	369	10	55	15
Theolia	TEO FP	Not rated	n.a.	1.31	102	91	EUR	Dec	(0)	6	0	(106)	n.a.	(98)
Iberdrola Renovables	IBR SM	Reduce	2.75	3.04	8,987	20	EUR	Dec	409	437	517	13	7	18
EDF Energies Nouvelles	EEN FP	Suspended	n.a.	40.28	2,187	24	EUR	Dec	130	164	197	22	27	20
EDP Renovaveis	EDPR PL	Neutral	5.75	4.72	2,881	22	EUR	Dec	151	216	237	25	43	10
Greentech Energy Systems	GES DC	Not rated	n.a.	18.50	188	n.a.	DKK	Dec	88	102	n.a.	n.a.	16	n.a.
Average												(7.3)	29.4	(6.9)
Non-China Average												**31**	**31**	**27**
International Average												**34**	**27**	**23**

Note: pricing as at 30 May 2011; FY11F figures are actual for companies (reporting in Mar) which have reported

Source: Bloomberg consensus for Not Rated and Rating Suspended securities, Nomura estimates

Fig. 5: Valuation comparison (2/3)

Company	EPS (Local $)			EPS growth (%)			P/E (x)			PEG	P/B (x)			Yield (%)		
	11F	12F	13F	11F	12F	13F	11F	12F	13F	11-13F	11F	12F	13F	11F	12F	13F
China																
Power equipment manufacturer																
Shanghai Electric	0.25	0.28	0.32	14	14	12	13.0	11.4	10.2	0.9	1.4	1.3	1.2	2.3	2.6	2.9
Dongfang Electric	1.48	1.62	1.85	14	10	14	15.6	14.3	12.5	1.1	3.4	2.8	2.3	0.6	0.7	0.8
Harbin Electric	0.64	0.67	0.74	(14)	4	10	11.5	11.0	10.0	n.a.	1.0	0.9	0.8	1.6	1.7	1.9
Average				5	9	12	13.4	12.2	10.9	1.0	1.9	1.7	1.4	1.5	1.7	1.9
Heavy equipment player with exposure to forging parts for nuclear equipment																
China First Heavy	0.22	0.29	0.22	72	28	(23)	22.6	17.6	23.0	0.9	1.8	1.7	1.7	0.5	0.6	0.4
China Erzhong	0.29	0.42	0.58	73	44	38	33.5	23.2	16.8	0.5	2.6	2.4	n.a.	0.6	1.0	0.7
Average				73	36	7	28.1	20.4	19.9	0.7	2.2	2.0	1.7	0.6	0.8	0.6
Wind turbine / components manufacturer																
China High Speed	1.08	1.13	1.22	0	5	8	7.0	6.7	6.3	1.6	1.2	1.1	1.0	3.7	3.9	4.1
Sinovel	3.71	4.71	8.38	17	27	78	15.1	11.9	6.7	0.3	3.1	2.5	n.a.	n.a.	n.a.	n.a.
Xinjiang Goldwind	0.78	0.83	0.87	(21)	6	5	10.3	9.7	9.2	n.a.	1.5	1.4	1.3	3.9	4.1	4.3
Ming Yang Wind	1.28	1.48	1.79	31	16	21	5.7	5.0	4.1	0.2	1.3	1.0	0.8	n.a.	n.a.	0.6
Average				7	13	28	9.6	8.3	6.6	0.7	1.8	1.5	1.0	3.8	4.0	3.0
Wind farm operator																
China Long Yuan Power Group	0.35	0.39	n.a	28	11	n.a.	19.7	17.2	n.a.	n.a	1.9	1.8	n.a.	1.0	1.2	n.a.
China Power New Energy	0.05	0.06	0.08	28	30	34	12.1	9.3	7.0	0.3	0.7	0.6	0.6	n.a.	n.a.	n.a.
China Windpower Group	0.08	0.10	0.13	35	32	23	9.6	7.3	5.9	0.2	1.3	1.1	0.8	0.1	0.4	0.4
Datang Renewables	0.13	0.18	0.22	48	33	23	14.3	10.8	8.8	0.3	1.4	1.2	1.2	0.7	1.2	1.6
Average				35	26	27	13.9	11.2	7.2	0.3	1.3	1.2	0.9	0.6	0.9	1.0
China Average				**25**	**20**	**20**	**14.6**	**12.0**	**10.0**	**0.6**	**1.7**	**1.5**	**1.2**	**1.5**	**1.7**	**1.8**
Non-China																
Power equipment player (incl. forging parts manufacturer)																
GE	1.36	1.65	n.a.	18	21	n.a.	14.3	11.8	n.a.	n.a	1.6	1.5	n.a.	2.8	3.4	n.a.
Mitsubishi Heavy	9.00	15.30	22.50	114	70	47	41.8	24.6	16.7	0.3	1.0	1.0	0.9	1.6	1.6	1.6
BHI Co. Ltd	2,152.17	n.a.	n.a.	28	n.a.	n.a.	8.1	n.a.	n.a.	n.a	2.0	n.a.	n.a.	1.1	1.1	1.1
Doosan	4,419.99	5,299.32	8,662.04	257	20	63	13.1	11.0	6.7	0.1	1.6	n.a.	n.a.	1.0	1.0	1.2
BHEL	109.40	136.55	146.74	24	25	7	17.7	14.2	13.2	43	4.7	3.8	3.2	1.9	2.2	2.3
Japan Steel Works	48.50	49.00	63.60	3	1	30	11.8	11.6	9.0	1.1	1.7	1.5	1.4	4.2	4.4	4.4
Toshiba Plant	85.20	94.40	104.70	6	11	11	9.4	8.5	7.7	0.9	0.9	0.8	0.8	1.9	1.9	1.9
Siemens	8.48	9.50	7.27	91	12	(23)	10.7	9.6	12.5	0.5	2.4	2.1	2.0	4.7	5.3	4.0
Alstom	1.56	3.18	3.98	(63)	104	25	27.0	13.2	10.6	n.a.	3.1	2.6	2.4	1.5	2.5	3.1
Areva SA	1.42	2.03	2.12	(43)	43	4	21.2	14.9	14.2	n.a.	1.3	1.2	1.1	0.8	1.5	1.4
Average				44	34	21	17.5	13.3	11.3	7.6	2.0	1.8	1.7	2.1	2.5	2.3
Wind turbine / components manufacturer																
Hansen Transmissions	(0.02)	(0.00)	0.02	n.a.	n.a.	n.a.	n.a.	n.a.	18.5	n.a	0.4	0.4	0.4	n.a.	n.a.	0.3
Gamesa	0.28	0.38	0.48	36	35	25	22.8	16.9	13.5	0.5	0.9	0.9	0.9	1.2	1.5	2.0
Vesta	1.45	1.77	2.26	89	22	28	28.5	23.4	18.3	0.5	2.8	2.5	2.2	n.a.	n.a.	0.1
Repower	5.75	7.03	8.09	(9)	22	15	23.2	18.9	16.4	2.2	2.5	2.3	2.0	1.0	1.2	1.6
Suzlon	(6.47)	1.27	4.09	n.a.	n.a.	222	n.a.	40.2	12.5	n.a	1.2	1.3	1.2	n.a.	0.1	0.1
Average				38	26	73	24.8	24.9	15.9	1.1	1.6	1.5	1.3	1.1	0.9	0.8
Wind farm operator																
Acciona	3.25	5.03	5.80	10	55	15	22.5	14.5	12.6	0.6	0.8	0.8	0.8	2.0	3.1	3.6
Theolia	0.03	0.11	n.a.	(64)	272	n.a.	45.2	12.1	n.a.	n.a	0.3	0.3	n.a.	n.a.	0.2	n.a.
Iberdrola Renovables	0.10	0.10	0.12	13	7	18	31.4	29.4	24.8	2.3	1.1	1.1	1.0	1.1	1.4	1.6
EDF Energies Nouvelles	1.68	2.13	2.55	23	26	20	23.9	18.9	15.8	0.8	2.0	1.9	1.6	1.2	1.4	1.8
EDP Renovaveis	0.16	0.24	0.26	26	45	10	29.0	20.0	18.2	0.8	0.8	0.7	0.7	0.7	1.0	1.1
Greentech Energy Systems	1.76	2.03	n.a.	n.a.	15	n.a.	10.5	9.1	n.a.	n.a	0.5	0.5	n.a.	n.a.	n.a.	n.a.
Average				1	70	16	27.1	17.3	17.9	1.1	0.9	0.9	1.0	1.3	1.4	2.0
Non-China Average				**31**	**45**	**32**	**21.7**	**17.0**	**14.2**	**4.1**	**1.6**	**1.4**	**1.4**	**1.8**	**1.9**	**1.9**
International Average				**29**	**34**	**27**	**18.8**	**14.9**	**12.5**	**2.6**	**1.7**	**1.5**	**1.3**	**1.7**	**1.9**	**1.8**

Note: Pricing as of 30 May 2011; FY11F figures are actual for companies (reporting in Mar) which have reported

Source: Bloomberg consensus for Not Rated and Rating Suspended securities, Nomura estimates

Fig. 6: Valuation comparison (3/3)

	Net debt/equity (%)			RoE (%)			RoA (%)			EV/EBITDA (x)		
Company	**11F**	**12F**	**13F**	**11F**	**12F**	**13F**	**11F**	**12F**	**13F**	**11F**	**12F**	**13F**
China												
Power equipment manufacturer												
Shanghai Electric	66.9	63.6	55.9	11.4	11.8	12.1	3.7	3.9	4.0	9.3	8.3	7.3
Dongfang Electric	197.3	160.0	127.5	23.9	21.3	20.2	4.1	4.1	4.4	14.8	13.5	11.9
Harbin Electric	35.7	35.5	30.6	8.9	8.6	8.8	2.2	2.1	2.2	7.8	7.5	6.7
Average				14.7	13.9	13.7	3.3	3.4	3.6	10.6	9.8	8.6
Heavy equipment player with exposure to forging parts for nuclear equipment												
China First Heavy	8.5	15.3	21.2	8.1	9.2	7.5	3.3	3.7	4.0	16.3	12.9	14.9
China Erzhong	47.9	38.9	n.a.	6.3	8.7	n.a.	2.3	3.4	n.a.	15.2	11.9	8.4
Average				7.2	9.0	7.5	2.8	3.6	4.0	15.8	12.4	11.6
Wind turbine / components manufacturer												
China High Speed	27.6	24.4	14.1	18.6	17.0	16.1	11.0	10.5	10.5	6.1	5.7	5.4
Sinovel	n.a.	n.a.	n.a.	19.9	20.5	n.a.	9.0	9.0	n.a.	n.a.	n.a.	n.a.
Xinjiang Goldwind	net cash	net cash	net cash	15.2	14.7	14.2	10.1	9.1	8.4	13.4	11.9	10.8
Ming Yang Wind	net cash	net cash	net cash	22.9	20.3	n.a.	n.a.	n.a.	n.a.	2.6	2.2	1.8
Average				19.1	18.1	15.2	10.0	9.5	9.4	7.4	6.6	6.0
Wind farm operator												
China Long Yuan Power Group	174.1	202.6	n.a.	10.6	10.8	n.a.	3.0	2.6	n.a.	11.9	10.0	n.a.
China Power New Energy	78.8	74.4	113.4	5.9	7.1	8.4	3.6	4.5	4.6	7.6	5.8	5.2
China Windpower Group	net cash	net cash	n.a.	14.5	16.3	16.0	9.7	9.8	7.3	7.7	5.7	6.2
Datang Renewables	880.1	1038.3	1225.9	9.9	11.6	13.5	3.4	3.7	4.5	11.4	8.0	6.4
Average				10.2	11.5	12.7	4.9	5.1	5.4	9.6	7.4	5.9
China Average				**13.5**	**13.7**	**13.0**	**5.5**	**5.5**	**5.5**	**10.3**	**8.6**	**7.7**
Non-China												
Power equipment player (incl. forging parts manufacturer)												
GE	net cash	net cash	n.a.	11.7	12.9	n.a.	6.6	7.7	n.a.	9.3	9.0	n.a.
Mitsubishi Heavy	80.0	70.0	70.0	2.3	3.9	5.5	2.5	2.9	3.7	9.8	9.3	8.1
BHI Co. Ltd	57.7	n.a.	n.a.	n.a.	n.a.	n.a.	9.7	n.a.	n.a.	n.a.	n.a.	n.a.
Doosan	39.5	n.a.	n.a.	n.a.	n.a.	n.a.	5.2	n.a.	n.a.	3.1	2.8	2.6
BHEL	n.a.	n.a.	n.a.	33.3	29.8	26.4	14.2	11.0	10.6	10.6	8.5	7.7
Japan Steel Works	30.0	net cash	net cash	14.4	13.2	15.1	9.2	9.2	10.9	4.6	4.5	4.1
Toshiba Plant	net cash	net cash	net cash	9.9	10.1	10.2	9.1	9.6	9.9	3.1	2.8	2.5
Siemens	net cash	net cash	net cash	19.2	16.7	17.1	8.6	9.6	7.2	8.9	7.8	7.3
Alstom	34.7	20.2	8.5	15.3	22.2	23.1	1.8	3.7	4.5	10.8	7.2	6.6
Areva SA	n.a	n.a	n.a	5.7	7.5	7.2	n.a.	n.a.	n.a.	11.8	9.8	8.1
Average				14.0	14.5	14.9	7.4	7.7	7.8	8.0	6.8	5.9
Wind turbine / components manufacturer												
Hansen Transmissions	3.3	0.6	net cash	(2.4)	(0.3)	2.2	(0.7)	1.0	3.5	7.2	6.0	4.6
Gamesa	32.0	34.9	36.1	4.2	5.4	6.9	2.1	2.5	4.4	6.5	5.5	4.7
Vesta	20.9	13.1	5.3	9.6	11.1	13.0	5.0	5.1	6.8	37.7	32.9	27.7
Repower	net cash	net cash	net cash	10.6	11.5	13.5	n.a.	n.a.	n.a.	10.1	8.6	6.9
Suzlon	130.6	136.5	119.9	n.a.	3.0	9.4	(2.9)	1.7	4.0	24.1	10.1	7.4
Average				5.5	6.1	9.0	0.9	2.6	4.7	17.1	12.6	10.3
Wind farm operator												
Acciona	65.8	66.3	66.8	3.6	5.4	6.0	1.1	1.6	1.8	9.8	8.4	7.8
Theolia	65.6	66.0	n.a.	2.4	4.5	n.a.	5.0	6.6	n.a.	10.7	8.4	n.a.
Iberdrola Renovables	38.6	41.8	44.9	3.4	3.6	4.1	1.6	1.6	1.7	12.4	11.1	10.0
EDF Energies Nouvelles	299.3	332.8	331.5	9.1	11.0	12.5	5.2	5.9	6.4	13.6	10.8	8.7
EDP Renovaveis	56.3	59.3	61.3	2.8	3.8	4.1	1.1	1.5	1.6	10.8	8.7	7.7
Greentech Energy Systems	110.6	106.0	n.a.	4.7	5.2	n.a.	5.7	5.9	n.a.	7.7	7.0	n.a.
Average				4.3	5.6	6.7	3.3	3.8	2.9	10.8	9.1	8.5
Non-China Average				**8.9**	**9.5**	**11.0**	**4.7**	**5.1**	**5.5**	**11.1**	**9.0**	**7.8**
International Average				**10.8**	**11.2**	**11.7**	**5.0**	**5.3**	**5.5**	**10.8**	**8.8**	**7.8**

Note: Pricing as of 30 May 2011; FY11F figures are actual for companies (reporting in Mar) which have reported

Source: Bloomberg consensus for Not Rated and Rating Suspended securities, Nomura estimates

Quants feature — charting and short-selling analyses, market-timing reference on fundamental rating

Examination on share price trend, resistance, support levels and recent shorts pattern. Providing market-timing reference to go in-line with fundamental rating

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In this section, we applied charting and short-selling analyses in order to examine share price trends, resistance and support levels, and shorts implication for the three wind power companies, China High Speed Transmission Equipment Group, China Longyuan Power Group and Xinjiang Goldwind Science & Technology. In short, we have a Neutral view from momentum standpoint for the three companies (see summary table below for more details) at this moment. However, China High Speed Transmission Equipment Group is testing the current support level and may rebound if it finds support at current levels as seen recently. China Longyuan Power Group has been range-trading and it needs a breakout of either end to indicate a near-term trading direction. Xinjiang Goldwind Science & Technology is testing support at this point and a breakout (from top) with volume could be a negative in the near term.

Fundamentally, we have a BUY rating on China High Speed Transmission Equipment and it is a top pick in this sector. While the stock has generally been trading within a long and wide downward channel, and the bottom band of this channel is being tested as a support level now, we see finding support at the bottom band a good time to accumulate shares – the share price has found support near the bottom band several times year to date. Xinjiang Goldwind Science & Technology has a fundamental REDUCE rating. In our opinion, once the share price falls below the bottom-end of its current trading range (HKD10.30-HKD11.40 with HKD10.30 being the bottom-end), it would be a good time to reduce holdings. Indeed, the bottom-end is being tested of late and if a volume-backed breakout appears, Xinjiang Goldwind Science & Technology may head to around HKD9.20.

Fig. 7: Summary on charting and short-selling analyses, market-timing reference on fundamental rating

Bloomberg code	Company name	Overall charting and short-selling view	Resistance reference (HK$)	Current share price (HK$)	Support reference (HK$)	Fundamental research rating	Market-timing reference to go in-line with fundamental rating
658 HK	China High Speed Transmission Equipment Group	Neutral on charting as it is testing the bottom band as a support level now. This bottom band has been tested previously and managed to be support. Good to see short-selling activities decreasing.	10.86	9.57	9.75	BUY	Start to accumulate shares after seeing support at the bottom band, which is being tested right now.
916 HK	China Longyuan Power Group	Neutral on charting as a trading range has been formed over the past two months. We note shorts have been heavy at around HKD8.0 recently.	8.5	8.18	7.75	NEUTRAL	N/A
2208 HK	Xinjiang Goldwind Science & Technology	Neutral on charting as the bottom-end of trading over the past one month is being tested as support now — breaking below with volume will be a negative. Slightly positive via the shorts pattern is that recent shorts have been very light.	11.40	10.12	10.30	REDUCE	Reduce holdings when the bottom-end of the current trading range is broken. Indeed, the bottom-end of the range is being tested as support now.

Source: Nomura Quantitative Strategies

Fig. 8: Charting analysis: CHST (658 HK)

Source: Bloomberg, Nomura Quantitative Strategies

Overall view: Neutral. Testing support now. Potential rebound if support is found as seen recently.

Resistance: HKD10.86 / HKD11.90

Support: HKD9.73 / HKD8.20

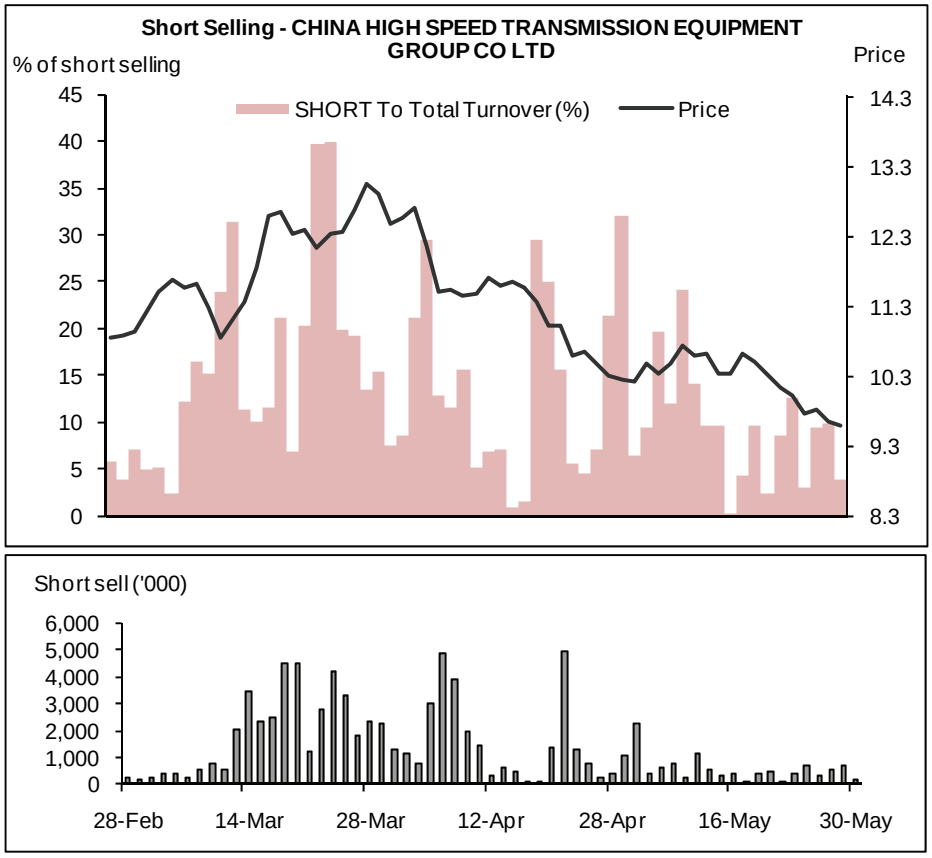
Note:

(1) a long-and-wide downward channel has appeared for China High Speed Transmission Equipment over the past two years or so. Currently, the bottom band is being tested as support.

(2) YTD, this bottom band has managed to act as support several times. The magnitude of rebound will depend on buying pressure.

(3) See resistance at HKD13.36 potentially solid and stronger resistance at HKD14.52.

Fig. 9: Short-selling analysis: CHST (658 HK)



Source: Bloomberg, Thomson Reuters, Nomura Quantitative Strategies

Overall view: positive − short-sell activities have decreased substantially.

Short-sell activities have decreased substantially, and thus pressure from short-selling was easing

Fig. 10: Charting analysis: China Longyuan Power Group (916 HK)

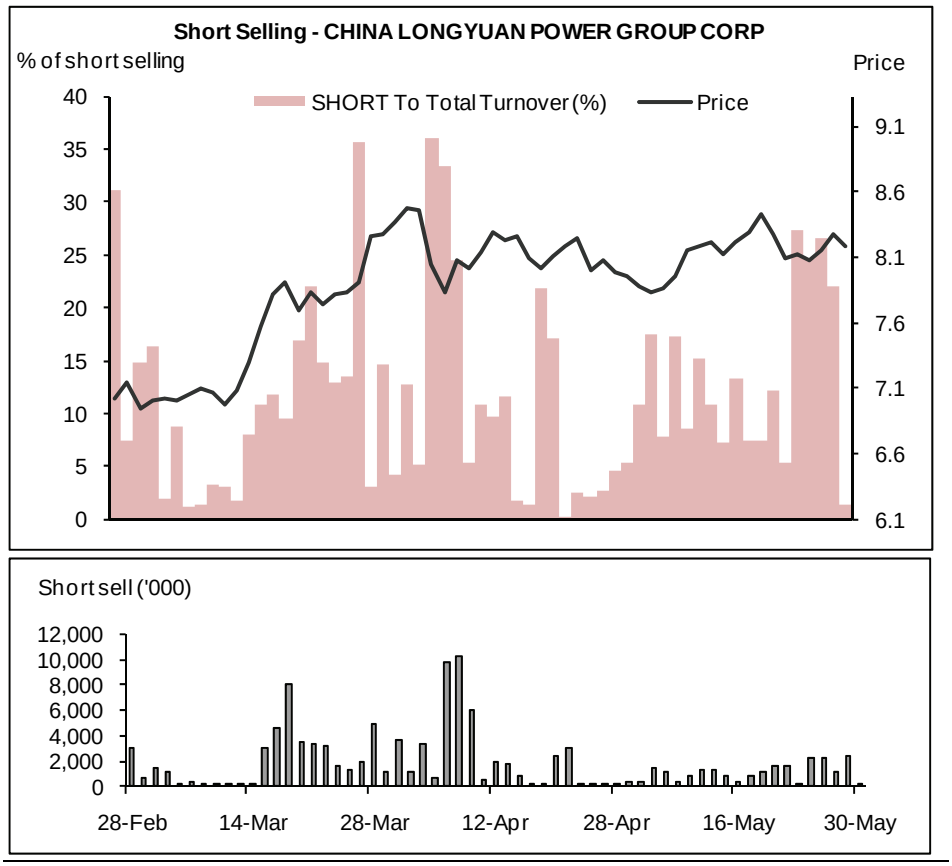
Source: Bloomberg, Nomura Quantitative Strategies

Overall view: neutral; see range trading between HKD7.75 and HKD8.50 in the short to medium term.

Resistance: HKD8.50 / HKD8.76
Support: HKD7.75 / HKD7.30

Note:
(1) a trading range of HKD7.75-HKD8.50 has formed over the past two months or so. Top-end of the range serves as resistance while bottom-end as support.
(2) The next resistance at HKD8.76 looks solid on the chart.

Fig. 11: Short-selling analysis: China Longyuan Power Group (916 HK)



Source: Bloomberg, Thomson Reuters, Nomura Quantitative Strategies

Overall view: slightly negative − heavy shorts around HKD8.0.

Last couple of days saw the short-to-total turnover ratio jumped to above 25% − heavy shorts were around HKD8.0.

Fig. 12: Charting analysis: Xinjiang Goldwind Science & Technology (2208 HK)

Source: Bloomberg, Nomura Quantitative Strategies

Overall view: neutral with a trading range formed in the past month. Is testing support; near the bottom-end of the range now.

Resistance: HKD11.40

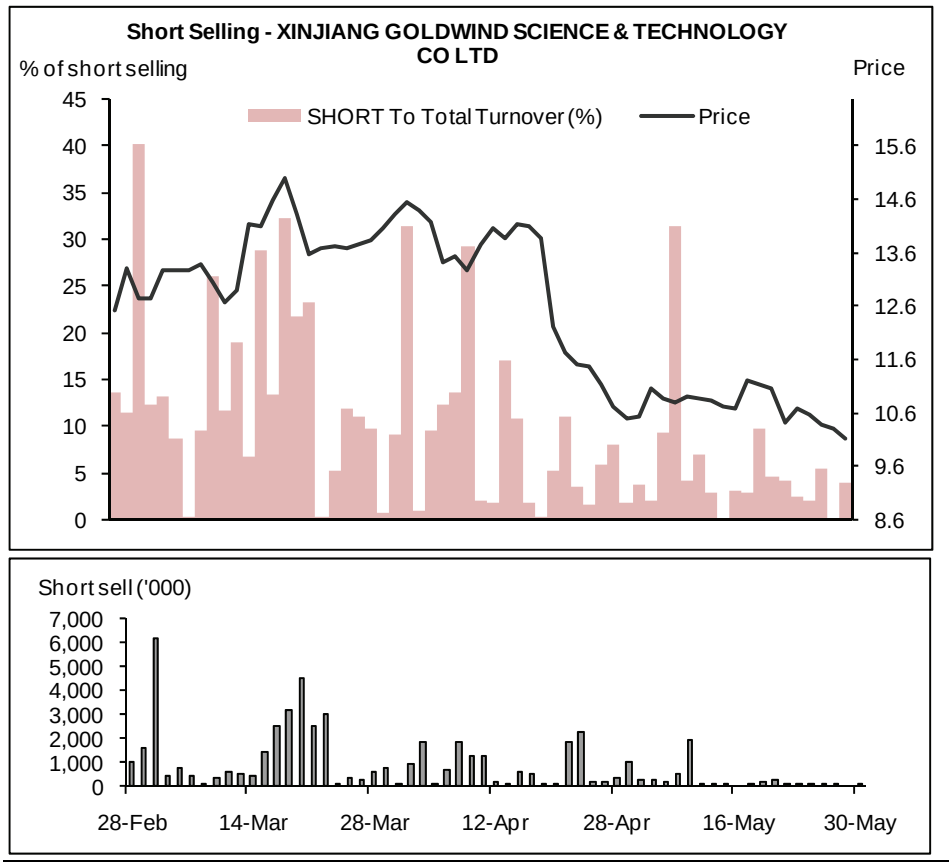
Support: HKD10.30

Note:

(1) a trading range of HKD10.30-HKD11.40 has formed in the past one month. The top-end serves as resistance while the bottom-end as support. Indeed, the bottom-end (HKD10.30) is being tested as support now, which if breached, may see Xinjiang Goldwind heading to HKD9.20.

(2) on volume and gap pattern, we expect very strong resistance at HKD12-HKD14.

Fig. 13: Short-selling analysis: Xinjiang Goldwind Science & Technology (2208 HK)



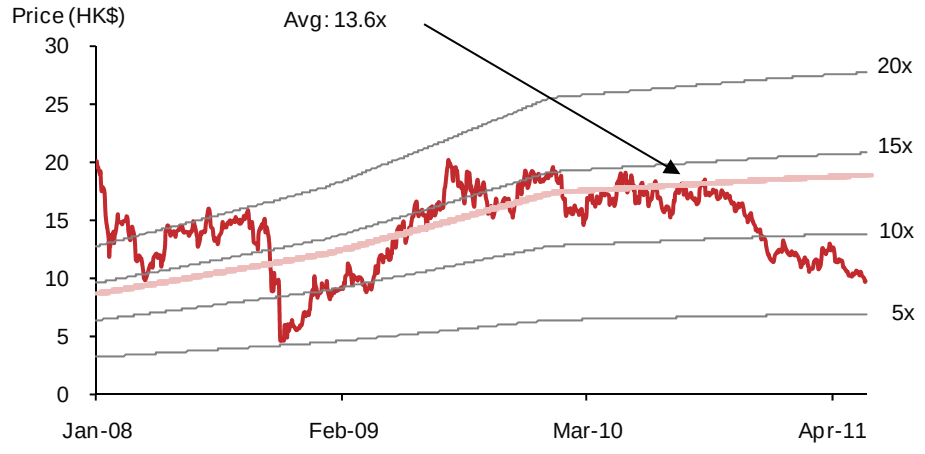
Source: Bloomberg, Thomson Reuters, Nomura Quantitative Strategies

Overall view: positive − short-selling activities have been very light

Short-selling activities have been light, and thus pressure from short-sell is very small

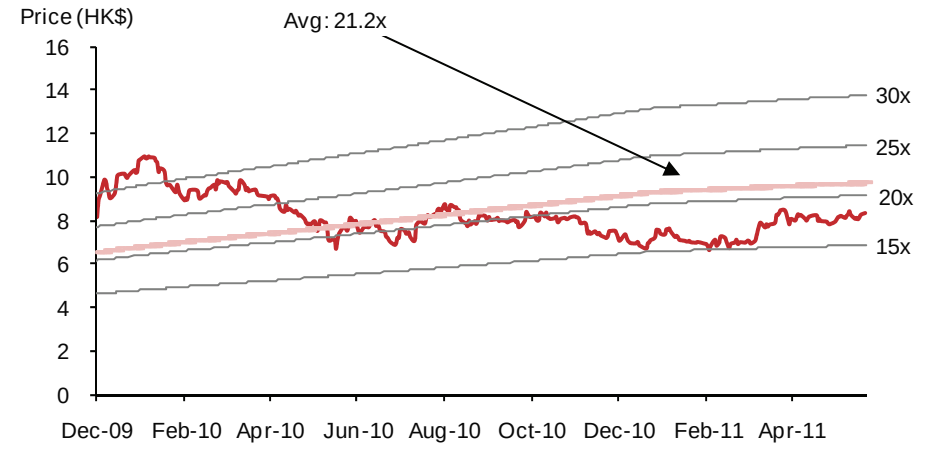
P/E band chart

Fig. 14: CHST P/E band chart: 12-month forward



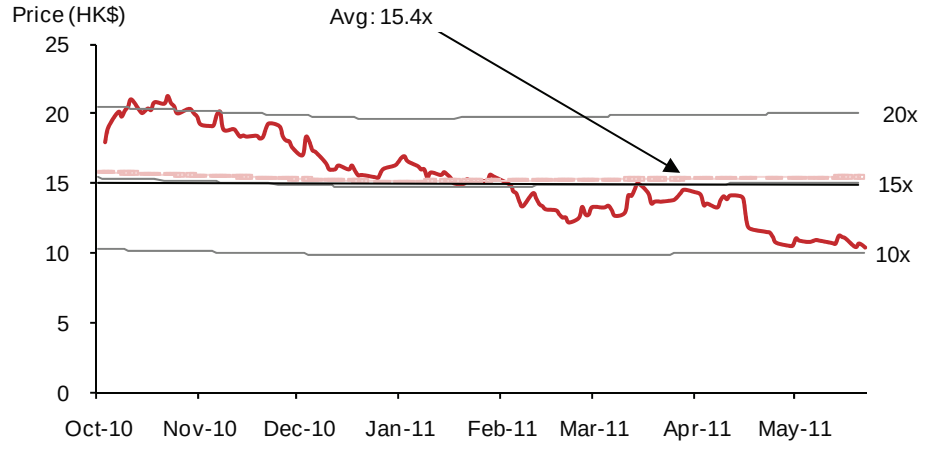
Source: Bloomberg, Nomura estimates

Fig. 15: Longyuan P/E band chart: 12-month forward



Source: Bloomberg, Nomura estimates

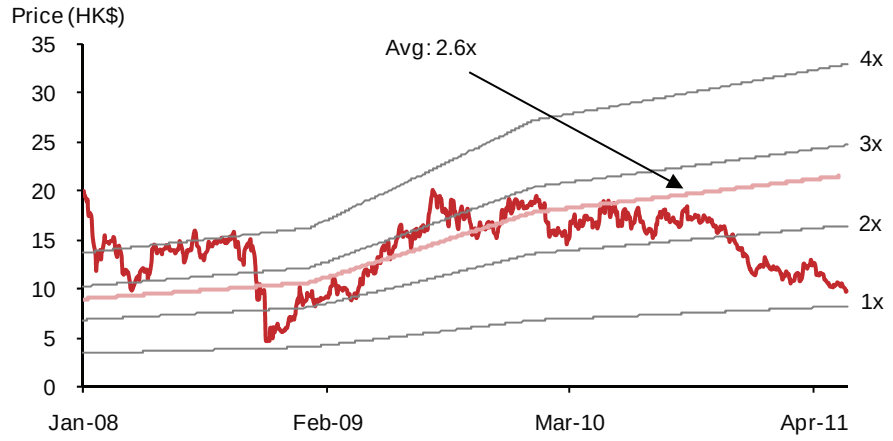
Fig. 16: Goldwind P/E band chart: 12-month forward



Source: Bloomberg, Nomura estimates

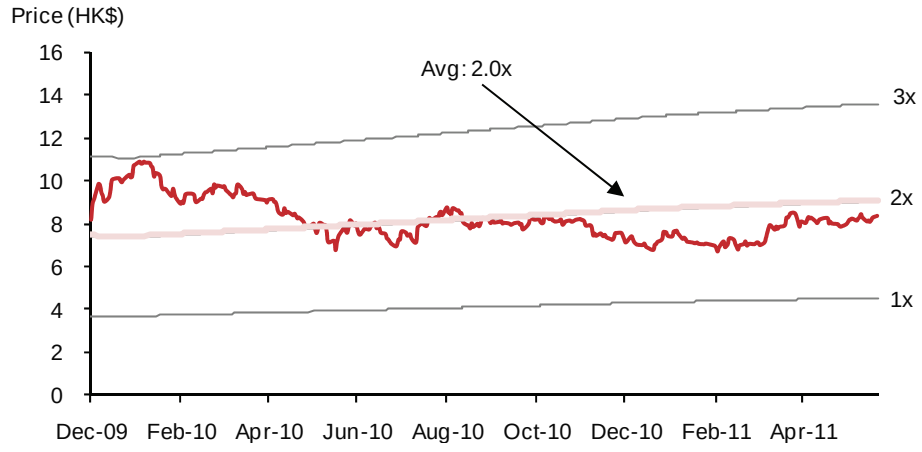
P/B band chart

Fig. 17: CHST P/B band chart: 12-month forward



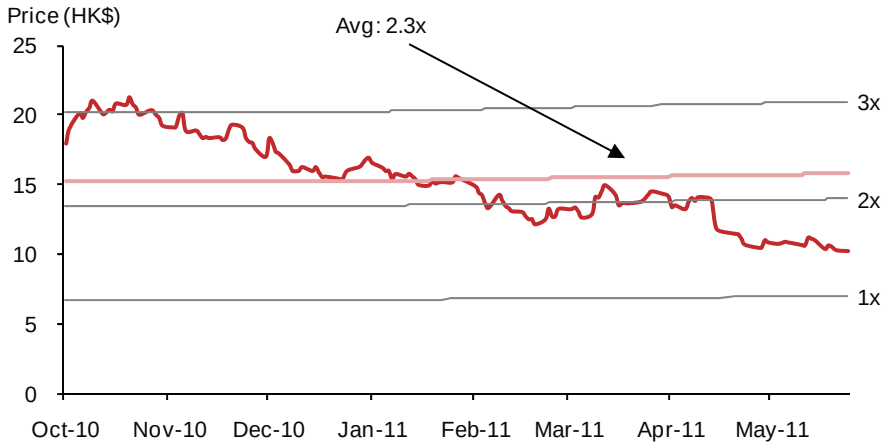
Source: Bloomberg, Nomura estimates

Fig. 18: Longyuan P/B band chart: 12-month forward



Source: Bloomberg, Nomura estimates

Fig. 19: Goldwind P/B band chart: 12-month forward



Source: Bloomberg, Nomura estimates

Fig. 20: China's power generation capacity forecast

(GW)	2006	2007	2008	2009	2010	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
Thermal Power	484	556	602	650	707	763	817	867	916	963	1,015	1,065	1,111	1,156	1,200
Coal	*437*	*511*	*565*	*621*	*678*	*734*	*787*	*836*	*883*	*930*	*977*	*1,023*	*1,065*	*1,105*	*1,144*
Gas	*10*	*13*	*13*	*13*	*13*	*15*	*17*	*19*	*20*	*22*	*27*	*32*	*38*	*44*	*50*
Oil	*37*	*32*	*24*	*17*	*15*	*14*	*13*	*12*	*11*	*10*	*9*	*8*	*7*	*6*	*5*
Thermal - Others	*0*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*	*1*
Hydropower	129	145	172	197	213	231	250	270	290	310	326	341	354	367	380
Nuclear Power	7	9	9	9	11	12	15	22	35	48	54	60	66	73	80
Winds*	2	4	9	16	31	46	61	78	95	112	128	145	162	181	200
Solar	-	-	-	-	0	1	1	2	3	4	7	10	13	16	20
Others (solar and others for data before 2010)	0	4	1	2	0	0	0	0	0	0	1	2	3	4	5
Total	**622**	**719**	**793**	**874**	**962**	**1,053**	**1,144**	**1,239**	**1,338**	**1,437**	**1,529**	**1,621**	**1,709**	**1,797**	**1,885**
(y-y %)		*15.5%*	*10.3%*	*10.2%*	*10.1%*	*9.5%*	*8.6%*	*8.3%*	*8.0%*	*7.4%*	*6.4%*	*6.0%*	*5.4%*	*5.1%*	*4.9%*

Note: * Only wind power capacity in operation and connected to the power grids (since 2007)

Source: CEC, Nomura estimates

Fig. 21: New generation capacity addition

(GW)	2007	2008	2009	2010	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
Thermal Power	**87**	**62**	**75**	**67**	**67**	**64**	**60**	**58**	**58**	**51**	**50**	**46**	**45**	**44**
(y-y %)		*-28%*	*20%*	*-10%*	*0%*	*-5%*	*-6%*	*-3%*	*-1%*	*-11%*	*-2%*	*-8%*	*-3%*	*-3%*
Hydropower	**17**	**26**	**25**	**17**	**18**	**19**	**20**	**20**	**20**	**16**	**15**	**14**	**13**	**13**
(y-y %)		*57%*	*-4%*	*-34%*	*6%*	*8%*	*5%*	*0%*	*0%*	*-22%*	*-3%*	*-9%*	*-4%*	*-4%*
Nuclear Power	**2**	**0**	**0**	**2**	**1**	**3**	**7**	**13**	**14**	**6**	**6**	**6**	**7**	**7**
(y-y %)		*n.a.*	*n.a.*	*n.a.*	*-38%*	*160%*	*154%*	*77%*	*7%*	*-57%*	*6%*	*3%*	*5%*	*5%*
Winds*	**3**	**6**	**14**	**19**	**18**	**17**	**17**	**17**	**17**	**16**	**17**	**17**	**18**	**19**
(y-y %)		*82%*	*133%*	*37%*	*-5%*	*-5%*	*0%*	*0%*	*0%*	*-7%*	*7%*	*4%*	*6%*	*5%*
Solar	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**1**	**3**	**3**	**3**	**3**	**4**
Others (solar and others for data before 2010)	**4**	**-3**	**0**	**-2**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**1**
Total	**112**	**92**	**114**	**103**	**104**	**103**	**105**	**109**	**109**	**92**	**92**	**88**	**88**	**88**
(y-y %)		*-18%*	*23%*	*-10%*	*1%*	*-1%*	*2%*	*4%*	*0%*	*-16%*	*0%*	*-4%*	*0%*	*0%*

Note: Accounts for small thermal shut-down and non-grid connected wind capacity in historical; assumed 50GW small thermal shut-down in FY11F-15F and non grid-connected wind capacity installed in 2011F (3GW) and 12F (2GW)

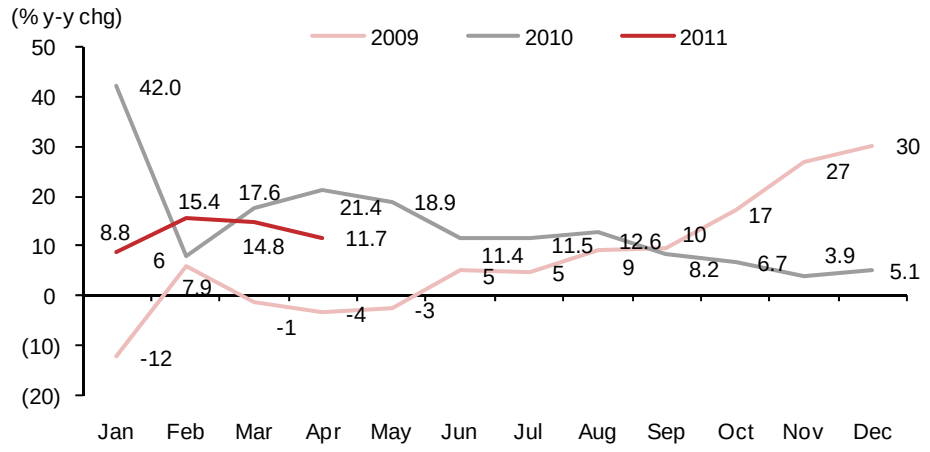
Source: CEC, Nomura estimates

Fig. 22: China power demand and supply forecast

	2009	2010	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
Supply												
Installed capacity (GW)	874	962	1,053	1,144	1,239	1,338	1,437	1,529	1,621	1,709	1,797	1,885
Capacity launched (GW)	81	88	91	91	95	99	99	92	92	88	88	88
Capacity growth	10.2%	10.1%	9.5%	8.6%	8.3%	8.0%	7.4%	6.4%	6.0%	5.4%	5.1%	4.9%
Capacity breakdown												
Thermal	74.4%	73.4%	72.5%	71.4%	70.0%	68.4%	67.0%	66.3%	65.7%	65.0%	64.3%	63.7%
Hydro	22.5%	22.2%	21.9%	21.8%	21.8%	21.7%	21.6%	21.3%	21.0%	20.7%	20.4%	20.2%
Nuclear	1.0%	1.1%	1.1%	1.3%	1.8%	2.6%	3.3%	3.5%	3.7%	3.9%	4.1%	4.2%
Winds	1.8%	3.2%	4.4%	5.3%	6.3%	7.1%	7.8%	8.4%	8.9%	9.5%	10.0%	10.6%
Others	0.2%	0.0%	0.1%	0.1%	0.2%	0.2%	0.3%	0.5%	0.7%	0.9%	1.1%	1.3%
Demand												
Electricity generation (bn KWh)	3,681	4,228	4,642	5,083	5,541	6,012	6,445	6,851	7,282	7,632	7,998	8,382
Generation growth	6.2%	14.9%	9.8%	9.5%	9.0%	8.5%	7.2%	6.3%	6.3%	4.8%	4.8%	4.8%
Real GDP growth	8.5%	10.3%	9.4%	9.2%	9.0%	8.5%	8.0%	7.0%	7.0%	6.0%	6.0%	6.0%
Demand growth/ Real GDP growth (i.e. beta)	0.73	1.44	1.04	1.03	1.00	1.00	0.90	0.90	0.90	0.80	0.80	0.80
Utilisation												
Plant utilisation												
National average	51.9%	53.2%	54.0%	54.1%	54.3%	54.4%	54.1%	53.7%	53.7%	53.1%	52.8%	52.7%
Thermal	55.5%	57.4%	58.8%	59.0%	59.4%	60.0%	60.2%	60.4%	60.6%	60.2%	60.1%	60.1%
Hydro	38.0%	39.1%	41.1%	42.9%	43.6%	42.8%	41.1%	39.7%	40.1%	40.0%	40.2%	40.5%
Equivalent utilisation hours												
National average	4,546	4,660	4,726	4,737	4,756	4,768	4,739	4,701	4,700	4,652	4,627	4,614
Thermal	4,865	5,031	5,149	5,165	5,204	5,258	5,275	5,293	5,309	5,272	5,261	5,264
Hydro	3,328	3,429	3,598	3,758	3,818	3,750	3,598	3,475	3,515	3,507	3,522	3,550
Others												
Peak demand (GW)	828	951	1,045	1,144	1,247	1,353	1,450	1,541	1,638	1,717	1,800	1,886
Shortage (pent-up demand, GW)	46	11	9	0	(7)	(14)	(13)	(12)	(17)	(8)	(2)	(1)
Reserve margins (%)	**5%**	**1%**	**1%**	**0%**	**-1%**	**-1%**	**-1%**	**-1%**	**-1%**	**0%**	**0%**	**0%**
Market equilibrium	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance	Balance

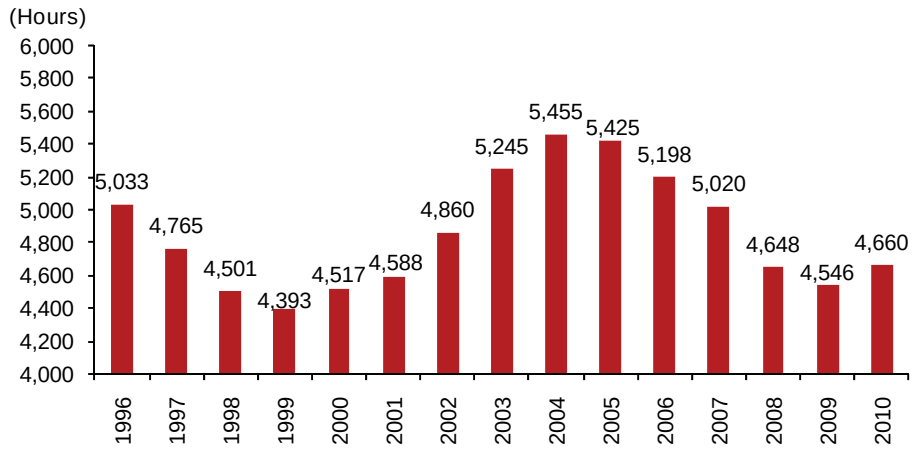
Source: CEC, Nomura estimates

Fig. 23: Monthly power generation growth (% y-y)



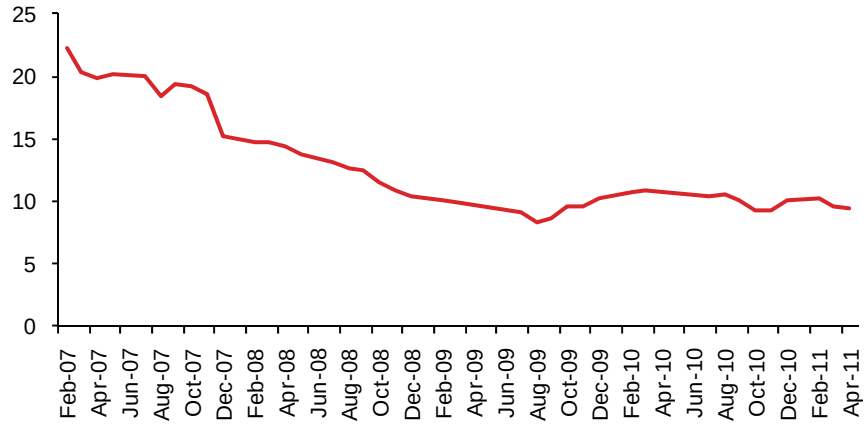
Source: CEC

Fig. 24: Power plant utilisation in China (hours)



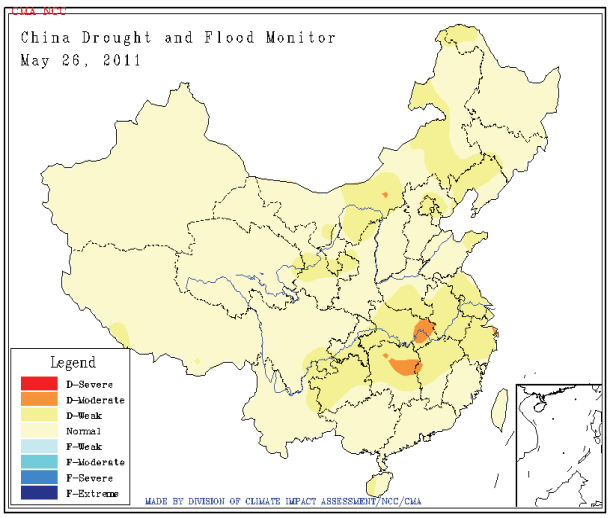
Source: CEIC

Fig. 25: China power capacity growth (% y-y)



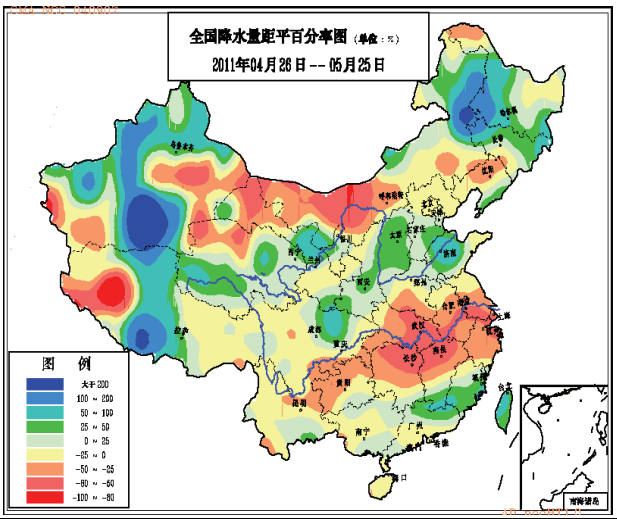
Source: CEIC

Fig. 26: China drought and flood monitor (26-May-11)



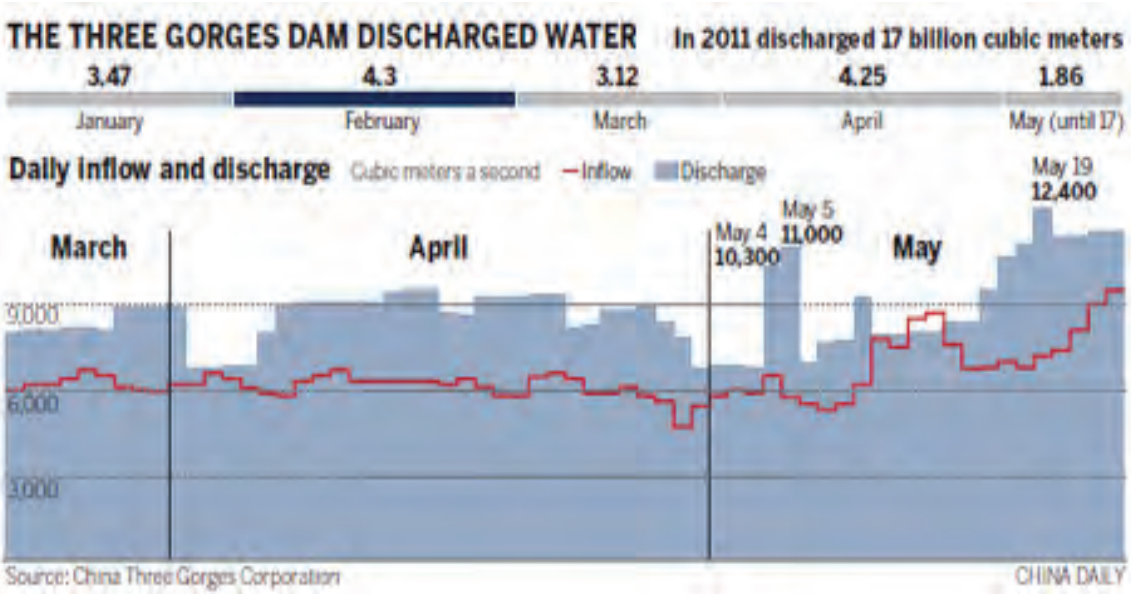
Source: Beijing Climate Centre, Nomura Research

Fig. 27: China rainfall anomaly (%): last 30 days



Source: Beijing Climate Centre, Nomura Research

Fig. 28: Three Gorges Dam: water discharged



Source: China daily, Nomura Research

Fig. 29: Primary energy consumption forecast

	2008	2009	2010F	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
Total Energy Consumption (Million TOCE)	**2,914**	**3,060**	**3,250**	**3,495**	**3,740**	**3,985**	**4,230**	**4,475**	**4,720**	**4,965**	**5,210**	**5,455**	**5,700**
Energy Composition (%)													
Oil	18.8	18.6	18.4	18.1	17.7	17.4	17.0	16.7	16.4	16.0	15.7	15.3	15.0
Natural gas	3.6	3.7	3.6	4.2	4.9	5.5	6.2	6.8	7.4	8.1	8.7	9.4	10.0
Coal	70.2	70.6	70.4	66.6	65.5	64.4	63.4	62.4	61.7	60.9	60.4	59.7	59.1
Hydro	6.6	6.4	6.2	7.8	8.3	8.5	8.5	8.3	8.1	8.1	8.1	8.1	8.1
Nuclear	0.8	0.7	0.9	0.9	1.0	1.3	1.8	2.5	3.0	3.2	3.3	3.5	3.7
Others [incl. Wind, solar, etc] (doesn't account for 03-09 due to immateriality)	N/A	N/A	0.5	2.4	2.6	2.9	3.1	3.3	3.5	3.7	3.8	4.0	4.1
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Power Consumption (excluding oil, natural gas, ethanol, biodiesel, biogas)													
Small hydro (MW) - <50MW/unit	51,000	52,000	55,120	57,108	59,096	61,084	63,072	65,060	67,048	69,036	71,024	73,012	75,000
Utilisation hour	3,506	3,328	3,429	3,598	3,758	3,818	3,750	3,598	3,475	3,515	3,507	3,522	3,550
Generation (million kWh)	160,000	171,392	183,657	201,885	218,320	229,416	232,816	230,532	229,527	239,185	245,618	253,659	262,750
Million TOCE	56	60	64	71	76	80	81	81	80	84	86	89	92
Wind Energy (MW)	11,846	16,130	31,070	46,000	61,000	78,000	95,000	112,000	127,782	144,600	162,076	180,542	200,000
Utilisation hour	1,467	1,500	1,612	1,758	1,647	1,600	1,586	1,592	1,580	1,590	1,583	1,583	1,585
Generation (million kWh)	12,800	25,980	50,097	67,736	88,110	111,234	137,174	164,722	189,376	216,483	242,778	271,099	301,579
Million TOCE	4	9	18	24	31	39	48	58	66	76	85	95	106
Biomass Energy (MW)	3,000	3,200	5,500	6950	8400	9850	11300	12750	14200	15650	17100	18550	20,000
Utilisation hour	2,600	2,600	2,600	2620	2640	2660	2680	2700	2720	2740	2760	2780	2,800
Generation (million kWh)	7,150	9,200	12,675	18,209	22,176	26,201	30,284	34,425	38,624	42,881	47,196	51,569	56,000
Million TOCE	3	3	4	6	8	9	11	12	14	15	17	18	20
Landfill Gas (billion cubic metre)	12	15	19	22	24	27	29	32	34	37	39	42	44
Million TOCE	7	9	11	12	14	15	17	18	20	21	23	24	25
Solar water heating (thousand sq m)	125,000	135,000	145,000	160,500	176,000	191,500	207,000	222,500	238,000	253,500	269,000	284,500	300,000
Million TOCE	22	24	26	29	32	34	37	40	43	45	48	51	54
Solar Photovoltaic (MW)	122	150	240	800	1,200	1,880	3,000	3,900	6,564	9,519	12,735	16,229	20,000
Utilisation hour	1,000	1,000	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100	1,100
Generation (million kWh)	102	136	215	572	1,100	1,694	2,684	3,795	5,755	8,846	12,240	15,930	19,926
Million TOCE	0.04	0.05	0.08	0.20	0.39	0.59	0.94	1.33	2.01	3.10	4.28	5.58	6.97
Geothermal, tidal, biomass gasification	0	0	0	0	0	0	0	0	0	0	0	0	0
Others (Million TOCE)	15	15	12	13	15	16	17	19	20	21	22	24	25
(A) Renewable Energy (Million TOCE)													
[Excl. Large Hydro & nuclear]	**107**	**120**	**135**	**155**	**175**	**195**	**212**	**228**	**244**	**265**	**285**	**306**	**328**
% of total energy consumption	**3.7%**	**3.9%**	**4.2%**	**4.4%**	**4.7%**	**4.9%**	**5.0%**	**5.1%**	**5.2%**	**5.3%**	**5.5%**	**5.6%**	**5.8%**
Large hydro (MW) - >50MW/unit	120,520	144,790	158,280	173,892	190,904	208,916	226,928	244,940	258,476	271,491	283,158	294,328	305,000
Utilisation hour	3,577	3,018	3,317	3,491	3,648	3,711	3,654	3,513	3,415	3,460	3,459	3,477	3,508
Generation (million kWh)	403,300	400,290	502,650	579,807	665,376	741,850	796,286	828,823	859,540	916,715	959,259	1,004,023	1,051,339
Million TOCE	141	140	176	203	233	260	279	290	301	321	336	351	368
(B) = (A) + Large hydro (Million TOCE)	**249**	**260**	**311**	**358**	**408**	**454**	**491**	**518**	**545**	**586**	**621**	**657**	**696**
	8.5%	**8.5%**	**9.6%**	**10.3%**	**10.9%**	**11.4%**	**11.6%**	**11.6%**	**11.5%**	**11.8%**	**11.9%**	**12.1%**	**12.2%**
Nuclear (MW)	8,850	9,080	10,820	11,900	14,710	21,860	34,510	48,100	53,922	60,074	66,400	73,042	80,000
Utilisation hour	7,729	7,814	7,720	7,748	7,775	7,803	7,831	7,858	7,852	7,845	7,839	7,832	7,826
Generation (million kWh)	68,400	70,050	76,817	88,016	103,452	142,678	220,704	324,580	400,522	447,161	495,701	546,081	598,848
Million TOCE	24	25	27	31	36	50	77	114	140	157	173	191	210
(C) = (B) + Nuclear (Million TOCE)	**272**	**285**	**338**	**389**	**445**	**504**	**568**	**632**	**685**	**743**	**794**	**849**	**906**
% of total energy consumption	**9.4%**	**9.3%**	**10.4%**	**11.1%**	**11.9%**	**12.7%**	**13.4%**	**14.1%**	**14.5%**	**15.0%**	**15.2%**	**15.6%**	**15.9%**
Thermal (MW)	601,320	650,499	706,630	763,470	817,260	867,430	915,660	963,170	1,014,570	1,064,736	1,111,068	1,156,219	1,200,190
Utilisation hour	4,810	4,812	5,032	5,038	5,067	5,117	5,179	5,201	5,216	5,237	5,209	5,202	5,209
Generation (million kWh)	2,779,300	3,011,687	3,414,524	3,703,163	4,004,611	4,310,143	4,616,956	4,885,541	5,157,825	5,445,026	5,666,834	5,897,390	6,137,023
Million TOCE	973	1,054	1,195	1,296	1,402	1,509	1,616	1,710	1,805	1,906	1,983	2,064	2,148
Total energy consumption by power generation (Million TOCE)	**1,245**	**1,339**	**1,533**	**1,685**	**1,846**	**2,013**	**2,184**	**2,342**	**2,491**	**2,648**	**2,778**	**2,913**	**3,054**

Source: National Development and Reform Commission, China Electricity Council, BP Statistical Review, Nomura research Note: 1kWh = 350g standard coal

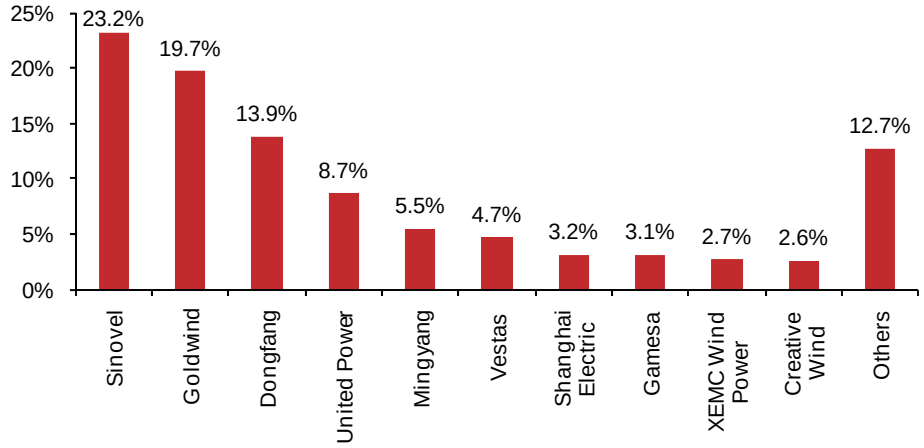
Wind: turbine market consolidation gives rise to new opportunities, but competition fierce

We expect domestic demand growth for wind power equipment to slow down and forecast annual on-grid wind capacity to be around 15GW / year in the near term until the grid bottleneck issue is resolved. With an assumption of 3GW and 2GW of non grid-connected new capacity in FY11F and FY12F (vs. 4.0GW in FY10), we forecast installed wind capacity to be 17.9GW and 17GW for the year 2011F and FY12F, down from the 18.9GW in 2010. In our view, ASP decline in 2010, indicating a price-war, is evidence of the industry's over-capacity and competition, in our view.

The following highlights the key themes for current market dynamics for the wind equipments market:

- Industry consolidation (continual ASP pressure, we forecast ASP for wind turbine to drop 10% and 5% in 2011F and 12F, respectively);
- China's off-shore development gives rise to high capacity / premium turbine; and
- Turbine manufacturers with export potential will likely have better prospects

Fig. 30: Major wind turbine manufacturers in China (FY10)



Note: Market shares defined as new wind generating capacity installed over the year

Source: CWEA

Fig. 31: Market opportunity sizing for domestic wind turbines market

Installed cumulative wind generating capacity (GW)											
2009	2010	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
16.1	31.1	46.0	61.0	78.0	95.0	112.0	127.8	144.6	162.1	180.5	200.0

New capacity commencement (GW)											
	2010	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
Capacity Addition	14.9	14.9	15.0	17.0	17.0	17.0	15.8	16.8	17.5	18.5	19.5
Small thermal closedown	4.0	3.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.9	17.9	17.0	17.0	17.0	17.0	15.8	16.8	17.5	18.5	19.5

Equipment cost assumption (RMB / kw)											
	2010	2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
	4,200	3,780	3,591	3,591	3,591	3,591	3,591	3,591	3,591	3,591	3,591

Revenue opportunity assumption	
Years before capacity commenced	0
% of revenue recognized	100%

Revenue opportunity for thermal equipments installed in China (RMB bn)										
2011F	2012F	2013F	2014F	2015F	2016F	2017F	2018F	2019F	2020F
67.8	61.0	61.0	61.0	61.0	56.7	60.4	62.8	66.3	69.9

Source: Nomura estimates, Industry checks

Industry consolidation is likely in the next two years

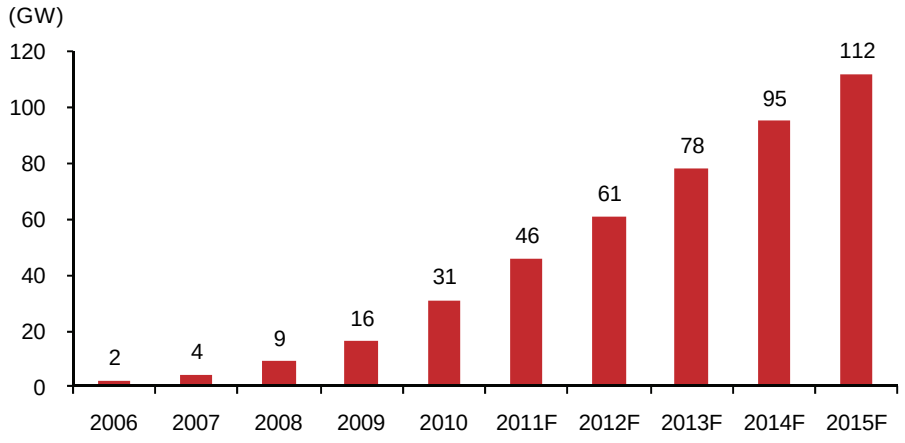
In our view, the wind turbine makers will likely consolidate with large players taking up market shares from smaller, inefficient player, due to:

New wind capacity demand stays flat at ~17.9GW and 17GW in 2011F and 2012F

Although wind power has the advantages of scalability, low costs relative to other clean energy sources and short development time, its development in China can be hindered by grid connection bottleneck issues. As at FY10, CEC stated that grid-connected wind power generation was 31GW, while the CWEA reported the cumulate amount of turbine installed at 44.73GW, indicating ~31% of wind turbine installed but not grid-connected.

After China doubled its wind capacity annually for the past four years, demand growth for wind equipment demand is likely to slow. Per our industry checks, installed capacity for 2011F and 2012F is likely to be around ~17.9GW and 17.0GW in 2011F and 2012F, respectively (vs. 18.9GW installed in 2010).

Fig. 32: China wind capacity forecast (2006-2015F)



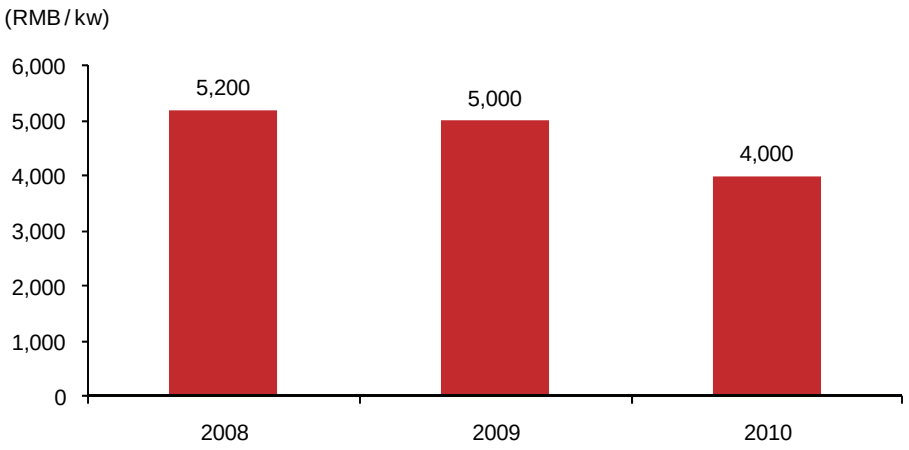
Source: CEC, NDRC, Nomura estimates Note: Excluding non grid-connected capacity

Over-capacity in the industry, especially for the 1.5MW turbine

According to our industry checks, ASP for wind turbine in China saw a big price drop in 2010. ASP dropped from the RMB5,000/kW level at the end of FY09 to around RMB4,000/kW level at end-FY10 for 1.5MW wind turbine (source: industry checks, ASP for contract signed). While manufacturers reaching production scale can be a factor, the price drop is a visible indicator that there is over-capacity in the industry, in our view.

Given the technological requirement for manufacturing 1.5MW turbines is not high, the competition in the commodity-like 1.5MW wind-turbine is fierce.

Fig. 33: ASP trend for wind turbine



Note: ASP at the end of the year for contract signed. Variance across different manufacturers is possible, these are approximate figures according to management of wind turbine companies

Source: Industry check

Off-shore development gives rise to premium, high capacity wind turbines

The industry sees off-shore wind farm in the coastal area to be the next key development in China. Installed off-shore wind capacity may reach as high as 5GW by 2015F, according to china5e.com. In our view, this development is in-line with the dynamics in China, due to:

• Abundant wind resources along the coastal area

According to the Chinese Renewable Energy Industries Association (CREIA), the 10-km broad zones in the coastal regions of Shandong, Jiangsu, Shanghai, Zhejiang, Fujian, Guangdong, Guangxi and Hainan has an annual wind power density above 200 W / m2, which is deemed abundant and rich.

• Proximity to major electricity demand centre

The above-mentioned area is close to major coastal cities, where electricity demand is high. Wind-farm development close to load centre eliminates transmission loss and reduces grid curtailment issues.

Thus, we believe major players are developing high-capacity turbines to capture the opportunities. Unlike on-shore wind farm, installation and maintenance cost can be substantial over the life of an off-shore wind farm due to the logistical difficulties. Reduction in the number of wind turbines installed by up-sizing capacity is deemed economical for off-shore wind-farms.

Unlike low-capacity wind turbines, high-capacity models are regarded as premium products in the market, charging higher prices for quality and given limited supply. Such evolution should bolster manufacturers with advanced R&D capability, quality manufacturing process and a good reputation in the industry. For the companies under our coverage, we see Shanghai Electric and Dongfang Electric gaining exposure in this high-end market in the near term. Such a development could provide meaningful growth to Shanghai Electric's wind business, given its current low exposure to the weakening on-shore wind turbines market.

Fig. 34: High capacity turbine development

Company	High-capacity turbine development
Dongfang Electric	3MW model expected to commence production in FY11F, development on 5MW turbine progressing well, according to management.
Shanghai Electric	Shanghai Electric has started 3.6MW wind-turbine development since July, 2008. In Aug, 2010, the first 3.6MW turbine has passed operation test and connected to grid in trail run. Shanghai Electric is now ready for 3.6MW turbine mass-production in 2011.
Xinjiang Goldwind	Goldwind manufactured Asia's first offshore MW-level DDPM MTG in 2007. The company is planning to being commercial production for its 2.5MW and 3.0MW WTG this year. 6MW WTG is currently under development.

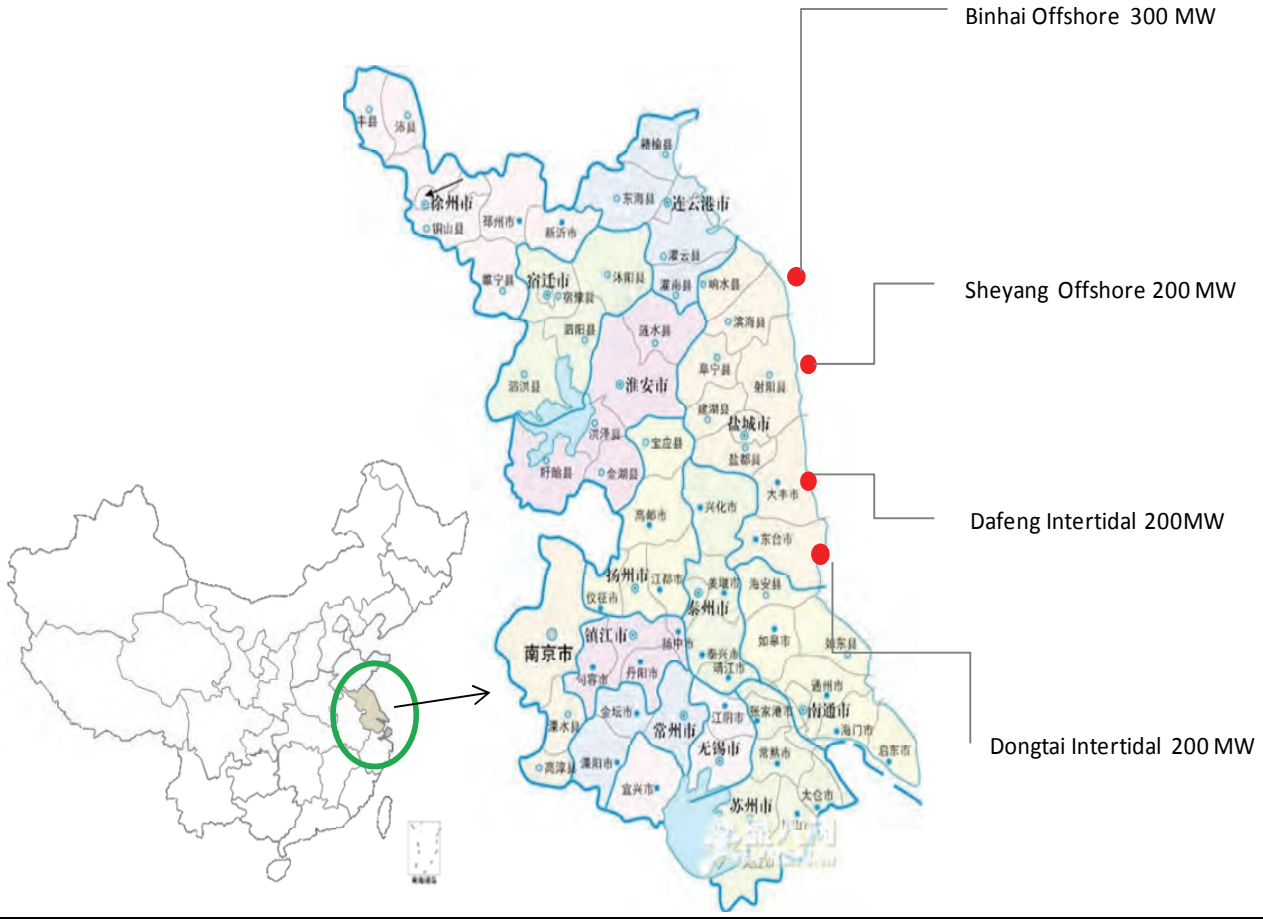
Source: Company

Fig. 35: Results of the first round of off-shore concession projects

Windfarm	Capacity	Operators	Equipment providers	Tariff (RMB / kwh)
Binhai Offshore	300 MW	Datang	Sinovel	0.7370
Sheyang Offshore	300MW	CPI	Sinovel	0.7047
Dafeng Intertidal	200MW	Longyuan	Goldwind	0.6396
Dongtai Intertidal	200MW	Luneng	Shanghai Electric	0.6235

Source: CWEA

Fig. 36: Location of the 4 off-shore concession projects

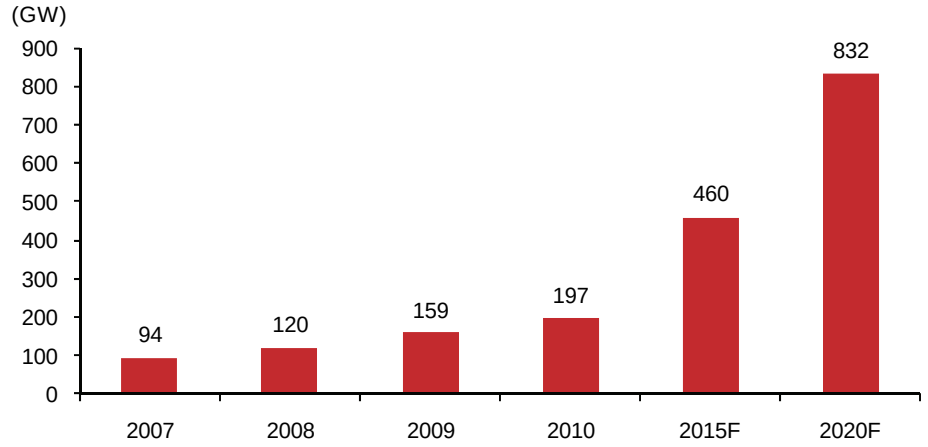


Source: CWEA

Exports provide potential upside

The USD203mn contract (166 units of 1.5MW turbine) between Dongfang Electric and India's KSK Energy, as well as the recent 125 x 2MW contracts between Shanghai Electric and KSK, have shed light on the export potential for Chinese wind turbine manufacturers, in our view. Both sizable wind turbine export contracts provided a lot of business for the Big Three power equipment companies. To us, brand recognition through previous thermal equipment exports can be a factor and we expect such brand equity to continue in the wind turbine export arena in the near term.

Fig. 37: Global wind capacity forecasts



Source: GWEC, Global wind energy outlook (moderate scenario)

According Global Wind Energy Council (GWEC), global wind power capacity is projected to reach 832GW by 2020F, indicating a 15.4% CAGR from the 2010F's level (moderate scenario). In our view, GWEC's forecast is achievable, given:

- On-going global effort in carbon reduction
- Wind is still one of the most economical new energy sources

Global demand, together with the cost advantages Chinese wind turbine manufacturers offer over international players, underpin export potential for quality Chinese players with a reputable brand name.

Fig. 38: Export of Chinese wind turbines (2009)

Company	Model	Number of sets	Capacity	Exporting countries
Sinovel	SL1500 / 82	10	15	India
Goldwind	GW77 / 1500	3	4.5	USA
Sewind	W1250 / 64	5	6.25	Britain (3 sets) Thailand (2 sets)
New United	SD77 / 1500	2	3	USA (1 set) Thailand (1 set)
Total		20	28.75	

Source: China Wind Power Outlook 2010

Recent government directive reconfirms our view

On 3 March, 2011, following a guideline issued last year to prevent overcapacity in the wind power equipment industry, the National Intellectual-Property Strategy Office issued a directive for the municipal government to follow in controlling the crowded market.

According to the directive, the state wants to have 3-5 competitive turbine manufacturers with R&D capability for new product development in the wind equipment industry in the long term. We see the policy tightening on new entrants as government action, pushing

forward industry consolidation in forming these 3-5 leading players. In our view, such policy development is yet another catalyst for industry consolidation, giving rise to qualified players in the market.

Fig. 39: Key restrictions outlined in the directive

1	New projects for components (such as blades, gearbox, system controls, etc) manufacturing with a capacity of <2MW are barred.
2	Promote the development of high capacity (>3MW) off-shore turbine
3	New wind turbine manufacturing projects are restricted, other than capacity expansion for existing facilities

Source: News flow, gov.cn

Under the 2011 edition of the Guideline Catalogue for Industrial Structuring published by the National Development and Reform Commission (NDRC) published on 26 April, 2011, China will not extend the preferential policies to companies that produce wind turbines of less than <2.5MW capacity or wind turbine components / gearbox of 2MW of lower. This is yet another effort by the government to push for higher capacity turbine development and industry consolidation. According Shen Dechang, Deputy Secretary-General of the wind power equipment branch of the China Association of Agricultural Machinery Manufacturers (CAAMM), “In the next 3 to 5 years, about 80% of China’s wind turbine makers will disappear through mergers and acquisitions”.

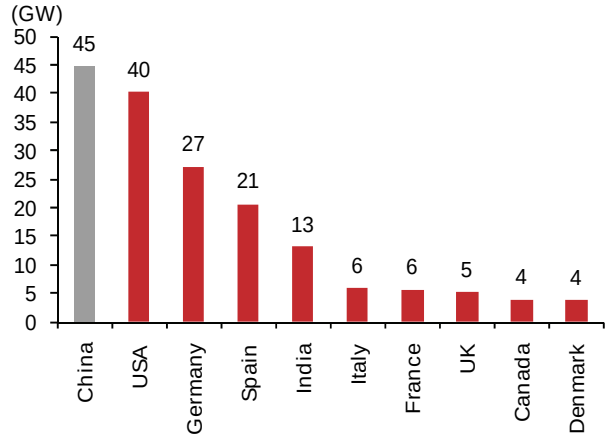
Background on wind development in China

China is the world’s fastest-growing wind power market

The Chinese government unveiled its “Renewable Energy Mid-to-Long-Term Development Plan” in September 2007, where the government has set a target for cumulative wind power capacity to grow from 1.26GW at end-2005 to 5GW by end-2010F and 30GW by end-2020F. However, the pace of wind power capacity installation has, so far, significantly surpassed the goal set by the government.

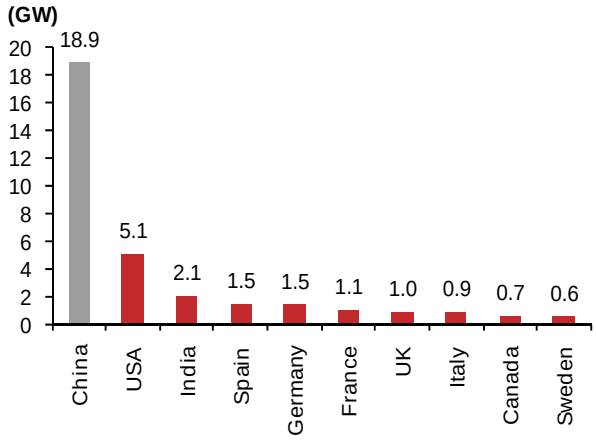
There has been speculation for the announcement of the “12th 5-year Plan for Energy Industry Development(”十二五” 能源发展规划”) and “New Energy Development Plan” (“新兴能源产业发展规划”) since 2010. According to the latest news flow, these policies are likely to be announced this year. According to news flow, comments by officials and industry checks, the capacity target for 2020F is likely to be at least 150GW. Our current forecast is 200GW by 2020F (vs. 230GW forecast by the China Association of Resource Comprehensive Utilisation). According to the Global Wind Energy Council (GWEC), China installed 18.9GW of wind power capacity in 2010, taking cumulative wind power capacity to 44.73GW at end-2010.

Fig. 40: Global top 10: cumulative capacity (2010)



Source: GWEC, Nomura research

Fig. 41: Global top 10: annual installation (2010)



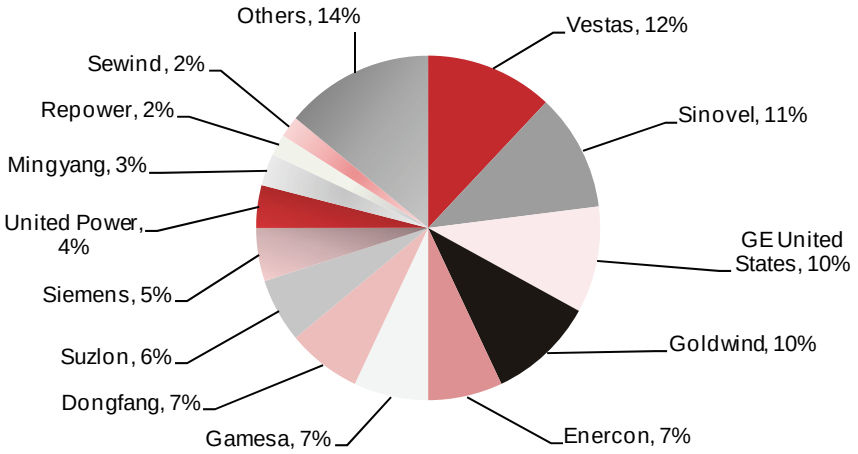
Source: GWEC, Nomura research

High visibility but growth to slow down to ~17.9GW in 2011F

With 18.9GW of new capacity installed in FY10, China has become the largest wind power market in the world in 2010. Cumulative wind power capacity in China grew by 73% y-y in 2010, owing to favourable government policies and easier availability of project financing. China's Sinovel, Goldwind, Dongfang and United Power are now in the top-10 of global wind turbine generator (WTG) suppliers by capacity, reflecting the growing prominence of China in the global wind energy sector.

However, in our view, wind capacity growth for 2011F is set to slow to ~17.9GW (grid-connected capacity at 15GW, similar as last year, and a 3GW of non-grid connected capacity vs. 4GW in FY10), due to high base and grid connection bottleneck.

Fig. 42: Global WTG market shares (2010)

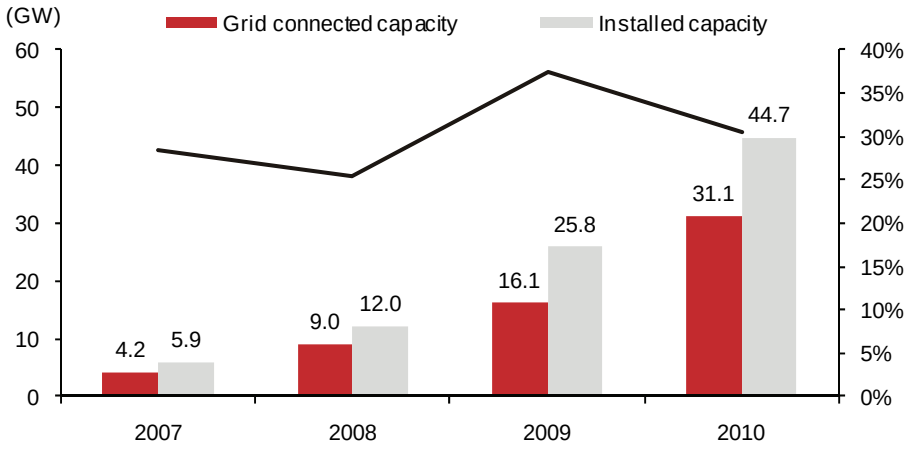


Source: Greenworld Investor

Grid connection bottlenecks remain a serious challenge

Based on cumulative wind capacity data from the China Electricity Council (CEC) and China Wind Energy Association (CWEA), we estimate around 31% installed wind turbine generators were not connected as at end-2010, vs. 37% in end-2009 and 26% in end-2008. Although this gap has slightly trended downward, we believe grid connection bottlenecks remain a serious challenge for wind power companies in China. While the central government started to grapple with such issues in 2009 and is expected to adopt measures to improve grid connection and wind power generation conditions, we only expect the grid issue to be resolved gradually may be in 2013F / 14F.

Fig. 43: China: % of WTG lacking grid connection



Source: CEC, CWEA, Nomura estimates

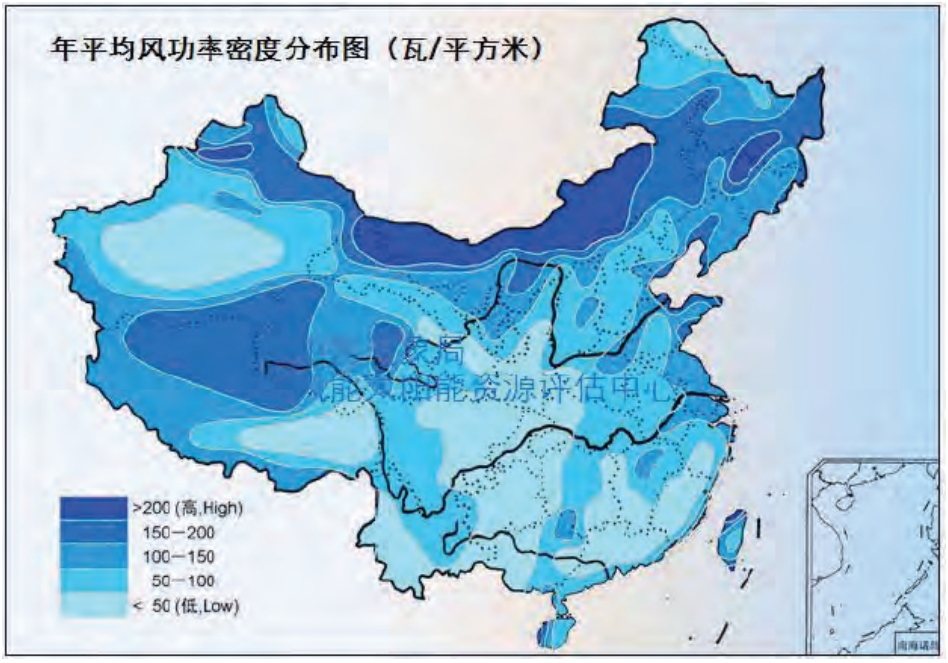
Mismatch between locations of wind resource and power consumption

China's onshore wind resources are concentrated in the north, north-western and north-eastern regions, while power consumption is higher in the south-eastern coastal areas. According to the CWEA, by end-2010, the top-five provinces with the highest cumulative wind capacity were Inner Mongolia, Gansu, Hebei, Hebei, Liaoning and Jilin. These five provinces comprised some 69% of China's cumulative wind capacity at end-2010.

On the other hand, power consumption was the highest in Guangdong, Shandong, Jiangsu, Zhejiang and Hebei provinces in 2010, according to the CEC. These five provinces accounted for nearly 40% of China's overall power consumption in 2010.

To resolve this issue, the Chinese government has been exploring the possibility of establishing or relocating high energy consumption industry bases to provinces with rich wind resources. Moreover, the government has plans for the construction of ultra-high-voltage grid lines to transmit power from north, north-western and north-eastern China to Beijing, Tianjin and Tanggu to the middle of China.

Fig. 44: China wind resource distribution



Source: Center for wind and solar energy resources assessment

Lack of centralised planning for construction of grid network and wind farms

Due to poor economics, grid operators normally have less incentive to construct networks in remote provinces, where wind resources tend to be richer. The difference between construction lead time of grid operators and wind farm operators (more than two years and one year, respectively) intensifies the mismatch between construction of grid network and wind farms, in our view.

To resolve this issue, the Chinese government has stated in the updated Renewable Energy Law (revised in 2H09 and coming into effect in April 2010) that the nation ought to have centralised planning for construction of grid network and wind farms. While at the provincial level, each province will have near-term and medium-term planning, the central government will provide long-term, bigger picture guidance and ensure consistency between plans of different provinces.

Immature grid quality and operating technology to handle wind power effectively.

The intermittence of wind power generation has increased the difficulty for grid operators to manage and utilise wind power effectively. As major grid operators lack adequate experience handling wind power, and the quality of grid networks in remote areas (with

their richer wind resources) tends to be weaker; at times wind farm operators will be told by grid operators to halt feeding power into the grid for the sake of “grid network safety”.

To resolve this issue, the Chinese government has stated in the updated Renewable Energy Law that grid operators are responsible for enhancing grid quality and establishing a smart grid network to better utilise power generated by renewable energy projects.

More importantly, in the updated Renewable Energy Law, the Chinese government specified that relevant government agencies will soon announce minimum requirements on renewable energy purchase (in terms of percentage of overall power purchase) for grid operators to ensure there is no waste in renewable power generation.

Standardised tariff for on-shore wind projects

China has established standardised tariff for on-shore wind farm development. The tariff is inversely proportional to wind resources in the region.

Fig. 45: Benchmark grid tariff in China on-shore wind projects

Resource area	Tariff (RMB/kWh)	Regions included in each resource area
Category I (Strongest)	0.51	Inner Mongolia Autonomous Region apart from Chifeng City, Tongliao City, Xingan League and Hulunbeier City; Urumqi Municipality, Yili Kazak Autonomous Prefecture, Changji Hui Autonomous Prefecture, Karamay City and Shihezi City of Xinjiang Uygur Autonomous Region
Category II	0.54	Zhangjiakou City, Chengde City of Hebei Province; Chifeng City, Tongliao City, Xing’an League, Hulunbeir City of Inner Mongolia Autonomous Region; Zhangye City, Jiayuguan City, Jiuquan City of Gansu Province
Category III	0.58	Baicheng City and Songyuan City of Jilin Province; Jixi City, Shuangyashan City, Qitaihe City, Suihua City, Yichun City and Daxing'anling Prefecture of Heilongiang Province; Gansu Province apart from Zhangye City, Jiayuguan City, Jiuquan City; Xinjiang Uygur Autonomous Region apart from Urumqi Municipality, Yili Kazak Autonomous Prefecture, Changji Hui Autonomous Prefecture, Karamay City and Shihezi City; Ningxia Hui Autonomous Region
Category IV (Weakest)	0.61	All other regions

Source: CREIA

Favourable government policy

Initiation of national-level concession projects

Before the announcement of the Renewable Energy Law, which provides fundamental guidelines for the development of renewable energies in China, the government conducted concession projects annually at the national level to promote the development of wind power since 2003. Through public tendering, the government granted exclusive rights to successful bidders to develop large-scale (above 50MW) wind projects. The government will ensure grid connections, as well as guarantee that power companies purchase electricity generated from wind projects at predetermined rates. Other government support initiatives include wind resource evaluations and feasibility studies. While we do not expect the government to be aggressive in launching onshore concession projects, we note that there are currently four offshore concession projects open for public bidding. We believe that the Chinese government will again adopt national-level concession projects as a tool to boost development of offshore wind farms in China.

Grid operators must provide grid connection to renewable energy.

According to the Renewable Energy Law, power grid operators must provide grid connection services and take up all the electricity resources available.

Incremental renewable energy cost must be shared among electricity users

According to the Provisional Administrative Measures on Pricing and Cost Sharing for Renewable Energy Power Generation and the Provisional Regulation on Renewable

Energy Surcharge, the difference resulting from higher on-grid tariffs of renewable energy over average on-grid tariffs of conventional thermal electricity, should be shared equally by all electricity users across the nation. The Chinese government has a Renewable Energy Development Fund through collecting Renewable Energy Surcharges of RMB0.2/kwh, RMB0.2/kwh, and RMB0.1/kwh from secondary, tertiary, and residential electricity users (primary users are exempted), respectively, along with their electricity bills. So far, this fund has subsidised various types of renewable energy projects including wind, biomass, concentrated solar and solar PV, while wind power received the majority of the subsidies given that it has the most robust development in China.

Renewable energies R&D subsidies

The Ministry of Finance has set up the Renewable Energy Development Fund to support R&D and demonstrative projects of renewable energy, as well as encourage the localisation of equipment production. In addition, renewable energy companies can apply for R&D subsidies from: 1) the National Natural Science Foundation of China; and 2) the Ministry of Science and Technology's 'High-Tech Research and Development Program of China' ('863 Program') and the 'National Basic Research Program of China' ('973 Program').

Preferential tax treatment

Wind project operators enjoy a preferential value added tax of 8.5% (compared with 17% originally). Import tariffs on wind turbines have been halved to 6%; the import tariff on wind components is 3%. The government recently raised export VAT rebates on wind gearboxes and related components to 15%.

Compulsory renewable energy capacity share

According to the Renewable Energy Mid-and-Long-Term Plan, any power producer with capacity of more than 5GW must increase actual ownership of power capacity from non-hydro renewable energies to 3% and 8% of its total capacity by end-2010 and 2020, respectively. Given that wind power is currently the cheapest and most scalable among non-hydro renewable energies, we believe that it will be the likely choice for power producers to meet their renewable energy requirements.

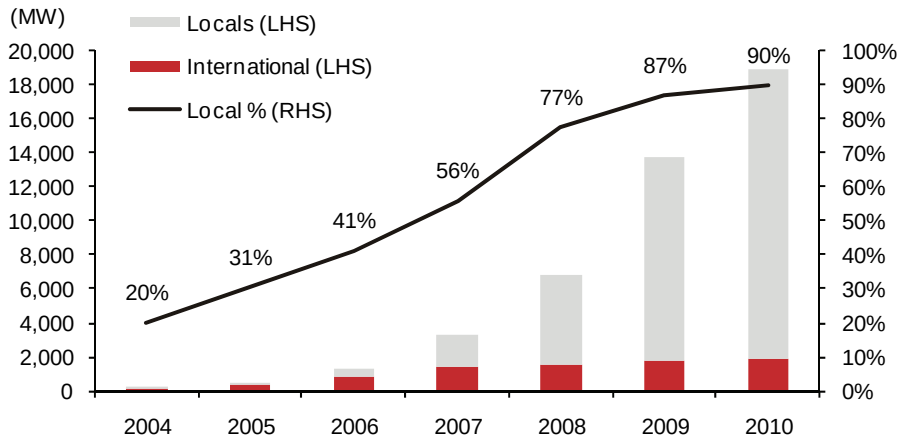
Chinese wind companies should continue to dominate the market

We observe that Chinese wind turbine producers have increased their share in the China wind market from 20% in 2004 to 90% in 2010. We expect Chinese wind turbine and component manufacturers to sustain their dominant market share in China over the next few years, given their close ties with local wind farm operators (mainly state-owned power producers) and cost leadership.

We note that the wind farm operators in China are generally cost sensitive, owing to the low wind power tariffs in China. Based on our checks, foreign turbine manufacturers have recently seen improving order flow. We take this as a sign of market opening, as well as change in customer mentality from pure cost per MW to cost per MWh.

In our view, even though the Chinese government lifted the 70% local content requirement in December 2009, the impact on Chinese manufacturers will be minimal as a majority of the leading foreign wind turbine manufacturers such as Vestas, GE, Gamesa and Suzlon, have had production facilities set up in China for more than three years — and have lost market share to their Chinese peers.

Fig. 46: Chinese wind turbine makers gaining share in China



Source: CWEA, Nomura research

Recently, the Chinese government started to encourage development of offshore wind farms. While the majority of the Chinese wind turbine manufacturers do not have a track record in offshore applications, the feedback we received from wind farm operators suggests that they might still prefer Chinese wind turbines, since they are more cost competitive.

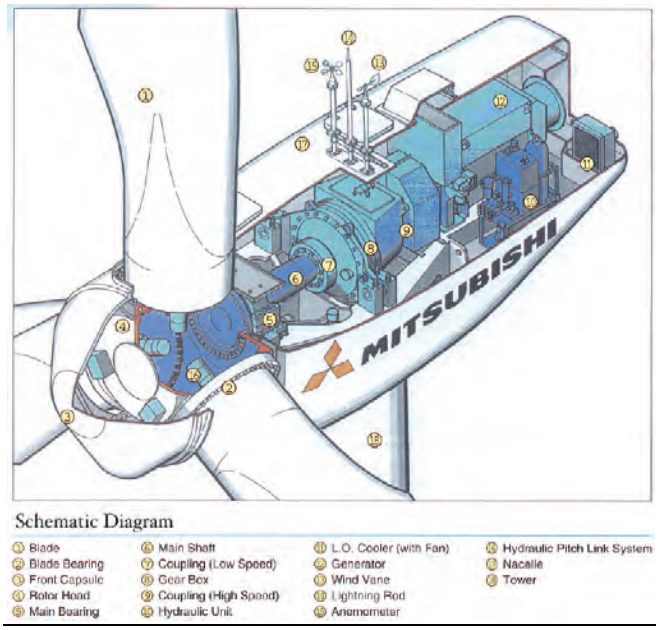
We prefer component/equipment makers with a unique market position

Based on our expectation of flattish wind power tariffs and slowing growth in China this year, as well as uncertainty on CDM outlook, we continue to prefer wind component/equipment makers that are capable of starting exporting out of China as well as having strong bargaining power in the value chain, such as CHST (658 HK, BUY).

Appendix I: Wind turbine equipments

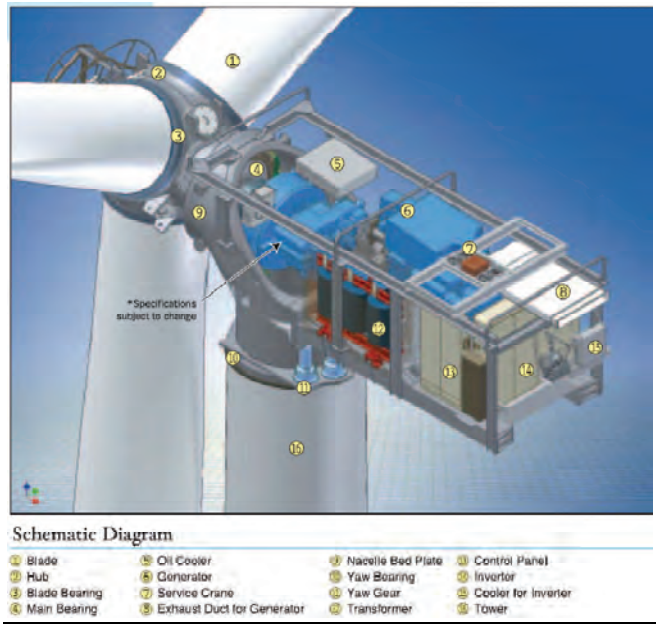
Wind power equipment

Fig. 47: Conventional gearbox wind turbine



Source: Mitsubishi Heavy Industries

Fig. 48: Direct-drive gearbox wind turbine



Source: Mitsubishi Heavy Industries

Key equipment involved:

Blade – The most visible component of a wind turbine, capturing wind energy into a rotational force to drive a generator.

Gearbox – For traditional geared solutions and some newer hybrid-drive solutions, this is the component that increases the rotational speed to drive the generator. Direct-drive turbines do not have a gearbox.

Generator – This is the device that transforms kinetic energy into electrical energy.

Control – The electrical component that regulates pitch/yaw control, as well as regulating the electrical output of a wind turbine

Key technology discussion (direct-drive vs. traditional geared solution):

Mainstream wind turbines contain gearboxes that drive generators by converting slow-speed (18-50rpm) and high-torque power generated from the rotor into high-speed (1,500rpm) and low-torque power. As gearboxes have been one of the major causes of wind turbine failure, a newer concept of direct-drive (gearless) wind turbines has emerged.

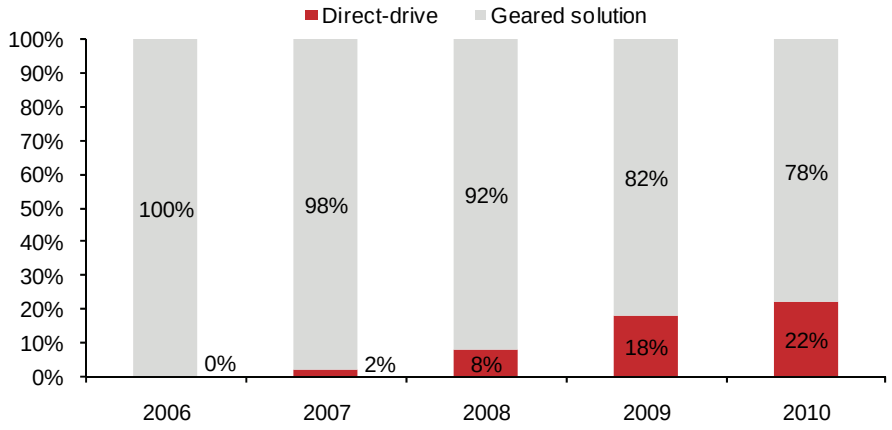
In a direct-drive wind turbine, the gearbox is removed and the aerodynamic rotor drives the generator directly. Since there is no gearbox or drive train, there are fewer rotating components in a direct-drive turbine, thus reducing mechanical stress and increasing equipment reliability and service life. Other advantages of direct-drive wind turbines include lower noise emission and higher energy conversion efficiency.

Until recently, direct-drive wind turbines were a lot heavier and larger in size than conventional gearbox solution. Nevertheless, the use of permanent magnets in the direct drive turbine has helped reduce the weight of direct-drive turbines.

Despite the claimed advantages of today's direct drive units on 1) high efficiency, 2) lower maintenance cost and 3) improved grid friendliness, we don't see the direct-drive becoming the mainstream turbines due to their limited track record. Given wind farms are capacity intensive and the major equipment, wind turbines, have an expected life of 20-25 years, we don't see wind farm operators solely relying on direct drive in order to diversify their technological and operational risk.

Direct-drive turbines gained market share very quickly in 2008, 2009. However, their pace of growth has been slowing down in 2010, reconfirming our view.

Fig. 49: Market shares of different drive-train in China



Source: CWEA

Appendix II: Major wind players in China

Fig. 50: Wind supply chain in China

Note: Activities grouped as major engagements which may be subjective. Does not include minor activities in value chain integration; e.g. Turbine manufacturers such as Goldwind, DFE, SEG have engaged in some components manufacturing through its subsidiary / associates. Only major players listed above.

Source: Nomura research

Sector valuation comparison

Fig. 51: Sector valuation comparison (1/3)

Company	Type	Ticker	Reporting currency	Share o/s	Free float	Rating	Price target Local ($)	Price Local ($)	Market cap (US$mn)	EPS (local $) 2010	EPS (local $) 2011F	EPS (local $) 2012F	DPS (local $) 2010	DPS (local $) 2011F	DPS (local $) 2012F	Net profit (local $ m) 2010	Net profit (local $ m) 2011F	Net profit (local $ m) 2012F
Power Assets Holdings Ltd	Integrated	6 HK	HKD	2,134.26	61.12	Buy	57.30	54.60	13,041.39	3.42	4.00	4.16	2.11	2.20	2.29	7,306.68	8,540.58	8,880.81
CLP Holdings	Integrated	2 HK	HKD	2,406.14	63.41	Neutral	65.20	65.35	20,211.25	4.19	4.01	4.32	2.45	2.48	2.59	10,083.15	9,647.96	10,383.62
Hong Kong & China Gas	Gas	3 HK	HKD	7,900.55	98.17	Reduce	16.50	17.68	17,954.19	0.67	0.74	0.80	0.40	0.45	0.49	4,838.54	5,294.60	5,733.50
CKI	Integrated	1038 HK	HKD	2,254.21	15.17	Neutral	38.60	36.25	10,503.36	2.24	3.31	3.45	1.23	1.66	1.72	5,060.37	7,466.26	7,775.79
HK utilities average									**15,427.55**	**2.63**	**3.02**	**3.18**	**1.55**	**1.70**	**1.77**	**6,822.18**	**7,737.35**	**8,193.43**
Datang Intl	IPP	991 HK	CNY	12,310.04	85.49	Neutral	2.79	2.93	9,747.86	0.21	0.15	0.20	0.09	0.07	0.09	2,551.22	1,898.18	2,494.19
Huaneng Power Intl	IPP	902 HK	CNY	14,055.38	35.00	Neutral	4.69	4.55	11,931.60	0.28	0.23	0.30	0.20	0.13	0.16	3,347.99	3,280.45	4,182.39
Huadian Power Intl	IPP	1071 HK	CNY	6,771.08	93.99	Neutral	1.62	1.71	3,332.15	0.08	0.00	0.08	0.02	0.00	0.02	545.38	18.55	549.55
China Power Intl	IPP	2380 HK	CNY	5,107.06	31.02	Buy	2.00	1.84	1,208.94	0.12	0.14	0.15	0.05	0.06	0.06	613.26	706.34	747.65
China Resources Power	IPP	836 HK	HKD	4,719.50	35.60	Neutral	14.94	15.48	9,413.80	1.07	1.28	1.70	0.36	0.43	0.57	5,037.30	6,061.60	8,003.02
China power average									**6,689.84**	**0.35**	**0.36**	**0.48**	**0.14**	**0.14**	**0.18**	**2,419.03**	**2,393.02**	**3,195.36**
China Shenhua Energy	Coal	1088 HK	CNY	19,890.00	27.00	Buy	44.40	37.45	87,227.63	1.92	2.39	2.88	0.75	0.96	1.15	38,132.01	47,585.83	57,189.23
China Coal Energy	Coal	1898 HK	CNY	13,258.66	44.00	Neutral	10.86	10.22	19,147.13	0.56	0.66	0.87	0.15	0.18	0.23	7,466.36	8,793.67	11,572.22
Yanzhou Coal Mining	Coal	1171 HK	CNY	4,918.40	40.00	Buy	34.40	31.05	22,249.70	1.46	2.05	2.38	0.25	0.64	0.74	7,188.46	10,058.78	11,700.46
China coal average									**42,874.82**	**1.31**	**1.70**	**2.04**	**0.38**	**0.59**	**0.71**	**17,595.61**	**22,146.09**	**26,820.64**
Suntech	Solar	STP US	USD	179.05	70.47	Buy	11.00	8.04	1,448.39	0.65	1.13	1.38	-	-	-	116.02	201.58	246.45
Canadian Solar	Solar	CSIQ US	USD	42.84	69.50	Neutral	11.00	9.28	396.39	2.28	1.60	1.88	-	-	-	97.83	68.45	80.34
Trina Solar	Solar	TSL US	USD	68.05	70.00	Buy	34.00	22.02	1,748.38	5.16	3.68	4.60	-	-	-	351.16	250.77	312.95
Yingli Green	Solar	YGE US	USD	155.99	63.17	Buy	15.00	8.74	1,297.16	9.36	9.45	10.05	-	-	-	1,419.18	1,474.41	1,567.81
LDK Solar	Solar	LDK US	USD	151.30	29.00	Neutral	14.00	7.02	1,017.64	2.18	1.83	1.63	-	-	-	290.35	277.61	246.59
JA Solar	Solar	JASO US	USD	163.38	63.17	Neutral	8.50	5.67	952.46	1.63	1.27	1.32	-	-	-	265.96	207.67	215.67
Solargiga	Solar	757 HK	CNY	1,627.54	-	Reduce	1.10	1.91	444.07	0.16	0.19	-	-	-	-	278.11	314.58	-
GCL Poly	Solar	3800 HK	CNY	15,472.20	47.50	Buy	7.00	3.96	7,888.06	0.26	0.54	0.65	0.05	0.05	0.05	4,023.58	8,387.93	10,002.11
China solar average									**1,899.07**	**2.71**	**2.46**	**2.69**	**0.01**	**0.01**	**0.01**	**855.27**	**1,397.87**	**1,583.99**
China Everbright Intl	Water	257 HK	HKD	3,639.32	51.57	Buy	6.10	3.26	1,540.12	0.16	0.21	0.25	0.03	0.04	0.05	593.05	759.66	892.04
Guangdong Investment	Water	270 HK	HKD	6,253.69	38.88	Buy	5.50	3.96	3,171.55	0.38	0.40	0.40	0.13	0.13	0.14	2,340.92	2,494.82	2,535.35
China Water Affairs	Water	855 HK	HKD	1,327.67	63.02	Buy	4.10	2.87	511.25	0.11	0.15	0.19	0.05	0.05	0.06	141.02	197.89	257.05
Beijing Enterprises Water	Water	371 HK	HKD	7,860.85	42.03	Buy	3.30	2.33	2,051.54	0.10	0.13	0.13	-	-	-	417.61	785.87	1,059.62
Hyflux Limited	Water	HYF SP	SGD	570.51	68.60	Neutral	2.33	2.05	1,429.78	0.14	0.18	0.18	0.03	0.04	0.05	76.53	100.87	104.50
Sound Global Ltd	Water	967 HK	CNY	1,385.38	45.60	Buy	6.40	4.55	755.12	0.25	0.32	0.37	-	-	-	322.77	427.08	531.21
Tianjin Capital	Water	1065 HK	CNY	1,427.23	90.03	Reduce	2.10	2.43	1,136.89	0.20	0.16	0.11	0.10	0.07	0.05	289.49	222.77	161.93
China water average									**1,339.14**	**0.19**	**0.22**	**0.24**	**0.05**	**0.05**	**0.05**	**597.34**	**712.71**	**791.67**
ENN Energy	Gas	2688 HK	CNY	1,050.15	0.64	Neutral	24.10	27.05	3,654.54	0.97	1.14	1.22	0.24	0.28	0.37	1,016.48	1,194.91	1,278.07
Towngas China	Gas	1083 HK	HKD	2,443.36	0.24	Neutral	3.90	4.17	1,318.74	0.20	0.25	0.29	0.03	0.04	0.05	435.80	610.47	700.70
China Resources Gas	Gas	1193 HK	HKD	1,831.07	0.25	Buy	14.80	10.84	2,551.33	0.46	0.60	0.70	0.08	0.12	0.14	743.13	1,101.75	1,282.09
China Gas	Gas	384 HK	HKD	4,357.95	0.57	Reduce	3.70	3.17	1,785.92	0.26	0.19	0.23	0.01	0.02	0.02	875.64	747.40	1,009.83
Beijing Enterprises	Gas	392 HK	HKD	1,137.37	0.46	Buy	62.70	39.45	5,768.35	2.41	2.87	3.27	0.74	0.88	1.01	2,736.47	3,261.59	3,724.32
China gas average									**3,015.77**	**0.86**	**1.01**	**1.14**	**0.22**	**0.27**	**0.32**	**1,161.50**	**1,383.22**	**1,599.00**
China High Speed	Wind	658 HK	CNY	1,375.07	78.00	Buy	14.80	9.57	1,676.29	1.08	1.08	1.13	0.28	0.28	0.29	1,383.64	1,475.46	1,545.68
China Longyuan	Wind	916 HK	CNY	7,464.29	71.60	Neutral	7.60	8.18	7,848.16	0.27	0.35	0.39	0.05	0.07	0.08	2,018.57	2,587.07	2,879.31
Xinjiang Goldwind	Wind	2208 HK	CNY	2,695.00	65.77	Reduce	9.40	10.12	5,876.84	0.99	0.78	0.83	0.40	0.31	0.33	2,289.14	2,108.59	2,231.24
China wind average									**3,733.58**	**0.81**	**0.91**	**1.03**	**0.22**	**0.25**	**0.28**	**1,595.28**	**1,914.69**	**2,142.89**
Shanghai Electric	Equipment	2727 HK	CNY	12,824.00	36.90	Buy	4.90	4.06	12,141.81	0.22	0.25	0.28	0.07	0.07	0.08	2,783.61	3,199.02	3,631.34
Dongfang Electric	Equipment	1072 HK	CNY	2,003.86	49.10	Buy	34.40	29.00	7,737.31	1.30	1.48	1.62	0.13	0.15	0.16	2,600.67	2,965.64	3,248.91
Harbin Power	Equipment	1133 HK	CNY	1,376.81	49.00	Neutral	8.90	9.23	1,633.43	0.74	0.64	0.67	0.14	0.12	0.13	1,024.50	883.70	921.66
China equipment average									**7,170.85**	**0.75**	**0.79**	**0.86**	**0.11**	**0.11**	**0.12**	**2,136.26**	**2,349.46**	**2,600.64**
Korea Electric Power	Integrated	015760 KS	KRW	641.57	40.95	Buy	40,000.00	29,250.00	17,374.19	(112.47)	(957.68)	52.00	-	(217.99)	36.38	(72.16)	(614.42)	33.36
Korea Gas	Gas	036460 KS	KRW	72.61	32.00	Buy	52,000.00	36,300.00	2,597.38	2,810.06	3,870.08	5,923.07	843.02	1,161.02	1,776.92	204.03	281.00	430.07
Korea utilities average									**9,985.78**	**1,348.79**	**1,456.20**	**2,987.53**	**421.51**	**471.52**	**906.65**	**65.94**	**(166.71)**	**231.71**
E-Ton Solar Tech	Solar	3452 TT	TWD	204.65	52.40	Reduce	37.00	26.25	437.42	(1.98)	2.11	2.91	-	-	-	(404.70)	432.54	595.77
Motech Industries	Solar	6244 TT	TWD	346.30	60.96	Neutral	111.00	98.50	1,302.11	12.30	14.34	14.73	7.00	5.50	5.50	4,259.47	4,966.78	5,102.30
Taiwan solar average									**869.76**	**5.16**	**8.23**	**8.82**	**3.50**	**2.75**	**2.75**	**1,927.39**	**2,699.66**	**2,849.04**
Indonesia																		
Perusahaan Gas Negara	Gas	PGAS IJ	IDR	24,241.51	43.04	Buy	4,800.00	4,050.00	11,485.51	283.69	274.98	300.06	154.43	175.58	183.90	6,876.59	6,665.86	7,273.85
Glow	IPP	GLOW TB	THB	1,439.00	24.74	Buy	55.00	51.25	2,471.06	3.52	3.63	4.96	1.91	2.01	2.48	5,067.12	5,219.67	7,141.33
Electricity Generating	IPP	EGCO TB	THB	526.47	39.59	Buy	110.00	95.00	1,648.46	13.27	12.63	11.82	5.05	5.10	5.15	6,984.84	6,651.61	6,221.82
Ratchaburi Generating	IPP	RATCH TB	THB	1,450.00	48.30	Buy	41.00	43.00	2,055.04	3.97	4.02	3.97	2.28	2.32	2.35	5,758.57	5,824.68	5,762.61
Thai power average									**2,058.19**	**6.92**	**6.76**	**6.92**	**3.08**	**3.14**	**3.33**	**5,936.84**	**5,898.65**	**6,375.26**
Tenaga Nasional	Integrated	TNB MK	MYR	5,440.88	39.43	Buy	8.00	7.11	12,965.95	0.47	0.38	0.56	0.16	0.13	0.13	2,545.90	2,041.97	3,019.79
YTLP	Integrated	YTLP MK	MYR	6,753.12	32.95	Neutral	2.28	2.17	5,231.20	0.18	0.19	0.18	0.11	0.12	0.12	1,126.40	1,264.11	1,242.02
Malaysia utilities average									**8,503.45**	**0.32**	**0.29**	**0.34**	**0.14**	**0.13**	**0.11**	**1,836.15**	**1,679.76**	**1,946.52**
Energy Development Corp	Power	EDC PM	PHP	18,750.00	53.55	Neutral	7.30	6.60	2,856.98	0.39	0.40	0.54	0.13	0.12	0.16	7,237.80	7,422.78	10,182.22
Meralco	Power	MER PM	PHP	1,127.71	69.10	Reduce	134.10	250.20	6,511.44	13.33	16.58	16.85	4.00	5.80	6.32	15,028.18	18,693.52	18,997.42
Philippines utilities average									**4,684.21**	**6.86**	**8.49**	**8.69**	**2.07**	**2.96**	**3.24**	**11,132.99**	**13,058.15**	**14,589.82**
NTPC	IPP	NTPC IN	#N/A	8,245.47	11.94	Buy	228.00	168.05	30,739.28	9.67	10.41	11.46	4.44	4.66	5.25	79,767.47	85,857.50	94,495.97
JSW Energy	Integrated	JSW IN	INR	1,640.06	31.15	Reduce	65.00	69.20	2,517.70	4.55	5.14	8.58	0.87	-	-	7,454.90	8,435.89	14,072.25
Adani Power	Integrated	ADANI IN	INR	2,180.04	26.55	Neutral	115.00	114.15	5,520.51	0.78	2.85	10.02	-	-	-	1,701.07	6,214.96	21,852.02
Power Grid*	Grid	PWGR IN	INR	4,629.73	27.67	Buy	120.00	101.05	10,382.46	5.08	5.83	6.48	1.75	2.04	2.45	21,372.10	25,365.08	30,001.65
Reliance Power	Integrated	RPWR IN	INR	2,805.13	19.15	Reduce	136.00	116.55	7,252.79	2.85	3.03	3.45	-	-	-	6,838.95	7,752.07	9,671.44
Lanco Infratech	Integrated	LANCI IN	INR	24,078.05	19.49	Buy	51.00	33.15	1,770.70	2.05	1.71	4.03	-	-	-	4,585.73	4,129.08	9,706.83
India average									**9,660.62**	**4.16**	**4.83**	**7.34**	**1.18**	**1.12**	**1.28**	**20,286.70**	**22,959.10**	**29,966.69**
Australia																		
AGL ENERGY LTD	Integrated	AGK AU	AUD	4,613.12	99.10	Buy	17.50	14.28	6,162.91	0.96	1.03	1.06	0.59	0.62	0.64	428.90	470.77	488.82

Note: Pricing as of 30 May 2011; except for Tenaga, Huaneng and Power Grid, which are priced as of 31 May 2011 to factor in our new PTs and ratings

Source: Bloomberg, Nomura estimates

Fig. 52: Sector valuation comparison (2/3)

	EPS growth (%)			DPS growth (%)			Net earnings growth (%)			Net Gearing (%)			EV/MW (local $)			P/E (x)			Yield (%)		
Company	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**
Power Assets Holdings Ltd	9.10	16.89	3.98	-	4.32	3.98	9.10	16.89	3.98	32.09	24.25	18.17	NA	NA	NA	15.95	13.64	13.12	3.86	4.03	4.19
CLP Holdings	23.03	(4.32)	7.63	(1.15)	1.41	4.15	23.03	(4.32)	7.63	40.77	58.65	53.98	NA	NA	NA	15.61	16.31	15.16	3.75	3.80	3.96
Hong Kong & China Gas	(14.37)	9.43	8.29	14.28	12.50	8.89	(6.50)	9.43	8.29	22.45	22.94	23.57	NA	NA	NA	26.24	23.98	22.15	2.26	2.55	2.77
CKI	(9.12)	47.54	4.15	2.82	34.13	4.15	(9.12)	47.54	4.15	9.35	9.96	10.73	NA	NA	NA	16.15	10.94	10.51	3.41	4.57	4.76
HK utilities average	**2.16**	**17.39**	**6.01**	**3.99**	**13.09**	**5.29**	**4.13**	**17.39**	**6.01**	**26.16**	**28.95**	**26.61**	**NA**	**NA**	**NA**	**18.49**	**16.22**	**15.23**	**3.32**	**3.74**	**3.92**
Datang Intl	54.75	(27.20)	31.40	27.49	(25.60)	31.40	58.23	(25.60)	31.40	484.55	516.91	542.80	6.20	5.50	5.50	13.83	19.00	14.46	3.18	2.37	3.11
Huaneng Power Intl	(32.38)	(15.60)	27.49	(4.76)	(35.82)	27.49	(32.08)	(2.02)	27.49	246.31	255.39	257.48	3.30	3.00	2.80	14.06	15.65	11.64	5.15	3.52	4.72
Huadian Power Intl	(58.09)	(96.60)	2,862.98	(58.09)	(95.02)	2,862.98	(52.87)	(96.60)	2,862.98	466.84	518.44	544.30	3.30	3.10	3.00	21.23	624.27	21.07	0.96	0.05	1.42
China Power Intl	(15.15)	15.18	5.85	6.74	15.18	5.85	18.16	15.18	5.85	281.71	305.05	326.99	3.20	2.80	2.90	15.32	13.30	12.57	2.61	3.01	3.18
China Resources Power	(10.24)	19.87	32.03	(5.99)	20.33	32.03	(5.27)	20.33	32.03	150.36	165.41	172.86	5.10	4.70	4.50	14.53	12.07	9.15	2.31	2.78	3.67
China power average	**(12.22)**	**(20.87)**	**591.95**	**(6.92)**	**(24.18)**	**591.95**	**(2.77)**	**(17.74)**	**591.95**	**325.96**	**352.24**	**368.88**	**4.22**	**3.82**	**3.74**	**15.77**	**136.83**	**13.76**	**2.85**	**2.35**	**3.23**
China Shenhua Energy	20.27	24.79	20.18	41.51	27.60	20.18	20.27	24.79	20.18	net cash	net cash	net cash	NA	NA	NA	16.62	12.51	9.88	2.35	3.20	4.05
China Coal Energy	0.77	17.78	31.60	(2.78)	17.78	31.60	0.77	17.78	31.60	net cash	11.12	24.74	NA	NA	NA	15.44	12.32	8.88	1.72	2.16	3.00
Yanzhou Coal Mining	74.60	39.93	16.32	(37.50)	155.77	16.32	74.62	39.93	16.32	43.51	43.81	27.35	NA	NA	NA	18.08	12.14	9.90	0.95	2.58	3.16
China coal average	**31.88**	**27.50**	**22.70**	**0.41**	**67.05**	**22.70**	**31.88**	**27.50**	**22.70**	**43.51**	**27.46**	**26.05**	**NA**	**NA**	**NA**	**16.71**	**12.32**	**9.55**	**1.67**	**2.64**	**3.40**
Suntech	20.41	73.74	22.26	NA	NA	NA	20.41	73.74	22.26	65.65	50.44	32.99	NA	NA	NA	12.63	7.27	5.95	-	-	-
Canadian Solar	345.81	(30.04)	17.37	NA	NA	NA	361.87	(30.04)	17.37	60.31	90.19	111.63	NA	NA	NA	4.14	5.92	5.05	-	-	-
Trina Solar	146.55	(28.59)	24.79	NA	NA	NA	207.96	(28.59)	24.79	net cash	net cash	net cash	NA	NA	NA	4.81	6.73	5.40	-	-	-
Yingli Green	NA	0.93	6.33	NA	NA	NA	NA	3.89	6.33	31.56	51.79	66.05	NA	NA	NA	6.32	6.09	5.72	-	-	-
LDK Solar	NA	(15.99)	(11.17)	NA	NA	NA	NA	(4.39)	(11.17)	224.97	186.37	156.06	NA	NA	NA	3.21	3.83	4.31	-	-	-
JA Solar	NA	(22.15)	3.85	NA	NA	NA	NA	(21.92)	3.85	5.21	16.50	4.56	NA	NA	NA	3.65	4.70	4.53	-	-	-
Solargiga	NA	18.49	NA	NA	NA	NA	NA	13.11	NA	net cash	13.98	net cash	NA	NA	NA	9.74	8.22	NA	-	-	-
GCL Poly	NA	108.47	19.24	NA	-	-	NA	108.47	19.24	45.10	61.72	43.14	NA	NA	NA	15.26	7.32	6.14	1.29	1.29	1.29
China solar average	**170.92**	**13.11**	**11.81**	**NA**	**NA**	**NA**	**196.75**	**14.29**	**11.81**	**72.13**	**67.28**	**69.07**	**NA**	**NA**	**NA**	**7.47**	**6.26**	**5.30**	**0.16**	**0.16**	**0.16**
China Everbright Intl	50.58	28.09	17.43	59.47	28.09	17.43	61.58	28.09	17.43	41.00	60.77	68.65	NA	NA	NA	20.15	15.62	13.30	1.01	1.29	1.52
Guangdong Investment	15.93	6.23	1.28	14.18	6.20	1.29	16.59	6.57	1.62	15.84	7.27	net cash	NA	NA	NA	10.67	10.01	9.85	3.17	3.37	3.41
China Water Affairs	441.80	33.94	29.90	67.04	5.00	5.00	461.26	40.33	29.90	71.55	74.88	70.68	NA	NA	NA	27.02	20.57	17.05	1.75	1.83	1.93
Beijing Enterprises Water	57.77	21.88	6.58	NA	NA	NA	101.39	88.18	34.84	121.91	40.63	46.15	NA	NA	NA	22.45	18.42	17.29	-	-	-
Hyflux Limited	(2.33)	26.94	3.60	(13.47)	49.78	24.31	1.99	31.81	3.60	136.35	166.28	164.60	NA	NA	NA	15.02	12.11	11.69	1.44	2.16	2.68
Sound Global Ltd	15.05	27.60	16.10	(100.00)	NA	NA	15.05	32.32	24.38	net cash	net cash	net cash	NA	NA	NA	15.96	12.51	10.78	-	-	-
Tianjin Capital	19.14	(23.05)	(27.31)	19.14	(23.05)	(27.31)	19.14	(23.05)	(27.31)	40.76	36.31	32.47	NA	NA	NA	10.78	14.01	19.28	4.36	3.35	2.44
China water average	**85.42**	**17.38**	**6.80**	**7.73**	**13.21**	**4.15**	**96.71**	**29.18**	**12.06**	**71.23**	**64.36**	**76.51**	**NA**	**NA**	**NA**	**17.44**	**14.75**	**14.17**	**1.68**	**1.72**	**1.71**
ENN Energy	24.52	17.55	6.96	26.96	17.55	28.35	26.96	17.55	6.96	49.89	28.97	9.32	NA	NA	NA	24.98	20.29	18.41	1.03	1.27	1.68
Towngas China	47.21	25.34	14.78	50.33	40.08	14.78	64.40	40.08	14.78	19.61	15.98	11.63	NA	NA	NA	20.92	16.69	14.54	0.72	1.01	1.16
China Resources Gas	46.02	31.39	16.37	35.28	48.26	16.37	67.53	48.26	16.37	net cash	net cash	net cash	NA	NA	NA	23.67	18.02	15.48	0.75	1.11	1.29
China Gas	741.87	(26.05)	19.66	15.75	20.00	20.00	744.56	(14.64)	35.11	229.05	69.18	50.52	NA	NA	NA	15.59	22.06	16.32	0.44	0.53	0.63
Beijing Enterprises	14.07	19.17	14.19	14.07	19.19	14.19	14.07	19.19	14.19	8.65	14.74	19.35	NA	NA	NA	17.12	14.36	12.58	1.88	2.24	2.56
China gas average	**174.74**	**13.48**	**14.39**	**28.48**	**29.02**	**18.74**	**183.50**	**22.09**	**17.48**	**76.80**	**32.22**	**22.70**	**NA**	**NA**	**NA**	**20.46**	**18.28**	**15.47**	**0.96**	**1.23**	**1.46**
China High Speed	39.12	0.27	4.76	6.06	0.27	4.76	43.18	6.64	4.76	15.26	27.58	24.43	NA	NA	NA	7.51	7.05	6.73	3.45	3.68	3.85
China Longyuan	82.92	28.16	11.30	NA	28.16	11.30	125.76	28.16	11.30	142.15	174.10	202.63	NA	NA	NA	25.97	19.66	17.18	0.77	1.02	1.16
Xinjiang Goldwind	26.85	(20.84)	5.82	532.99	(20.85)	5.82	31.16	(7.90)	5.82	net cash	net cash	net cash	NA	NA	NA	8.69	10.31	9.75	4.61	3.88	4.11
China wind average	**53.72**	**16.65**	**11.74**	**15.53**	**16.65**	**11.74**	**70.70**	**18.78**	**11.74**	**57.56**	**79.36**	**90.14**	**NA**	**NA**	**NA**	**13.81**	**11.03**	**9.76**	**2.77**	**3.26**	**3.69**
Shanghai Electric	11.66	13.89	13.51	10.71	14.92	13.51	13.46	14.92	13.51	65.74	66.87	63.60	NA	NA	NA	15.85	13.07	11.52	1.88	2.29	2.60
Dongfang Electric	38.55	14.03	9.55	62.50	14.03	9.55	54.88	14.03	9.55	244.00	197.34	160.01	NA	NA	NA	19.46	16.03	14.63	0.51	0.62	0.68
Harbin Power	69.00	(13.74)	4.30	105.88	(13.74)	4.30	69.00	(13.74)	4.30	35.02	35.72	35.50	NA	NA	NA	10.66	11.62	11.14	1.76	1.62	1.69
China equipment average	**39.74**	**4.73**	**9.12**	**59.70**	**5.07**	**9.12**	**45.78**	**5.07**	**9.12**	**114.92**	**99.98**	**86.37**	**NA**	**NA**	**NA**	**15.32**	**13.57**	**12.43**	**1.38**	**1.51**	**1.66**
Korea Electric Power	(131.11)	NA	NA	NA	NA	NA	(131.11)	NA	NA	90.22	93.99	97.43	NA	NA	NA	NA	NA	576.27	-	(0.75)	0.12
Korea Gas	(14.27)	37.72	53.05	(14.27)	37.72	53.05	(14.27)	37.72	53.05	510.39	543.02	496.84	NA	NA	NA	12.92	9.38	6.13	2.32	3.20	4.90
Korea utilities average	**(72.69)**	**37.72**	**53.05**	**(14.27)**	**37.72**	**53.05**	**(72.69)**	**37.72**	**53.05**	**300.30**	**318.50**	**297.13**	**NA**	**NA**	**NA**	**12.92**	**9.38**	**291.20**	**1.16**	**1.23**	**2.51**
E-Ton Solar Tech	NA	NA	37.74	NA	NA	NA	NA	NA	37.74	82.79	82.20	78.99	NA	NA	NA	NA	12.42	9.02	-	-	-
Motech Industries	2,975.00	16.61	2.73	250.00	(21.43)	-	12,735.15	16.61	2.73	net cash	8.14	10.14	NA	NA	NA	8.08	6.93	6.75	7.11	5.58	5.58
Taiwan solar average	**2,975.00**	**16.61**	**20.23**	**250.00**	**(21.43)**	**-**	**12,735.15**	**16.61**	**20.23**	**82.79**	**45.17**	**44.57**	**NA**	**NA**	**NA**	**8.08**	**9.67**	**7.88**	**3.55**	**2.79**	**2.79**
Indonesia																					
Perusahaan Gas Negara	22.62	(3.07)	9.12	0.16	13.69	4.74	24.98	(3.06)	9.12	12.42	net cash	net cash	NA	NA	NA	14.28	14.73	13.50	3.81	4.34	4.54
Glow	39.33	3.01	36.82	5.00	5.00	23.46	36.99	3.01	36.82	184.11	197.57	162.20	NA	NA	NA	14.56	14.13	10.33	3.73	3.92	4.84
Electricity Generating	(6.95)	(4.77)	(6.46)	1.00	1.00	1.00	(6.95)	(4.77)	(6.46)	1.41	net cash	net cash	NA	NA	NA	7.16	7.52	8.04	5.32	5.37	5.42
Ratchaburi Generating	(14.46)	1.15	(1.07)	1.50	1.50	1.50	(14.46)	1.15	(1.07)	25.65	17.95	12.09	NA	NA	NA	10.83	10.70	10.82	5.31	5.39	5.47
Thai power average	**5.98**	**(0.20)**	**9.76**	**2.50**	**2.50**	**8.65**	**5.19**	**(0.20)**	**9.76**	**70.39**	**107.76**	**87.14**	**NA**	**NA**	**NA**	**10.85**	**10.78**	**9.73**	**4.79**	**4.89**	**5.25**
Tenaga Nasional	17.82	(19.98)	47.89	46.90	(15.29)	(2.18)	18.02	(19.79)	47.89	54.98	45.49	36.43	NA	NA	NA	15.19	18.94	12.81	2.20	1.86	1.82
YTLP	56.71	5.22	(1.75)	(11.17)	1.50	1.50	74.21	12.23	(1.75)	206.23	202.96	203.52	NA	NA	NA	15.10	13.67	13.91	5.30	5.38	5.46
Malaysia utilities average	**37.26**	**(6.33)**	**12.38**	**17.87**	**(2.70)**	**(15.48)**	**46.12**	**(2.73)**	**12.38**	**130.61**	**123.84**	**120.33**	**NA**	**NA**	**NA**	**14.52**	**15.30**	**13.65**	**3.85**	**3.80**	**3.48**
Energy Development Corp	(0.53)	2.56	37.18	33.54	(10.80)	37.18	(0.53)	2.56	37.18	114.85	95.50	69.02	NA	NA	NA	17.10	16.67	12.15	2.02	1.80	2.47
Meralco	549.92	24.39	1.63	59.87	45.12	8.88	561.45	24.39	1.63	53.40	30.34	15.00	NA	NA	NA	18.77	15.09	14.85	1.60	2.32	2.52
Philippines utilities average	**274.70**	**13.47**	**19.40**	**46.71**	**17.16**	**23.03**	**280.46**	**13.47**	**19.40**	**84.12**	**62.92**	**42.01**	**NA**	**NA**	**NA**	**17.94**	**15.88**	**13.50**	**1.81**	**2.06**	**2.50**
NTPC	29.60	7.63	10.06	5.50	5.06	12.50	29.60	7.63	10.06	34.23	43.30	57.89	NA	NA	NA	20.62	19.16	17.41	2.23	2.34	2.63
JSW Energy	(10.21)	13.16	66.81	NA	(100.00)	NA	169.43	13.16	66.81	126.27	132.62	126.36	NA	NA	NA	15.23	13.46	8.07	1.26	-	-
Adani Power	NA	265.36	251.60	NA	NA	NA	NA	265.36	251.60	162.77	327.39	325.11	NA	NA	NA	146.29	40.04	11.39	-	-	-
Power Grid*	21.37	14.87	11.09	24.72	16.54	20.00	21.37	18.68	18.28	195.37	174.13	196.65	NA	NA	NA	19.90	17.32	15.59	1.73	2.02	2.42
Reliance Power	179.70	6.35	13.62	NA	NA	NA	179.70	13.35	24.76	net cash	16.42	87.74	NA	NA	NA	40.55	38.13	33.56	-	-	-
Lanco Infratech	62.24	(16.17)	135.08	NA	NA	NA	63.56	(9.96)	135.08	197.92	269.84	437.21	NA	NA	NA	16.74	19.74	8.40	-	-	-
India average	**56.54**	**48.54**	**81.38**	**15.11**	**(26.14)**	**16.25**	**92.73**	**51.37**	**84.43**	**143.31**	**160.62**	**205.16**	**N/A**	**N/A**	**N/A**	**43.11**	**24.54**	**15.65**	**0.88**	**0.74**	**0.86**
Australia																					
AGL ENERGY LTD	12.47	7.66	2.99	9.26	5.08	3.23	13.23	9.76	3.83	7.25	10.04	10.80	NA	NA	NA	14.96	13.90	13.49	4.13	4.34	4.48

Note: Pricing as of 30 May 2011, except for Tenaga, Huaneng and Power Grid, which are priced on 31 May 2011 to factor in our new PTs and ratings

Source: Bloomberg, Nomura estimates

Fig. 53: Sector valuation comparison (3/3)

	Dividend payout (%)			BV/share (local $)			P/B (x)			EV/EBIDTA (x)			EBIDTA Margin (%)			RoIC (%)			RoE (%)			RoA (%)		
Company	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**	**2010**	**2011F**	**2012F**
Power Assets Holdings Ltd	61.64	55.01	55.01	25.75	27.55	29.42	2.12	1.98	1.86	14.24	11.86	11.28	70.41	69.56	69.58	10.34	11.14	11.58	13.65	15.02	14.61	8.98	9.72	10.06
CLP Holdings	58.45	61.95	59.95	31.11	32.65	34.41	2.10	2.00	1.90	10.41	9.62	9.04	28.47	27.59	26.91	9.54	8.27	8.12	13.85	12.57	12.86	6.30	5.47	5.36
Hong Kong & China Gas	59.38	61.04	61.38	4.92	5.27	5.64	3.59	3.35	3.14	17.32	16.27	15.22	38.36	37.17	36.24	10.08	10.86	11.17	14.19	14.46	14.64	7.29	7.76	8.06
CKI	55.00	50.00	50.00	23.13	24.56	26.06	1.57	1.48	1.39	16.90	11.56	11.30	22.62	26.93	27.60	9.50	12.48	12.32	10.73	13.89	13.63	8.77	11.56	11.54
HK utilities average	**58.62**	**57.00**	**56.58**	**21.23**	**22.51**	**23.88**	**2.35**	**2.20**	**2.07**	**14.72**	**12.33**	**11.71**	**39.97**	**40.31**	**40.08**	**9.87**	**10.69**	**10.80**	**13.10**	**13.98**	**13.93**	**7.84**	**8.63**	**8.75**
Datang Intl	44.03	45.00	45.00	2.51	2.60	2.71	1.17	1.13	1.08	10.27	10.71	9.48	28.18	24.80	26.04	1.78	1.18	1.43	8.94	6.04	7.64	1.28	0.84	1.01
Huaneng Power Intl	72.33	55.00	55.00	3.83	3.93	4.07	1.02	0.93	0.85	9.44	8.74	7.51	18.46	17.26	17.57	2.58	2.41	2.94	6.98	6.02	7.44	1.57	1.40	1.69
Huadian Power Intl	20.48	30.00	30.00	2.44	2.44	2.50	0.70	0.70	0.68	11.67	10.61	8.80	16.06	16.41	18.28	0.82	0.03	0.70	3.35	0.11	3.29	0.48	0.01	0.40
China Power Intl	40.00	40.00	40.00	2.51	2.59	2.68	0.73	0.71	0.69	11.18	10.07	9.39	27.74	27.04	25.11	1.43	1.49	1.44	4.86	5.43	5.56	1.06	1.06	1.01
China Resources Power	33.36	33.49	33.49	8.68	9.54	10.67	1.78	1.62	1.45	10.19	8.70	7.20	25.50	24.96	27.12	6.54	6.77	7.86	12.82	14.10	16.79	3.87	3.91	4.47
China power average	**42.04**	**40.70**	**40.70**	**3.99**	**4.22**	**4.52**	**1.08**	**1.02**	**0.95**	**10.54**	**9.76**	**8.47**	**23.19**	**22.09**	**22.83**	**2.63**	**2.37**	**2.87**	**7.39**	**6.34**	**8.14**	**1.65**	**1.44**	**1.72**
China Shenhua Energy	39.12	40.00	40.00	9.97	11.41	13.13	3.20	2.62	2.16	8.99	6.84	5.34	45.73	42.73	44.67	16.17	18.04	19.04	20.67	22.38	23.44	11.69	12.92	13.50
China Coal Energy	26.61	26.61	26.61	5.58	6.07	6.71	1.56	1.35	1.15	7.10	6.54	5.08	20.86	21.36	24.49	9.07	9.04	9.79	10.47	11.38	13.65	6.38	6.39	7.09
Yanzhou Coal Mining	17.11	31.27	31.27	7.59	9.00	10.63	3.48	2.76	2.21	11.47	7.84	6.18	37.53	41.04	41.85	16.91	15.34	15.70	27.92	24.66	24.24	13.73	12.67	13.06
China coal average	**27.61**	**32.62**	**32.62**	**7.72**	**8.82**	**10.16**	**2.74**	**2.24**	**1.84**	**9.19**	**7.07**	**5.53**	**34.71**	**35.04**	**37.00**	**14.05**	**14.14**	**14.85**	**19.69**	**19.47**	**20.44**	**10.60**	**10.66**	**11.22**
Suntech	-	-	-	10.57	11.70	13.07	0.76	0.69	0.62	6.98	5.62	4.53	12.46	13.99	14.38	10.80	6.93	7.40	15.03	10.11	11.11	5.70	3.84	4.60
Canadian Solar	-	-	-	12.47	14.02	15.89	0.74	0.66	0.58	4.61	5.28	5.70	10.43	9.17	8.06	9.20	10.73	11.30	10.13	12.06	12.54	4.11	4.27	4.06
Trina Solar	-	-	-	17.25	20.57	25.17	1.28	1.07	0.87	3.27	4.06	3.04	25.38	16.43	18.22	25.24	14.29	16.86	33.66	17.62	20.11	16.92	10.21	12.58
Yingli Green	-	-	-	55.32	63.20	73.25	1.01	0.89	0.76	3.23	3.66	3.58	27.78	24.22	23.70	14.55	11.06	9.81	18.84	16.17	14.73	7.01	5.75	5.38
LDK Solar	-	-	-	7.67	9.66	11.29	0.92	0.73	0.62	5.43	5.30	5.08	23.63	24.61	21.84	17.37	11.54	7.07	30.44	22.38	15.56	5.87	4.69	3.66
JA Solar	-	-	-	6.21	7.13	8.45	0.91	0.80	0.67	2.83	3.33	2.76	19.29	12.07	12.82	22.25	13.80	12.77	31.24	19.09	16.95	18.74	11.61	11.20
Solargiga	-	-	-	0.98	1.22	-	1.58	1.27	-	4.01	5.44	NA	19.27	18.66	NA	17.38	16.59	N/A	18.22	17.25	N/A	11.98	11.57	N/A
GCL Poly	19.61	9.41	7.89	1.04	1.53	2.12	3.79	2.59	1.87	10.51	5.00	4.10	35.25	45.66	41.67	20.80	29.16	25.58	28.98	42.18	35.44	12.10	17.81	16.45
China solar average	**2.45**	**1.18**	**0.99**	**13.94**	**16.13**	**18.66**	**1.37**	**1.09**	**0.75**	**5.11**	**4.71**	**4.11**	**21.69**	**20.60**	**20.10**	**17.20**	**14.26**	**12.97**	**23.32**	**19.61**	**18.06**	**10.31**	**8.72**	**8.28**
China Everbright Intl	20.21	20.21	20.21	1.39	1.56	1.75	2.34	2.09	1.86	14.29	11.89	10.15	31.56	31.84	37.13	7.95	8.75	8.87	12.31	14.16	14.81	6.52	7.29	7.30
Guangdong Investment	33.39	33.38	33.38	2.99	3.26	3.53	1.32	1.22	1.12	6.15	5.42	4.87	70.45	71.97	68.10	9.90	9.92	9.48	13.13	12.80	11.94	7.37	7.39	7.06
China Water Affairs	45.03	35.30	28.54	1.92	1.99	2.13	1.49	1.44	1.35	12.95	8.70	7.29	31.12	39.67	41.19	8.37	4.48	5.32	13.63	7.63	9.42	4.53	2.51	3.12
Beijing Enterprises Water	-	-	-	0.79	1.25	1.38	2.94	1.87	1.69	17.41	9.74	7.56	9.14	13.79	17.41	6.78	5.44	4.77	13.37	11.71	10.26	4.53	4.04	3.51
Hyflux Limited	21.19	25.00	30.00	0.58	0.68	0.77	3.52	3.00	2.65	10.79	9.69	9.56	20.15	20.12	21.08	9.03	9.35	8.30	23.43	29.79	26.57	6.12	6.39	5.76
Sound Global Ltd	-	-	-	1.45	1.98	2.51	2.76	2.02	1.59	10.23	6.53	4.48	22.56	21.88	21.38	15.02	14.40	15.42	18.92	18.55	16.48	10.06	10.03	10.53
Tianjin Capital	46.99	46.99	46.99	2.42	2.50	2.56	0.91	0.88	0.85	6.74	8.68	10.19	51.67	43.33	38.83	5.24	4.19	3.02	8.59	6.35	4.49	4.24	3.48	2.55
China water average	**23.83**	**22.98**	**22.73**	**1.65**	**1.89**	**2.09**	**2.18**	**1.79**	**1.59**	**11.22**	**8.66**	**7.73**	**33.81**	**34.66**	**35.02**	**8.90**	**8.08**	**7.88**	**14.77**	**14.43**	**13.42**	**6.20**	**5.88**	**5.69**
ENN Energy	25.00	25.00	30.00	5.64	6.49	7.35	4.08	3.34	2.96	11.22	8.58	7.18	19.84	18.13	16.08	9.75	9.90	9.40	18.34	18.75	17.59	5.63	5.61	5.11
Towngas China	15.08	16.86	16.86	3.49	3.69	3.93	1.20	1.13	1.06	11.76	8.81	7.72	21.57	20.74	19.66	4.47	5.45	5.95	5.48	6.55	7.05	3.52	4.38	4.74
China Resources Gas	17.72	20.00	20.00	3.33	3.81	4.37	3.25	2.84	2.48	12.51	8.24	6.86	19.33	20.37	19.26	13.46	12.12	11.87	20.85	16.85	17.11	6.16	6.50	6.43
China Gas	5.30	8.61	8.63	1.23	1.83	2.04	2.58	1.73	1.55	14.28	9.07	7.09	17.13	14.46	13.79	7.76	5.83	7.11	23.84	12.35	11.96	4.27	3.10	3.70
Beijing Enterprises	30.81	30.82	30.82	29.23	31.33	33.69	1.35	1.26	1.17	8.10	7.47	6.96	16.91	15.29	14.84	6.66	7.27	7.59	8.48	9.47	10.07	4.46	4.91	5.18
China gas average	**18.78**	**20.26**	**21.26**	**8.58**	**9.43**	**10.28**	**2.49**	**2.06**	**1.84**	**11.57**	**8.43**	**7.16**	**18.96**	**17.80**	**16.73**	**8.42**	**8.11**	**8.38**	**15.40**	**12.79**	**12.75**	**4.81**	**4.90**	**5.03**
China High Speed	25.93	25.93	25.93	5.77	6.24	7.10	1.41	1.22	1.08	6.42	5.93	5.56	25.30	23.92	22.73	17.40	13.92	12.81	23.42	18.56	17.00	12.26	11.04	10.51
China Longyuan	19.97	19.97	19.97	3.12	3.41	3.73	2.25	1.95	1.78	15.39	11.87	9.98	37.51	52.61	53.44	4.96	4.84	3.84	8.94	10.62	10.81	2.83	3.01	2.62
Xinjiang Goldwind	40.02	40.02	40.02	5.74	5.37	5.89	1.50	1.50	1.37	5.49	5.83	5.63	17.50	14.36	15.19	21.37	13.48	13.10	24.76	15.19	14.70	15.44	10.06	9.05
China wind average	**25.49**	**25.49**	**25.49**	**4.89**	**5.47**	**6.25**	**1.67**	**1.44**	**1.28**	**9.41**	**7.90**	**6.97**	**29.37**	**33.81**	**33.19**	**13.14**	**11.62**	**10.86**	**18.60**	**16.71**	**16.38**	**8.70**	**8.27**	**8.05**
Shanghai Electric	29.99	29.99	29.99	2.11	2.29	2.50	1.65	1.42	1.31	11.76	9.28	8.28	7.12	8.25	8.54	10.40	10.55	11.01	11.25	11.35	11.83	3.48	3.69	3.85
Dongfang Electric	10.02	10.02	10.02	5.51	6.86	8.33	4.58	3.46	2.85	19.98	14.79	13.55	10.08	11.01	11.07	25.70	23.54	21.03	26.42	23.93	21.35	4.04	4.09	4.12
Harbin Power	18.81	18.81	18.81	7.00	7.50	8.05	1.13	0.99	0.93	8.05	7.79	7.46	6.07	5.72	5.63	8.73	6.97	6.81	11.21	8.85	8.61	2.53	2.21	2.15
China equipment average	**19.61**	**19.61**	**19.61**	**4.87**	**5.55**	**6.29**	**2.46**	**1.96**	**1.69**	**13.26**	**10.62**	**9.76**	**7.76**	**8.33**	**8.41**	**14.95**	**13.68**	**12.95**	**16.29**	**14.71**	**13.93**	**3.35**	**3.33**	**3.37**
Korea Electric Power	-	22.76	69.96	64,302.12	66,793.42	72,377.03	0.45	0.44	0.40	7.11	8.92	7.75	19.78	14.89	16.55	(0.10)	(0.80)	0.04	(0.18)	(1.46)	0.07	(0.07)	(0.60)	0.03
Korea Gas	30.00	30.00	30.00	60,105.82	63,132.88	67,894.92	0.60	0.57	0.53	13.53	12.35	11.53	6.66	7.16	6.71	1.13	1.39	2.00	4.75	6.28	9.04	0.76	0.90	1.32
Korea utilities average	**15.00**	**26.38**	**49.98**	**62,203.97**	**64,963.15**	**70,135.98**	**0.53**	**0.51**	**0.47**	**10.32**	**10.63**	**9.64**	**13.22**	**11.03**	**11.63**	**0.51**	**0.30**	**1.02**	**2.29**	**2.41**	**4.56**	**0.34**	**0.15**	**0.68**
E-Ton Solar Tech	-	-	-	41.64	43.75	46.67	0.63	0.60	0.56	31.20	11.12	8.46	8.82	7.99	9.42	(13.80)	2.58	3.44	(26.56)	4.95	6.44	(11.29)	2.05	2.68
Motech Industries	56.91	38.35	37.33	67.11	75.94	86.70	1.47	1.30	1.14	5.23	4.54	4.09	17.63	17.01	17.03	18.78	17.06	15.46	23.65	20.05	18.12	14.14	12.75	11.46
Taiwan solar average	**28.46**	**19.17**	**18.66**	**54.38**	**59.85**	**66.68**	**1.05**	**0.95**	**0.85**	**18.22**	**7.83**	**6.27**	**13.23**	**12.50**	**13.23**	**2.49**	**9.82**	**9.45**	**(1.45)**	**12.50**	**12.28**	**1.42**	**7.40**	**7.07**
Indonesia																								
Perusahaan Gas Negara	54.44	63.85	61.29	572.10	710.30	841.21	7.08	5.70	4.81	9.32	8.62	7.68	54.21	55.22	54.36	26.94	28.29	28.03	48.74	45.64	39.51	20.54	21.33	20.83
Glow	54.37	55.42	50.01	23.13	24.84	27.70	2.22	2.06	1.85	14.36	14.03	8.05	25.09	25.67	31.16	6.05	5.12	6.57	15.78	15.12	18.89	5.33	4.50	5.61
Electricity Generating	38.06	40.37	43.59	104.28	111.81	118.48	0.91	0.85	0.80	4.87	4.79	4.78	55.32	51.25	47.23	11.22	10.07	9.00	13.25	11.69	10.26	10.77	9.72	8.68
Ratchaburi Generating	57.50	57.70	59.20	32.39	34.09	35.71	1.33	1.26	1.20	7.36	6.62	6.42	19.66	19.82	18.86	9.52	9.91	9.89	12.59	12.08	11.39	8.17	8.21	8.13
Thai power average	**49.98**	**51.16**	**50.93**	**53.27**	**56.92**	**60.63**	**1.48**	**1.39**	**1.29**	**8.86**	**8.48**	**6.42**	**33.36**	**32.25**	**32.42**	**8.93**	**8.36**	**8.49**	**13.87**	**12.97**	**13.51**	**8.09**	**7.47**	**7.47**
Tenaga Nasional	33.34	35.30	23.35	5.29	5.67	6.24	1.34	1.25	1.14	6.97	7.49	6.06	25.56	21.63	23.53	6.41	5.85	7.47	11.69	9.78	11.69	4.40	3.96	5.09
YTLP	64.60	62.31	64.37	1.13	1.20	1.26	1.93	1.81	1.72	10.05	9.68	9.96	20.64	20.63	21.12	4.29	5.17	5.01	16.44	16.11	14.95	3.23	3.59	3.46
Malaysia utilities average	**48.97**	**50.06**	**42.27**	**3.21**	**3.44**	**3.72**	**1.58**	**1.48**	**1.39**	**8.31**	**8.31**	**8.01**	**23.10**	**21.36**	**22.31**	**5.35**	**5.56**	**5.89**	**14.06**	**13.03**	**12.78**	**3.82**	**3.81**	**4.05**
Energy Development Corp	34.49	30.00	30.00	1.64	1.97	2.43	4.03	3.34	2.72	16.06	10.89	8.72	39.75	53.78	53.95	6.34	10.87	13.20	13.86	25.42	27.96	4.95	9.59	11.39
Meralco	30.00	35.00	37.50	57.33	68.10	78.63	4.36	3.67	3.18	10.93	8.86	8.48	12.68	14.44	14.18	14.71	16.99	15.94	24.63	26.43	22.96	8.81	10.65	10.12
Philippines utilities average	**32.25**	**32.50**	**33.75**	**29.48**	**35.04**	**40.53**	**4.20**	**3.51**	**2.95**	**13.50**	**9.88**	**8.60**	**26.21**	**34.11**	**34.06**	**10.52**	**13.93**	**14.57**	**19.25**	**25.92**	**25.46**	**6.88**	**10.12**	**10.75**
NTPC	45.89	44.79	45.79	75.72	81.76	87.98	2.63	2.44	2.27	15.12	14.32	12.45	26.57	24.25	25.64	9.06	8.34	7.85	14.57	13.59	13.50	8.05	7.40	6.96
JSW Energy	19.24	-	-	29.15	34.29	42.87	2.38	2.02	1.62	14.33	12.10	6.94	51.54	36.84	41.22	7.43	6.20	8.62	23.82	16.22	22.24	6.22	5.38	7.47
Adani Power	-	-	-	26.50	29.36	39.38	4.31	3.89	2.90	140.64	40.27	11.66	56.07	56.97	61.58	1.44	2.72	6.29	4.22	10.21	29.17	1.32	2.46	5.58
Power Grid*	34.48	34.98	37.79	37.87	46.15	50.18	2.67	2.19	2.01	13.28	12.27	10.64	82.35	83.66	83.71	4.37	4.79	4.43	13.36	14.46	13.45	3.46	3.87	3.66
Reliance Power	-	-	-	60.34	61.26	64.71	1.92	1.89	1.79	NA	101.29	42.00	(517.87)	26.82	31.69	4.30	3.34	2.63	4.84	4.90	5.47	4.16	3.16	2.45
Lanco Infratech	-	-	-	13.89	21.37	25.40	2.44	1.58	1.33	9.67	10.87	7.78	18.83	25.94	28.45	4.73	3.25	3.66	16.85	12.06	17.24	3.33	2.24	2.59
India average	**16.60**	**13.30**	**13.93**	**40.58**	**45.70**	**51.75**	**2.71**	**2.32**	**1.97**	**38.56**	**31.81**	**15.21**	**(47.08)**	**42.41**	**45.38**	**5.22**	**4.77**	**5.58**	**12.94**	**11.91**	**16.85**	**4.42**	**4.09**	**4.79**
Australia																								
AGL ENERGY LTD	61.74	60.26	60.40	12.57	13.12	13.55	1.14	1.09	1.05	8.67	8.63	7.79	11.93	11.30	11.62	5.21	6.09	6.76	6.12	7.09	7.95	4.02	4.70	5.22

Note: As of May 30, 2011; except Tenaga, Huaneng and Power Grid priced on May 31, 2011 to factor in new PT and rating Source: Bloomberg, Nomura estimates

Source: Bloomberg, Nomura estimates

Valuation methodology and key risk

Fig. 54: Sector valuation methodology and key risk (1/3)

Company	Ticker	Valuation methodology	Risks
Adani Power	ADANI IN	We deploy FCFE-based methodology to value operational / under construction / reasonable likelihood power generation projects of the company. In order to capture the risk of a power project from conception to commissioning, we adjust the FCFE value of the projects for 'milestone discounts' (risk weights assigned to the non-achievement of six key milestones we identify for various types of projects). Key assumption of our FCFE model is 13% cost of equity.	Upside risks: 1) increase in tariff/delay in commencement date of 1000MW PPA with GUVNL; and 2) milestone achievements, especially related to fuel security and off-take arrangement. Downside risks: 1) lower-than expected merchant tariff realisation; and 2) lower GCV/higher price of imported coal from Adani Enterprises Ltd (AEL).
AGL Energy	AGK AU	DCF methodology utilising a WACC of 9.3%, a long term growth rate of 3.5%, target debt to equity of 20% and a risk free rate of 5.5%.	Competitors and customer loss, Electricity & gas supply and price, weather dependent, environmental concerns, Emissions trading scheme or carbon tax, potential source of funding.
BEH	392 HK	Our PT of HK$62.7 is based on a sum-of-the-parts (SOTP) valuation, which takes into account the different business nature and risk profile of BJE's investments. We divided BJE into five parts: Piped gas operation. We value the piped gas operation business using a DCF model, which assumes 1% terminal growth and a WACC of 7.7%. Brewery. We value the brewery business using the current market value of 56.48%-owned Yanjing Beer. Water treatment. We value the water business by using our price target of BJ Enterprises Water at HK$3.3. The valuation methodology of BJ Enterprises Water is based on DCF, assuming WACC of 10.5% and terminal growth rate of 2%. Our price target of HK$3.3 is subject to growth assumptions in treatment volumes, tariffs, capacity and capex. Expressway & toll road. We value the toll road business using a DCF model, assuming 0% terminal growth and a WACC of 7.7%.Other. We value the other businesses using EV/EBITDA and market value approaches.	Risks to our positive view include: 1) slower-than-expected sales growth for the gas, water and brewery businesses; 2) unfavourable regulatory changes to these three segments and 3) value-destructive asset acquisitions.
Beijing Enterprises Water	371 HK	Our valuation methodology is based on DCF, assuming a WACC of 10.5% and a terminal growth rate of 2%.	Our target prices are subject to growth assumptions in treatment volumes (including tap water supply, wastewater treatment, and waste-to-energy), tariffs, capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our forecasts, and hence our target prices.
Canadian Solar	CSIQ US	We value the company using the YTD average FY11F PER of the module peer group to which we assign a 10% discount to reflect market concerns about slowing growth.	Upside risks to our price target include: 1) Canadian Solar expanding margins ahead of our expectations on the back of faster cost reductions; and 2) faster sales diversification enabling it to improve market share. Downside risks to our price target: 1) Execution delays at its upstream integration into wafers; and 2) faster-than-expected subsidy reductions at European countries resulting in our worst-case demand scenario.
China Coal	1898 HK	Our PT is based on SOTP valuation, with a WACC of 11.6% and terminal growth rate of 2.5% for coal business DCF, while employing 9.4% WACC and 1% growth rate for equipment operation; 11.6% WACC and 1% terminal growth rate for coking operation	Upside risk includes: 1) Bigger-than-expected output growth and 2) higher-than expected contract price. Downside risk includes: 1) lower-than-expected spot price increase; 2) weaker coal demand due to weaker-than-expected economic growth in China and 3) higher-than-expected cost hike due to resource tax and inflation.
China Everbright Intl	257 HK	Our price target is derived using DCF, with a WACC of 10.0% and a 2% terminal growth rate.	Our target prices are subject to growth assumptions in treatment volumes (including tap water supply, wastewater treatment, and waste-to-energy), tariffs, capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our forecasts, and hence our target prices.
China Gas	384 HK	Our price target of HK$3.70 is based on DCF valuation, assuming 0% terminal growth, and a WACC of 7.6%. We do not incorporate any unapproved or unannounced development projects or future acquisitions, or any projects without specified commencement date.	Upside risks to our price target include: 1) higher than-expected gas volume sales to higher margin C&I and vehicle users; 2) value constructive acquisition; 3) continuous picking up for the LPG business margin and volume; and 4) possibility of being an acquisition target amid industry consolidation in the long-term.
China High Speed	658 HK	Based on DCF valuation, with a WACC of 9.5% and terminal growth of 1% after FY2020F.	Uncertainty of government policies for wind power; tightening global credit market; development of direct-drive wind turbine technology; the company's failure to improve technology to compete with foreign competitors; severe shortage of raw materials; delay in capacity expansion.
China Power Intl	2380 HK	Our revised price target HK$2.00 is based on DCF valuation, assuming 1% terminal growth, and a WACC of 7.4%	Our price target is subject to growth assumptions in power demand, tariffs and capex. Delays in revising electricity tariffs and lower than expected power demand may result in key changes in our forecasts, and hence our price target.
China Resources Gas	1193 HK	Our price target of HK$14.8 is based on a sum-of-the-parts (SOTP) valuation, of which HK$12.29 comes from the existing 41 projects and HK$2.50 from to-be-injected projects. For the to-be-injected projects, we assign a 50% discount to DCF value to reflect uncertainty over the timing and consideration.	We have a positive view on the company's overall operation, but are wary of a macro slowdown and the implications on commercial and industrial (C&I) demand. Meanwhile, the value from future asset injections would be hurt by higher-than-expected considerations, in our view.
China Resources Power	836 HK	Our revised price target HK$14.94 is based on DCF valuation, assuming 1% terminal growth, and a WACC of 7.9%	Upside risks include higher-than-expected output growth in coal production. Downside risks include: 1) delays in revising electricity tariffs; and 2) lower-than-expected power plant utilisation.
China Shenhua	1088 HK	Our PT is based on SOTP valuation, with a WACC of 11.4% and terminal growth rate of 2.5% for coal segment DCF valuation, while employing 10.0% WACC and 1% terminal growth rate for non-coal segments.	Downside risk includes: 1) lower-than-expected spot price increase; 2) weaker coal demand due to weaker-than-expected economic growth in China and 3) higher-than-expected cost hike due to resource tax and inflation. 4)worse than expected sales mix.
China Water Affairs	855 HK	Our price target is based on the sum-of-the-parts valuation methodology. We value the core business from water and infrastructure to deliver a DCF value of HK$3.10/share by employing a WACC of 10.5% with a 2% terminal growth rate (up from 0% growth rate). Our price target factors in value from CWA's landbank – at HK$1.0/share.	Our target prices are subject to growth assumptions in treatment volumes (including tap water supply, wastewater treatment, and waste-to-energy), tariffs, capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our forecasts, and hence our target prices.
CKI	1038 HK	Our valuation is based on sum-of-the-parts methodology, using an 8% cost of equity for assets in Australia, Canada, New Zealand and the UK businesses, and 9% cost of equity for its China and HK materials businesses.	Downside risk includes: 1) lower-than-expected spot price increase; 2) weaker coal demand due to weaker-than-expected economic growth in China and 3) higher-than-expected cost hike due to resource tax and inflation. 4)worse than expected sales mix
CLP Holdings	2 HK	DCF based on a WACC of 7.3% and a terminal growth rate of 1.5%.	Upside risks: Listing of its Indian or Australian assets; better-than-expected performance of its overseas business. Downside risks: Lower SOC capex in Hong Kong, poor operating results from overseas investments, potential write-down on its Yallourn plant, and earnings risks from the carbon trading scheme in Australia.
Datang Intl	991 HK	Our price target HK$2.79 is based on DCF valuation, assuming 1% terminal growth, and a WACC of 7.4%. We have not incorporated coal assets, coal-to-gas and coal-to-chemical businesses valued at HK$4.41 due to low visibility.	Any contribution from the coal-to-chemical and coal-to-gas projects could provide upside to our estimates. Downside risks include: 1) delays in revising electricity tariffs; and 2) lower-than-expected power plant utilisation.
Dongfang Electric	1072 HK	Our TP of HKD 34.4 is derived based on DCF with a WACC assumption of 6.22% and a terminal growth rate assumption of 2%.	Downside risk to our target price include: 1) Delay in nuclear development 2) Unanticipated decrease in domestic power equipment demand and 3) Increase in raw material cost, if not passed through, pressuring gross margin.
EDC	EDC PM	DCF-based price target assumes a WACC of 9.5% and a terminal growth rate of 2%. The cashflows are discounted back to FY11F	1) faster-than-anticipated progress in securing foreign new-build projects and 2) additional asset acquisitions (notably Unified Leyte's PPA) as the key upside risks to our call. Significant discontinuities in the Philippines' regulatory environment – while in our view a remote possibility – would be the key downside risk.
Electricity Generating	EGCO TB	We value EGCO using DCF with WACC = 7.5% and terminal growth assumption of 1.5%.	Political unrest and uncertainty surrounding PPA extension, although we have assumed that neither REGCO nor KEGCO's PPAs are lengthened.
ENN Energy	2688 HK	Our price target of HK$24.1 is based on DCF valuation, assuming 0% terminal growth, a one-year forward FX rate of HK$1.25:RMB1 and a WACC of 8.3%. We do not incorporate any unapproved or unannounced development projects or future acquisitions, or any projects without a specified commencement date (such as the Vietnam project).	Downside risks to our price target include: 1) slower-than-expected new connection and gas sales growth; 2) margin squeeze by cost pass-through delay; Upside risks include: 1) higher-than-expected gas volume sales to higher-margin commercial and industrial customers and vehicle users; 2) value-constructive asset injection / acquisition; and 3) possibility of being an acquisition target amid industry consolidation in the long-term.
E-Ton	3452 TT	We use the industry average P/B and apply a 20% discount to reflect the company's stretched balance sheet.	Upside risks to our price target include: 1) E-Ton's raising additional funding at attractive rates, and; 2) a faster-than-expected ramp-up of new R&D projects helping improve cost structure meaningfully.
GCL Poly	3800 HK	We use the peer average ROE adjusted FY11F P/BV [average PBV(x) / ROE(%)] to value GCL for a target FY11F P/BV of 4.5x. On an FY11F BV of HK$1.53, we set our price target at HK$7.	Downside risks could come from: A worse-than-expected slow-down in demand in global markets not offset by drop in ASPs (possibly owing to freeze in project financing), as this may result in: 1) Lower-than expected volume shipments, and; 2) Faster ASP declines resulting in margin squeeze.
Glow	GLOW TB	We value Glow Energy using a FCFE valuation methodology with a COE of 10.8% and a terminal growth rate assumption of 1.5%.	Key downside risks to our view include: weaker-than-anticipated industrial demand, and project delays and sentiment-related sell-downs stemming from Thailand's political unrest, which we believe will distract government from addressing construction delays in the MTP Industrial Estate, where essentially all of Glow's operations are concentrated.
Guangdong Investment	270 HK	Our PT is derived from DCF using a WACC of 9.5% and a 2% terminal growth rate.	Our target prices are subject to growth assumptions in treatment volumes (including tap water supply, wastewater treatment, and waste-to-energy), tariffs, capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our forecasts, and hence our target prices.
Harbin Electric	1133 HK	Our TP of HKD8.90 is based on DCF, assuming a WACC of 7.4% and terminal growth rate of 2%.	Upside risks to our target price include: 1) Higher than expected thermal equipment demand 2) Unexpected ramp up in its nuclear equipment production capacity and 3) Unanticipated wind equipment demand Downside risks to our target price include: 1) Rise in material cost, if not passed through, puts downward pressure to gross margin.
Hong Kong & China Gas	3 HK	SOTP valuation, which implies 22x FY10F P/E (3.1x book) for the Hong Kong Towngas business, 32x FY10F P/E (2.1x book) for the China business and no NAV discount for the property portfolio.	Upside risks include acquisitions of more projects in China and share buy-backs. Other risks include regulatory risks, larger-than-expected mark-to-market loss of investment securities and investment property write-down.
Hongkong Electric	6 HK	DCF based on WACC of 6.7% and 1.0% terminal growth rate.	Strengthening of the US dollar, lower-than-expected SOC capex spent during FY09-13F and poor operating performance at overseas projects.

Source: Nomura Research

Fig. 55: Valuation methodology and key risk (2/3)

Company	Ticker	Valuation methodology	Risks
Huadian Power Intl	1071 HK	Our price target HK$1.62 is based on DCF valuation, assuming 1% terminal growth, and a WACC of 7.9%	Upside risk to our price target includes: Huadian expects to enjoy the fastest rebound in terms of financial performance upon any sector recovery, given its highly sensitive to coal price and interest rate characteristics. Downside risks include: 1) delays in revising electricity tariffs; and 2) lower-than-expected power plant utilisation.
Huaneng Power Intl	902 HK	Our price target HK4.69 is based on DCF valuation, assuming 1% terminal growth, and a WACC of 7.9%	Upside risks include any coal investment or injection from the parent. Downside risks include: 1) delays in revising electricity tariffs; and 2) lower-than-expected power plant utilisation.
Hyflux Limited	HYF SP	Our S$2.33 price target is based on a DCF valuation, with a WACC of 7.8% and a terminal growth rate of 2%.	Our target price is subject to growth assumptions in treatment volumes (including tap water supply, wastewater treatment, and waste-to-energy), tariffs, capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our forecasts, and hence our target price.
JA Solar	JASO US	We use the average forward P/E of cell peers in YTD-FY10 to value the company and give JA Solar a 10% discount to reflect concerns on slowing end-market demand in 2H11F	Upside risks to our price target include: JA Solar being able to expand margins ahead of our expectations as it increases its module business. Downside risks to our price target: 1) slower market share gains in new regions; and 2) demand at new growth centres being unable to offset lower demand from Germany.
JSW Energy	JSW IN	We deploy a FCFE-based methodology to value operational / under construction /reasonable likelihood power generation projects of the company. We adjust the FCFE value of the projects for 'milestone discounts' (risk weights assigned to the non-achievement of six key milestones we identify for various types of projects). The key assumption of our FCFE model is a 14% cost of equity.	Risks: 1) higher merchant tariff realizations; 2) addresses near-term exposure to imported spot coal; and 3) fall in spot prices of imported coal.
Korea Electric Power	015760 KS	Our price target of W40,000 is based on an EV/MW target (valuation methodology unchanged) of US$850,000, near the median of KEPCO's post-IPO 20-year EV/MW capacity range. With the impending fuel cost escalation scheme (implementation in July 2011), we think this new positive tariff scheme will exert more impact on KEPCO's share price than short-term earnings disappointments such as that expected in FY10F. Our valuation method and price target are not affected by FY10F earnings, as those are not earnings-based measures.	1) essentially all of KEPCO's earnings are denominated in won, while almost all of its fuel costs are in US dollars, exposing earnings to the volatility of the forex and energy markets; and 2) changes in the government's electricity tariff policy and the macro backdrop can also have a large impact on KEPCO's earnings. Further, earnings are highly leveraged to revenue growth, which poses a direct risk if the street cuts the sales forecasts.
Korea Gas	036460 KS	SOTP methodology based on NAV estimate of W52,091 per share, which comprises W26,267 for Kogas' core NG business, W24,071 for its E&P projects and W1,753 for its affiliates. Each of the first two parts is separately calculated using a discounted cashflow (DCF) methodology, while the last part is calculated based on 1x of book value.	Risks: 1) essentially all of Kepco's earnings are denominated in won, while almost all of its fuel costs are in US dollars, exposing earnings to the volatility of the forex and energy markets; and 2) changes in the government's electricity tariff policy and the macro backdrop can also have a large impact on Kepco's earnings. Further, earnings are highly leveraged to revenue growth, which poses a direct risk if the street cuts the sales forecasts.
Lanco Infratech	LANCI IN	We use a sum-of-the-parts (SOTP) valuation methodology for Lanco. 1) EPC/Construction: PV of FY12F-14F FCF – effectively the FCF from existing Rs270bn order backlog at 14% CoE Previously at 8x FY12E P/E; 2) Power: Milestone-adjusted FCFE valuation at 14% CoE; 3) Power Trading: 7x FY12F P/E; 50% discount to FY12 consensus P/E multiple of for PTC India; 4) Real Estate: 30% discount to NAV calculated using 20% WACC 5) Toll Roads: DCF at 15% CoE. No discount assumed as we now value only the FCF of existing EPC order backlog, remaining equity in power business not dependent on EPC cashflows.	The key risk to our earnings / PT stems from the high dependence of 83% of its target 7.0GW coal-fired capacity (60% of its target 3000MW capacity up to FY13) on domestic linkage coal – specifically, the extent up to which Lanco can supplement potential supply shortfall of linkage coal by securing e-auction and/or imported coal.
LDK	LDK US	We use the average forward P/E of wafer peers' YTD-FY10 to value the company and assign a 10% discount to reflect market concerns about slowing growth.	Downside risks: 1) execution risks and cost over-runs for LDK's polysilicon production plant and expansion into the downstream segment; 2) negative surprises from government policy changes; and 3) earnings dilution from any equity offering. Upside risks: 1) stake sale in polysilicon plant which could help reduce balance sheet issues; and 2) faster-than-expected cost reduction in their downstream operations.
Longyuan	916 HK	Our PT is based on DCF valuation, assuming 1% terminal growth and WACC of 11.8%.	Upside risk includes 1) faster-than-expected capacity expansion, due to improvement in the grid situation; and 2) an unexpected drop in wind turbine price, thus reducing cost. Downside risk includes 1) unexpected failure of wind equipment, given short operating time of Chinese turbines; and 2) uncertainties from wind subsidies and policies.
Meralco	MER PM	DCF with WACC= 9.1% and terminal growth assumption of 1.5%	Further inflated bids for Meralco's shares
Motech	6244 TT	We use the average forward P/E of cell peers in YTD-FY10 to value the company and give Motech a 25% premium, due to its strong balance sheet and stake-holding by TSMC.	Upside risks: Motech being able to expand margins ahead of our expectations on the back of faster cost reductions and stronger ASPs in FY11F. Downside risks: 1) slower market share gains in new regions; and 2) demand at new growth centers being unable to offset lower demand from Germany.
NTPC	NATP IN	We use a residual income model to value the company. Key assumptions of our model are 1) Cost of equity - 12%; 2) Terminal RoE - 20%; and 3) terminal growth rate - 2%.	Risks: 1) Project execution delays; 2) lower coal supplies under already signed FSAs/LoAs; 3) reinvestment risk; and 4) adverse regulatory changes.
Perusahaan Gas Negara	PGAS IJ	Our IDR 4,800 DCF-based price target assumes a WACC of 9.5% and a terminal growth rate of 3%. The cashflows are discounted back to FY11F	Key downside risks to our view include a continued strengthening of the IDR relative to the USD, weaker-than-anticipated realised gas distribution flows and an inability to pass on what we expect will be a marked rise in future gas costs to
Power Grid	PWGR IN	We use a residual income model to arrive at our TP of Rs120. Key assumptions of our model are 1) Cost of equity - 12.5%; 2) Terminal RoE - 17%; and 3) Terminal growth rate - 3%.	Risks: 1)lower-than-expected capitalization of transmission assets due to execution delays (scalability, vendor ramp-up, turnkey workforce) and/or impediments in securing Right-of-Way (RoW) / forest clearance; 2) sharp push-back in generation capacity addition delaying capitalization of related transmission assets; and 3) overhang of a potential equity dilution in FY2014/15 in case annual capex exceeds our forecast by 15-20%.
Ratchaburi Generating	RATCH TB	We value Ratchaburi electric using a DCF methodology with WACC = 7.0% and terminal growth assumption of 1.5%.	Political unrest, problems with the execution of Ratch's growth pipeline in Laos
Reliance Power	RPWR IN	FCFE-based valuation methodology with 15% cost of equity (Rf =8%, Rm=6%, Beta=1.17)	1) Unadjusted for milestone discounts, of Rs186/share; ceteris paribus, our PT could rise as projects achieve milestones. 2) We factor feasible capacity of 25.7GW in our earnings forecasts, greater visibility on planned capacity addition of around 17GW could merit its inclusion in our earnings forecast, potentially lifting our PT. 3) We assume no thirdparty sale of 'surplus' coal from RPWR's domestic captive coal mines or from coal concessions in Indonesia.
Shanghai Electric	2727 HK	Our target price of HKD 4.90 is derived on DCF with a WACC assumption of 7.26% and a terminal growth rate assumption of 2%.	Downside risk to our target price include: 1) Delay in nuclear development 2) Slower than anticipated thermal equipments demand 3) Higher than expected rise in raw material cost 4) Unanticipated slowdown in property development and thus, elevator demand in China.
Solargiga	757 HK	We use the average FY10 and FY11F P/B of global peers to value the company	Upside risks to our price target: 1) Margin expansion ahead of our expectations on the back of faster cost reductions; and 2) earnings upside from the Qinghai Chenguang investment.
Sound Global	967 HK	Our PT is based on a sum-of-the-parts valuation, valuing the EPC division using a 15xP/E (which is the stock's historical average since 2006) over FY11F EPS, and the BOT division based on NAV assuming a replacement cost of RMB1,500 per m3 of daily capacity.	Risks to our investment view. Our price target is subject to growth assumptions in treatment volumes (including tapwater supply, wastewater treatment, and waste-to-energy), tariffs, capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our forecasts, and hence our price target .
Suntech Power	STP US	We value the company using the YTD average FY11F PER of the module peer group to which we assign a 10% discount to reflect market concerns about slowing growth.	Downside risks to our price target: 1) Slower market share gains in new regions and 2) demand at new growth centres being unable to offset lower demand from Germany.
Tenaga Nasional	TNB MK	We value TNB using a 14.5x forward P/E multiple applied to our FY12F normalised EPS estimate (methodology and multiple unchanged).	We believe the key downside risks to our view include weaker than-anticipated volumes and higher-than-expected coal costs without an upward adjustment to Tenaga's tariffs. On the upside, an automatic pricing mechanism and or base tariff review should support a strong re-rating of this name.
Tianjin Capital	1065 HK	DCF with a WACC of 12.0% and no terminal growth rate.	Our target prices are subject to growth assumptions in treatment volumes (including tap water supply, wastewater treatment, and waste-to-energy), tariffs, capacity and capex. Changes in the macro landscape and government regulations over the water industry may result in key changes in our forecasts, and hence our target prices.
Towngas China	1083 HK	Our price target of HK$3.90 is based on DCF valuation, assuming 1% terminal growth and a WACC of 7.0%. We do not incorporate any unapproved or unannounced development projects or future acquisitions, or any projects without a specified commencement date. In addition, we have not factored in any wellhead price hike, nor downstream tariff hike in our assumptions, as we assume any wellhead price hike can be fully passed through to end users and a fixed dollar margin can be maintained.	Downside risks to our price target include: 1) slower-than-expected new connection and gas sales growth; 2) margin squeeze by cost pass-through delay; and 3) value destructive asset injection / acquisition. Upside risks include: 1) higher-than-expected gas volume sales to higher margin C&I and vehicle users; and 2) value-constructive asset injection / acquisition.
Trina Solar	TSL US	We value the company using the YTD average FY11F PER of the module peer group to which we assign a 10% discount to reflect market concerns about slowing growth.	Downside risks to our price target: 1) slower market share gains in new regions; and 2) demand at new growth centres being unable to offset lower demand from Germany.
Xinjiang Goldwind	2208 HK	Our target price of HKD 9.40 is derived on DCF with a WACC assumption of 9.33% and a terminal growth rate assumption of 2%.	Upside risks to our target price include: 1) Resolution of grid bottleneck and thus, unexpected explosive growth in domestic wind equipment demand; 2) ASP recovery on the back of easing competition and 3) Higher than expected
Yanzhou Coal	1171 HK	Our PT is based on SOTP valuation, with a WACC of 10.9% and terminal growth of 2.5% for coal segment DCF, while employing 9.2% WACC and 1.0% terminal growth rate for non-coal segments.	Key risk includes: 1) lower than expected spot price increase, 2) weaker coal demand due to weaker than expected China economy growth, and 3) higher than expected cost hike due to resources tax, smaller than expected cost cutting in Felix and Zhaolou and inflation risk and 4) FX risk
Yingli Green	YGE US	We value the company using the YTD average FY11F PER of the module peer group to which we assign a 10% discount to reflect market concerns about slowing growth.	Downside risks to our price target: 1) slower market share gains in new regions, and; 2) demand at new growth centres being unable to offset lower demand from Germany.
YTL Power International	YTLP MK	We value YTLP using a SOTP valuation based on COE of 9.0% for Malaysia, and 17% for Indonesia. We value Wessex Water at 1.08x FY11F RAB and PowerSeraya at 11.5x EV/EBITDA.	Key risks include the Malaysian regulatory environment; exchange rate risk, specifically relating to YTLP's Wessex Water in the UK.

Source: Nomura Research

Fig. 56: Valuation methodology and key risk (3/3)

Company	Ticker	Valuation methodology	Risks
Acciona	ANA SM	We use a sum-of-the-parts valuation as the main tool to value Acciona. The Renewables business is valued on the basis of DCF-derived capacity multiples applied to its operational capacity plus work in progress. The value of the potential renewable growth is assessed via DCF, assuming four years of value-enhancing growth. WACCs for operational capacity are 7.2-7.5% nominal and 7% real for the pipeline. Other activities are mostly based on multiples, book values and external valuations (real estate).	Acciona is exposed to fluctuations in power prices, equipment costs and regulatory changes in its renewables business. The other activities are mostly affected by the economic cycle, with lower economic activity influencing, for example, the level of construction activity, number of passengers and value of real estate. The company has some international activities that could be exposed to currency risk. Acciona's investment plans are highly dependent on availability of financing at a reasonable cost.
EDP Renovaveis	EDPR PL	Our price target is based on DCF-based capacity multiples for each key location, taking into account the economic framework of incentives, price levels, costs and average age of plant. Our price target does not include any component to reflect value-enhancing growth.	EDPR is exposed to the volatility of power prices and regulatory risk (wind power and other renewables generally need some form of government support to recover their cost of capital). The company is also exposed to currency risk (USD) and to equipment costs and availability. IBR's investment case is highly reliant on its ability to invest, and therefore it is vulnerable to volatility in financing markets.
Iberdrola Renovables	IBR SM	We value the company based on a sum-of-the-parts valuation. The operating capacity including work in progress is valued on DCF-based capacity multiples per geographical location, which take into account the regulatory, energy price and cost drivers specific to that region. Our WACC assumption is 7.25. We do not include any value for the growth.	IBR is exposed to energy price volatility and regulatory changes. Renewable generation, for the most part, obtains some form of government subsidy to recover its cost of capital; changes in the regulatory frameworks can have a material impact on the profitability of existing and new investments. The company is exposed to volatility of exchange rates. Another risk is the exposure to equipment cost volatility.
Alstom	ALO FP	Our price target of EUR49 is based on our EVA®-based methodology, applying a long-term sustainable growth rate of 3%, incremental ROIC of 35.0% and a pretax WACC of 11.5%. The benchmark index for this stock is DJ STOXX 600 Industrial Goods and Services.	The key risks revolve around the strength of the power cycle and the execution of large projects.
BHEL	BHEL IN	We continue to value BHEL using a discounted cashflow (DCF) methodology, assuming a cost of equity of 11.5% and a terminal growth rate of 4% (explicit forecast period until FY17F, second-stage growth forecast until FY20F).	Upside risk: A higher-than-expected share of private orders under the 12th and 13th Five-Year Plans. Delays or cancellation in capacity by new domestic equipment manufacturers. Substantial decline in key commodity prices such as steel and copper as almost half of the orderbook is on fixed price contract, in our view. Downside risk: a rise in RM cost/sales in subsequent quarters could lead to earnings cuts and further downside. Continued disappointment to consensus estimates.
GE	GE US	Our price target of $24 is based on ~14.5x our 2012 EPS estimate of $1.65. Given still compressed financial multiples we are assuming a lower P/E on GECS at this stage. The benchmark for this stock is the S&P 500.	Risks to our price target of $24 include credit risk on the GE Capital business, tax legislation, key industrial cycles and healthcare.
Japan Steel Works	5631 JP	Our target price of ¥880, revised down from ¥900, is based on our new 12/3 EPS forecasts of ¥49, versus ¥43 previously.	The main potential downside risks we see are an economic slowdown in developing nations, rapid declines in crude oil prices, yen appreciation against the euro and the won, and nuclear power accidents having a negative impact on the construction of nuclear power plants worldwide. Potential upside risks we see include crude oil prices rising sharply, boosting demand for refining capacity, and depreciation of the yen.
Mitsubishi Heavy	7011 JP	Our target price is ¥465. In light of improvements in the profit structure, especially in the power systems business, we apply a target P/B of 1.2x (average during the last upturn in earnings (Aug 2005–Jul 2007), when P/B rose from 0.7x to 2.0x) to our end-13/3 BPS estimate of ¥386.	Downside risks to our target price include a larger-than-expected fall in profits owing to large cuts to power-generation and aerospace investment resulting from yen appreciation or an economic downturn, increased construction costs for plants (especially for overseas nuclear power plants, where MHI is expected to secure orders), and rises in raw material prices. Earnings could also be negatively impacted in the event of production delays or slower-than-expected orders for MHI's MRJ passenger jet. Furthermore, a deterioration in earnings at equity-method affiliate Mitsubishi Motors could result in valuation losses on MHI's holdings in the company (¥76.5bn in common shares and ¥24.5bn in preferred shares as of end-10/3), or require MHI to invest additional funds in the automaker.
Siemens	SIE GR	Our EUR100 target price is based on a long-term sustainable growth rate of 6%, an incremental ROIC of 28.5% and a pretax WACC of 12.2%.	The key risks revolve around the execution of the project businesses and the earnings of non-core businesses.
Toshiba Plant	1983 JP	Applying a target P/E of around 14x to our 12/3 EPS forecast of ¥94.4 yields a target price of ¥1,350.	Risks that could cause the share price to come in well below our target price include the impact of fluctuating power industry capex and changes in maintenance costs at nuclear power and thermal power plants on the power systems and nuclear power systems segments, and the impact of fluctuating capex at Toshiba-affiliated companies, the public sector, and general industries on the infrastructure & industrial systems segment. We note, however, that with 88% of 10/3 sales coming from operations in Japan, Toshiba Plant Systems & Services is hardly affected by currency fluctuations.

Source: Nomura Research

China High Speed Transmission

0658.HK 658 HK

POWER & UTILITIES

NOMURA
EQUITY RESEARCH

June 3, 2011

Rating Remains	**Buy**
Target price Reduced from 20.00	HKD 14.80
Closing price May 30, 2011	HKD 9.57
Potential upside	+54.6%

CHST remains a BUY

Current valuation does not factor in slower but positive growth; CHST is a bargain

Action: TP revised down to HKD14.8; Reaffirm BUY

We revise down our TP to HKD14.8 on a dimmer wind outlook and to factor in a potential 10% y-y ASP drop in FY11F. However, we believe weakness in the share price is overdone. Reaffirm BUY.

Catalysts: Wind gears to continue to contribute growth

- We believe CHST's dominant position can defend against further ASP pressure. CHST has significant market share (an estimated 45% in FY10) in China and we believe it can maintain an edge over its peers given the relative difficulty in replacing wind gearbox suppliers who have specific design and fabrication know-how.
- We also expect CHST to continue to win market share in the domestic market due to its product quality and scale. Export visibility (CHST expects exports to rise to 10-15% of output in FY11, largely on demand from its partner, General Electric) provides an additional catalyst.
- In our view, direct-drive and in-house gearbox development is not a real concern. Direct drive is not likely to become a mainstream turbine in the near term due to its short record. According to management, there is no real threat from in-house gearbox development.

Valuation: Concerns on ASP and volume look overdone

Trading at 7.0x FY11F P/E, the valuation looks attractive on 16% and 5% recurring earnings growth for FY11F and FY12F. In our opinion, market concerns over declining ASP and volume are overdone, and in our view the current price does not factor in the growth prospects. Reaffirm BUY.

Anchor themes

In the wind value chain, we like component manufacturers with unique market positioning, bargaining power and export visibility.

Nomura vs consensus

Our PT is 6% ahead of consensus as we are more positive on CHST's top line in light of its bargaining power, which can defend against further ASP pressure, in our view.

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31 Dec	FY10		FY11F		FY12F		FY13F
Currency (CNY)	Actual	Old	New	Old	New	Old	New
Revenue (mn)	7,393	9,289	8,839	11,861	9,931	14,417	10,759
Reported net profit (mn)	1,384	1,682	1,475	2,004	1,546	2,511	1,663
Normalised net profit (mn)	1,384	1,682	1,475	2,004	1,546	2,511	1,663
Normalised EPS	1.1	1.3	1.1	1.6	1.1	2.0	1.2
Norm. EPS growth (%)	39.1	21.5	0.3	19.2	4.8	25.3	7.6
Norm. P/E (x)	8.9	N/A	7.1	N/A	6.8	N/A	6.3
EV/EBITDA	6.4	N/A	5.9	N/A	5.6	N/A	4.9
Price/book (x)	1.4	N/A	1.2	N/A	1.1	N/A	1.0
Dividend yield (%)	3.5	N/A	3.7	N/A	3.9	N/A	4.1
ROE (%)	23.4	21.0	18.6	21.3	17.0	22.6	16.1
Net debt/equity (%)	15.3	36.4	27.6	43.4	24.4	34.5	14.1

Source: Nomura estimates

Key company data: *See page 2 for company data, and detailed price/index chart.*

Rating: *See report end for details of Nomura's rating system.*

Key data on China High Speed Transmission

Income statement (CNYmn)

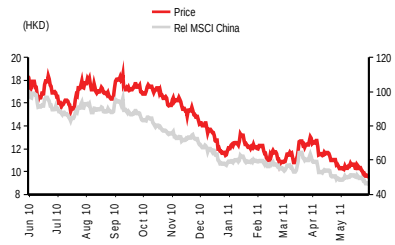
Year-end 31 Dec	FY09	FY10	FY11F	FY12F	FY13F
Revenue	**5,647**	**7,393**	**8,839**	**9,931**	**10,759**
Cost of goods sold	-3,786	-5,094	-6,230	-7,161	-7,791
Gross profit	**1,861**	**2,299**	**2,609**	**2,770**	**2,968**
SG&A	-528	-798	-929	-981	-1,063
Employee share expense	0	0	0	0	0
Operating profit	**1,334**	**1,501**	**1,680**	**1,788**	**1,905**
EBITDA	**1,550**	**1,871**	**2,114**	**2,258**	**2,390**
Depreciation	-193	-329	-378	-404	-413
Amortisation	-23	-40	-57	-66	-72
EBIT	1,334	1,501	1,680	1,788	1,905
Net interest expense	-100	-147	-192	-235	-232
Associates & JCEs	16	41	50	56	60
Other income	-83	254	252	283	321
Earnings before tax	**1,166**	**1,650**	**1,790**	**1,893**	**2,055**
Income tax	-200	-257	-304	-336	-380
Net profit after tax	**966**	**1,393**	**1,486**	**1,557**	**1,674**
Minority interests	1	-10	-10	-11	-12
Other items	0	0	0	0	0
Preferred dividends	0	0	0	0	0
Normalised NPAT	**966**	**1,384**	**1,475**	**1,546**	**1,663**
Extraordinary items	0	0	0	0	0
Reported NPAT	**966**	**1,384**	**1,475**	**1,546**	**1,663**
Dividends	-329	-359	-383	-401	-431
Transfer to reserves	**638**	**1,025**	**1,093**	**1,145**	**1,232**
Valuation and ratio analysis					
FD normalised P/E (x)	10.9	8.9	7.1	6.8	6.3
FD normalised P/E at price target (x)	16.8	13.7	11.0	10.5	9.7
Reported P/E (x)	10.8	7.5	7.0	6.7	6.3
Dividend yield (%)	3.2	3.5	3.7	3.9	4.1
Price/cashflow (x)	na	6.8	6.6	5.9	5.4
Price/book (x)	2.4	1.4	1.2	1.1	1.0
EV/EBITDA (x)	9.6	6.4	5.9	5.6	4.9
EV/EBIT (x)	11.1	8.0	7.4	7.0	6.1
Gross margin (%)	33.0	31.1	29.5	27.9	27.6
EBITDA margin (%)	27.4	25.3	23.9	22.7	22.2
EBIT margin (%)	23.6	20.3	19.0	18.0	17.7
Net margin (%)	17.1	18.7	16.7	15.6	15.5
Effective tax rate (%)	17.2	15.5	17.0	17.8	18.5
Dividend payout (%)	34.0	25.9	25.9	25.9	25.9
Capex to sales (%)	28.4	15.4	7.2	8.4	2.1
Capex to depreciation (x)	8.3	3.5	1.7	2.1	0.6
ROE (%)	23.7	23.4	18.6	17.0	16.1
ROA (pretax %)	15.4	13.7	12.9	12.5	12.4
Growth (%)					
Revenue	64.2	30.9	19.6	12.4	8.3
EBITDA	119.5	20.7	13.0	6.8	5.9
EBIT	144.5	12.6	11.9	6.4	6.5
Normalised EPS	39.6	39.1	0.3	4.8	7.6
Normalised FDEPS	46.8	18.3	17.9	4.8	7.6
Per share					
Reported EPS (CNY)	0.78	1.08	1.08	1.13	1.22
Norm EPS (CNY)	0.78	1.08	1.08	1.13	1.22
Fully diluted norm EPS (CNY)	0.77	0.91	1.08	1.13	1.21
Book value per share (CNY)	3.55	5.77	6.24	7.10	8.02
DPS (CNY)	0.26	0.28	0.28	0.29	0.32

Source: Nomura estimates

Notes

Slower but positive revenue growth

Price and price relative chart (one year)



(%)	1M	3M	12M
Absolute (HKD)	-6.9	-11.7	-46.8
Absolute (USD)	-7.1	-11.6	-46.8
Relative to index	-4.7	-15.7	-60.9
Market cap (USDmn)	1,691.5		
Estimated free float (%)	78.0		
52-week range (HKD)	18.8/9.51		
3-mth avg daily turnover (USDmn)	14.34		
Major shareholders (%)			
Fortune Apex (Management Shareholders)	15.4		
JP Morgan Chase	12.0		

Cashflow (CNYmn)

Year-end 31 Dec	FY09	FY10	FY11F	FY12F	FY13F
EBITDA	1,550	1,871	2,114	2,258	2,390
Change in working capital	-778	833	-1,806	-504	-410
Other operating cashflow	-1,049	-1,066	1,279	13	-42
Cashflow from operations	**-277**	**1,638**	**1,587**	**1,767**	**1,938**
Capital expenditure	-1,605	-1,137	-634	-839	-231
Free cashflow	**-1,882**	**501**	**953**	**928**	**1,707**
Reduction in investments	5	-77	-99	-111	-121
Net acquisitions	1	-5	-50	-56	-60
Reduction in other LT assets	-24	-395	-160	-121	-91
Addition in other LT liabilities	-233	33	17	13	10
Adjustments	1,090	-450	-1,330	-52	7
Cashflow after investing acts	**-1,043**	**-394**	**-669**	**602**	**1,452**
Cash dividends	-274	-327	-359	-383	-401
Equity issue	0	1,916	0	0	0
Debt issue	1,206	605	1,168	546	-662
Convertible debt issue	0	0	0	0	0
Others	-99	-143	-192	-235	-232
Cashflow from financial acts	**832**	**2,050**	**617**	**-71**	**-1,295**
Net cashflow	**-210**	**1,656**	**-52**	**531**	**157**
Beginning cash	682	471	2,124	2,072	2,603
Ending cash	471	2,128	2,072	2,603	2,760
Ending net debt	3,466	1,128	2,347	2,363	1,544

Source: Nomura estimates

Notes

Positive operating cash flow

Balance sheet (CNYmn)

As at 31 Dec	FY09	FY10	FY11F	FY12F	FY13F
Cash & equivalents	471	2,124	2,072	2,603	2,760
Marketable securities	0	0	0	0	0
Accounts receivable	2,613	3,811	3,753	4,081	4,274
Inventories	1,313	1,258	1,707	2,158	2,561
Other current assets	640	950	1,103	1,219	1,307
Total current assets	**5,037**	**8,142**	**8,636**	**10,062**	**10,902**
LT investments	604	681	780	892	1,012
Fixed assets	3,845	4,870	5,126	5,561	5,379
Goodwill	0	0	0	0	0
Other intangible assets	120	214	256	288	312
Other LT assets	630	1,024	1,184	1,305	1,396
Total assets	**10,235**	**14,932**	**15,982**	**18,107**	**19,002**
Short-term debt	1,556	1,209	1,768	1,986	1,721
Accounts payable	1,566	2,613	2,560	2,943	3,202
Other current liabilities	166	1,405	196	205	220
Total current liabilities	**3,288**	**5,226**	**4,524**	**5,134**	**5,143**
Long-term debt	1,012	2,043	2,652	2,979	2,582
Convertible debt	1,369	0	0	0	0
Other LT liabilities	115	148	165	178	187
Total liabilities	**5,785**	**7,417**	**7,341**	**8,292**	**7,913**
Minority interest	29	122	132	143	155
Preferred stock	0	0	0	0	0
Common stock	95	103	109	109	109
Retained earnings	3,998	6,931	8,017	9,162	10,394
Proposed dividends	329	359	383	401	431
Other equity and reserves	0	0	0	0	0
Total shareholders' equity	**4,421**	**7,393**	**8,509**	**9,673**	**10,934**
Total equity & liabilities	**10,235**	**14,932**	**15,982**	**18,107**	**19,002**
Liquidity (x)					
Current ratio	1.53	1.56	1.91	1.96	2.12
Interest cover	13.4	10.2	8.8	7.6	8.2
Leverage					
Net debt/EBITDA (x)	2.24	0.60	1.11	1.05	0.65
Net debt/equity (%)	78.4	15.3	27.6	24.4	14.1
Activity (days)					
Days receivable	126.3	158.6	156.2	144.4	141.7
Days inventory	127.7	92.1	86.8	98.8	110.6
Days payable	174.3	149.7	151.5	140.6	143.9
Cash cycle	79.7	101.0	91.5	102.5	108.3

Source: Nomura estimates

Notes

We forecast <30% gearing

CHST remains a BUY

We have revised down our FY11F and FY12F earnings estimates by 12% and 23%, respectively, mainly due to a less bullish growth outlook on the wind business as guided by CHST management. According to management, earnings would be affected due to: 1) grid connection bottlenecks in China; 2) falling ASP of wind gears; and 3) a high base effect. We therefore cut our target price to HKD14.80.

As at 30 May 2011, CHST traded at HKD9.57, or 7.0x FY11F P/E. In our view, the substantial drop in share price since 1 November 2010 (down ~40%) on ASP and volume growth concerns are overdone. We believe the current valuation does not factor in CHST's export potential, positive growth prospects from wind gears and exposure to high potential sectors such as rail gears.

Despite a dimmer wind outlook, we reaffirm our BUY on CHST as we believe: 1) CHST's leading market position will likely enable it to defend against further ASP pressure; 2) CHST will find support from slower but positive growth in wind gears due to its scale and export visibility; 3) concern over direct-drive and in-house gearbox development is exaggerated; and 4) CHST's valuation is undemanding on our estimates.

Not accounting for the one-offs in FY10 (net of RMB111mn from losses in derivative financial instruments and gains on fair value change on convertible bonds), we forecast CHST will deliver 16% and 5% recurring earnings growth in FY11F and FY12F, respectively. At 7.0x FY11F P/E, we consider CHST valuations undemanding.

TP down due to less bullish stance on wind gears in FY11F/12F

Our recent dialogue with CHST's management offers a dimmer outlook on wind gears' prospects. A near-20% drop in wind turbine ASP (contracts signed) in FY10, mostly due for delivery in FY11, has put pressure on CHST's FY11 selling prices. CHST is likely to witness a 10% drop in ASP for deliveries in FY11, according to management. We believe CHST will be able to achieve a 6-8% cost reduction (for reference, the price of bearings, a key raw material, is likely to drop 6% in FY11F). Thus, we forecast CHST's gross margin will narrow slightly to 29% in FY11F from 31.2% in FY10. For FY12F, we estimate a gross margin of 27% on rising material costs (ie, steel). We also revise our growth assumption for the wind business in the later years to factor in grid connection and slowing growth for the domestic wind turbine market.

To reflect our changed earnings estimates, we cut our target price to HKD14.80.

Fig. 57: CHST's operating assumption

REVISED				
Revenue (RMB mn)	2010	2011F	2012F	2013F
Wind	5,458	6,531	7,184	7,543
Marine	234	269	310	356
Rail	36	70	140	238
Numerical control	46	150	250	300
Other non-wind	1,618	1,818	2,047	2,321
Overall	7,393	8,839	9,931	10,759
Gross margin (%)	2010	2011F	2012F	2013F
Wind	31.2%	29.0%	27.0%	27.0%
Marine	23.6%	26.0%	26.0%	26.0%
Rail	28.6%	32.0%	33.0%	33.0%
Numerical control	23.0%	25.0%	25.0%	22.0%
Overall	31.1%	29.5%	27.9%	28.2%
PREVIOUS				
Revenue (RMB mn)	2010	2011F	2012F	2013F
Wind	5,458	6,966	9,056	11,320
Marine	234	269	310	356
Rail	36	70	140	238
Numerical control	46	150	250	300
Other non-wind	1,618	1,833	2,105	2,436
Overall	7,393	9,289	11,861	14,651
Gross margin (%)	2010	2011F	2012F	2013F
Wind	31.2%	31.0%	30.5%	30.0%
Marine	23.6%	26.0%	26.0%	28.0%
Rail	28.6%	32.0%	33.0%	37.0%
Numerical control	23.0%	25.0%	25.0%	22.0%
Overall	31.1%	31.0%	30.4%	30.6%

Source: Company data, Nomura estimates

Distinct position to defend against further ASP pressure; slower but positive growth forward

Strong market position, huge bargaining power to defend against ASP pressure

Unlike wind turbine players, CHST has a different position in the value chain due to its huge market share and subsequent bargaining power. Moreover, wind gearbox suppliers are difficult to replace owing to the specific technology and design knowledge required for wind gearbox manufacture. According to CWEA, China installed 18.9GW of wind turbines in FY10 and CHST delivered ~9GW of wind gearbox (of which >95% were used domestically); we thus estimate that CHST had a market share of ~45% in China in FY10.

CHST should be able to defend against further ASP pressure, given: 1) wind turbine ASP for new contracts signed started to stabilise in 1Q11, according to our channel checks; and 2) CHST has guided for a 10% ASP drop in FY11F after wind turbine ASP (for delivery) dropped ~20% in FY10. CHST experienced no ASP drop in FY10. This, we believe, is testament to CHST's strong bargaining power in the value chain.

For FY11F, we factor in a guided 10% drop in ASP and subsequently a gross margin of 29.0% (vs. 31.2% in FY10); recurring earnings should grow 16% due to 33% volume growth on our estimates. For FY12F, in view of stabilising ASP and manageable gross margin decline due to material cost pressure, we factor in 27% gross margin for wind gears and moderate growth in volume on increased market share in China and export volume (CHST expects exports to contribute 10-15% of its wind gearbox sales volume in FY11F).

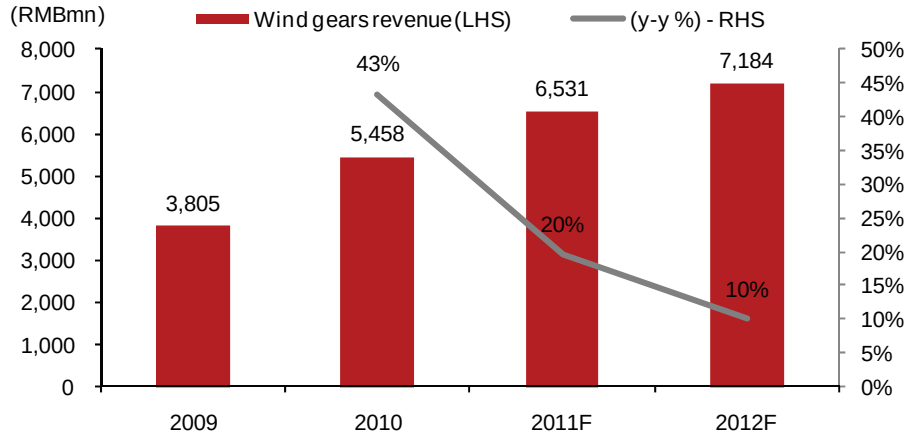
Export visibility provides additional volume growth

Since 2003, CHST has been supplying to GE, which is one of its key export clients as per management. As of March 2011, GE had ordered 800 units of 1.5MW of wind gearboxes for FY11F. Most of GE's orders are exported to the US. According to management, exports should account for 10-15% of CHST's wind gearbox sales for FY11F. The US is the second-biggest wind market with 5,115MW of new capacity

installed in FY10 (vs. 9,996MW installed in FY09). For FY10, we estimate GE had a market share of ~50% in the US (measured by capacity installed).

According to the Global Wind Energy Council (GWEC), the outlook for the US wind market for FY11F and beyond is more favourable than the previous year, given: 1) the US wind turbine market had a strong run in 4Q10, with over 5,600MW under construction (which is likely to be completed in FY11F); 2) wind power is now advantageously priced compared with natural gas electric generation; and 3) supporting policies, such as tax credits, have been extended into FY11F and FY12F.

Fig. 58: Wind gears revenue forecast



Source: Company data, Nomura estimates

Concerns on in-house development and direct-drive overrated, in our view

According to our channel checks, direct-drive and traditional gears solutions are likely to co-exist in the foreseeable future. Despite the advantages of direct drive as highlighted by direct drive turbine manufacturers such as Goldwind, the lack of a long-term track record is likely to keep direct-drive turbines from becoming mainstream, in our view. According to management, CHST has not seen any significant threats to its orderflows from in-house gearbox development from turbine manufacturers. Going forward, in-house gearbox is unlikely to be competitive with CHST's wind gears, given: 1) CHST has achieved such a large scale (12GW expected in 2011F, according to management) that a new player would not be cost competitive; and 2) wind gearbox requires specific technical know-how to maintain quality, according to management.

Opportunities from other segments, such as rail gears and numerical control series

In light of China's targeted development of high speed rail and industrial modernisation, CHST's revenue for rail gears increased 154% y-y to RMB36mn and revenue of RMB46mn was achieved for the numerical control series in FY10, in-line with previous guidance. As previously discussed by management, these sectors have the potential to grow significantly in FY12F/13F. We thus maintain our previous revenue forecast. Although these segments are small compared to its wind gearbox segment, they contribute nearly 4% to CHST's top-line in FY12F, bringing in additional growth catalysts amid slowing wind gears' growth.

Management exploring new opportunities

According to management, CHST is looking into coal and agriculture machines as new sectors to cater to its expansion in the future. CHST has already gained some exposure to agriculture through capital injection into a subsidiary. For coal machinery, CHST relies on in-house development.

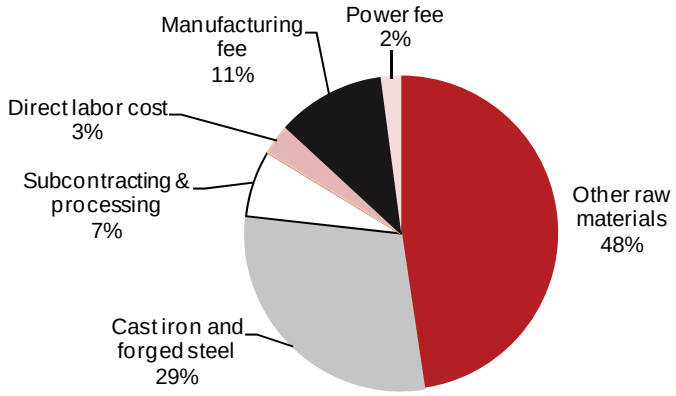
Management has yet to provide detailed revenue / earnings guidance or investment proposals for these new business lines. However, CHST expects minor revenue contribution from the agriculture business in FY11F with substantial growth prospects for FY12F / 13F. For coal machines, management expects to complete prototypes by Oct/Nov 2011 and invest capex based on new orders / market response.

CHST is also setting up a wind gearbox repair and maintenance workshop in the US. Management sees opportunities in the repair / replacement market in the US, given the country has been developing wind power for 15-20 years.

With limited details disclosed, we have yet to factor in these developments in our valuation model. We will re-visit our assumptions as we get further updates from management. However, we are somewhat positive on CHST's planned new business developments as this could provide new opportunities for the company and provide further upside to our earnings estimates.

What makes up the cost of a wind gearbox?

Fig. 59: CHST's FY10 COGS breakdown



Note: Other raw materials can be further broken down into bearings and others, each contributing approximately half
Source: Company data, Nomura estimates

The above is the COGS breakdown for CHST for FY10. Given wind gearbox dominates sales for the company in the year, this is the proxy for the wind gear box cost breakdown as well. Accordingly, 48% is attributed by other raw materials, which can be further broken down into bearings and others, each contributing nearly half of the 48%. According to our checks, Timken, SKF and FAG are CHST's key bearings suppliers. Cast iron and forged steel follows, contributing 29% to COGS.

Shares price weakness overdone, in our view

As on 30 May 2011, CHST was trading at HKD9.57, implying 7.1x FY11F P/E. In our view, the current valuation has not factored in CHST's unique market position in the wind value chain, the subsequent growth prospects, and its exposure to other lines of businesses providing additional catalysts to the company. Reaffirm BUY.

Fig. 60: Valuation comparison

Company	Ticker	Rating	Price target L. Curr.	Price L. Curr.	Market cap (US$mn)	Fiscal Y/E	P/E (x) 11F	P/E (x) 12F	P/E (x) 13F	PEG 11-13F	P/B (x) 11F	P/B (x) 12F	P/B (x) 13F	Yield (%) 11F	Yield (%) 12F	Yield (%) 13F	Net debt/equity (%) 11F	Net debt/equity (%) 12F	Net debt/equity (%) 13F	RoE (%) 11F	RoE (%) 12F	RoE (%) 13F
China																						
Power equipment manufacturer																						
Shanghai Electric	2727 HK	Buy	4.90	4.06	12,142	Dec	13.0	11.4	10.2	0.9	1.4	1.3	1.2	2.3	2.6	2.9	67	64	56	11.4	11.8	12.1
Dongfang Electric	1072 HK	Buy	34.40	29.00	7,738	Dec	15.6	14.3	12.5	1.1	3.4	2.8	2.3	0.6	0.7	0.8	197	160	127	23.9	21.3	20.2
Harbin Power	1133 HK	Neutral	8.90	9.23	1,634	Dec	11.5	11.0	10.0	n.a.	1.0	0.9	0.8	1.6	1.7	1.9	36	35	31	8.9	8.6	8.8
Average							13.4	12.2	10.9	1.0	1.9	1.7	1.4	1.5	1.7	1.9				14.7	13.9	13.7
Heavy equipment player with exposure to forging parts for nuclear equipment																						
China First Heavy	601106 CH	Not rated	n.a.	5.06	4,780	Dec	22.6	17.6	23.0	0.9	1.8	1.7	1.7	0.5	0.6	0.4	9	15	21	8.1	9.2	7.5
China Erzhong	601268 CH	Not rated	n.a.	9.76	2,544	Dec	33.5	23.2	16.8	0.5	2.6	2.4	n.a.	0.6	1.0	0.7	47.86	38.87	n.a.	6.3	8.7	n.a.
Average							28.1	20.4	19.9	0.7	2.2	2.0	1.7	0.6	0.8	0.6				7.2	9.0	7.5
Wind turbine / components manufacturer																						
China High Speed Transmission	658 HK	Buy	14.80	9.57	1,676	Dec	7.0	6.7	6.3	1.6	1.2	1.1	1.0	3.7	3.9	4.1	27.58	24.43	14.12	18.6	17.0	16.1
Sinovel	601558 CH	Not rated	n.a.	56.04	8,688	Dec	15.1	11.9	6.7	0.3	3.1	2.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19.9	20.5	n.a.
Xinjiang Goldwind	2208 HK	Reduce	9.40	10.12	5,877	Dec	10.3	9.7	9.2	n.a.	1.5	1.4	1.3	3.9	4.1	4.3	net cash	net cash	net cash	15.2	14.7	14.2
Mingyang	MY US	Not rated	n.a.	7.33	916	Dec	5.7	5.0	4.1	0.2	1.3	1.0	0.8	n.a.	n.a.	0.6	net cash	net cash	net cash	22.9	20.3	n.a.
Average							9.6	8.3	6.6	0.7	1.8	1.5	1.0	3.8	4.0	3.0				19.1	18.1	15.2
Wind farm operator																						
China Long Yuan Power Group	916 HK	Neutral	7.60	8.18	7,849	Dec	19.7	17.2	n.a.	n.a	1.9	1.8	n.a.	1.0	1.2	n.a.	174.10	202.63	n.a.	10.6	10.8	n.a.
China Power New Energy	735 HK	Not rated	n.a.	0.57	578	Dec	12.1	9.3	7.0	0.3	0.7	0.6	0.6	n.a.	n.a.	n.a.	78.82	74.37	113.37	5.9	7.1	8.4
China Windpower Group	182 HK	Not rated	n.a.	0.76	722	Dec	9.6	7.3	5.9	0.2	1.3	1.1	0.8	0.1	0.4	0.4	net cash	net cash	n.a.	14.5	16.3	16.0
Datang Renewables	1798 HK	Not rated	n.a.	2.29	2,145	Dec	14.3	10.8	8.8	0.3	1.4	1.2	1.2	0.7	1.2	1.6	880.15	1,038.31	1,225.92	9.9	11.6	13.5
Average							13.9	11.2	7.2	0.3	1.3	1.2	0.9	0.6	0.9	1.0				10.2	11.5	12.7
China Average							14.6	12.0	10.0	0.6	1.7	1.5	1.2	1.5	1.7	1.8				13.5	13.7	13.0
Non-China																						
Power equipment player (incl. forging parts manufacturer)																						
GE	GE US	Buy	24.00	19.44	206,170	Dec	14.3	11.8	n.a.	n.a	1.6	1.5	n.a.	2.8	3.4	n.a.	net cash	net cash	n.a.	11.7	12.9	n.a.
Mitsubishi Heavy	7011 JP	Buy	465.00	376.00	15,697	Mar	41.8	24.6	16.7	0.3	1.0	1.0	0.9	1.6	1.6	1.6	80.00	70.00	70.00	2.3	3.9	5.5
BHI Co. Ltd	083650 KS	Not rated	n.a.	17,400.00	211	Dec	8.1	n.a.	n.a.	n.a	2.0	n.a.	n.a.	1.1	1.1	1.1	57.67	n.a.	n.a.	n.a.	n.a.	n.a.
Doosan	034020 KS	Not rated	n.a.	58,100.00	5,693	Dec	13.1	11.0	6.7	0.1	1.6	n.a.	n.a.	1.0	1.0	1.2	39.48	n.a.	n.a.	n.a.	n.a.	n.a.
BHEL	BHEL IN	Reduce	1,850.00	1,936.90	20,976	Mar	17.7	14.2	13.2	42.6	4.7	3.8	3.2	1.9	2.2	2.3	n.a.	n.a.	n.a.	33.3	29.8	26.4
Japan Steel Works	5631 JP	Neutral	880.00	570.00	2,620	Mar	11.8	11.6	9.0	1.1	1.7	1.5	1.4	4.2	4.4	4.4	30.00	net cash	net cash	14.4	13.2	15.1
Toshiba Plant	1983 JP	Buy	1,350.00	804.00	972	Mar	9.4	8.5	7.7	0.9	0.9	0.8	0.8	1.9	1.9	1.9	net cash	net cash	net cash	9.9	10.1	10.2
Siemens	SIE GR	Neutral	100.00	90.82	58,106	Sep	10.7	9.6	12.5	0.5	2.4	2.1	2.0	4.7	5.3	4.0	net cash	net cash	net cash	19.2	16.7	17.1
Alstom	ALO FP	Buy	49.00	42.12	8,678	Mar	27.0	13.2	10.6	n.a.	3.1	2.6	2.4	1.5	2.5	3.1	34.72	20.19	8.47	15.3	22.2	23.1
Areva SA	AREVA FP	Not rated	n.a.	30.25	7,748	Dec	21.2	14.9	14.2	n.a.	1.3	1.2	1.1	0.8	1.5	1.4	n.a	n.a	n.a	5.7	7.5	7.2
Average							17.5	13.3	11.3	7.6	2.0	1.8	1.7	2.1	2.5	2.3				14.0	14.5	14.9
Wind turbine / components manufacturer																						
Hansen Transmissions	HSN LN	Not rated	n.a.	42.75	174	Mar	n.a.	n.a.	18.5	n.a	0.4	0.4	0.4	n.a.	n.a.	0.3	3.25	0.64	net cash	(2.4)	(0.3)	2.2
Gamesa	GAM SM	Suspended	n.a.	6.45	1,109	Dec	22.8	16.9	13.5	0.5	0.9	0.9	0.9	1.2	1.5	2.0	32.04	34.87	36.06	4.2	5.4	6.9
Vesta	VWS DC	Suspended	n.a.	151.30	5,907	Dec	28.5	23.4	18.3	0.5	2.8	2.5	2.2	n.a.	n.a.	0.1	20.94	13.14	5.33	9.6	11.1	13.0
Repower	RPW GR	Not rated	n.a.	133.05	857	Mar	23.2	18.9	16.4	2.2	2.5	2.3	2.0	1.0	1.2	1.6	net cash	net cash	net cash	10.6	11.5	13.5
Suzlon	SUEL IN	Suspended	n.a.	51.10	2,015	Mar	n.a.	40.2	12.5	n.a	1.2	1.3	1.2	n.a.	0.1	0.1	130.56	136.47	119.92	n.a.	3.0	9.4
Average							24.8	24.9	15.9	1.1	1.6	1.5	1.3	1.1	0.9	0.8				5.5	6.1	9.0
Wind farm operator																						
Acciona	ANA SM	Buy	105.00	73.18	3,255	Dec	22.5	14.5	12.6	0.6	0.8	0.8	0.8	2.0	3.1	3.6	65.79	66.26	66.84	3.6	5.4	6.0
Theolia	TEO FP	Not rated	n.a.	1.31	102	Dec	45.2	12.1	n.a.	n.a	0.3	0.3	n.a.	n.a.	0.2	n.a.	65.56	65.97	n.a.	2.4	4.5	n.a.
Iberdrola Renovables	IBR SM	Reduce	2.75	3.04	8,987	Dec	31.4	29.4	24.8	2.3	1.1	1.1	1.0	1.1	1.4	1.6	38.55	41.80	44.89	3.4	3.6	4.1
EDF Energies Nouvelles	EEN FP	Suspended	n.a.	40.28	2,187	Dec	23.9	18.9	15.8	0.8	2.0	1.9	1.6	1.2	1.4	1.8	299.34	332.82	331.51	9.1	11.0	12.5
EDP Renovaveis	EDPR PL	Neutral	5.75	4.72	2,881	Dec	29.0	20.0	18.2	0.8	0.8	0.7	0.7	0.7	1.0	1.1	56.34	59.34	61.29	2.8	3.8	4.1
Greentech Energy Systems	GES DC	Not rated	n.a.	18.50	188	Dec	10.5	9.1	n.a.	n.a	0.5	0.5	n.a.	n.a.	n.a.	n.a.	110.59	105.95	n.a.	4.7	5.2	n.a.
Average							27.1	17.3	17.9	1.1	0.9	0.9	1.0	1.3	1.4	2.0				4.3	5.6	6.7
Non-China Average							21.7	17.0	14.2	4.1	1.6	1.4	1.4	1.8	1.9	1.9				8.9	9.5	11.0
International Average							**18.8**	**14.9**	**12.5**	**2.6**	**1.7**	**1.5**	**1.3**	**1.7**	**1.9**	**1.8**				**10.8**	**11.2**	**11.7**

Note: Pricing as at May 30, 2011; FY11F figures are actual for companies that have reported (company reporting in Mar)

Source: Company data, Nomura estimates, Bloomberg consensus for not rated or rating suspended securities

TP cut to HKD14.80 to reflect new assumptions

In light of our earnings adjustments, our target price has been adjusted downward to HKD14.80, implying 54% upside potential as of 30 May 2011.

As on 30 May 2011, the stock traded at 7.1x FY11F P/E. We consider this an undemanding valuation in light of CHST's leading position in China, export visibility and growth prospects. We reaffirm our BUY rating on the stock.

Fig. 61: CHST: DCF valuation

Free Cash Flow	FY11F	FY12F	FY13F	FY14F	FY15F	FY16F	FY17F	FY18F	FY19F	FY20F	
Sales	8,839	9,931	10,759	11,681	12,619	13,502	14,518	15,599	16,696	17,911	
EBITDA	2,114	2,258	2,390	2,552	2,721	2,806	2,971	3,018	3,049	3,235	
...margin	*24%*	*23%*	*22%*	*22%*	*22%*	*21%*	*20%*	*19%*	*18%*	*18%*	
less:tax	(304)	(336)	(380)	(443)	(506)	(565)	(642)	(686)	(729)	(815)	
minority interest	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(16)	(16)	(17)	
working capital	(484)	(440)	(386)	(365)	(375)	(353)	(408)	(423)	(432)	(489)	
CAPEX	(634)	(839)	(231)	(279)	(180)	(47)	(424)	(409)	(588)	(345)	
FCF	681	632	1,382	1,452	1,646	1,827	1,481	1,484	1,284	1,570	Terminal Growth
											2%

WACC	Sum of PV	PV of TV	EV	Net debt (FY10)	Equity Value	Shares	Value per share
8.6%	9,126	10,438	19,564	1,128	18,436	1,371	16.9
8.7%	9,089	10,201	19,289	1,128	18,161	1,371	16.6
8.8%	9,052	9,971	19,022	1,128	17,895	1,371	16.4
8.9%	9,015	9,748	18,763	1,128	17,635	1,371	16.1
9.0%	8,978	9,533	18,511	1,128	17,383	1,371	15.9
9.1%	8,942	9,324	18,267	1,128	17,139	1,371	15.7
9.2%	8,906	9,122	18,028	1,128	16,900	1,371	15.5
9.3%	8,870	8,926	17,796	1,128	16,669	1,371	15.3
9.4%	8,835	8,736	17,571	1,128	16,443	1,371	15.0
9.5%	8,799	8,552	17,351	1,128	16,223	1,371	14.8
9.6%	8,764	8,373	17,137	1,128	16,009	1,371	14.6
9.7%	8,729	8,199	16,928	1,128	15,800	1,371	14.5
9.8%	8,695	8,030	16,725	1,128	15,597	1,371	14.3
9.9%	8,660	7,866	16,526	1,128	15,398	1,371	14.1
10.0%	8,626	7,707	16,333	1,128	15,205	1,371	13.9
10.1%	8,592	7,552	16,144	1,128	15,016	1,371	13.7
10.2%	8,558	7,401	15,960	1,128	14,832	1,371	13.6
10.3%	8,525	7,255	15,780	1,128	14,652	1,371	13.4
10.4%	8,491	7,113	15,604	1,128	14,476	1,371	13.2
10.5%	8,458	6,974	15,432	1,128	14,304	1,371	13.1
10.6%	8,425	6,839	15,264	1,128	14,136	1,371	12.9

WACC Calculation	
Equity Beta	1.5
Risk Free Rate	3%
Equity Risk Premium	6%
Country Risk Premium	0%
Cost of Equity	11%
Cost of Debt	7%
Debt/Capital	30%
Tax	25%
WACC	9.5%
Terminal growth rate	2%

Source: Nomura estimates

Valuation methodology:

Our TP of HKD14.8 is based on DCF with the assumption of 9.5% WACC and a terminal growth rate of 2%.

Key risk:

Risks to our target price include changes in government policy, development of direct drive wind turbine technology, slower-than-expected growth in overseas markets and stiffer competition in China.

Xinjiang Goldwind 2208.HK 2208 HK

POWER & UTILITIES

NOMURA
EQUITY RESEARCH

A victim of gird bottlenecks

Disappointing FY11F results expected; no positive catalyst in the near term

June 3, 2011

Rating Starts at	**Reduce**
Target price Starts at9.40	HKD 9.40
Closing price May 30, 2011	HKD 10.12
Potential downside	-7.1%

Action: Initiate with REDUCE and a TP of HKD9.40

We initiate on Xinjiang Goldwind with a REDUCE rating and a target price of HKD9.40. We are cautious over China's slowing domestic wind demand and we expect Goldwin's FY11F EPS to drop 21% y-y on declining ASP, margin squeeze and slowing sales volume growth.

Catalysts: Overcapacity in the domestic turbine market

- **Declining ASP squeezes gross margin.** We expect the wind turbine ASP (for delivery) to drop 10% in FY11F on overcapacity. As the decline in ASP is expected to outpace the drop in production cost, we estimate its gross margin will narrow to 19.7% in FY11F from 22.7% in FY10.
- **Limited sales volume growth near term.** Due to slowing domestic demand (we forecast China will install 17.9GW of wind turbines in FY11F vs 18.9GW in FY10) and lack of export visibility, Goldwind's significant sales volume growth (over 70% CAGR in FY07-10) is a thing of the past, in our view.
- **Disappointing FY11F results expected; lack of positive catalysts.** Goldwind has issued a profit warning, expecting its 1H11 operating results to decline by no more than 50% y-y on falling ASP, narrowing margins and slowing sales volume growth. We do not expect any positive catalyst for Goldwind in the near term.

Valuation: Excessive in light of a bleak outlook

As at 30 May 2011, Goldwind traded at 10.3x FY11F P/E. We see valuation as excessive given expected weak FY11F results. We estimate its EPS will grow only 6% in FY12F and 5% in FY13F.

31 Dec	FY10		FY11F		FY12F		FY13F
Currency (CNY)	Actual	Old	New	Old	New	Old	New
Revenue (mn)	17,475		20,427		21,655		22,828
Reported net profit (mn)	2,289		2,109		2,231		2,352
Normalised net profit (mn)	2,289		2,109		2,231		2,352
Normalised EPS	1.0		0.8		0.8		0.9
Norm. EPS growth (%)	26.8		-20.8		5.8		5.4
Norm. P/E (x)	8.7	N/A	10.3	N/A	9.7	N/A	9.2
EV/EBITDA	5.5	N/A	5.8	N/A	5.6	N/A	5.3
Price/book (x)	1.5	N/A	1.5	N/A	1.4	N/A	1.3
Dividend yield (%)	4.6	N/A	3.9	N/A	4.1	N/A	4.3
ROE (%)	24.8		15.2		14.7		14.2
Net debt/equity (%)	net cash		net cash		net cash		net cash

Source: Nomura estimates

Key company data: *See page 2 for company data, and detailed price/index chart.*
Rating: *See report end for details of Nomura's rating system.*

Anchor themes

In the wind value chain, we like component manufacturers with unique market positioning, bargaining power and export visibility.

Nomura vs consensus

Our FY11F earnings forecast is 7.5% below consensus, as we are more bearish on Goldwind's earnings growth prospect due to slowing wind equipment demand amid grid bottlenecks.

Research analysts

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Key data on Xinjiang Goldwind

Income statement (CNYmn)

Year-end 31 Dec	FY09	FY10	FY11F	FY12F	FY13F
Revenue	**10,667**	**17,475**	**20,427**	**21,655**	**22,828**
Cost of goods sold	-7,909	-13,454	-16,306	-17,275	-18,208
Gross profit	**2,757**	**4,021**	**4,121**	**4,380**	**4,621**
SG&A	-729	-1,131	-1,418	-1,471	-1,508
Employee share expense					
Operating profit	**2,028**	**2,890**	**2,703**	**2,910**	**3,113**
EBITDA	**2,110**	**3,057**	**2,934**	**3,290**	**3,627**
Depreciation	-67	-113	-175	-324	-457
Amortisation	-15	-54	-56	-57	-57
EBIT	2,028	2,890	2,703	2,910	3,113
Net interest expense	-63	-117	-136	-151	-160
Associates & JCEs	4	16	16	16	16
Other income	21	10	0	0	0
Earnings before tax	**1,990**	**2,799**	**2,583**	**2,774**	**2,969**
Income tax	-200	-416	-387	-451	-520
Net profit after tax	**1,790**	**2,383**	**2,195**	**2,323**	**2,449**
Minority interests	-45	-94	-87	-92	-97
Other items					
Preferred dividends					
Normalised NPAT	**1,746**	**2,289**	**2,109**	**2,231**	**2,352**
Extraordinary items					
Reported NPAT	**1,746**	**2,289**	**2,109**	**2,231**	**2,352**
Dividends	-140	-916	-844	-893	-941
Transfer to reserves	**1,606**	**1,373**	**1,265**	**1,338**	**1,411**
Valuation and ratio analysis					
FD normalised P/E (x)	11.4	8.7	10.3	9.7	9.2
FD normalised P/E at price target (x)	10.6	8.1	9.6	9.1	8.6
Reported P/E (x)	11.4	8.7	10.3	9.7	9.2
Dividend yield (%)	0.7	4.6	3.9	4.1	4.3
Price/cashflow (x)	15.2	106.7	10.3	10.2	9.1
Price/book (x)	3.8	1.5	1.5	1.4	1.3
EV/EBITDA (x)	10.5	5.5	5.8	5.6	5.3
EV/EBIT (x)	10.9	5.8	6.3	6.4	6.2
Gross margin (%)	25.9	23.0	20.2	20.2	20.2
EBITDA margin (%)	19.8	17.5	14.4	15.2	15.9
EBIT margin (%)	19.0	16.5	13.2	13.4	13.6
Net margin (%)	16.4	13.1	10.3	10.3	10.3
Effective tax rate (%)	10.0	14.9	15.0	16.3	17.5
Dividend payout (%)	8.0	40.0	40.0	40.0	40.0
Capex to sales (%)	15.7	15.3	17.1	15.1	12.8
Capex to depreciation (x)	24.9	23.6	20.0	10.1	6.4
ROE (%)	39.1	24.8	15.2	14.7	14.2
ROA (pretax %)	22.1	19.6	13.0	11.9	11.1
Growth (%)					
Revenue	66.2	63.8	16.9	6.0	5.4
EBITDA	67.2	44.9	-4.0	12.1	10.2
EBIT	71.0	42.5	-6.5	7.7	7.0
Normalised EPS	92.6	26.8	-20.8	5.8	5.4
Normalised FDEPS	92.6	26.8	-20.8	5.8	5.4
Per share					
Reported EPS (CNY)	0.78	0.99	0.78	0.83	0.87
Norm EPS (CNY)	0.78	0.99	0.78	0.83	0.87
Fully diluted norm EPS (CNY)	0.78	0.99	0.78	0.83	0.87
Book value per share (CNY)	2.32	5.74	5.37	5.89	6.43
DPS (CNY)	0.06	0.40	0.31	0.33	0.35

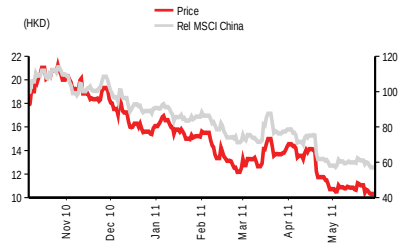
Source: Nomura estimates

*Note: This market cap is calculated based on the total number of A, H shares and the H share market price only.

Notes

Historical DPS and EPS figures have been adjusted for bonus shares issues in FY10

Price and price relative chart (one year)



(%)	1M	3M	12M
Absolute (HKD)	-5.8	-19.3	
Absolute (USD)	-5.9	-19.2	
Relative to index	-3.6	-23.3	
Market cap (USDmn)	3,505.5		
Estimated free float (%)	65.8		
52-week range (HKD)	21.8/10		
3-mth avg daily turnover (USDmn)	12.93		
Major shareholders (%)			
China Three Gorges Corporation	26.7		
China-Belgium Direct Equity Investment Fund	6.0		

Cashflow (CNYmn)

Year-end 31 Dec	FY09	FY10	FY11F	FY12F	FY13F
EBITDA	2,110	3,057	2,934	3,290	3,627
Change in working capital	-306	-2,013	120	-129	-122
Other operating cashflow	-503	-858	-941	-1,039	-1,118
Cashflow from operations	**1,302**	**186**	**2,113**	**2,122**	**2,387**
Capital expenditure	-1,678	-2,667	-3,500	-3,275	-2,928
Free cashflow	**-376**	**-2,480**	**-1,387**	**-1,153**	**-541**
Reduction in investments	-121	-153	-16	-16	-16
Net acquisitions	-10	64	444	444	444
Reduction in other LT assets	-71	-356	-67	-28	-27
Addition in other LT liabilities	163	394	226	170	175
Adjustments	100	222	126	161	170
Cashflow after investing acts	**-315**	**-2,309**	**-675**	**-423**	**205**
Cash dividends	-280	-924	-916	-844	-893
Equity issue	0	7,039	0	0	0
Debt issue	1,825	1,636	543	211	202
Convertible debt issue					
Others	-138	-579	-136	-151	-160
Cashflow from financial acts	**1,407**	**7,172**	**-508**	**-784**	**-851**
Net cashflow	**1,093**	**4,863**	**-1,183**	**-1,207**	**-646**
Beginning cash	3,286	4,379	9,242	8,060	6,853
Ending cash	4,379	9,242	8,060	6,853	6,207
Ending net debt	-1,755	-6,276	-4,549	-3,132	-2,284

Source: Nomura estimates

Notes

Positive operating cashflow projected

Balance sheet (CNYmn)

As at 31 Dec	FY09	FY10	FY11F	FY12F	FY13F
Cash & equivalents	4,379	9,242	8,060	6,853	6,207
Marketable securities	0	0	0	0	0
Accounts receivable	2,920	7,583	6,716	7,119	7,505
Inventories	2,854	4,391	5,321	5,638	5,942
Other current assets	1,134	1,620	1,823	1,908	1,989
Total current assets	**11,286**	**22,836**	**21,920**	**21,518**	**21,643**
LT investments	198	351	366	382	398
Fixed assets	2,601	4,043	7,312	10,207	12,621
Goodwill	250	257	257	257	257
Other intangible assets	347	353	353	353	353
Other LT assets	201	558	625	653	680
Total assets	**14,883**	**28,398**	**30,834**	**33,370**	**35,952**
Short-term debt	602	1,502	1,755	1,861	1,961
Accounts payable	3,760	8,130	8,041	8,519	8,979
Other current liabilities	2,520	2,824	3,300	3,498	3,687
Total current liabilities	**6,882**	**12,456**	**13,097**	**13,878**	**14,628**
Long-term debt	2,022	1,465	1,755	1,861	1,961
Convertible debt	0	0	0	0	0
Other LT liabilities	451	845	1,072	1,242	1,416
Total liabilities	**9,356**	**14,767**	**15,924**	**16,980**	**18,006**
Minority interest	326	342	429	521	618
Preferred stock	0	0	0	0	0
Common stock	1,400	2,695	2,695	2,695	2,695
Retained earnings	3,661	9,678	10,943	12,281	13,692
Proposed dividends	140	916	844	893	941
Other equity and reserves					
Total shareholders' equity	**5,201**	**13,289**	**14,481**	**15,869**	**17,328**
Total equity & liabilities	**14,883**	**28,398**	**30,834**	**33,370**	**35,952**
Liquidity (x)					
Current ratio	1.64	1.83	1.67	1.55	1.48
Interest cover	32.3	24.7	19.9	19.2	19.5
Leverage					
Net debt/EBITDA (x)	net cash	net cash	net cash	net cash	net cash
Net debt/equity (%)	net cash	net cash	net cash	net cash	net cash
Activity (days)					
Days receivable	94.8	109.7	127.8	116.9	116.9
Days inventory	114.7	98.3	108.7	116.1	116.1
Days payable	145.5	161.3	181.0	175.4	175.4
Cash cycle	64.0	46.7	55.5	57.6	57.6

Source: Nomura estimates

Notes

Net cash position

Company profile

Fig. 62: Company profile

Xinjiang Goldwind is dual-listed in H.K. (2208 HK) and Shanghai (002202 CH):

1. is 27% owned by state-owned enterprise China Three Gorges.

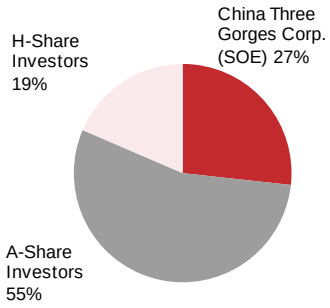
2. was the No. 2 player in the wind turbine generators market in China in FY10 (measured in the amount of capacity, MW, installed throughout the year) with a 20% market share

3. is unique in terms of technology. Goldwind's wind turbines are DDPM (Direct Drive Permanent Magnets) and have no gearbox.

4. is one of the leaders in R&D capabilities among domestic players, thanks to Goldwind's acquisition of German-based Vensys AG in 2008

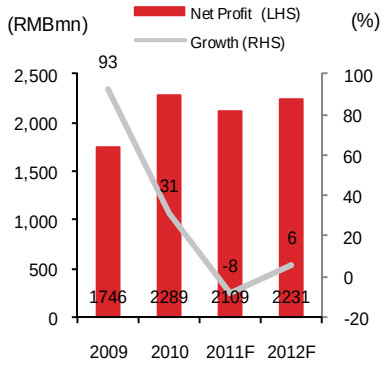
Source: Company data, Nomura Research

Fig. 63: Shareholder structure



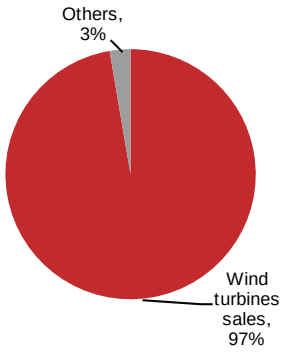
Source: Company data

Fig. 64: Net profit trend



Source: Company data, Nomura estimates

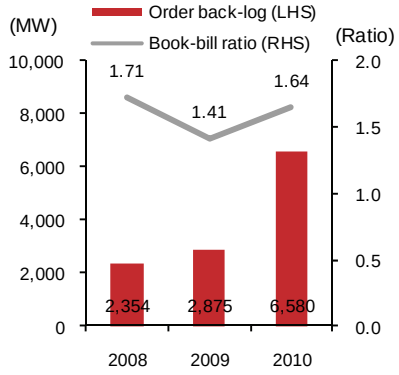
Fig. 65: FY10 revenue contribution



Note: After inter-segment elimination

Source: Company data, Nomura research

Fig. 66: Order backlog



Note: Including tenders won that are awaiting final contracts Source: Company data, Nomura research

Fig. 67: SWOT Analysis

Strength

Goldwind has strong R&D capabilities compared to its domestic peers, thanks to its acquisition of Vensys in 2008.

Weaknesses

Although Goldwind has expanded along the wind value-chain, such as wind farm development and wind power services, the company has limited plans in expansion beyond wind, exposing itself to the industry downturn.

Opportunities

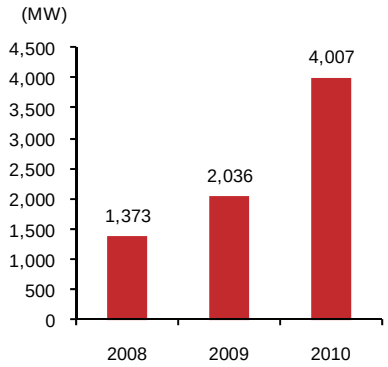
Given its acquisition of Vensys and its global recognition (Nominated as “The 50 Most Innovative Companies 2011”), Goldwind may be able to tap onto export opportunities.

Threat

Not diversified from wind equipment and strong reliance on domestic sales (as at FY10), Goldwind is exposed to any downturn / headwind in wind development in China.

Source: Nomura Research

Fig. 68: Capacity sold



Source: Company data

A victim of grid bottlenecks

Investment thesis

We initiate coverage of Xinjiang Goldwind with a REDUCE rating and a 12-month target price of HKD9.40. As at 30 May 2011, Goldwind traded at 10.3x FY11F P/E.

In our view, declining ASP will continue to squeeze Goldwind's margins and confined capacity growth prospects undermined by grid bottlenecks and limited export visibility will continue to weigh on the company. Given the bleak outlook, alongside expected disappointing FY11F results and lack of visible positive catalysts, we have a REDUCE rating on the stock.

Margin squeeze due to fierce competition

Despite Goldwind's continued cost reduction efforts to defend against falling ASPs, its margins deteriorated slightly in FY10. According to management and our channel checks, ASP (for sales) is likely to continue to drop in FY11F, as evidenced by Goldwind's disappointing 1Q11 results. We forecast blended ASP for delivery in FY11F will drop 10% y-y to ~RMB3,927/kw. In our view, margin squeeze is inevitable since the decline in ASP is likely to outpace the drop in production cost. We forecast a gross margin of 19.7% for wind turbine products in FY11F vs. 22.7% in 2010, assuming Goldwind's production cost would drop 6-7% during the same period.

Significant capacity growth a thing of the past

China has doubled its installed wind capacity in each year over the past five years. We now expect wind development growth in China to slow. In FY10, China installed 18.9GW of wind turbines but only 14.9GW was grid connected. In the next few years, we forecast wind turbine demand will be more rational. For FY11F, we expect China to install a wind capacity of 7.9GW, with 3GW of non-grid connected installation. As such, we are concerned about Goldwind's sales volume growth in a slowing demand environment.

Furthermore, we see a structural limit on Goldwind's market share due to its innovative technology. Despite its claimed advantage and acceptance by wind farm operators, direct drive permanent magnet (DPPM) turbines have a relatively short track record. Given that wind farms are capital-intensive projects with ~20-year lifespans, we do not think wind farm developers would rely solely on Goldwind's DDPM to diversify technological and operational risks.

FY11F is not going to be pretty / lack of positive catalysts in the near term

Falling ASPs, margin squeeze and limited capacity growth are all negatives for Goldwind in FY11F. We estimate its earnings will drop 8% y-y in FY11F with the decline in EPS likely to be worse due to stock dilution from shares issued in FY10. Indeed, the disappointing 1Q11 results and the subsequent profit warning issued by the company reaffirm our view.

With limited positive catalysts, we see the aforementioned negatives weighing on Goldwin in the near term.

Initiate with REDUCE and a TP of HKD9.40

As at 30 May 2011, Xinjiang Goldwind traded at 10.3x FY11F P/E vs peers' 9.6x. In our view, Goldwind's valuation is excessive amid a lack of positive catalysts in the near term. We initiate coverage with a REDUCE rating and a target price of HKD9.40.

Initiate with REDUCE, TP of HKD9.40

Stock valuation

We initiate coverage of Xinjiang Goldwind with a REDUCE rating and a 12-month price target of HKD9.40, implying potential downside of 7% from current levels. As at 30 May 2011, Goldwind traded at 10.3x FY11F P/E.

Our target price of HKD9.40 is derived using a DCF methodology, assuming a WACC of 9.33% and a terminal growth rate of 2%.

Fig. 69: Xinjiang Goldwind – DCF valuation

FCF (RMB'mn)	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Reporting revenue	20,427	21,655	22,828	22,866	22,905	21,396	22,759	23,633	24,939	26,246
…Growth rate	*17%*	*6%*	*5%*	*0%*	*0%*	*-7%*	*6%*	*4%*	*6%*	*5%*
EBIT (non-IFRIC)	2,718	2,925	3,129	3,140	3,150	2,990	3,141	3,242	3,390	3,539
Depreciation/amortization	231	381	514	625	720	800	858	910	951	983
EBITDA	2,949	3,306	3,642	3,765	3,870	3,789	4,000	4,152	4,341	4,521
…EBITDA margin	*14%*	*15%*	*16%*	*16%*	*17%*	*18%*	*18%*	*18%*	*17%*	*17%*
less:tax	(387)	(451)	(520)	(558)	(597)	(594)	(656)	(707)	(772)	(839)
minority interest	(87)	(92)	(97)	(96)	(95)	(88)	(92)	(94)	(97)	(100)
change in working capital	146	(118)	(112)	(5)	(5)	141	(129)	(83)	(123)	(123)
CAPEX	(3,500)	(3,275)	(2,928)	(2,680)	(2,449)	(2,047)	(1,984)	(1,806)	(1,652)	(1,464)
Leveraged FCF	(879)	(630)	(14)	426	725	1,200	1,139	1,462	1,697	1,995
Growth Rate										2.0%

WACC	Sum of PV (RMB'mn)	PV of TV (RMB'mn)	EV (RMB'mn)	Net cash/ (debt) (FY11F)	Equity Value (RMB'mn)	Shares out ('mn)	Value per share (HK$)
6.00%	4,364	30,114	34,478	4,549	39,027	2,695	18.16
6.50%	4,188	25,658	29,846	4,549	34,395	2,695	16.01
7.00%	4,019	22,139	26,158	4,549	30,707	2,695	14.29
7.50%	3,856	19,299	23,155	4,549	27,705	2,695	12.89
8.00%	3,699	16,968	20,667	4,549	25,216	2,695	11.74
8.50%	3,548	15,025	18,573	4,549	23,122	2,695	10.76
9.00%	3,403	13,386	16,789	4,549	21,338	2,695	9.93
9.50%	3,263	11,989	15,252	4,549	19,802	2,695	9.22
10.00%	3,128	10,788	13,917	4,549	18,466	2,695	8.59
10.50%	2,998	9,748	12,746	4,549	17,295	2,695	8.05
11.00%	2,873	8,840	11,712	4,549	16,262	2,695	7.57
11.50%	2,752	8,042	10,794	4,549	15,344	2,695	7.14
12.00%	2,636	7,339	9,974	4,549	14,524	2,695	6.76
12.50%	2,523	6,715	9,238	4,549	13,787	2,695	6.42
13.00%	2,415	6,159	8,573	4,549	13,123	2,695	6.11
13.50%	2,310	5,661	7,972	4,549	12,521	2,695	5.83
14.00%	2,209	5,215	7,424	4,549	11,974	2,695	5.57
14.50%	2,112	4,813	6,925	4,549	11,474	2,695	5.34
15.00%	2,018	4,450	6,468	4,549	11,017	2,695	5.13
9.33%	3,310	12,440	15,750	4,549	20,299	2,695	9.45

WACC Calculation	
Equity Beta	1.4
Risk Free Rate	3.0%
Equity Risk Premium	6.0%
Country Risk Premium	0%
Cost of Equity	11.4%
Cost of Debt	6.0%
Debt/Capital	30%
Tax	25.0%
WACC	9.3%
Terminal growth rate	2%

Source: Nomura estimates

Fig. 70: Valuation comparison

Company	Ticker	Rating	Price target L. Curr.	Price L. Curr.	Market cap (US$mn)	Fiscal Y/E	P/E (x) 11F	P/E (x) 12F	P/E (x) 13F	PEG 11-13F	P/B (x) 11F	P/B (x) 12F	P/B (x) 13F	Yield (%) 11F	Yield (%) 12F	Yield (%) 13F	Net debt/equity (%) 11F	Net debt/equity (%) 12F	Net debt/equity (%) 13F	RoE (%) 11F	RoE (%) 12F	RoE (%) 13F
China																						
Power equipment manufacturer																						
Shanghai Electric	2727 HK	Buy	4.90	4.06	12,142	Dec	13.0	11.4	10.2	0.9	1.4	1.3	1.2	2.3	2.6	2.9	67	64	56	11.4	11.8	12.1
Dongfang Electric	1072 HK	Buy	34.40	29.00	7,738	Dec	15.6	14.3	12.5	1.1	3.4	2.8	2.3	0.6	0.7	0.8	197	160	127	23.9	21.3	20.2
Harbin Power	1133 HK	Neutral	8.90	9.23	1,634	Dec	11.5	11.0	10.0	n.a.	1.0	0.9	0.8	1.6	1.7	1.9	36	35	31	8.9	8.6	8.8
Average							13.4	12.2	10.9	1.0	1.9	1.7	1.4	1.5	1.7	1.9				14.7	13.9	13.7
Heavy equipment player with exposure to forging parts for nuclear equipment																						
China First Heavy	601106 CH	Not rated	n.a.	5.06	4,780	Dec	22.6	17.6	23.0	0.9	1.8	1.7	1.7	0.5	0.6	0.4	9	15	21	8.1	9.2	7.5
China Erzhong	601268 CH	Not rated	n.a.	9.76	2,544	Dec	33.5	23.2	16.8	0.5	2.6	2.4	n.a.	0.6	1.0	0.7	47.86	38.87	n.a.	6.3	8.7	n.a.
Average							28.1	20.4	19.9	0.7	2.2	2.0	1.7	0.6	0.8	0.6				7.2	9.0	7.5
Wind turbine / components manufacturer																						
China High Speed Transmission	658 HK	Buy	14.80	9.57	1,676	Dec	7.0	6.7	6.3	1.6	1.2	1.1	1.0	3.7	3.9	4.1	27.58	24.43	14.12	18.6	17.0	16.1
Sinovel	601558 CH	Not rated	n.a.	56.04	8,688	Dec	15.1	11.9	6.7	0.3	3.1	2.5	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	19.9	20.5	n.a.
Xinjiang Goldwind	2208 HK	Reduce	9.40	10.12	5,877	Dec	10.3	9.7	9.2	n.a.	1.5	1.4	1.3	3.9	4.1	4.3	net cash	net cash	net cash	15.2	14.7	14.2
Mingyang	MY US	Not rated	n.a.	7.33	916	Dec	5.7	5.0	4.1	0.2	1.3	1.0	0.8	n.a.	n.a.	0.6	net cash	net cash	net cash	22.9	20.3	n.a.
Average							9.6	8.3	6.6	0.7	1.8	1.5	1.0	3.8	4.0	3.0				19.1	18.1	15.2
Wind farm operator																						
China Long Yuan Power Group	916 HK	Neutral	7.60	8.18	7,849	Dec	19.7	17.2	n.a.	n.a	1.9	1.8	n.a.	1.0	1.2	n.a.	174.10	202.63	n.a.	10.6	10.8	n.a.
China Power New Energy	735 HK	Not rated	n.a.	0.57	578	Dec	12.1	9.3	7.0	0.3	0.7	0.6	0.6	n.a.	n.a.	n.a.	78.82	74.37	113.37	5.9	7.1	8.4
China Windpower Group	182 HK	Not rated	n.a.	0.76	722	Dec	9.6	7.3	5.9	0.2	1.3	1.1	0.8	0.1	0.4	0.4	net cash	net cash	n.a.	14.5	16.3	16.0
Datang Renewables	1798 HK	Not rated	n.a.	2.29	2,145	Dec	14.3	10.8	8.8	0.3	1.4	1.2	1.2	0.7	1.2	1.6	880.15	1,038.31	1,225.92	9.9	11.6	13.5
Average							13.9	11.2	7.2	0.3	1.3	1.2	0.9	0.6	0.9	1.0				10.2	11.5	12.7
China Average							14.6	12.0	10.0	0.6	1.7	1.5	1.2	1.5	1.7	1.8				13.5	13.7	13.0
Non-China																						
Power equipment player (incl. forging parts manufacturer)																						
GE	GE US	Buy	24.00	19.44	206,170	Dec	14.3	11.8	n.a.	n.a	1.6	1.5	n.a.	2.8	3.4	n.a.	net cash	net cash	n.a.	11.7	12.9	n.a.
Mitsubishi Heavy	7011 JP	Buy	465.00	376.00	15,697	Mar	41.8	24.6	16.7	0.3	1.0	1.0	0.9	1.6	1.6	1.6	80.00	70.00	70.00	2.3	3.9	5.5
BHI Co. Ltd	083650 KS	Not rated	n.a.	17,400.00	211	Dec	8.1	n.a.	n.a.	n.a	2.0	n.a.	n.a.	1.1	1.1	1.1	57.67	n.a.	n.a.	n.a.	n.a.	n.a.
Doosan	034020 KS	Not rated	n.a.	58,100.00	5,693	Dec	13.1	11.0	6.7	0.1	1.6	n.a.	n.a.	1.0	1.0	1.2	39.48	n.a.	n.a.	n.a.	n.a.	n.a.
BHEL	BHEL IN	Reduce	1,850.00	1,936.90	20,976	Mar	17.7	14.2	13.2	42.6	4.7	3.8	3.2	1.9	2.2	2.3	n.a.	n.a.	n.a.	33.3	29.8	26.4
Japan Steel Works	5631 JP	Neutral	880.00	570.00	2,620	Mar	11.8	11.6	9.0	1.1	1.7	1.5	1.4	4.2	4.4	4.4	30.00	net cash	net cash	14.4	13.2	15.1
Toshiba Plant	1983 JP	Buy	1,350.00	804.00	972	Mar	9.4	8.5	7.7	0.9	0.9	0.8	0.8	1.9	1.9	1.9	net cash	net cash	net cash	9.9	10.1	10.2
Siemens	SIE GR	Neutral	100.00	90.82	58,106	Sep	10.7	9.6	12.5	0.5	2.4	2.1	2.0	4.7	5.3	4.0	net cash	net cash	net cash	19.2	16.7	17.1
Alstom	ALO FP	Buy	49.00	42.12	8,678	Mar	27.0	13.2	10.6	n.a.	3.1	2.6	2.4	1.5	2.5	3.1	34.72	20.19	8.47	15.3	22.2	23.1
Areva SA	AREVA FP	Not rated	n.a.	30.25	7,748	Dec	21.2	14.9	14.2	n.a.	1.3	1.2	1.1	0.8	1.5	1.4	n.a	n.a	n.a	5.7	7.5	7.2
Average							17.5	13.3	11.3	7.6	2.0	1.8	1.7	2.1	2.5	2.3				14.0	14.5	14.9
Wind turbine / components manufacturer																						
Hansen Transmissions	HSN LN	Not rated	n.a.	42.75	174	Mar	n.a.	n.a.	18.5	n.a	0.4	0.4	0.4	n.a.	n.a.	0.3	3.25	0.64	net cash	(2.4)	(0.3)	2.2
Gamesa	GAM SM	Suspended	n.a.	6.45	1,109	Dec	22.8	16.9	13.5	0.5	0.9	0.9	0.9	1.2	1.5	2.0	32.04	34.87	36.06	4.2	5.4	6.9
Vesta	VWS DC	Suspended	n.a.	151.30	5,907	Dec	28.5	23.4	18.3	0.5	2.8	2.5	2.2	n.a.	n.a.	0.1	20.94	13.14	5.33	9.6	11.1	13.0
Repower	RPW GR	Not rated	n.a.	133.05	857	Mar	23.2	18.9	16.4	2.2	2.5	2.3	2.0	1.0	1.2	1.6	net cash	net cash	net cash	10.6	11.5	13.5
Suzlon	SUEL IN	Suspended	n.a.	51.10	2,015	Mar	n.a.	40.2	12.5	n.a	1.2	1.3	1.2	n.a.	0.1	0.1	130.56	136.47	119.92	n.a.	3.0	9.4
Average							24.8	24.9	15.9	1.1	1.6	1.5	1.3	1.1	0.9	0.8				5.5	6.1	9.0
Wind farm operator																						
Acciona	ANA SM	Buy	105.00	73.18	3,255	Dec	22.5	14.5	12.6	0.6	0.8	0.8	0.8	2.0	3.1	3.6	65.79	66.26	66.84	3.6	5.4	6.0
Theolia	TEO FP	Not rated	n.a.	1.31	102	Dec	45.2	12.1	n.a.	n.a	0.3	0.3	n.a.	n.a.	0.2	n.a.	65.56	65.97	n.a.	2.4	4.5	n.a.
Iberdrola Renovables	IBR SM	Reduce	2.75	3.04	8,987	Dec	31.4	29.4	24.8	2.3	1.1	1.1	1.0	1.1	1.4	1.6	38.55	41.80	44.89	3.4	3.6	4.1
EDF Energies Nouvelles	EEN FP	Suspended	n.a.	40.28	2,187	Dec	23.9	18.9	15.8	0.8	2.0	1.9	1.6	1.2	1.4	1.8	299.34	332.82	331.51	9.1	11.0	12.5
EDP Renovaveis	EDPR PL	Neutral	5.75	4.72	2,881	Dec	29.0	20.0	18.2	0.8	0.8	0.7	0.7	0.7	1.0	1.1	56.34	59.34	61.29	2.8	3.8	4.1
Greentech Energy Systems	GES DC	Not rated	n.a.	18.50	188	Dec	10.5	9.1	n.a.	n.a	0.5	0.5	n.a.	n.a.	n.a.	n.a.	110.59	105.95	n.a.	4.7	5.2	n.a.
Average							27.1	17.3	17.9	1.1	0.9	0.9	1.0	1.3	1.4	2.0				4.3	5.6	6.7
Non-China Average							21.7	17.0	14.2	4.1	1.6	1.4	1.4	1.8	1.9	1.9				8.9	9.5	11.0
International Average							**18.8**	**14.9**	**12.5**	**2.6**	**1.7**	**1.5**	**1.3**	**1.7**	**1.9**	**1.8**				**10.8**	**11.2**	**11.7**

Note: pricing as of May 30, 2011; FY11F figures are actual for companies reporting in March, which have reported.

Source: Nomura estimates Bloomberg consensus for not rated and rating suspended securities

Declining ASP squeezes gross margin

With the decline in ASP expected to outpace the drop in production cost, we estimate Goldwin's gross margin will drop to 19.7% in FY11F and FY12F, down from 22.7% in FY10. This estimate is in-line with management guidance.

ASP for FY11F and FY12F delivery to further drop 10% and 5%

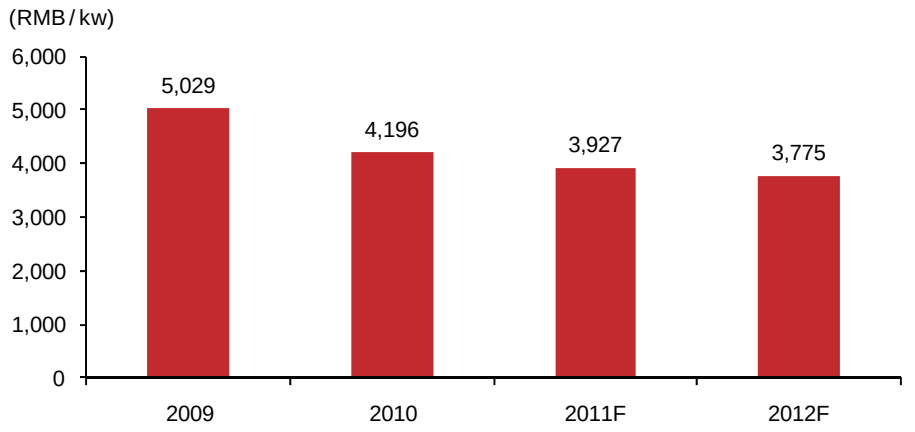
Amid the continued drop in ASP in 2010, we forecast wind turbine ASP will further drop 10% in FY11F and 5% in FY12F, due to:

- Over-capacity in the wind turbine market

  According to our channel checks, the wind turbine manufacturing industry in China is running over-capacity with players fighting for market share, and this in turn has triggered a price war that has resulted in a significant drop in ASP. In our view, the overcapacity was due to over-ambitious expansion by wind-turbine manufacturers and the expected slowdown in wind equipment demand (partly due to grid connection bottlenecks).
- Industry consolidation, which we believe is unlikely to completely phase out small players in the next two years.

  We expect market dynamics to continue until smaller / weaker players are driven out of the market. However, we believe the magnitude of the drop in ASP will be smaller than that in FY10. Even with industry consolidation, small players are not likely to be completely edged out of the market by 2012, in our view.
- We have observed low ASPs for contracts signed in FY10 (due for delivery in FY11F). Management guided for a RMB3,800-4,000/kw ASP for FY11F, which is in-line with our estimates.

Fig. 71: Goldwind: Blended ASP trend and forecast



Note: ASP recognized during the year, not ASPs signed in contracts; the above-mentioned blended ASPs have dropped less than our forecasts due to improved product mix.

Source: Company data, Nomura estimates

Gross margin falls as drop in ASP outpaces cost reduction

We expect the gross margin of Goldwind's wind turbine products to come in at 19.7% in FY11F and FY12F, in-line with management's guidance, down from the 22.7% and 25.4% in FY10 and FY09, respectively, as we see the decline in ASP outpacing the drop in production cost. In FY10, the production cost of a 1.5MW turbine dropped 15% while its ASP dropped nearly 20%.

According to management, Goldwind will continue its cost reduction efforts through producing components in-house. Specifically, Goldwind is planning to manufacture the electrical control system in-house. The system is currently built by Infineon. However, we expect the declining trend of ASP, which is likely to outpace the drop in production cost, to continue into FY11F, squeezing the gross margin of wind turbine products.

Significant sales growth unlikely in the next two years

We forecast Goldwind's sales volume will reach 5GW in FY11F, lower than management's target of 5.5GW, representing a modest growth rate of 25% y-y (vs. 97% in FY10). In our opinion, the significant sales volume growth seen over the past few years is unlikely to continue, given:

- Slower domestic wind capacity growth due to grid bottlenecks
- Limited visibility in export orders
- Lack of a track record

We arrive at our 5GW sales volume forecast by incorporating/assuming the following:

- Management's target of 5.5GW;
- Projection of FY11F volume by applying the run-rate of 1Q11; (4,430MW); and
- Projection of FY11F volume by assuming 80% of order backlogs at the end of FY10 would be delivered this year, based on our channel checks (5,264MW).

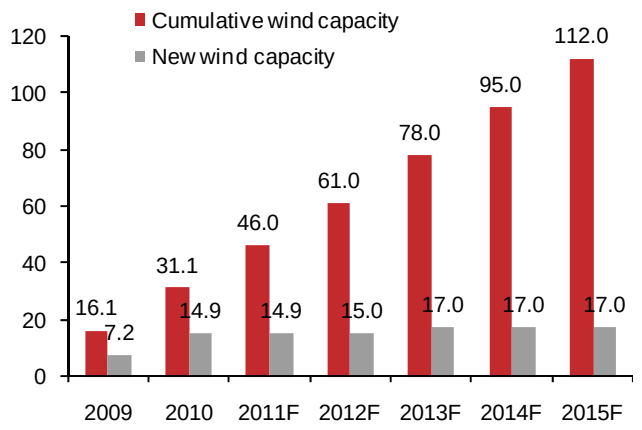
Thus, we come up with 5.06GW (round down to 5GW).

Slower domestic wind capacity growth

In FY10, although ~18.9GW of new wind capacity was installed (Source: CWEA), only 14.9GW of new wind capacity had grid connection (Source: CEC). This indicates grid connection issues, in our view. We believe the installation of new wind capacity is likely to become more rational now. For FY11F and FY12F, we forecast new wind capacity installed in China will reach 17.9GW and 17.0GW, respectively, assuming ~15GW of grid connected new capacity in the next two years with 3GW and 2GW of non-grid connected new capacity (vs. 4GW of non-grid connected new capacity in FY10).

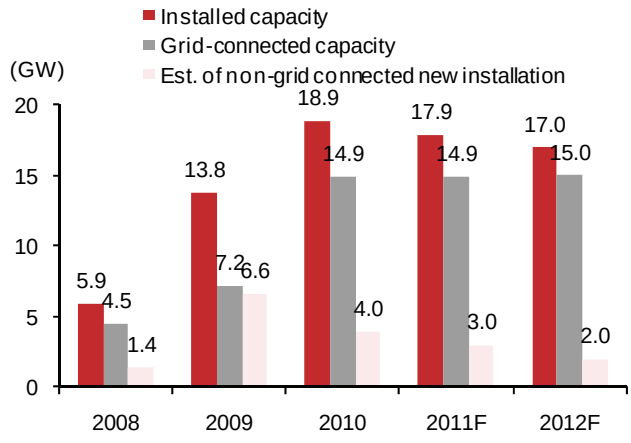
Going forward, we believe substantial growth in annual installation is unlikely given the current high base. This is a negative for Goldwind, as it has to take market share from existing players to facilitate growth.

Fig. 72: Wind capacity forecast in China



Source: CEC, CWEA, Nomura estimates; Note: Grid-connected capacity

Fig. 73: New capacity forecast



Source: CEC, CWEA, Nomura estimates

Goldwind has limited export visibility

Export orders are another potential growth area that Goldwind has yet to tap onto, in our view. We believe Goldwind has an edge over its peers in capturing overseas opportunities, given its:

- Integration with Vensys
- Establishment of overseas offices in the US, Europe and Australia
- Overseas recognition (Goldwind is nominated as "the 50 Most Innovative Companies 2011" on Technology review)

• Cost competitive and industry-wide recognized quality

However, the export market is still largely a frontier for Goldwind, according to management.

Despite its claimed advantages, DDPM still has limited track record

In our view, DDPM technology's lack of a long-term record has put a structural cap on the domestic market shares of Goldwind.

According to Goldwind, DDPM offers advantages over traditional double-fed induction generator wind turbines in the following aspects:

• Lower weight and thus potential cost saving on installation cost;

• Higher efficiency at low wind speed due to the elimination of drive train components;

• Higher technical availability by eliminating the gearbox, one of the common wind turbine failures;

• Lower maintenance cost, achieved by reducing oil and replacement parts through eliminating components of high rotational speed; and

• More grid friendly

Despite having these advantages, we do not see Goldwind's DDPM becoming a mainstream turbine yet amid lack of track record. As wind farms are capital-intensive projects and wind turbines generally have a lifespan of 20-25 years, we think it makes sense for wind farm operators not to rely solely on Goldwind's DDPM to diversify technological and operational risks. Given the projected limited demand growth and Goldwind's already high market share (~20% as in FY10), this is another negative.

Lack of catalysts and disappointing FY11F earnings

We forecast EPS to drop 20.9% y-y in FY11F

Goldwind's 1Q11 earnings (PRG GAAP) fell 17% y-y to RMB206.2mn. EPS dropped 31% y-y to RMB0.0765, largely due to stock dilution from shares issued in 2010. From our conversation with management, the disappointing 1Q11 results were due to: 1) falling ASP and the subsequent margin squeeze; and 2) discontinuation of the more profitable 750kW product line. The company also issued profit warnings, expecting its 1HFY11 operating results to fall by no more than 50% y-y.

For FY11F, we estimate Goldwin's earnings will drop 7.8% y-y, reflecting our assumptions of a 10% drop in ASP and a 3% drop in gross margin for wind turbine products, which would be partially offset by 25% growth in sales volume, on our numbers. However, we estimate EPS will drop 20.8% y-y in FY11F due to share dilution.

Limited positive catalysts in the near term

Given the fundamentals of the wind equipment market and Goldwind's position, we see the below as potential catalysts for Goldwind's development:

- Firm resolution of grid connection issues
- Industry consolidation that completely phases out smaller players and thus, eases ASP pressure
- Substantial growth in the export market (unlike the other player, Shanghai Electric, given the high base of Goldwind, export exposure has to be extremely huge to become a catalyst for the company)

However, we doubt if any of these are going to materialise in the near term.

Risk to our investment view

Where could we go wrong?

Upside risks to our target price include: 1) resolution of grid bottlenecks and thus, unexpected significant growth in domestic wind equipment demand; 2) ASP recovery on the back of easing competition; and 3) higher than expected adoption of direct drive technology.

Resolution of grid bottlenecks and unexpected growth in domestic wind equipment demand

Given the company's exposure to the domestic wind equipment market, if grid bottlenecks are resolved in the immediate term, it would drive wind power development in China and help drive up volume growth for Goldwind.

ASP recovery on unanticipated easing competition

ASP recovery would directly benefit Goldwind's revenue and gross margin.

Higher than expected adoption of direct drive technology

As Goldwind is the biggest domestic player in direct drive wind turbines, its sales volume and earnings can be significantly impacted if the market develops a preference for direct drive over the traditional geared solution.

Valuation methodology

Our target price of HKD9.40 is based on DCF, assuming a WACC of 9.33% and a terminal growth rate of 2%.

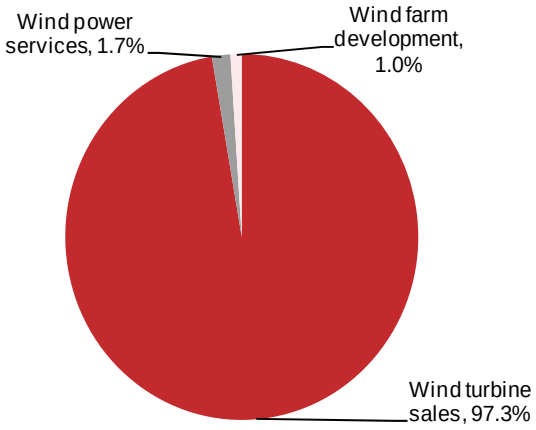
Business description

Company profile

Xinjiang Goldwind primarily engages in R&D and manufacturing and sales of wind turbine generators. As at FY10, the company derived more than 95% of its revenue from customers based in China. However, management is looking to explore export opportunities for its wind turbine generators.

Xinjiang Goldwind has three major business segments: 1) wind turbine generator manufacturing and sales; 2) wind power services segment; and 3) wind farm development segment. As at FY10, the wind turbine generator manufacturing and sales segment made up 97.3% of the company's revenue.

Fig. 74: Goldwind's revenue contribution at FY10



Note: The above diagram ignores the disposal gains on wind farms recorded in other gains/losses
Source: Company data

Wind turbine generator manufacturing and sale

Goldwind was ranked the No. 2 wind turbine manufacturer in China (measured in terms of volume of wind turbines installed) in FY10. The company sold 4,008MW of wind turbine generators during the period. Sales volume of turbine generators witnessed a CAGR of 74.5% over FY07-10. The company booked a revenue of RMB17,005mn from wind turbine sales in FY10.

The major customers of Goldwind's turbines are primarily China's large power producers and other enterprises investing in renewable energy. As at FY10, Goldwind had limited export visibility, with wind turbines accounting for less than 5% of wind turbines sold. Goldwind is aggressive in tackling overseas opportunities. According to management, the company is targeting the US, Europe and Australia as potential markets.

The advantages of Direct Drive

Since the acquisition of Vensys in FY08, Xinjiang Goldwind has captured strong R&D capability and know-how of direct drive wind turbine development. Goldwind's current product-line consists primarily of direct drive permanent magnet wind turbine generators, (vs. the mainstream double-fed induction generator turbines). Goldwind is the largest wind turbine generator manufacturer leveraging direct drive technology in the world (Source: Goldwind, BTM).

According to the company, Goldwind's DDPM (Direct Drive Permanent Magnet) turbines have the following advantages over traditional technology:

- Lower weight, thus lower installation costs for wind farm operators

  The elimination of gearbox, together with the use of rare-earth permanent magnet (instead of induction core), reduces weight. According to management, weight reduction can ease installation and potentially enable cost savings.

• Lower downtime and maintenance cost

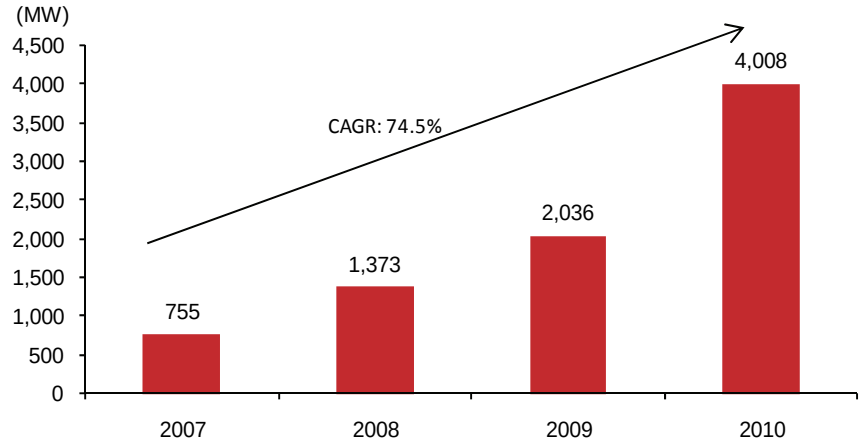
The elimination of gearbox in direct drive wind turbines (the gearbox component was a common failure point of wind turbines in the past) has helped to lower maintenance cost. Direct drive technology reduces the rotation speed of major components and thus, lowers the amount / costs of oil and replacement parts during the life of wind turbines. According to the company's presentation, Goldwind's 1.5MW DDPM provides 98% technical availability while an undisclosed competitor's 850kW gearbox turbine provides 95% technical availability in the same wind farm in Jilin.

• Improvement in efficiency

According to Goldwind, lower rotational speed, together with less drive train components, has enabled its DDPM turbines to be more efficient under low wind speed conditions through reduced loss in kinetic energy.

Despite the above-mentioned advantages, direct drive has yet to become the industry mainstream due to its short track record, as wind turbine equipment has an expected lifespan of ~20 years. Goldwind's major DDPM 1.5MW products have at most an operating track record of four years (the 1.5MW series WTG began sales in 2007). We believe wind farm operators will not rely solely on DDPM technology to diversify technological and operational risks.

Fig. 75: Sales volume in MW (FY07-10)



Source: Company data

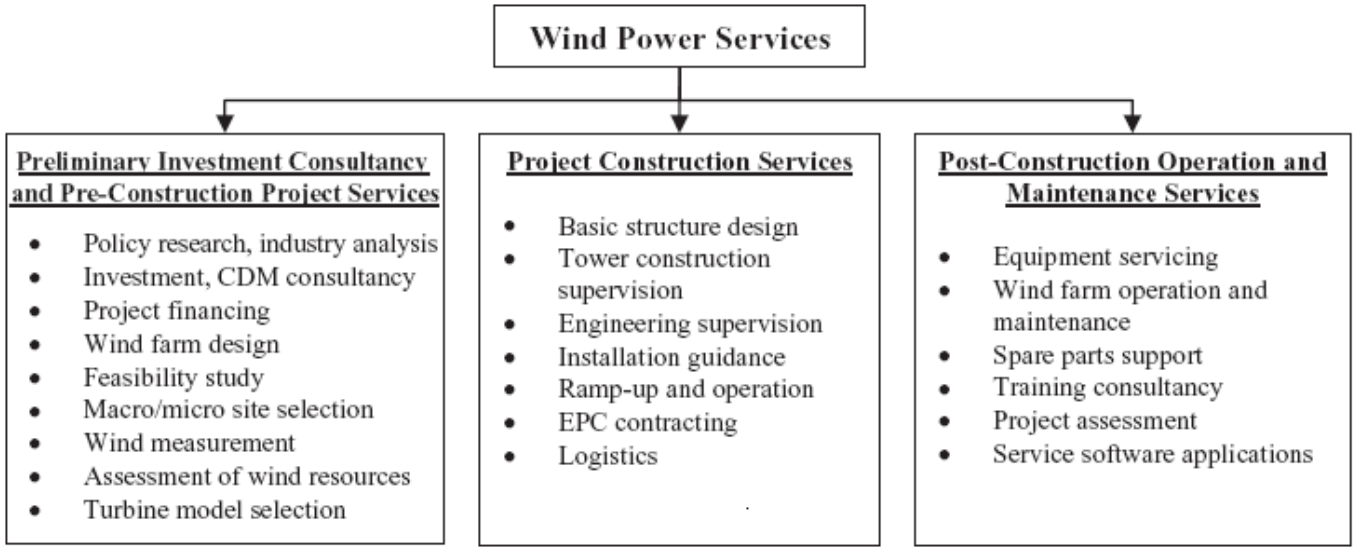
As at 1Q11, the company had nearly 7GW in order backlogs (including concession projects won but contracts not signed).

Wind power services

Goldwind provides professional wind power services in the areas of: 1) preliminary investment consultancy and pre-construction project services; 2) project construction services; and 3) post-construction operation and maintenance services.

In FY10, this segment generated ~1.7% of the company's total revenue. Although small in size, this business segment creates synergies in expanding the customer base for Goldwind's turbines.

Fig. 76: Line of services provided in the wind power services segment



Source: Goldwind's prospectus

Wind farm investment, development and sales

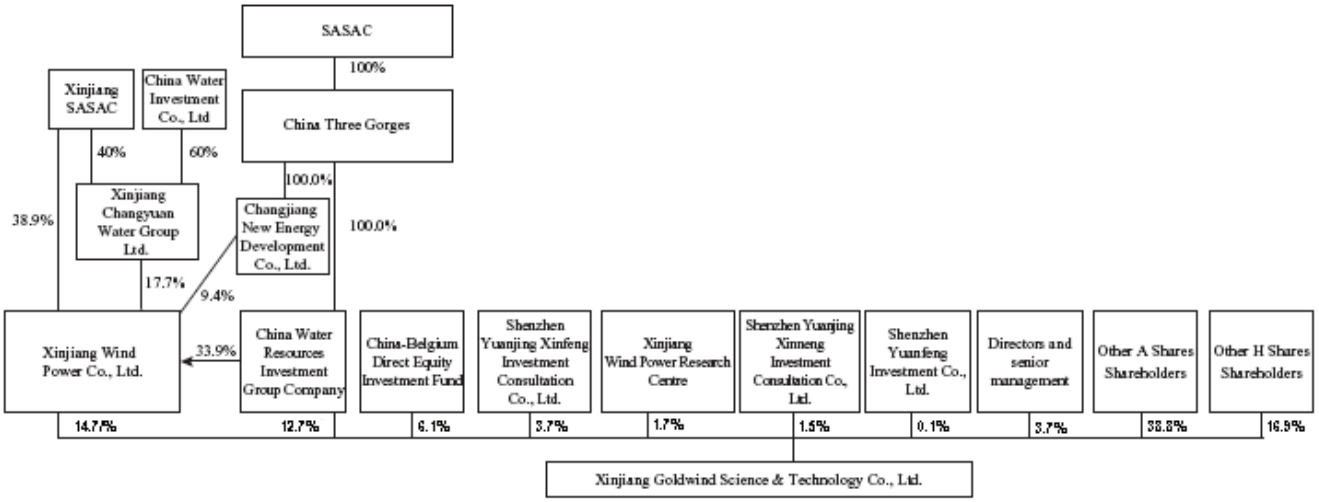
Goldwind engages in wind farm investment and development through this business segment. All wind farms are developed for the purposes of selling and Goldwind has no intent to keep these wind farms for long-term investment. Prior to sales, Goldwind would operate these wind farms and generate revenue through the sales of electricity.

It is worthwhile to note that revenue from the sales of electricity is reported as revenue for this segment while gains in the sales of wind farms' assets are booked as other income and gains. Income from the sales of completed wind farms in FY09 and FY10 was RMB189,8mn and RMB444mn, respectively. For the purpose of comparison, profit before tax was RMB1,990mn and RMB2,906mn, respectively.

As at FY10, the total installed capacity of completed wind farms amounted to 624MW, out of which 417.42MW was attributable. In addition, the attributable installed capacity of the projects under construction is 306.38MW.

Shareholder's structure

Fig. 77: Goldwind's shareholder structure



Source: Company data

Value-chain integration

Fig. 78: Some of Goldwind's integrated value-chain

Up-stream integration		
Beijing Goldwind Science & Creation Wind Power Equipment Co., Ltd.	Subsidiary	Manufacture and sale of wind power equipment
Jiangxi Jinli Mag Rare-Earth Co., Ltd.	Associate	Manufacture and sale of ndfed magnet, and permanent magnet wind power equipment and accessories
LM Glasfiber	Co-operation	Provide blades
Down-stream integration		
XJ Tianyun	Subsidiary	Provide transportation services for Goldwind's WTG
Beijing Tianrun	Subsidiary	Wind farm investment and development
Beijing Tianyuan	Subsidiary	Wind farm construction and technical services and sale of wind power accessories
R&D competency		
Vensys Energy	Subsidiary	Technical services and core R&D competencies in DDPM turbine
Jiangsu Chenfeng New Material Technology Co., Ltd.	J.V.	Research and development of new materials

Source: Company data

Revenue and gross margin projection

Key assumptions

Fig. 79: Goldwind: Key assumption

	2009	2010	2011F	2012F	2013F
Sales volume (MW)					
750kW turbine	444	154	-	-	-
1.5MW turbine	1,592	3,851	4,000	4,000	4,000
2.5MW turbine (incl. some 3MW)		3	1,000	1,500	1,770
Total	2,036	4,008	5,000	5,500	5,770
(y-y %)		*96.9%*	*24.8%*	*10.0%*	*4.9%*
ASP (RMB / kw)					
750kW turbine	3,941	3,542	-	-	-
1.5MW turbine	5,333	4,222	3,800	3,610	3,610
2.5MW turbine		4,929	4,436	4,214	4,214
Blended ASP	5,029	4,196	3,927	3,775	3,795
Revenue (RMB mn)					
Wind turbine	10,347	17,005	19,821	20,946	22,084
750kW turbine	1,750	545	-	-	-
1.5MW turbine	8,487	16,259	15,199	14,439	14,439
2.5MW turbine		15	4,436	6,322	7,459
Others within wind turbine segment	110	185	185	185	185
Wind power services	215	293	366	421	442
Wind farm development	104	178	240	288	303
Total	10,667	17,475	20,427	21,655	22,828
(y-y %)		*63.8%*	*16.9%*	*6.0%*	*5.4%*
Revenue contribution (%)					
Wind turbine	97%	97%	97%	97%	97%
Wind power services	2%	2%	2%	2%	2%
Wind farm development	1%	1%	1%	1%	1%
Total	100%	100%	100%	100%	100%
Gross margin (%)					
Wind turbine	25.4%	22.7%	19.7%	19.7%	19.7%
750kW turbine	32.8%	27.7%	0.0%	0.0%	0.0%
1.5MW turbine	24.1%	22.9%	20.6%	20.0%	20.0%
2.5MW turbine		8.5%	18.0%	20.0%	20.0%
Wind power services and wind farm development	39.1%	36.0%	36.0%	36.0%	36.0%
Overall	25.9%	23.0%	20.2%	20.2%	20.2%

Source: Company data, Nomura estimates

China Longyuan Power 0916.HK 916 HK

ALTERNATIVE ENERGY

NOMURA EQUITY RESEARCH

Prospects bright, but valuations appear full

The growth outlook remains bright, but not a level to chase

June 3, 2011

Rating Remains	**Neutral**
Target price Remains	HKD 7.60
Closing price May 30, 2011	HKD 8.18
Potential downside	-7.1%

Action: Growth intact, but utilisation concerns linger. NEUTRAL

While we remain positive on Longyuan's long-term growth prospects and positioning within China's high-growth wind power industry, grid-related bottlenecks underpin a pensive stance on FY11/12F utilisation, and valuations appear full. With an unchanged DCF-derived TP of HKD7.60/share, our NEUTRAL call stands.

Catalysts: Not a level to chase

As the market-leading wind farm operator in China's high-growth wind power industry, we believe Longyuan is well-placed to sustain growth. Over the near-term, domestic greenfield initiatives should see the group's FY11F capacity base swell by 2GW (+31%), with the planned 400MW asset injection from Longyuan's parent in 3QFY11 a potential upside risk to our assumptions. Over a more extended horizon, supportive policy, international expansion initiatives and diversification into alternative renewables should support a healthy earnings run-rate. However, grid interconnectivity, competition and power rationing remain as lingering constraints to utilisation over our forecast period.

Valuation: Current valuations appear full

Although we believe a premium is justified given Longyuan's superior scale, at 17.2x and 1.8x FY12F P/E and P/BV, and with ROE languishing between 10.6% and 10.8% over our forecast period, we see Longyuan's valuations as full, both in isolation and relative to China wind farm operator peers (trading at average FY12F P/E and P/BV of 11.2x and 1.2x).

Anchor themes

We see wind as the best investment option, as it is the most commercial green energy. Its low cost, scalability and stable output should underpin global installed capacity growth of ~30% pa over the next five to 10 years. We see better growth opportunities down the value chain in Asia.

Nomura vs consensus

We are more pensive on utilisation. We are 10% below consensus earnings.

Research analysts

China Power & Utilities

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+852 2252 6213

31 Dec	FY09		FY10F		FY11F		FY12F
Currency (CNY)	Actual	Old	New	Old	New	Old	New
Revenue (mn)	9,744	14,213	14,213	15,456	15,456	19,855	19,855
Reported net profit (mn)	894	2,019	2,019	2,587	2,587	2,879	2,879
Normalised net profit (mn)	894	2,019	2,019	2,587	2,587	2,879	2,879
Normalised EPS	0.1	0.3	0.3	0.3	0.3	0.4	0.4
Norm. EPS growth (%)	119.1	82.9	82.9	28.2	28.2	11.3	11.3
Norm. P/E (x)	48.2	N/A	26.0	N/A	19.7	N/A	17.2
EV/EBITDA	17.6	N/A	15.4	N/A	11.9	N/A	10.0
Price/book (x)	1.9	N/A	2.2	N/A	1.9	N/A	1.8
Dividend yield (%)	na	N/A	0.8	N/A	1.0	N/A	1.2
ROE (%)	6.9	8.9	8.9	10.6	10.6	10.8	10.8
Net debt/equity (%)	76.7	142.2	142.2	174.1	174.1	202.6	202.6

Source: Nomura estimates

Key company data: *See page 2 for company data, and detailed price/index chart.*
Rating: *See report end for details of Nomura's rating system.*

Key data on China Longyuan Power

Income statement (CNYmn)

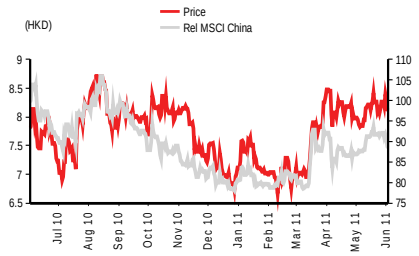
Year-end 31 Dec	FY08	FY09	FY10F	FY11F	FY12F
Revenue	8,555	9,744	14,213	15,456	19,855
Fuel costs	-3,128	-2,290	-2,737	-2,797	-3,895
Repairs & Maintenance	-87	-108	-184	-147	-191
Personnel expenses	-384	-540	-662	-756	-983
SG&A	-107	-148	-219	-176	-229
Other operating expenses	-2,735	-2,783	-5,080	-3,448	-3,947
Employee share expense	0	0	0	0	0
EBITDA	2,114	3,875	5,331	8,132	10,610
Depreciation	-1,083	-1,590	-2,236	-3,422	-4,266
Amortisation	0	0	0	0	0
EBIT	1,031	2,285	3,095	4,711	6,344
Net interest expense	-858	-1,020	-1,098	-1,813	-2,969
Associates & JCEs	53	105	228	-20	-20
Other income	390	574	986	1,064	1,306
Earnings before tax	616	1,944	3,211	3,942	4,662
Income tax	-2	-296	-441	-591	-932
Net profit after tax	614	1,647	2,770	3,351	3,729
Minority interests	-277	-753	-751	-764	-850
Other items	0	0	0	0	0
Preferred dividends	0	0	0	0	0
Normalised NPAT	337	894	2,019	2,587	2,879
Extraordinary items					
Reported NPAT	337	894	2,019	2,587	2,879
Dividends	0	0	-403	-517	-575
Transfer to reserves	337	894	1,615	2,070	2,304
Valuation and ratio analysis					
FD normalised P/E (x)	110.2	48.2	26.0	19.7	17.2
FD normalised P/E at price target (x)	102.4	44.8	24.1	18.3	16.0
Reported P/E (x)	110.2	48.2	26.0	19.7	17.2
Dividend yield (%)	na	na	0.8	1.0	1.2
Price/cashflow (x)	13.1	10.5	13.0	6.2	4.7
Price/book (x)	9.3	1.9	2.2	1.9	1.8
EV/EBITDA (x)	35.6	17.6	15.4	11.9	10.0
EV/EBIT (x)	71.2	29.4	25.8	20.5	16.7
EV per MW (CNY)					
EBITDA margin (%)	24.7	39.8	37.5	52.6	53.4
EBIT margin (%)	12.0	23.4	21.8	30.5	32.0
Net margin (%)	3.9	9.2	14.2	16.7	14.5
Effective tax rate (%)	0.3	15.3	13.7	15.0	20.0
Dividend payout (%)	0.0	0.0	20.0	20.0	20.0
Capex to sales (%)	135.6	167.7	125.6	117.6	101.9
Capex to depreciation (x)	10.7	10.3	8.0	5.3	4.7
ROE (%)	10.0	6.9	8.9	10.6	10.8
ROA (pretax %)	3.8	5.5	5.4	6.0	6.7
Growth (%)					
Revenue	22.9	13.9	45.9	8.7	28.5
EBITDA	22.3	83.3	37.6	52.5	30.5
EBIT					
Normalised EPS	56.9	119.1	82.9	28.2	11.3
Normalised FDEPS	56.9	119.1	82.9	28.2	11.3
Per share					
Reported EPS (CNY)	0.07	0.15	0.27	0.35	0.39
Norm EPS (CNY)	0.07	0.15	0.27	0.35	0.39
Fully diluted norm EPS (CNY)	0.07	0.15	0.27	0.35	0.39
Book value per share (CNY)	0.78	3.62	3.12	3.41	3.73
DPS (CNY)	0.00	0.00	0.05	0.07	0.08

Source: Nomura estimates

Notes

While capacity growth prospects remain strong over our investment horizon, weak utilisation is expected to deflate returns

Price and price relative chart (one year)



(%)	1M	3M	12M
Absolute (HKD)	2.5	16.7	9.1
Absolute (USD)	2.3	16.8	9.2
Relative to index	4.5	12.4	-5.3
Market cap (USDmn)	7,848.4		
Estimated free float (%)	71.6		
52-week range (HKD)	8.76/6.64		
3-mth avg daily turnover (USDmn)	14.99		
Major shareholders (%)			
Guodian	63.7		
China Investment Corp	12.0		

Cashflow (CNYmn)

Year-end 31 Dec	FY08	FY09	FY10F	FY11F	FY12F
EBITDA	2,114	3,875	5,331	8,132	10,610
Change in working capital	-221	1,891	-1,115	563	712
Other operating cashflow	947	-1,681	-195	-519	-860
Cashflow from operations	2,840	4,085	4,021	8,177	10,462
Capital expenditure	-11,603	-16,341	-17,845	-18,170	-20,241
Free cashflow	-8,764	-12,256	-13,824	-9,994	-9,779
Reduction in investments	153	-233	-665	0	0
Net acquisitions	-726	-437	-227	-20	-20
Reduction in other LT assets	0	0	0	0	0
Addition in other LT liabilities	0	0	0	0	0
Adjustments	1,090	1,856	1,049	1,029	1,309
Cashflow after investing acts	-8,246	-11,071	-13,667	-8,984	-8,490
Cash dividends	0	0	0	0	0
Equity issue	1,951	17,514	126	0	0
Debt issue	6,803	9,386	2,359	16,320	17,197
Convertible debt issue	0	0	0	0	0
Others	-315	-330	-1,229	-403	-517
Cashflow from financial acts	8,439	26,570	1,256	15,917	16,680
Net cashflow	193	15,499	-12,411	6,933	8,191
Beginning cash	809	1,002	16,501	4,089	11,022
Ending cash	1,002	16,501	4,090	11,022	19,213
Ending net debt	21,029	16,805	33,086	44,323	56,374

Source: Nomura estimates

Balance sheet (CNYmn)

As at 31 Dec	FY08	FY09	FY10F	FY11F	FY12F
Cash & equivalents	1,002	16,501	4,089	11,022	19,213
Marketable securities	0	0	181	181	181
Accounts receivable	1,241	2,181	3,474	2,964	3,808
Inventories	279	333	632	594	605
Other current assets	2,358	1,352	1,985	3,357	4,236
Total current assets	4,880	20,367	10,362	18,118	28,043
LT investments	698	932	1,416	1,416	1,416
Fixed assets	24,290	37,305	50,642	65,391	81,366
Goodwill	0	0	0	0	0
Other intangible assets	5,083	6,086	7,673	7,673	7,673
Other LT assets	1,097	3,264	4,541	4,541	4,541
Total assets	36,049	67,954	74,634	97,138	123,039
Short-term debt	4,686	17,087	17,200	17,200	17,200
Accounts payable	2,729	1,943	1,515	4,156	5,298
Other current liabilities	1,998	4,662	6,200	4,946	6,251
Total current liabilities	9,413	23,692	24,915	26,302	28,749
Long-term debt	17,345	16,219	19,975	38,145	58,386
Convertible debt	0	0	0	0	0
Other LT liabilities	2,219	2,363	2,330	2,330	2,330
Total liabilities	28,977	42,274	47,220	66,777	89,465
Minority interest	3,198	3,780	4,139	4,903	5,753
Preferred stock	0	0	0	0	0
Common stock	3,163	7,464	7,464	7,464	7,464
Retained earnings	712	14,436	15,811	17,995	20,358
Proposed dividends	0	0	0	0	0
Other equity and reserves	0	0	0	0	0
Total shareholders' equity	3,875	21,900	23,275	25,459	27,822
Total equity & liabilities	36,049	67,954	74,634	97,138	123,039
Liquidity (x)					
Current ratio	0.52	0.86	0.42	0.69	0.98
Interest cover	1.2	2.2	2.8	2.6	2.1
Leverage					
Net debt/EBITDA (x)	9.95	4.34	6.21	5.45	5.31
Net debt/equity (%)	542.6	76.7	142.2	174.1	202.6
Activity (days)					
Days receivable	45.1	64.1	72.6	76.0	62.4
Days inventory	28.3	48.8	64.4	80.0	56.3
Days payable	256.6	355.5	216.0	351.6	423.5
Cash cycle	-183.2	-242.7	-79.1	-195.6	-304.7

Source: Nomura estimates

China's leading wind operator play

Growth profile remains robust

On track for 2GW organic capacity growth in FY11F

During our recent China conference in Hangzhou (April 2011), China Longyuan's management reiterated its bullish growth expectations for FY11F, with guidance for on-grid capacity expansion of 2GW (excluding potential asset injections and the company's overseas expansion drive) and budgeted capex of CNY16bn. Of this, 1,900MW will be in the form of onshore wind farms spread across 18 provinces, with offshore developments accounting for only 100MW of the group's immediate greenfield development pipeline.

Longyuan's immediate and long-term growth prospects remain bright, in our view

According to the company, construction costs for onshore wind farms are currently in the region of CNY8,000/KW, versus between CNY14,000 and CNY15,000/KW for the offshore equivalent. Despite this, Longyuan remains positive on the economics of offshore developments given continued downward pressure on construction costs for offshore projects and these projects' higher tariff potential. According to management, all projects are expected to clear an equity IRR hurdle of 12%, with some projects located in the Xinjian breaching returns of 38%.

Pro-wind policy stance bodes well for long-term growth

NDRC aims to build 70GW of wind capacity over the 12th Five-Year Plan period (2011-15) and to reach 100GW by 2015. It is also likely to raise the 2020 target to 180-200GW, from 120-150GW currently, in Longyuan's view. This is in line with our forecast of 200GW for 2020.

400MW asset injection from parent

In addition, Longyuan expects to acquire 400MW of wind capacity from parent Guodian Group in September 2011, which implies further upside to our current capacity assumptions.

Potential in other renewable…

Longyuan also plans to expand into other renewables arenas, including solar and, on a smaller scale geothermal and biomass. In terms of solar, Longyuan's aggregate installed capacity stands at 38MW (accounting for the lion's share of its 42MW non-wind RE capacity as at end-1QFY11), but its solar energy project pipeline stacked up to as much as 1,950MW as at end-FY10 spanned across regions including Inner Mongolia Gansu, Qinghai, Xinjiang, Ningxia and Beijing.

However, with recent projects tendered at an average solar tariff of around CNY0.72/KWh, management noted at our conference in April that the economics do not currently make sense. As a result, the company will only scale-up investment in solar once the tariff breaches around CNY0.97/KWh, which Longyuan feels would be conducive to achieving equity IRRs of >8%.

… and in international markets

Longyuan aims to establish an international footprint in the coming years. With a capex budget of CNY1.5bn for overseas expansion in FY11, the company plans to establish and expand business in South Africa, the US, Canada, Australia and Eastern Europe.

Utilisation remains a near-term concern

Utilisation was low at 2,200 hours in 2010 due to power rationing and interconnection problems, where excess capacity in Inner Mongolia could not be distributed to adjacent provinces. We believe this has been a catalyst for Longyuan to diversify into other provinces with lower wind potential but higher tariffs, such as Anhui, Hainan, Yunnan and Guizhou. Longyuan expects only minimal improvement to slightly below 2,300 hours this year, due to expected power rationing and increasing competition. However, this may be resolved in 2-3 years given the planned construction of several west-to-east UHV lines this year with a capex budget of CNY260bn. Longyuan expects that all grid connection problems can be resolved by 2015.

Utilisation is a concern over our forecast period given persistent power rationing and interconnection problems

Valuations stretched; NEUTRAL rating maintained

While we remain positive on Longyuan's long-term growth prospects and positioning within China's high-growth wind power industry, at 19.7x and 17.2x FY11/12F EPS, we believe valuations are fairly demanding. On our numbers, the stock trades at a 56% premium to its Chinese wind project operator peer group and with ROE expectations bound between 10.6% and 10.8% over FY11/12F, we view an 80% premium to book as stretched. With an unchanged DCF-derived TP of HKD7.6/share (WACC of 11.8% and 1% terminal growth), our NEUTRAL call stands.

At 17.2x and 1.8x FY12F P/E and P/BV, and with ROE languishing between 10.6% and 10.8% over our forecast period, valuations seem full. Our TP is unchanged at HKD7.6/share; NEUTRAL

Upside risks: 1) faster-than-expected capacity expansion due to improvement in the grid situation; and 2) an unexpected drop in wind turbine prices, thus reducing capital cost. Downside risks: 1) unexpected failure of wind equipment, given the short operating time of Chinese turbines; and 2) uncertainties from wind subsidies and policies.

Appendix I: Review of 1QFY11 results

On 11 May, 2011, Longyuan reported 1QFY11 attributable profits of CNY635mn, in line with our forecast (24.5% of Nomura's FY11F forecast) but slightly light relative to consensus expectations at the time. This represents a 61% y-y improvement, largely on the back of a capacity-driven increase in wind power revenues.

Group revenues improved by 16% y-y to CNY3,536mn, with a 47% y-y increase in Longyuan's consolidated wind capacity base (6,606MW as at end-1QFY11) and stable utilisation lifting wind power revenues by 56% y-y. With capacity unchanged and utilisation steady, revenues from Longyuan's coal-fired power plants remained flat y-y. By contrast, the group's operating costs (+10% y-y) expanded less than proportionately, underpinning a 37% y-y increase in operating profits and a 500bp y-y improvement in 1Q operating margins to 35.2%.

Below the operating line, despite a 35% y-y improvement in pre-tax income, minorities' share and tax provisions remained flat y-y.

Fig. 80: Key 1QFY11 operating statistics

	Installed capacity (MW)			Power generation (MWh)			Avg utilisation (%)	
	1Q10	1Q11	% chg y-y	1Q10	1Q11	% chg y-y	1Q10	1Q11
Wind power business	**4,504**	**6,606**	**47**	**2,572,501**	**3,637,177**	**41**	26	26
Heilongjiang	760	903	19	360,250	492,264	37	22	25
Jilin	299	349	17	161,255	160,144	(1)	25	21
Liaoning	607	805	33	223,369	363,295	63	17	22
Inner Mongolia	993	1,437	45	580,494	625,340	8	27	20
Jiangsu	361	482	34	288,467	261,358	(9)	37	25
Zhejiang	77	93	21	35,347	37,058	5	21	19
Fujian	228	312	37	189,703	368,190	94	39	55
Hainan	50	99	100	17,034	55,153	224	16	26
Gansu	407	858	111	160,903	422,401	163	18	23
Xinjiang	249	398	60	222,996	237,162	6	41	28
Hebei	423	623	47	323,056	514,218	59	35	38
Yunnan	49	99	102	9,628	80,915	740	9	38
Anhui	0	149	na	0	19,680	na	na	6
Coal power business	**1,875**	**1,875**	**-**	**2,762,098**	**2,838,003**	**3**	**68**	**70**
Other RE power business	**29**	**42**	**45**	**20,278**	**40,602**	**100**	**32**	**45**
TOTAL	**6,408**	**8,523**	**33**	**5,354,877**	**6,515,782**	**22**	**39**	**35**

Source: Company data, Nomura research

Fig. 81: 1QFY11 results at a glance

Key financials (RMBmn)	1Q10	1Q11	% chg y-y
Revenue	**3,042**	**3,536**	**16**
Wind power	1,016	1,586	56
Coal power	1,870	1,854	-1
Others	66	96	46
Other net income	78	146	87
Operating expenses	-2,208	-2,437	10
Operating profit	**912**	**1,245**	**37**
Net finance expenses	-230	-331	44
Profit before tax	**683**	**925**	**35**
Income tax	-65	-65	-1
Minority shareholders	-224	-226	1
Attributable profit	**394**	**635**	**61**

Source: Company data, Nomura research

Appendix A-1

Analyst Certification

We, Ivan Lee and Alan Hon, hereby certify (1) that the views expressed in this Research report accurately reflect our personal views about any or all of the subject securities or issuers referred to in this Research report, (2) no part of our compensation was, is or will be directly or indirectly related to the specific recommendations or views expressed in this Research report and (3) no part of our compensation is tied to any specific investment banking transactions performed by Nomura Securities International, Inc., Nomura International plc or any other Nomura Group company.

Issuer Specific Regulatory Disclosures

Mentioned companies

Issuer name	Ticker	Price	Price date	Stock rating	Sector rating	Disclosures
China High Speed Transmission	658 HK	9.62 HKD	27-May-2011	Buy	Not rated	4,58,61
Xinjiang Goldwind	2208 HK	10.32 HKD	27-May-2011	Reduce	Not rated	
China Longyuan Power	916 HK	8.26 HKD	27-May-2011	Neutral	Not rated	4,58

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Previous Rating

Issuer name	Previous Rating	Date of change
China High Speed Transmission	Strong Buy	11-Dec-2008
Xinjiang Goldwind	Not rated	02-Jun-2011
China Longyuan Power	Reduce	18-Mar-2011

Rating and target price changes

	Ticker	Old stock rating	New stock rating	Old target price	New target price
China High Speed Transmission	658 HK	Buy	Buy	20.00	14.80
Xinjiang Goldwind	2208 HK	Not rated	Reduce	N/A	9.80

China High Speed Transmission (658 HK) **9.62 (27-May-2011)** Buy (Sector rating: Not rated)

Rating and target price chart (three year history)

Date	Rating	Target price	Closing price
29-Mar-2011		20.00	13.02
13-Sep-2010		22.00	17.38
20-Apr-2010		23.50	18.20
27-Nov-2009		21.60	17.80
08-Jun-2009		18.80	15.84
11-Dec-2008		15.00	7.40
11-Dec-2008	Buy		7.40
16-Jun-2008		17.50	13.24
16-Jun-2008	Strong Buy		13.24

For explanation of ratings refer to the stock rating keys located after chart(s)

Valuation Methodology Our TP of HKD14.8 is based on DCF with the assumption of 9.5% WACC and a terminal growth rate of 2%.

Risks that may impede the achievement of the target price Risks to our target price include changes in government policy, development of direct drive wind turbine technology, slower-than-expected growth in overseas markets, and stiffer competition in China.

Xinjiang Goldwind (2208 HK) **10.32 (27-May-2011)**

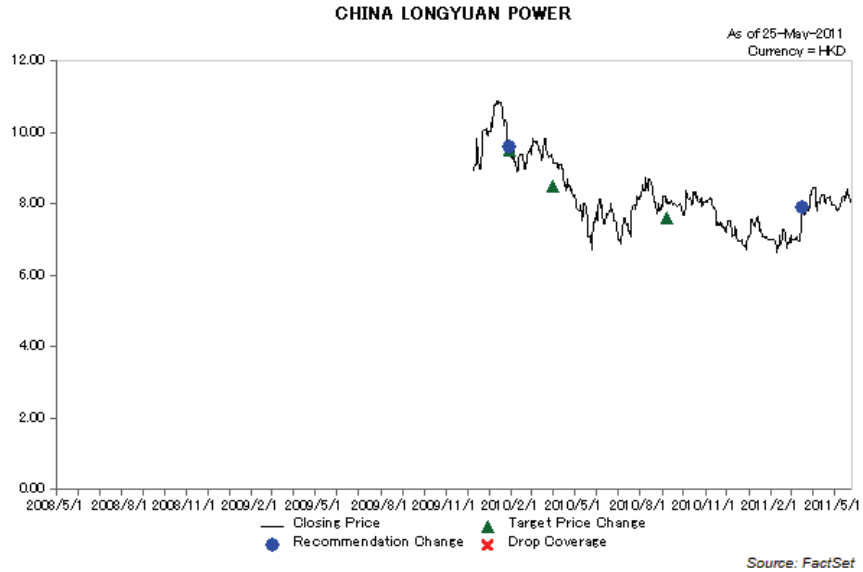
Chart Not Available

Valuation Methodology Our target price of HKD9.40 is derived using the DCF method, assuming a WACC of 9.33% and a terminal growth rate of 2%.

Risks that may impede the achievement of the target price Upside risk to our price target include: 1) resolution of grid bottlenecks and unexpected significant growth in the demand for domestic wind equipment; 2) ASP recovery on the back of easing competition and 3) higher-than-expected adoption of direct drive technology.

China Longyuan Power (916 HK) **8.26 (27-May-2011)** Neutral (Sector rating: Not rated)

Rating and target price chart (three year history)



Date	Rating	Target price	Closing price
18-Mar-2011	Neutral		7.90
09-Sep-2010		7.60	8.16
01-Apr-2010		8.50	9.14
29-Jan-2010		9.50	9.60
29-Jan-2010	Reduce		9.60

For explanation of ratings refer to the stock rating keys located after chart(s)

Valuation Methodology Our target price of HKD7.60 is based on DFC, assuming a WACC of 11.8% and a terminal growth rate of 1%.

Risks that may impede the achievement of the target price Upside risks: 1) faster-than-expected capacity expansion due to improvement in the grid situation; and 2) an unexpected drop in wind turbine prices, thus reducing capital cost. Downside risks: 1) unexpected failure of wind equipment, given the short operating time of Chinese turbines; and 2) uncertainties from wind subsidies and policies.

Important Disclosures

Online availability of research and additional conflict-of-interest disclosures

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Explanation of Nomura's equity research rating system in Europe, Middle East and Africa, US and Latin America for ratings published from 27 October 2008

The rating system is a relative system indicating expected performance against a specific benchmark identified for each individual stock. Analysts may also indicate absolute upside to target price defined as (fair value - current price)/current price, subject to limited management discretion. In most cases, the fair value will equal the analyst's assessment of the current intrinsic fair value of the stock using an appropriate valuation methodology such as discounted cash flow or multiple analysis, etc.

STOCKS

A rating of '**Buy**', indicates that the analyst expects the stock to outperform the Benchmark over the next 12 months.
A rating of '**Neutral**', indicates that the analyst expects the stock to perform in line with the Benchmark over the next 12 months.
A rating of '**Reduce**', indicates that the analyst expects the stock to underperform the Benchmark over the next 12 months.
A rating of '**Suspended**', indicates that the rating and target price have been suspended temporarily to comply with applicable regulations and/or firm policies in certain circumstances including when Nomura is acting in an advisory capacity in a merger or strategic transaction involving the company.
Benchmarks are as follows: **United States/Europe**: Please see valuation methodologies for explanations of relevant benchmarks for stocks (accessible through the left hand side of the Nomura Disclosure web page: http://www.nomura.com/research);**Global Emerging Markets (ex-Asia):** MSCI Emerging Markets ex-Asia, unless otherwise stated in the valuation methodology.

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A '**Bullish'** stance, indicates that the analyst expects the sector to outperform the Benchmark during the next 12 months.
A '**Neutral'** stance, indicates that the analyst expects the sector to perform in line with the Benchmark during the next 12 months.
A '**Bearish'** stance, indicates that the analyst expects the sector to underperform the Benchmark during the next 12 months.
Benchmarks are as follows: **United States**: S&P 500; **Europe**: Dow Jones STOXX 600; **Global Emerging Markets (ex-Asia)**: MSCI Emerging Markets ex-Asia.

Explanation of Nomura's equity research rating system for Asian companies under coverage ex Japan published from 30 October 2008 and in Japan from 6 January 2009

STOCKS

Stock recommendations are based on absolute valuation upside (downside), which is defined as (Target Price - Current Price) / Current Price, subject to limited management discretion. In most cases, the Target Price will equal the analyst's 12-month intrinsic valuation of the stock, based on an appropriate valuation methodology such as discounted cash flow, multiple analysis, etc.
A '**Buy'** recommendation indicates that potential upside is 15% or more.
A '**Neutral'** recommendation indicates that potential upside is less than 15% or downside is less than 5%.
A '**Reduce'** recommendation indicates that potential downside is 5% or more.
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A '**Bearish'** rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a negative absolute recommendation.

Explanation of Nomura's equity research rating system in Japan published prior to 6 January 2009 (and ratings in Europe, Middle East and Africa, US and Latin America published prior to 27 October 2008)

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A rating of '2' or '**Buy'**, indicates that the analyst expects the stock to outperform the Benchmark by 5% or more but less than 15% over the next six months.
A rating of '3' or '**Neutral'**, indicates that the analyst expects the stock to either outperform or underperform the Benchmark by less than 5% over the next six months.
A rating of '4' or '**Reduce'**, indicates that the analyst expects the stock to underperform the Benchmark by 5% or more but less than 15% over the next six months.
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A '**Neutral'** stance, indicates that the analyst expects the sector to perform in line with the Benchmark during the next six months.
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Explanation of Nomura's equity research rating system for Asian companies under coverage ex Japan published prior to 30 October 2008

STOCKS

Stock recommendations are based on absolute valuation upside (downside), which is defined as (Fair Value - Current Price)/Current Price, subject to limited management discretion. In most cases, the Fair Value will equal the analyst's assessment of the current intrinsic fair value of the stock using an appropriate valuation methodology such as Discounted Cash Flow or Multiple analysis etc. However, if the analyst doesn't think the market will revalue the stock over the specified time horizon due to a lack of events or catalysts, then the fair value may differ from the intrinsic fair value. In most cases, therefore, our recommendation is an assessment of the difference between current market price and our estimate of current intrinsic fair value. Recommendations are set with a 6-12 month horizon unless specified otherwise. Accordingly, within this horizon, price volatility may cause the actual upside or downside based on the prevailing market price to differ from the upside or downside implied by the recommendation.
A '**Strong buy'** recommendation indicates that upside is more than 20%.
A '**Buy'** recommendation indicates that upside is between 10% and 20%.
A '**Neutral'** recommendation indicates that upside or downside is less than 10%.
A '**Reduce'** recommendation indicates that downside is between 10% and 20%.
A '**Sell'** recommendation indicates that downside is more than 20%.

SECTORS

A '**Bullish'** rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a positive absolute recommendation.
A '**Neutral'** rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a neutral absolute recommendation.
A '**Bearish'** rating means most stocks in the sector have (or the weighted average recommendation of the stocks under coverage is) a negative absolute recommendation.

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