

CGN Meiya Power

1811 HK

Initiation: another CRG story in the making

- Should double its capacity by 2018 on 3-5GW clean-energy asset injections by its parent, just like CRG in gas distribution sector
- Balanced portfolio should ensure defensive earnings stream; 2014-17E net-profit CAGR of 22% on 2GW injection in 2015-16
- Initiate with Outperform (2) rating; asset injections should be value accretive considering its currently low PBR

Target (HKD): **3.40**

Upside: **13.8%**

10 Jun price (HKD): **2.99**

- 1 Buy
- 2 Outperform (initiation)
- 3 Hold
- 4 Underperform
- 5 Sell

How do we justify our view?



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Investment case

We initiate coverage of CGN Meiya Power Holdings (Meiya), a diversified Asian IPP, with an Outperform (2) rating. We forecast a 2014-17 net-profit CAGR of 22%, which would more than double its current attributable installed capacity in 4 years.

3-5GW clean energy asset injection. Meiya is China's largest nuclear power company and parent CGNPC's sole global platform for clean and renewable power. It targets to selectively acquire 3-5GW (parent: 8.8GW operating, 13.95GW total) of clean and renewable power generation assets from CGNPC over the next 4 years, representing potential upside of 80-140% from its 3.66GW of attributable installed capacity as at end-2014. The first

batch of asset injections is expected to be completed before end-2015.

Diversified portfolio. Meiya has a diversified portfolio in terms of fuel type and geography. Its clean and renewable energy units, including gas-fired and hydro power, constituted 52% of its attributable installed capacity as at end-2014, with traditional energy (coal, cogen and oil-fired power) accounting for the remainder. We believe this balanced portfolio lessens Meiya's exposure to sector-specific risks.

Catalysts

In our view, the asset injections will: 1) raise Meiya's proportion of clean and renewable energy to almost 90%, from 70% currently, in terms of consolidated installed capacity, and 2) be value-accretive, considering its current 2015E PBR of around 2.1x.

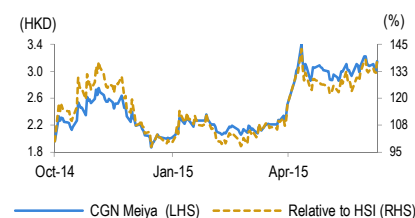
Valuation

Our DCF-based 12-month target price of HKD3.40 implies a 2016E PER of 15x, while the stock is trading currently at 13.3x PER, on par with its clean-energy peers. We argue that Meiya deserves a premium valuation, considering the likely value accretion resulting from asset injections by the parent.

Risks

The main risks: 1) asset injection not following the announced timeline in the event of delayed regulatory approval, and 2) equity dilution risk due to the high financial considerations involved in the asset injections.

Share price performance



12-month range	1.87-3.40
Market cap (USDbn)	1.65
3m avg daily turnover (USDm)	6.98
Shares outstanding (m)	4,291
Major shareholder	CGNPC (72.3%)

Financial summary (USD)

Year to 31 Dec	15E	16E	17E
Revenue (m)	1,363	1,602	1,782
Operating profit (m)	196	262	338
Net profit (m)	104	125	156
Core EPS (fully-diluted)	0.024	0.029	0.036
EPS change (%)	(3.5)	19.8	25.0
Daiwa vs Cons. EPS (%)	1.1	7.7	25.4
PER (x)	15.9	13.3	10.6
Dividend yield (%)	0.9	1.1	1.4
DPS	0.004	0.004	0.005
PBR (x)	2.1	1.8	1.6
EV/EBITDA (x)	11.8	11.6	9.3
ROE (%)	13.8	14.7	16.1

Source: FactSet, Daiwa forecasts

Contents

Initiation: another CRG story in the making.....	6
Investment case.....	6
Well-diversified power generator	9
Risk to existing portfolio looks limited.....	13
Strong parent with quality clean energy power assets for injection	16
Scenario analysis for asset injections	19
Similarities between Meiya and CR Gas.....	21
Financials	23
Valuation	24
Risks	27
Appendix 1: details of CGNPC's wind/solar/hydro assets available for injection into Meiya.	30
Appendix 2: shareholding structure and management profile	31
Appendix 3: financial analysis of a typical wind farm in China.....	33
Appendix 4: the Korea electricity market.....	34
Appendix 5: clean-energy peer comparison	40

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How do we justify our view?

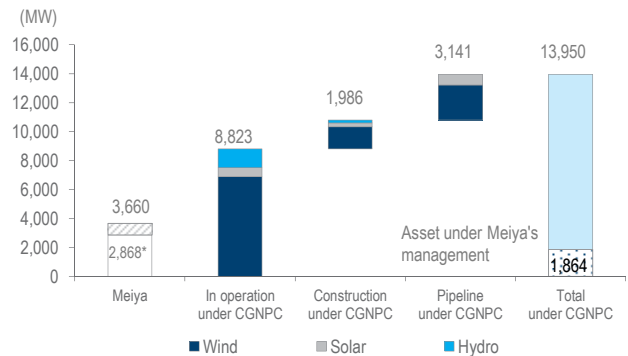
- Growth outlook ✓✓✓✓✓
- Valuation ✓✓✓✓✓
- Earnings revisions ✓✓✓✓✓

■ Growth outlook ✓✓✓✓✓

We forecast Meiya's net profit to see a CAGR of 22% over 2014-17, backed by its first asset injection of 1GW of renewable power assets, which we expect to be completed before end-2015. Its diversified portfolio with decent profitability currently provides steady cash flow for future acquisitions, but we expect its net gearing to rise to 234% in 2015 after the first injection (USD1.2bn using market valuation).

Meiya targets to selectively acquire 3-5GW of clean and renewable power generation assets from its parent, CGNPC, over the next 4 years, representing 80-140% upside potential from its installed capacity as at end-2014.

■ CGNPC: non-nuclear clean & renewable power assets available for injection (2014)



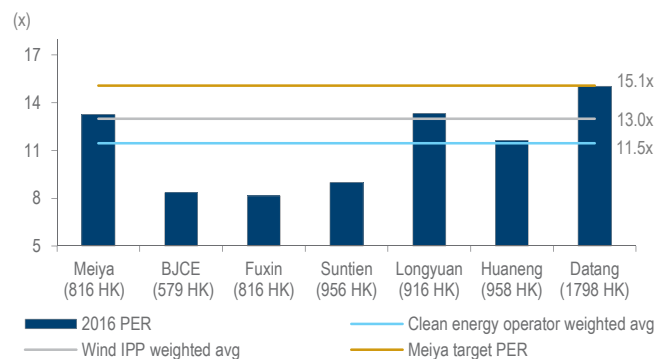
Source: Company, Daiwa estimates

■ Valuation ✓✓✓✓✓

Meiya is trading currently at a 2016E PER of 13.3x, in line with the weighted average multiple of other domestic clean-energy operators. We believe the stock merits a re-rating as, compared with other listcos, Meiya has the most upside potential in terms of assets available for injection from its parent company.

We estimate that Meiya's proportion of clean and renewable energy as a percentage of its whole energy portfolio will increase to almost 70% once the 2GW of asset injections go through by end-2016 (our base case), from 52% currently, in terms of attributable installed capacity. We argue that Meiya merits a premium valuation, as the 3-5GW asset injection (company target) should be value-accretive considering the stock's current 1.8x 2016E PBR.

■ China clean-energy operator: 1-year forward PER



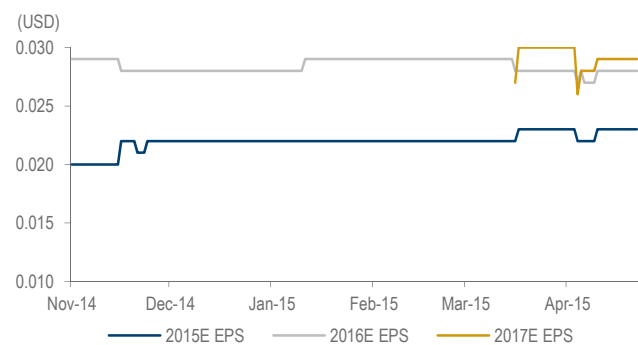
Source: Company, Bloomberg, Daiwa forecasts

Note: data for all companies except Meiya, Fuxin, Suntieng and Beijing Jingneng Clean Energy (BJCE) are from Bloomberg; closing share prices as at 10 June 2015.

■ Earnings revisions ✓✓✓✓✓

The Bloomberg-consensus EPS forecasts for 2015-16 have been broadly unchanged since the company's listing in October 2014. Our 2015E EPS is broadly in line with the consensus. However, our 2016E and 2017E EPS are 8% and 25% above, as we have considered the earnings contribution from the first (before end-2015) and second (before end-2016) batch of 1GW asset injections, while we believe the consensus has not.

■ Meiya: Bloomberg-consensus EPS forecasts



Source: Bloomberg

Financial summary

■ Key assumptions

Year to 31 Dec	2010	2011	2012	2013	2014	2015E	2016E	2017E
EOY Attributable installed clean and renewable energy capacity (MW)	n.a.	944	944	1,578	1,890	1,810	1,810	1,810
EOY Attributable installed conventional energy capacity (MW)	n.a.	1,439	1,436	1,436	1,770	1,770	1,770	1,770
EOY Attributable clean-energy capacity from asset injection (MW)	n.a.	0	0	0	0	1,000	2,000	2,000
EOY Attributable installed capacity (MW)	n.a.	2,383	2,380	3,014	3,660	4,579	5,579	5,579

■ Profit and loss (USDm)

Year to 31 Dec	2010	2011	2012	2013	2014	2015E	2016E	2017E
Retained business	n.a.	755	932	1,037	1,370	1,363	1,422	1,422
Asset injection	n.a.	0	0	0	0	0	180	360
Other Revenue	n.a.	0	0	0	0	0	0	(0)
Total Revenue	n.a.	755	932	1,037	1,370	1,363	1,602	1,782
Other income	n.a.	6	11	9	9	0	0	0
COGS	n.a.	(548)	(706)	(759)	(1,014)	(1,033)	(1,095)	(1,101)
SG&A	n.a.	(34)	(39)	(43)	(59)	(42)	(57)	(66)
Other op. expenses	n.a.	(95)	(108)	(120)	(147)	(92)	(188)	(277)
Operating profit	n.a.	84	91	124	159	196	262	338
Net-interest inc./(exp.)	n.a.	(41)	(38)	(48)	(60)	(79)	(127)	(153)
Assoc/forex/extraord./others	n.a.	(10)	12	33	38	63	67	67
Pre-tax profit	n.a.	33	65	110	138	180	203	252
Tax	n.a.	(14)	(27)	(40)	(37)	(56)	(54)	(67)
Min. int./pref. div./others	n.a.	(8)	(9)	(14)	(16)	(20)	(24)	(30)
Net profit (reported)	n.a.	11	29	55	85	104	125	156
Net profit (adjusted)	n.a.	11	29	55	85	104	125	156
EPS (reported)(USD)	n.a.	0.004	0.009	0.018	0.025	0.024	0.029	0.036
EPS (adjusted)(USD)	n.a.	0.004	0.009	0.018	0.025	0.024	0.029	0.036
EPS (adjusted fully-diluted)(USD)	n.a.	0.004	0.009	0.018	0.025	0.024	0.029	0.036
DPS (USD)	n.a.	0.000	0.000	0.000	0.000	0.004	0.004	0.005
EBIT	n.a.	84	91	124	159	196	262	338
EBITDA	n.a.	139	150	193	253	295	398	505

■ Cash flow (USDm)

Year to 31 Dec	2010	2011	2012	2013	2014	2015E	2016E	2017E
Profit before tax	n.a.	33	65	110	138	180	203	252
Depreciation and amortisation	n.a.	54	59	69	93	100	136	167
Tax paid	n.a.	(14)	(27)	(40)	(37)	(56)	(54)	(67)
Change in working capital	n.a.	0	(161)	(45)	97	4	(17)	(21)
Other operational CF items	n.a.	12	209	92	(84)	82	129	154
Cash flow from operations	n.a.	85	145	185	207	309	396	487
Capex	n.a.	0	(491)	(331)	(195)	(273)	(320)	(356)
Net (acquisitions)/disposals	n.a.	0	(12)	(43)	6	(1,057)	(1,057)	0
Other investing CF items	n.a.	(140)	(69)	88	(63)	0	0	0
Cash flow from investing	n.a.	(140)	(572)	(286)	(252)	(1,330)	(1,378)	(356)
Change in debt	n.a.	0	486	356	(265)	946	1,098	18
Net share issues/(repurchases)	n.a.	0	0	0	262	0	0	0
Dividends paid	n.a.	0	0	0	0	(16)	(19)	(23)
Other financing CF items	n.a.	79	(89)	(522)	177	(82)	(129)	(154)
Cash flow from financing	n.a.	79	397	182	174	848	951	(159)
Forex effect/others	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Change in cash	n.a.	24	(30)	81	129	(172)	(30)	(29)
Free cash flow	n.a.	85	(346)	(146)	12	37	76	130

Source: FactSet, Daiwa forecasts

Financial summary continued ...

■ Balance sheet (USDm)

As at 31 Dec	2010	2011	2012	2013	2014	2015E	2016E	2017E
Cash & short-term investment	n.a.	113	84	168	285	113	82	53
Inventory	n.a.	29	26	28	31	31	33	33
Accounts receivable	n.a.	132	126	97	158	157	185	205
Other current assets	n.a.	245	495	415	314	314	315	317
Total current assets	n.a.	519	730	708	787	615	615	608
Fixed assets	n.a.	751	1,183	1,445	1,483	2,714	3,955	4,144
Goodwill & intangibles	n.a.	0	0	0	0	0	0	0
Other non-current assets	n.a.	163	171	219	216	216	216	216
Total assets	n.a.	1,433	2,084	2,373	2,487	3,545	4,786	4,968
Short-term debt	n.a.	49	126	23	198	378	588	592
Accounts payable	n.a.	106	129	105	157	160	168	168
Other current liabilities	n.a.	150	207	84	91	91	96	97
Total current liabilities	n.a.	305	462	212	445	629	853	857
Long-term debt	n.a.	764	1,172	1,036	838	1,603	2,492	2,507
Other non-current liabilities	n.a.	30	32	631	387	387	387	387
Total liabilities	n.a.	1,099	1,666	1,879	1,671	2,620	3,732	3,752
Share capital	n.a.	0	0	0	0	0	0	0
Reserves/R.E./others	n.a.	240	311	387	709	798	904	1,036
Shareholders' equity	n.a.	240	312	387	709	798	904	1,036
Minority interests	n.a.	94	107	107	107	127	151	180
Total equity & liabilities	n.a.	1,433	2,084	2,373	2,487	3,545	4,786	4,968
EV	n.a.	2,329	2,845	2,478	2,345	3,483	4,635	4,712
Net debt/(cash)	n.a.	700	1,215	891	751	1,869	2,998	3,045
BVPS (USD)	n.a.	0.077	0.100	0.125	0.165	0.186	0.211	0.242

■ Key ratios (%)

Year to 31 Dec	2010	2011	2012	2013	2014	2015E	2016E	2017E
Sales (YoY)	n.a.	n.a.	23.5	11.3	32.1	(0.5)	17.5	11.2
EBITDA (YoY)	n.a.	n.a.	8.0	28.5	31.1	16.8	35.0	26.8
Operating profit (YoY)	n.a.	n.a.	7.7	36.4	28.3	22.8	34.1	28.8
Net profit (YoY)	n.a.	n.a.	156.6	90.6	54.1	22.3	19.8	25.0
Core EPS (fully-diluted) (YoY)	n.a.	n.a.	156.6	90.6	41.2	(3.5)	19.8	25.0
Gross-profit margin	n.a.	27.4	24.3	26.8	26.0	24.2	31.6	38.2
EBITDA margin	n.a.	18.4	16.1	18.6	18.4	21.7	24.9	28.4
Operating-profit margin	n.a.	11.2	9.8	12.0	11.6	14.3	16.4	19.0
Net profit margin	n.a.	1.5	3.1	5.3	6.2	7.6	7.8	8.8
ROAE	n.a.	9.4	10.5	15.8	15.5	13.8	14.7	16.1
ROAA	n.a.	1.6	1.6	2.5	3.5	3.5	3.0	3.2
ROCE	n.a.	14.7	6.4	7.6	9.4	8.2	7.4	8.0
ROIC	n.a.	5.2	3.4	3.7	5.4	4.7	4.6	5.2
Net debt to equity	n.a.	291.1	389.9	230.1	105.9	234.4	331.8	293.9
Effective tax rate	n.a.	36.4	49.6	55.5	50.0	48.0	40.0	36.0
Accounts receivable (days)	n.a.	32.0	50.5	39.2	34.0	42.2	38.9	40.0
Current ratio (x)	n.a.	1.7	1.6	3.3	1.8	1.0	0.7	0.7
Net interest cover (x)	n.a.	2.0	2.4	2.6	2.7	2.5	2.1	2.2
Net dividend payout	n.a.	0.0	0.0	0.0	0.0	15.0	15.0	15.0
Free cash flow yield	n.a.	5.2	n.a.	n.a.	0.7	2.2	4.6	7.9

Source: FactSet, Daiwa forecasts

■ Company profile

CGN Meiya Power, established in 1995, is a diversified Asia IPP investor in terms of fuel type and geography. Positioned as CGN's sole global platform for clean and renewable power, Meiya targets to selectively acquire 3-5GW clean and renewable power generation assets from CGN within the next four years.

Initiation: another CRG story in the making

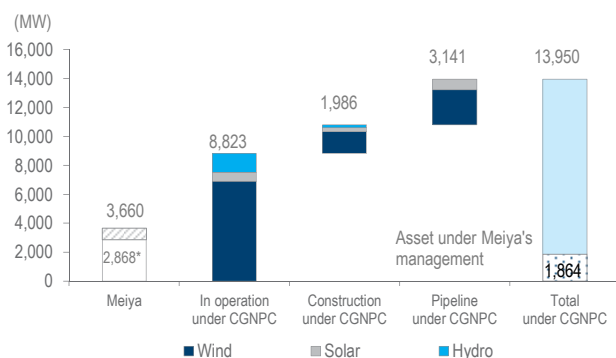
Meiya has a balanced IPP portfolio and several high-quality wind power assets available for injection from its parent

Investment case

CGN Meiya Power, established in 1995, is a diversified Asia IPP investor in terms of fuel type and geography. In 2010, China's largest nuclear power company, CGNPC, acquired Meiya and positioned it as CGNPC's sole global platform for clean and renewable power.

Meiya targets to selectively acquire 3-5GW of clean and renewable power generation assets from CGNPC in the next 4 years, representing 80-140% upside potential from its installed attributable capacity of 3.66MW as at end-2014. Our base case calls for 1GW asset injections in each of 2015 and 2016.

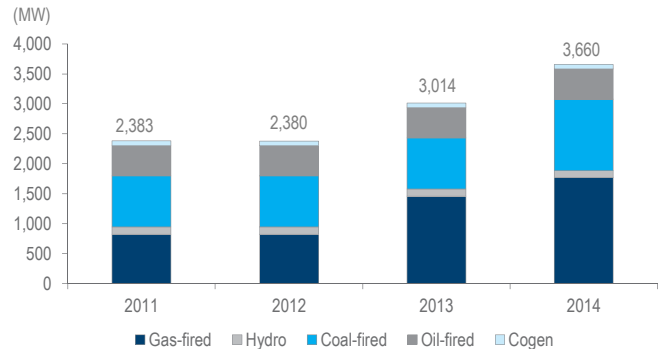
■ CGNPC: non-nuclear clean & renewable power assets available for injection



Note: * indicate attributable capacity
Source: Company

As at end-2014, Meiya had 14 operating power generation projects, with a consolidated installed capacity of 2,867.8MW and attributable installed capacity of 3,659.5MW (and one steam project). We like Meiya for its diversified power-generation portfolio and powerful parent company armed with abundant clean energy (wind, solar, hydro) assets to inject.

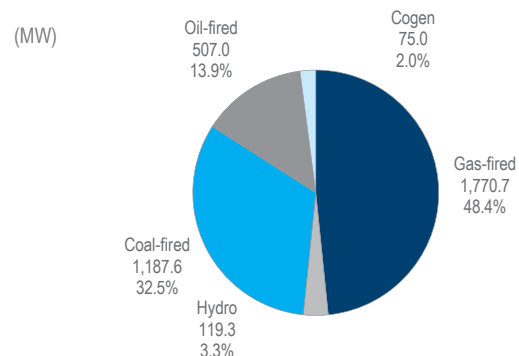
■ Meiya: attributable installed capacity



Source: Company

Meiya has a diversified portfolio in terms of fuel type and geography. It also has a balanced portfolio of renewable and conventional energy projects. Its clean and renewable energy units, including gas-fired and hydro power, constituted 52% of its attributable installed capacity as at end-2014, and conventional energy (coal-fired, cogen and oil-fired power) accounted for the remaining 49%.

■ Meiya: breakdown of power generation projects by sources of power as of 2014 (attributable capacity)

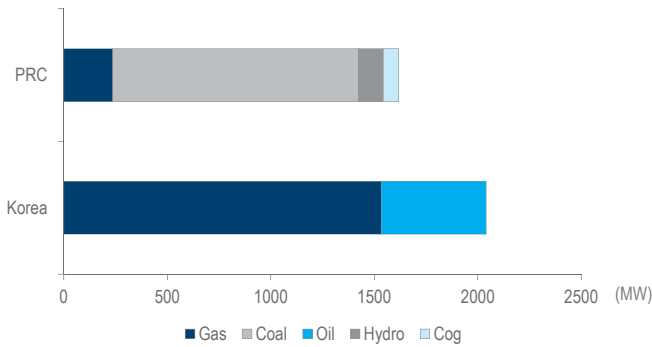


Source: Company, Daiwa forecasts

Before being acquired by CGNPC in 2010, Meiya was considered a foreign background company investing in conventional and renewable energy in Asia. After entering the Korea electricity market in 2002, Meiya successfully established its business arm in the country, which accounted for 55.8% of its total attributable installed capacity and nearly 78% of its total revenue in 2014.

We believe the company is in a favourable position in Korea, as its power plants in the country are either protected by long-term PPAs with government or enjoys high power dispatch priority due to the unit's high efficiency.

■ **Meiya: breakdown of attributable installed capacity by country (2014)**

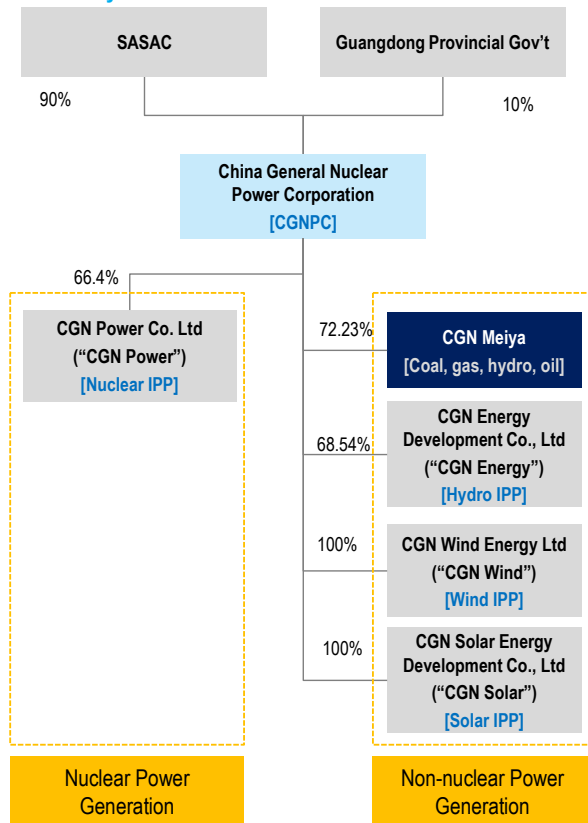


Source: Company

Strong parental support

Parent CGNPC is the largest nuclear power group under the supervision of the SASAC of the State Council. Since 2005, CGNPC has sought to build itself into a leading clean energy group, and it operates its non-nuclear clean energy projects under subsidiaries Meiya, CGN Energy Development (hydro), CGN Wind Energy (wind) and CGN Solar Energy (solar).

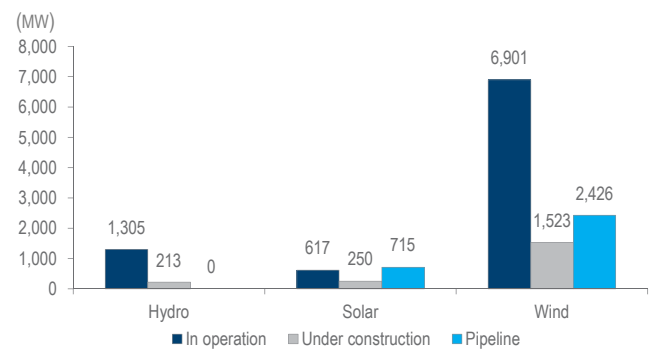
■ **CGNPC: key subsidiaries**



Source: Company, Daiwa forecasts

As of 2014, CGNPC's total consolidated capacity of operating hydro/wind/solar power projects amounted to 8.823GW, with a further 1.986GW under construction and 3.141GW in the pipeline. Meiya has been granted acquisition rights to acquire CGNPC's non-nuclear power generation projects, and the first batch of asset acquisition of 1GW is expected to be completed by end-2015, most being wind projects given their higher profitability compared with hydropower and solar.

■ **CGNPC: non-nuclear clean & renewable energy portfolio**

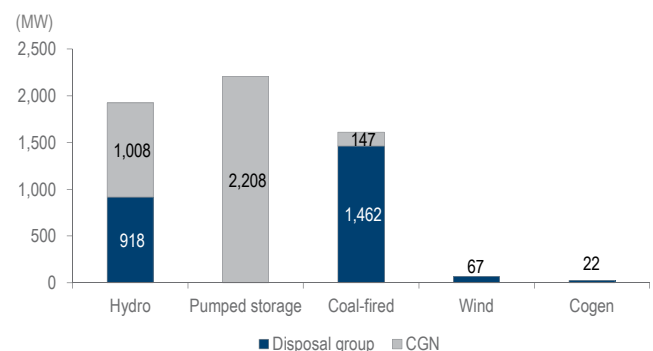


Source: Company, Daiwa forecasts

Meiya's chairman, Mr. Chen Sui, was appointed in 2014, the same year as the company was listed, to promote the smooth transfer of power assets to Meiya in the future. Mr. Chen is also CGNPC's chairman of wind, solar and energy services, as well as supervisor of CGN Power.

Management plans to have core staff and key development teams for all CGNPC's renewable assets on board with Meiya by end-2015 at the latest, as Meiya would operate all of CGNPC's wind/solar/hydropower assets by then. However, ownership will be transferred in phases, while future injections will require the approval of the SASAC and other regulatory authorities.

■ **Meiya: asset under management from CGNPC group in operation**



Source: Company, Daiwa forecasts

CGNPC holds its wind power assets under fully owned subsidiary CGN Wind. According to the China Wind Energy Association, CGN Wind was ranked the No.5 China wind power operator, holding 7.542GW cumulative wind power installed capacity as of end-2014, comprising 6.6% of the market share. In 2014, CGN Wind ranked No.3 in new connected capacity with 2.5GW and nearly 2GW under construction.

■ **CGN Wind: ranked No.5 in terms of consolidated installed wind power capacity**

Rank	Company	Installed capacity (MW)		Market share	
		2014	2013	2014	2013
1	China Guodian Cooperation	20,546	17,508	17.9%	19.2%
2	China Huaneng Group	13,138	10,686	11.5%	11.7%
3	China Datang Cooperation	11,399	10,569	10.0%	11.6%
4	China Huadian Cooperation	9,409	6,031	8.2%	6.4%
5	China General Nuclear Power Cooperation	7,542	5,001	6.6%	5.8%
6	China Power Investment Cooperation	7,291	5,268	6.4%	5.5%
7	Shenhua Guohua Power	5,295	4,897	4.6%	5.4%
8	China Resources	4,171	3,079	3.6%	3.4%
9	Tianrun	2,968	2,608	2.6%	2.9%
10	Three Gorges Corporation	2,409	1,928	2.1%	2.1%
	Others	30,441	24,003	26.6%	26.3%
	Total	114,609	91,413		

Source: China Wind Energy Association

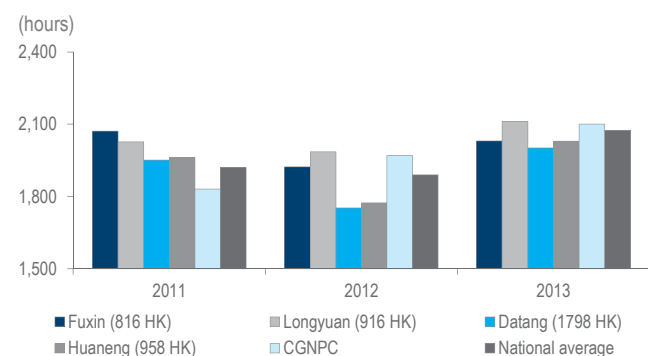
■ **CGN Wind: ranked No.3 in new connected capacity**

Ranking	Company	Newly Connected capacity(MW)		yoy
		2014	2013	
No.1	China Huadian Cooperation	3,379	1,164	56%
No.2	China Guodian Cooperation	3,037	1,751	17%
No.3	China General Nuclear Power Cooperation	2,541	1,537	51%
	China Huaneng Group	2,452	1,330	23%
	China Power Investment Cooperation	2,023	1,712	38%
	China Resources	1,092	554	35%
	China Datang Cooperation	830	821	8%
	Shenhua Guohua Power	406	217	8%

Source: China Wind Energy Association

We believe CGNPC's wind projects are of superior quality to those of its peers considering their higher average utilisation rates and better profitability, and the future injection of the wind assets into Meiya should be value-accretive for Meiya.

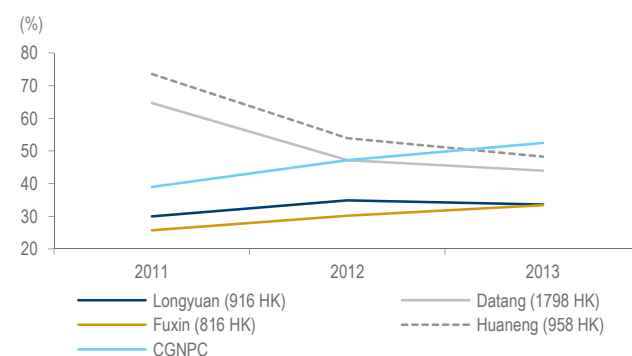
■ **CGN wind: wind-power plants' utilisation rates vs. national average and levels for competitors (2013)**



Source: Companies

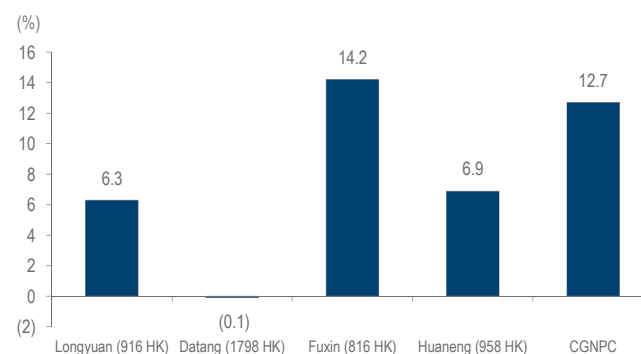
In our opinion, management's expertise is best evidenced by CGN Wind's above-industry average ROE (1H14: CGN Wind: 12.7%, wind IPP average: 8%) and higher project margins (2013: CGNPC: 52%, wind IPP average: 42%) when compared with other major listed wind IPPs.

■ **CGN Wind: higher operating margin than its competitors (2011-13)**



Source: Bloomberg

■ **CGN Wind: above-industry average ROE (1H14)**



Source: Bloomberg

Well-diversified power generator

Established in 1995, Meiya is a diversified Asia IPP investor in terms of fuel type and geography. Before being acquired by CGNPC in 2010, Meiya was viewed as a foreign company investing actively in conventional and renewable energy in Asia. Thus, unlike its other listed peers, which focused only on the China market, Meiya entered the Korea electricity market back in 2002.

After years of development, Meiya's consolidated installed capacity in Korea now represents 10.7% of the total installed capacity of the Korean IPPs, making it one of the largest IPPs in Korea. Its Korea business accounted for 55.8% of its total attributable installed capacity and 78% of its total revenue in 2014.

We think the company benefits from having a strong foothold in Korea, for the following reasons:

1) Some 30% of its Korea capacity is protected by long-term PPAs with Korea's largest electric utility, Korea Electric Power (KEPCO), which expires in 2025. The high fixed-capacity charge agreements include an energy charge, allowing Meiya to fully pass through fluctuations in fuel prices, which should ensure that the company sees a stable return.

2) Meiya enjoys high power dispatch priority and a wide spark spread (system margin price [SMP]-variable cost) due to Yulchon II's high efficiency. The electricity generated by its Yulchon II unit is sold on an open-market bidding system at the Korea Power Exchange (KPX) through a power pooling system, whereby settlement prices (called system marginal prices) are determined as the cost of last unit of electricity demanded. This mechanism favours high-efficiency units for their higher spark spreads, and offers a high level of profitability.

The subsequent power generators with higher-than-SMP variable costs do not receive purchase orders.

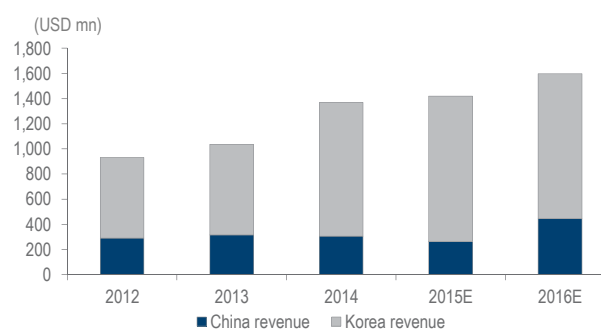
Yulchon II's gas turbines were developed using proprietary MHPS technologies. With turbine inlet temperatures of 1,600°C, systems of this type can achieve the world's highest level of efficiency and largest power generation capacity. Thus, highly efficient Yulchon II can also enjoy higher dispatch priority than its local Korean peers.

Meiya: key assumptions for Korean operation

	2011	2012	2013	2014	2015E	2016E	2015E YoY	2016E YoY
Attributable installed capacity								
Gas (MW)	588	588	1222	1534	1534	1534	0%	0%
Oil (MW)	507	507	507	507	507	507	0%	0%
Utilization hours								
Gas (hours)	4,752	5,400	4,258	4,488	4,700	5,000	5%	6%
Oil (hours)	331	720	478	53	53	53	0%	0%
On-grid tariff								
Gas (KRW/kWh)	149	167	169	166	159	159	-4%	0%
Oil (KRW/kWh)	453	496	459	445	459	459	3%	0%
Unit fuel cost (KRW/kWh)								
Gas (KRW/Nm ³)	723	802	797	823	791	791	-4%	0%
Oil (KRW/litre)	1,345	1,640	1,499	1,456	1,480	1,480	2%	0%

Source: Company, Daiwa estimates

Meiya: revenue breakdown by country of operation



Source: Company, Daiwa estimates

Strategically located in 2 of the fastest-growing power markets, Meiya stands to benefit from the growing opportunities in those markets and hedging against country-specific risks.

Meiya: power assets in Korea and agreement type

Name	Type	COD	Gross Installed Capacity (MW)	Offtake Description	Tariff	Note
Yulchon I	Gas	Simple cycle operations: July 2004 Combined cycle operations: July 2005 Fuel cell: Aug 2009 and Dec. 2011	587.8	Long term PPA with KEPCO	Capacity charge+ energy charge+ start up charge	Protected by long-term PPA fully pass through fuel cost
Yulchon II	Gas	Simple cycle operations: June 2013 Combined cycle operations: April 2014	946.3	Power pooling with KPX	Capacity charge + system marginal price	High thermal efficiency with the most up-to-date technology
Daesan I	Oil	Mar-98	507	Power pooling with KPX	Capacity charge + system marginal price	Capacity charge cover most of its fixed costs

Source: Company, Daiwa estimates

Meiya strengthened its foothold in China after being acquired by CGNPC in 2010. Unlike other traditional SOEs that concentrate on their familiar local markets, Meiya has developed its China business in a broader fashion, whereby its China power assets are strategically concentrated in provinces with high electricity demand.

■ **Meiya: concentrated in provinces with high electricity demand**

(TWh)	2012	2013	2014
Guangdong	462	483	524
Jiangsu	458	496	501
Shandong	379	408	422
Zhejiang	321	345	351
Hebei	308	325	331
Henan	275	290	292
Inner Mongolia	202	218	242
Liaoning	190	201	204
Sichuan	183	195	201
Fujian	158	170	186
Shanxi	177	183	182
Hubei	151	163	166
Anhui	136	153	158
Yunna	130	146	152
Xinjiang	98	134	150
Hunan	135	142	143
Shanghai	135	141	137
Guangxi	115	124	131
Shaanxi	107	115	123
Guizhou	105	112	117
Gansu	99	107	110
Jiangxi	87	95	102
Beijing	87	92	94
Chongqing	73	81	86
Heilongjiang	83	85	86
Ningxia	74	81	85
Tianjin	72	77	80
Qinghai	60	68	72
Jiling	64	65	67
Hainan	21	23	25
Tibet	n.a.	n.a.	3.
Total	4,945	5,319	5,522

Source: China Electricity Council

Note: highlighted provinces are CGNPC Meiya's major operating regions

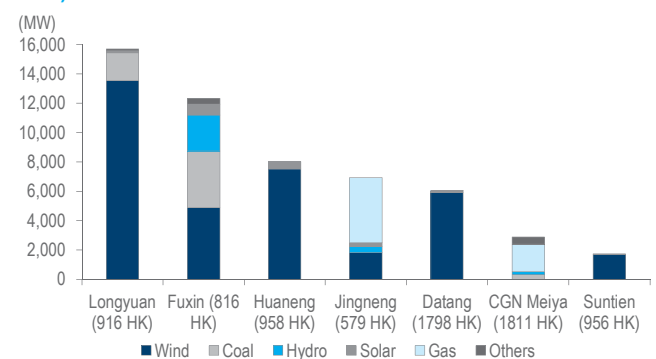
Meiya has a balanced portfolio of conventional and renewable energy projects. Its clean and renewable energy units, including gas-fired and hydro power, comprised 52% of its attributable installed capacity as of 2014, while conventional energy (coal, cogen and oil-fired power) accounted for the remaining portion.

■ **Meiya: attributable installed capacity**

(MW)	2011	2012	2013	2014	2014 Proportion
Clean and renewable energy portfolio					
Gas-fired	824.4	824.4	1,458.6	1,770.7	48.4%
Hydro	119.3	119.3	119.3	119.3	3.3%
Subtotal	943.7	943.7	1,577.9	1,890.0	51.6%
Conventional energy portfolio					
Coal-fired	854.4	854.4	854.4	1,187.6	32.5%
Oil-fired	507.0	507.0	507.0	507.0	13.9%
Cogen	78.0	75.0	75.0	75.0	2.0%
Subtotal	1,439.4	1,436.4	1,436.4	1,769.6	48.4%
Total attributable installed capacity	2,383.1	2,380.1	3,014.3	3,659.6	100%

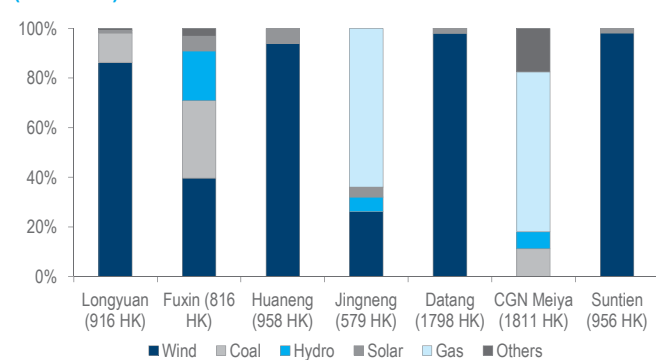
Source: Company, Daiwa estimates

■ **China wind IPPs: power generation portfolio by fuel type (end-2014)**



Source: Companies, Daiwa research

■ **China: portfolio of power generation projects by fuel type (end-2014)**

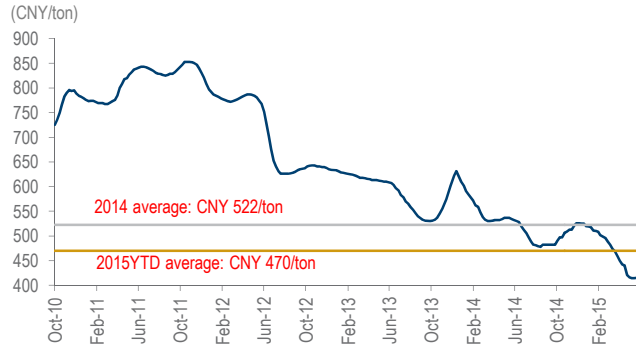


Source: Companies, Daiwa research

Beneficiary of low coal prices

Over the next 3-5 years, we think Meiya stands to enjoy improved returns and cash flow from coal-fired power plants, assuming coal prices remain at a relatively low level. China's benchmark thermal coal prices have been hitting new lows since the Bohai Rim Steam-coal price Index was first released in August 2010, and dropped to an all-time low recently (CNY414/tonne as at 27 May 2015). The index is down 21% YTD.

■ **China: Bohai Rim steam-coal price (Qinhuangdao 5,500K) cost**



Source: Qinhuangdao Coal Exchange

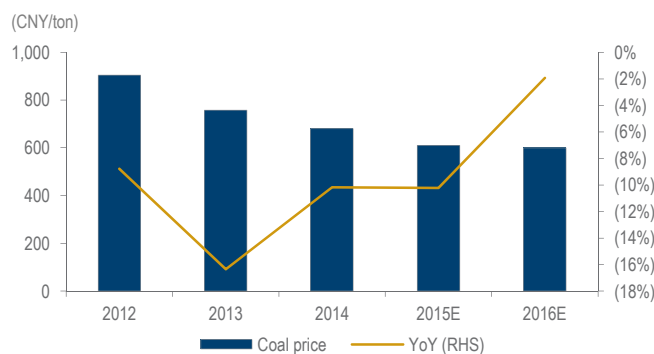
■ **China: coal inventory level at major coal-fired power plants**



Source: wind

Meiya's unit coal cost declined by 10% YoY to CNY680/tonne for 2014, and we see coal prices dropping by a further 10% YoY in 2015, factoring in the sharp fall of more than 20% YTD. Given the high level of coal inventory at key power plants in China (>20 days), and lacklustre demand, we see coal prices remaining low in 2015 and 2016.

■ **Meiya: unit coal costs**



Source: Company, Daiwa estimates

We believe China's coal prices are capped by the prevailing lacklustre thermal power demand and the government's long-term goal to transform the country's

energy structure, which place more emphasis on clean energies.

■ **China: installed power generation capacity – falling proportion of coal-fired power plants**

(GW)	2006	2007	2008	2009	2010	2011	2012	2013	2014
Hydro	128.6	145.3	171.5	196.8	216.1	230.5	248.9	280.0	301.8
Coal	484.1	554.4	601.3	652.1	709.7	765.5	819.2	862.4	915.7
Wind	1.9	4.0	8.9	16.1	29.6	45.1	60.8	75.5	95.8
Nuclear	6.9	8.9	8.9	9.1	10.8	12.6	12.6	14.6	19.9
Solar & Others	0.7	0.7	1.9	0.0	0.3	2.2	3.4	14.9	27.0
Total	622.0	713.3	792.5	874.1	966.4	1,055.8	1,144.9	1,247.4	1,360.2
Proportion (%)	2006	2007	2008	2009	2010	2011	2012	2013	2014
Hydro	20.7%	20.4%	21.6%	22.5%	22.4%	21.8%	21.7%	22.4%	22.2%
Coal	77.8%	77.7%	75.9%	74.6%	73.4%	72.5%	71.5%	69.1%	67.3%
Wind	0.3%	0.6%	1.1%	1.8%	3.1%	4.3%	5.3%	6.1%	7.0%
Nuclear	1.1%	1.2%	1.1%	1.0%	1.1%	1.2%	1.1%	1.2%	1.5%
Solar & Others	0.1%	0.1%	0.2%	0.0%	0.0%	0.2%	0.3%	1.2%	2.0%

Source: Company, Daiwa estimates

Although other energy sources, such as wind, solar power have been accounting for more of China's power supply over the past few years (rising from 22% for 2006 to 33% for 2014), thermal power still accounts for more than 67% of the country's total power generation. Moreover, clean energy can only provide intermittent electricity supply due to fluctuations in the availability of nature resources (wind speed and sunlight gradient), so coal-fired projects are complementary to other energy sources under the current conditions.

Clean energy has priority in terms of dispatch over coal-fired power in China. However, the utilization hours of wind/solar depend mainly on the availability of nature resources, while coal-fired power plants cover the short-term changes in power –network supply and demand. Given this, Meiya's balanced portfolio of coal-fired power and clean energies in the future provides it with greater resilience against short-term utilisation risk. In years when wind or solar resources are at low levels, the company's coal-fired power output should provide a buffer to offset the drop in earnings from clean energies.

Under the revised coal cost-pass-through mechanism announced by the State Council in December 2012, the NDRC cut coal-fired IPP tariffs in September 2014 by 2-2.5% (CNY0.0093/kWh in average) and again in April 2015 by 2-7% (CNY0.02/kWh in average). The impact of the mild cut looks relatively small given that returns for listed coal-fired and cogen IPPs remain high, at around a 15-20% ROE as of 2013-14.

■ **Coal-fired and cogen IPP tariffs as of April 2015**

Project name	Stake (%)	Location	Gross capacity (MW)	Tariff before adjustment (CNY/MWh)	Tariff cut in Sep 2014 (CNY/MWh)	Tariff cut in April 2015 (CNY/MWh)	Tariff after adjustment (CNY/MWh)
Coal-fired IPP							
Puguang	59.5	Henan	250	419	(9.3)	(19.4)	390.3
Huangshi I	49	Hubei	760	459	(9.3)	(17.6)	432.1
Huangshi II	49	Hubei	1,360	459	(9.3)	(17.6)	432.1
Cogen							
Nantong	100	Jiangsu	48	431	(9.3)	(21.4)	400.3
Haian	100	Jiangsu	27	431	(9.3)	(21.4)	400.3
Total			2,445				

Source: Company, Daiwa estimates

Based on our sensitivity analysis, we estimate that a 1% drop in coal-fired power tariffs in 2016 would lead to a 0.5% decline in our 2016 net profit forecast, and a 0.4% drop in our net asset value estimate.

■ **Meiya: sensitivity of earnings, NAV and ROE to changes in coal-fired power tariff in 2016**

coal-fired power tariff in 2016	NAV (HKD)	2016E Net profit (USDm)	2016E ROE	2014-17E EPS CAGR
5%	3.47	127.7	14.99%	13.75%
3%	3.44	126.5	14.86%	13.48%
1%	3.41	125.4	14.73%	13.22%
Base case, 0%	3.40	124.8	14.67%	13.08%
-1%	3.39	124.2	14.61%	12.95%
-3%	3.36	123.1	14.48%	12.68%
-5%	3.34	121.9	14.36%	12.41%
-7%	3.31	120.8	14.23%	12.14%

Source: Daiwa estimates

■ **Meiya: sensitivity of earnings, NAV and ROE to changes in coal-fired power tariff (relative to base case)**

coal-fired power tariff in 2016	NAV (HKD)	2015E Net profit (USDm)	2015E ROE	2013-16E EPS CAGR
5%	1.9%	2.3%	0.32pp	0.66pp
3%	1.1%	1.4%	0.19pp	0.40pp
1%	0.4%	0.5%	0.06pp	0.13pp
Base case, 0%	0.0%	0.0%	0.00pp	0.00pp
-1%	-0.4%	-0.5%	-0.06pp	-0.13pp
-3%	-1.1%	-1.4%	-0.19pp	-0.40pp
-5%	-1.9%	-2.3%	-0.32pp	-0.67pp
-7%	-2.6%	-3.2%	-0.44pp	-0.94pp

Source: Daiwa estimates

■ **Meiya: key assumptions for China operation**

	2011	2012	2013	2014	2015E	2016E	2015E YoY	2016E YoY	Comments
Attributable installed capacity									
Coal (MW)	857	854	854	1188	1188	1188	0%	0%	Commission of Huangshi II in 2014
Cogen (MW)	75	75	75	75	75	75	0%	0%	
Gas (MW)	237	237	237	237	138	138	-42%	0%	Shutdown of Hexie in 2014
Hydro (MW)	119	119	119	119	137	137	15%	0%	Commission of Fushi II
Utilization hours (hours)									
Coal (hours)	5,429	4,741	5,131	4,340	4,327	4,327	0%	0%	
Cogen (hours)	3,645	5,199	6,250	5,803	6,001	6,001	3%	0%	
Gas (hours)	1,763	1,130	2,004	1,716	1,935	1,989	13%	3%	
Hydro (hours)	4,157	4,669	4,784	4,862	4,800	4,800	-1%	0%	
On-grid tariff									
Coal (CNY/kWh)	0.483	0.523	0.514	0.498	0.477	0.477	-4%	0%	Factor in price adjustment due to coal cost-pass-through mechanism
Cogen (CNY/kWh)	0.511	0.533	0.528	0.505	0.498	0.498	-1%	0%	
Gas (CNY/kWh)	0.587	0.580	0.625	0.597	0.556	0.559	-7%	1%	Hexie plant is with high on-grid tariff and high unit fuel cost; thus its shutdown in 2014 decreased the average on-grid tariff
Hydro (CNY/kWh)	0.352	0.347	0.333	0.330	0.345	0.345	4%	0%	
Steam price (CNY/ton)	226	229	206	194	199	199	3%	0%	

Source: Daiwa estimates

Risk to existing portfolio looks limited

Well-protected electricity earnings

Meiya's China and Korea power projects are operated under 3 different types of offtake arrangements.

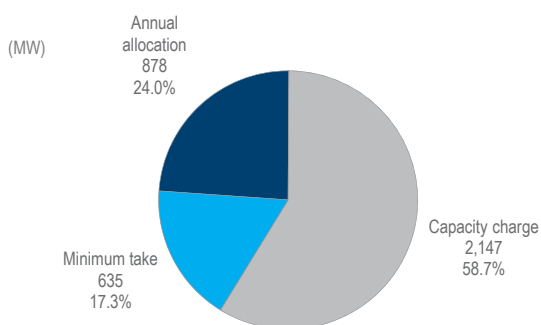
■ Meiya: offtake arrangements

Type	Term	Explanation
Minimum take arrangement	20-25 year	Offtakers purchase a defined minimum volume of electricity generated, and the tariffs for the sale of electricity are reviewed and determined by the relevant authorities from time to time
Capacity charge arrangement	20-25 year	In addition to the payment received for electricity purchased, defined payments are also made based on the capacity available for dispatch regardless of actual generation, and where the tariffs for the sale of electricity are determined based on various factors such as construction costs, tax rates, financing costs and producer price indices
Annual allocation arrangement	1 year	An output volume is agreed with the local power grid or regulatory authorities, on an annual basis, and the tariffs for the sale of electricity are reviewed and determined by the relevant authorities from time to time

Source: Company, Daiwa estimates

Among the 3 offtake arrangements, the capacity charge and minimum take arrangements provide long-term guarantees for Meiya's revenue, representing 76% of its total attributable installed capacity as of 2014. The revenue secured under offtake arrangements helps Meiya mitigate the risks associated with the power generation business, in particular demand risk, and provides stable cash flow.

■ Meiya: attributable installed capacity distributed by offtake arrangements as of 2014



Source: Company, Daiwa estimates

The average remaining years on Meiya's PPAs for its Korea and China projects, weighted by attributable installed capacity, is around 9 years, which we believe provides long-term visibility on the potential revenue stream from its projects. In addition to providing for more predictable revenue streams, some of Meiya's PPAs, such as that for the Yulchon I power project, allow for regular tariff adjustments taking into account various factors, such as fluctuations in the cost of financing and fuel costs, and are indexed for inflation.

In addition, Meiya's unprotected hydro and cogen power projects in China that do not have long-term PPAs benefit from the dispatch priority policy implemented by the China Government in 2011. Its cogen power projects in China benefit from favourable dispatch priority since they have met certain heat-to-power ratio requirements.

Better asset structure through disposal

To achieve a better asset structure, Meiya transferred part of its original assets under the Disposal Group to its controlling shareholder, CGNPC Huamei (CGN holds its equity interest in Meiya through its indirectly wholly owned subsidiary, CGNPC Huamei). The Disposal Group comprises 22 investment holding companies and some companies hold indirect interests in the following 12 power generation projects and one coal trading company.

■ Meiya: Disposal Group assets, retained by CGNPC

Name	Location	CGNPC Ownership	Installed capacity (MW)	Attributable installed capacity (MW)	Reason for disposal
Hydro					
Langdu	Yunnan, PRC	45.00%	106	48	Minority interest
Minrui	Yunnan, PRC	51.00%	175	89	Red-Chip Guidance
Weixi	Yunnan, PRC	80.00%	74	59	Red-Chip Guidance
Maopohe	Yunnan, PRC	55.00%	42	23	Red-Chip Guidance
Zhenkang	Yunnan, PRC	50.00%	64	32	Red-Chip Guidance
Wuling	Hunan, PRC	18.50%	5,698	959	Minority interest
Coal-fired					
Jingyuan	Gansu, PRC	30.73%	1,320	406	Minority interest
Qujing	Yunnan, PRC	37.00%	1,200	444	Poor operating result
Yueyang	Hunan, PRC	22.50%	2,525	568	Minority interest
Wind					
Xiwu	Inner Mongolia, PRC	91.00%	50	45	Red-Chip Guidance
Huide	Inner Mongolia, PRC	49.00%	99	49	Minority interest
Cogen					
Tongzhou	Jiangsu, PRC	80.00%	27	22	Poor operating result
Coal trading					
Suzhou Zhenmei Trading	Jiangsu, PRC	100%	-	-	Red-Chip Guidance

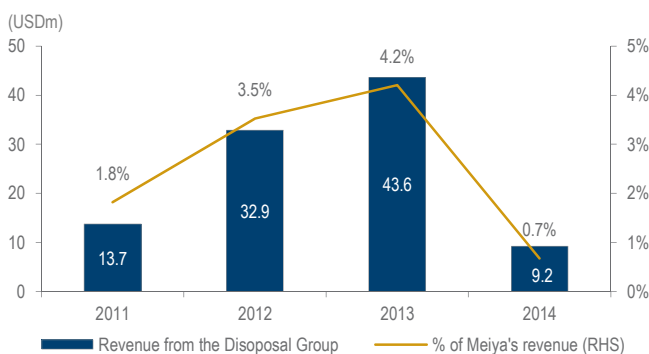
Source: Company, Daiwa estimates

Meiya's disposal of clean energy assets is due mainly to the following factors: 1) it had less than 3 years of ownership prior to its listing. The Circular of the State Council Concerning Further Strengthening the Administration of Share Issuance (the "Red-Chip Guidance") prohibits a company from applying for the issuance and listing of shares overseas if its onshore assets have been possessed for less than 3 years, unless approval from the CSRC is obtained. The Red-Chip Guidance is applicable to Meiya as it is an offshore subsidiary of CGNPC, a state-owned enterprise in the PRC; 2) it has minority interests and thus lacks material involvement in the management and operation; and 3) the poor operating results of some of

the coal-fired or cogen power plants due to low utilisation hours mean they face being shut down in the near term.

In 2014, the Disposal Group generated revenue of just USD9.2m, only 0.7% of Meiya's in the same period.

■ **Meiya: revenue from disposal group and as % of Meiya's total revenue**



Source: Company, Daiwa estimates

Management fee income

Meiya also provides management services for 27 power generation projects (4 of which are under construction or are at the planning stage), in which CGNPC Group and Huamei Holding have interests (including the Disposal Group). In return, Meiya receives a management fee on a “cost-plus” basis, whereby the service provider charges a service fee representing a 5% margin over the expenses to be incurred by the service provider in providing the operation and management services to the service recipient. We forecast such management fees to total USD14mn in 2015 and USD15mn in 2016.

As of 4M14, the 23 operating power generation plants had an installed attributable capacity of 5,832MW (with 455MW under construction), comprising 2,208MW for pumped storage, 1,926MW for hydropower, 1,609MW for coal, 66.8MW for wind, and 21.6MW for cogeneration.

■ **Meiya: attributable capacity of projects under management**

	No.	Installed attributable capacity (MW)	Under construction attributable capacity (MW)	Total attributable capacity (MW)
Hydro	18	1,926.0	409.9	2,335.9
Pumped storage	2	2,208.0	-	2,208.0
Coal-fired	4	1,609.3	-	1,609.3
Wind	2	66.8	45.0	111.8
Cogen	1	21.6	-	21.6
Total	27	5,831.7	454.9	6,286.6

Source: Company, Daiwa estimates

We note that all of the power projects in the Disposal Group are under management and the remainder are only CGNPC's hydro power projects and pumped storage project, which we expect to be Meiya's near term acquisition targets. Management plans to have core staff and key development teams for all CGNPC's renewable assets on board with Meiya by end-2015 at the latest, as current plans call for Meiya to operate all of CGNPC's wind/solar/hydropower assets by that time.

■ **Meiya: projects under management**

Name	Location	CGNPC Ownership	Total capacity (MW)	Total attributable capacity (MW)
Hydro				
Gaofengshan	Sichuan, PRC	100.00%	75	75
Jiaojiping	Sichuan, PRC	100.00%	72	72
Xianshuihe	Sichuan, PRC	100.00%	8	8
Baihe	Shaanxi, PRC	100.00%	180	180
Honghua	Guangxi, PRC	96.50%	228	220
Dapu (Guiliu)	Guangxi, PRC	84.50%	90	76
Guding	Guangxi, PRC	95.40%	80	76
Baihuatan	Sichuan, PRC	60.00%	120	72
Shawan	Sichuan, PRC	50.00%	280	140
Niruhe	Yunnan, PRC	97.00%	184	179
Changbai (Yongninghe)	Sichuan, PRC	50.00%	50	25
Yutian	Sichuan, PRC	71.00%	93	66
Subtotal		81.43%	1,460	1,188
Pumped storage				
Guangxu	Guangdong, PRC	46.00%	2400	1104
Huizhou	Huizhou, PRC	46.00%	2400	1104
Subtotal		46.00%	4,800	2,208
Coal-fired				
Mawan	Guangdong, PRC	8.00%	1840	147
Subtotal		8.00%	1,840	147
Disposal Group			11,379	2,743
Total			19,479	6,287

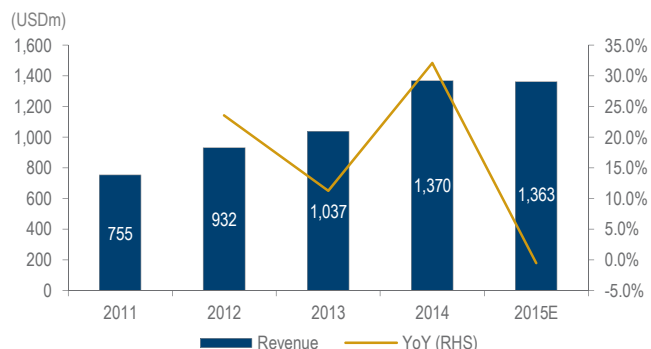
Note: The Wuling Power Project includes hydro, wind, and coal-fired power projects in operation, with aggregate attributable installed capacities of 856.6 MW, 18.3 MW and 44.4 MW, respectively.

Source: Company

Steady growth through improving utilisation and capacity growth

Meiya achieved double-digit revenue growth in 2011-14, driven by 14% pa growth in its consolidated installed capacity, together with rising average utilisation hours from its power plants. Even though the company's capacity grew by 18.2% YoY in 2014, its net electricity generated grew by 33.2% YoY in the same year, backed by a significant improvement in utilisation.

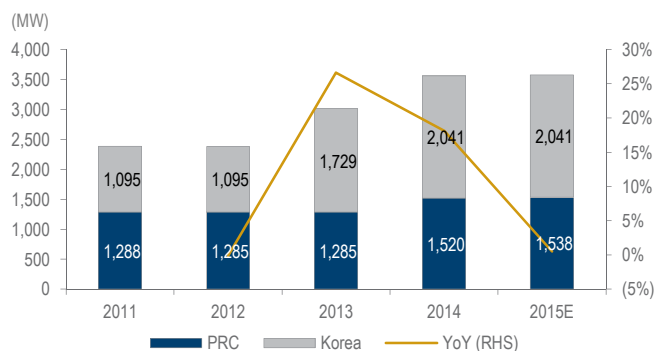
■ **Meiya: revenue growth**



Source: Company, Daiwa estimates

Meiya aims to continue to increase its earnings through capacity expansion. It has focused more on China since being acquired by CGNPC in 2010, where we think it stands to benefit from sustained growth in power demand, though it is still looking to expand its footprint to other countries.

■ **Meiya: attributable installed capacity**



Source: Company, Daiwa estimates

Due to sustained losses, which the company attributed to a fuel supply shortage, the 98.2MW Hexie gas-fired power project ceased power generation in May 2014 and the company has recently reached an agreement to dispose the plant for CNY230m. The fuel supply shortage was primarily due to an inconsistent gas supply coupled with particularly cold weather in Sichuan that prompted the local authorities to redirect some gas resources directly for domestic heating consumption rather than electricity generation. Meiya has recognised no impairment relating to the Hexie Power Project as the magnitude of the operating loss declined over the period 2011-14.

Furthermore, the 18MW Fushi II entered operation at end-2014 and will make a full-year earnings contribution in 2015, which we believe should fully compensate for the loss of revenue due to the cessation of power generation at the Hexie Power Project. The company also intends to expand its Nantong Power

Project by adding a coal-fired boiler and back-pressure steam turbine, which is scheduled to commence construction in 2016.

Separately, Meiya has submitted an official application in Korea with respect to the proposed Daesan II power project. The company targets to commence construction of the 946MW gas-fired IPP in early 2017, with a commissioning date of 2 years later. It estimates the total investment to be KRW1,000bn, which it believes could be financed by its existing operating capacity in Korea.

Also, Meiya has sought to select and develop clean and renewable energy projects. For example, before listing, it proposed to jointly develop a wind farm project in Xinjiang with 2 independent third parties through a project company in the northeastern part of the Xinjiang Uyghur Autonomous Region of China with a potential capacity of up to 300MW. Meiya will also share with the seller 50% of the dividend it receives from the wind farms after retaining that part of the dividend that allows Meiya to earn a 15% IRR.

According to the company's plans, the project will be developed in 6 phases of not more than 50MW each and the company estimates Phase I will require a total investment of approximately CNY430mn, representing CNY8,600/MW, which is potentially higher than the construction costs of other major wind operators.

Currently, there are 3 projects in Meiya's pipeline, the details of which are shown below.

■ **Meiya: project pipeline as of 2014**

Project	Capacity	Stage	Notes
Nantong - Cogen	Expansion: Add a new coal-fired boiler and back-pressure steam turbine	Construction scheduled to begin in 2016	
Xinjiang - Wind	300MW	49.5MW Phase I in final stages of securing the necessary approvals	CNY 430mn investment for Phase I; pay CNY10mn to obtain 100% equity interest; share with the seller 50% dividend after retaining 15% ROE
Daesan II	946MW	Target to commence construction by end-2016	Expected investment of KRW1trn

Source: Company, Daiwa estimates

Strong parent with quality clean energy power assets for injection

Positioned as CGNPC's sole global platform for the development and operation of non-nuclear clean and renewable power generation projects, Meiya intends to acquire clean and renewable power generation projects with solid returns from CGNPC with an aggregate installed capacity of 3-5GW in several batches over the next 4 years. This 3-5GW of aggregate installed capacity represents 80-140% upside from the company's installed capacity as of end-2014.

As of 2014, CGNPC has a total of 8.823GW of non-nuclear renewable power projects in operation, with another 1.986GW under construction and 3.141GW in the pipeline in terms of consolidated installed capacity.

CGNPC has a non-compete agreement with Meiya and its other subsidiaries, under which CGNPC and its other subsidiaries agree not to compete with Meiya in the non-nuclear power business. Furthermore, Meiya has the right to acquire the retained business of the CGNPC Group and the right to acquire a new business or pursue an equity investment opportunity.

We have seen other listed SOE gencos that own multiple listcos ultimately competing with each other in the same power generation segments, but we think the non-compete agreement should safeguard Meiya's position as the sole global platform for non-nuclear clean and renewable power within the CGNPC Group.

■ CGNPC: consolidated installed capacity of non-nuclear energy as of 2014

(MW)	In operation	Under construction	Pipeline	Total
Hydro	1,305	213	0	1,518
Solar	617	250	715	1,582
Wind	6,901	1,523	2,426	10,850
Total	8,823	1,986	3,141	13,950

Source: Company

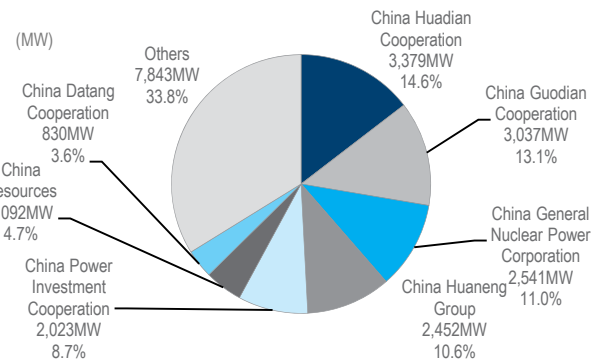
Wind

CGNPC holds its wind power assets under its fully owned subsidiary, CGN Wind. Compared with those of its peers, we believe CGNPC's wind projects are of superior quality as they have higher average utilisation and profitability, which we think should enhance the possibility of value accretion through future injections.

According to the China Wind Association, CGN Wind was the country's No. 5 wind power operator, with 7.5GW of cumulative wind power installed capacity as of end-2014, which gave it a 6.6% market share. In 2014, CGN Wind ranked as No 3 in newly connected

capacity, with 2.5GW and nearly 2GW under construction.

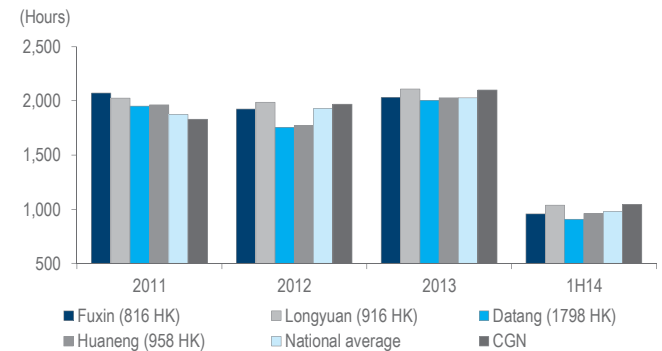
■ China: newly connected wind power capacity market share (2014)



Source: Company, Daiwa estimates

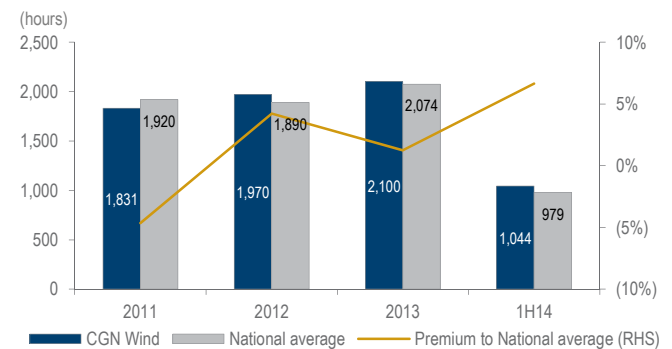
In 1H14, CGN Wind saw a steady improvement in its average utilisation hours and had the highest number of wind utilisation hours, despite a 10% YoY fall in the national average wind-power utilisation rate due to unsatisfactory wind conditions.

■ China wind operators: utilisation hours (2011-1H14)



Source: Company, Daiwa estimates

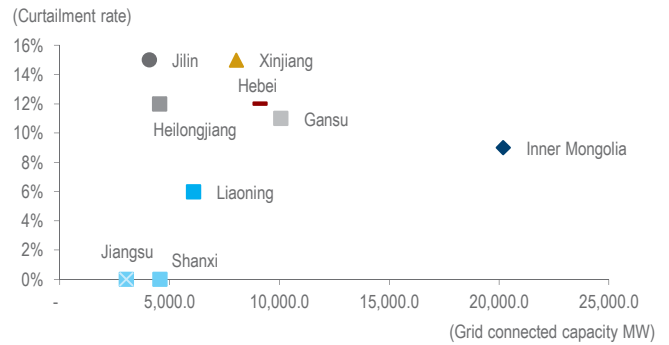
■ CNG Wind: improving utilisation hours



Source: Company, Daiwa estimates

CGNPC's wind farms are mainly located in Inner Mongolia, as well as the Northeast, Mid-west, and Southeast coastal areas. However, compared with its peers, CGNPC has a lower concentration of wind capacity in heavily curtailed Inner Mongolia and Northeast China.

■ China: grid connected capacity and curtailment rate by province (2014)



Source: NEA

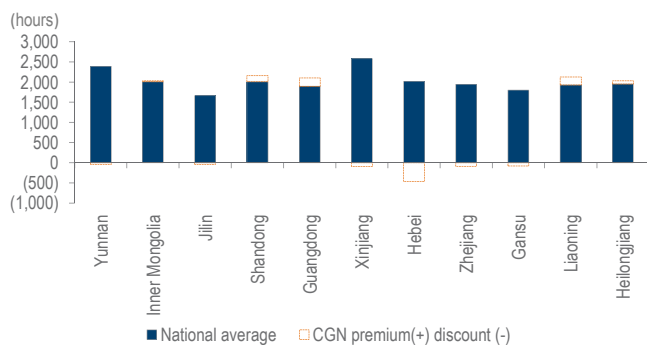
■ CGN Wind: wind asset allocation by installed capacity (2013)

	2014 Curtailment		CGN Wind		Datang Renewables		Longyuan		Huangneng Renewables	
		(%)	(MW)	(%)	(MW)	(%)	(MW)	(%)	(MW)	(%)
Jilin	15		536.5	10.9%	648.1	11.3%	348.9	2.9%	49.5	1%
Xinjiang	15		552.5	11.2%	-	0.0%	1,090.8	9.2%	198.0	3%
Hebei	12		199.5	4.1%	49.5	0.9%	971.1	8.2%	271.5	4%
Heilongjiang	12		446.7	9.1%	401.0	7.0%	1,136.9	9.5%	0	0%
Gansu	11		496.0	10.1%	393.8	6.9%	1,039.3	8.7%	0	0%
Inner Mongolia	9		1,141.1	23.2%	2,507.4	43.8%	2,285.1	19.2%	1,716.2	28%
Liaoning	6		146.1	3.0%	325.8	5.7%	1,003.2	8.4%	1,197.0	19%
Yunnan	4		196.5	4.0%	98.3	1.7%	528.0	4.4%	472.5	8%
Shaanxi	2			0.0%	99.0	1.7%	148.5	1.2%	18.0	0%
Shandong	1		353.6	7.2%	495.0	8.7%	99.0	0.8%	892.7	14%
Tianjing	1			0.0%		0.0%	132.0	1.1%		0%
Beijing	0			0.0%		0.0%		0.0%		0%
Shanxi	0		97.5	2.0%	198.0	3.5%	399.0	3.4%	594.0	10%
Shanghai	0			0.0%	102.0	1.8%		0.0%	60.0	1%
Jiangsu	0			0.0%		0.0%	1,056.8	8.9%		0%
Zhejiang	0		63.0	1.3%		0.0%	137.6	1.2%		0%
Anhui	0		49.5	1.0%		0.0%	396.0	3.3%		0%
Fujian	0			0.0%		0.0%	506.1	4.2%		0%
Jiangxi	0			0.0%		0.0%		0.0%		0%
Henan	0			0.0%	100.8	1.8%		0.0%		0%
Hubei	0		147.2	3.0%		0.0%		0.0%		0%
Hunan	0			0.0%		0.0%		0.0%		0%
Chongqing	0			0.0%		0.0%		0.0%		0%
Sichuan	0			0.0%		0.0%		0.0%		0%
Qinghai	0			0.0%		0.0%		0.0%		0%
Ningxia	0			0.0%	247.5	4.3%	277.7	2.3%		0%
Tibet	0			0.0%		0.0%	7.5	0.1%		0%
Guangdong	0		329.1	6.7%	49.5	0.9%		0.0%	271.6	4%
Guangxi	0			0.0%	3.0	0.1%		0.0%		0%
Hunan	0			0.0%		0.0%		0.0%		0%
Guizhou	0		144.0	2.9%		0.0%	247.5	2.1%	480.0	8%
Hainan	0			0.0%		0.0%	99.0	0.8%		0%
Australia			19.5	0.4%		0.0%		0.0%		0%
Total			4,918.3		5,718.7		11,910.0		6,221.0	

Source: NEA, Companies

In 2013, CGN Wind's projects generally recorded more utilisation hours than the relevant provincial averages. Even in heavy curtailed Inner Mongolia, CGNPC achieved average utilisation hours of 2,033 hours in 2013, compared with a provincial average of 2,010 hours for the same year.

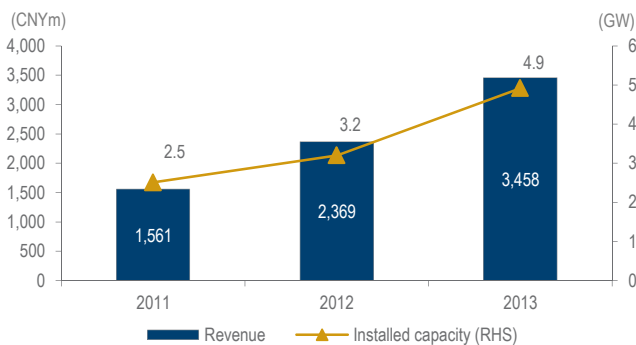
■ **CGN wind: compared with province average utilisation hours in 2013**



Source: Company

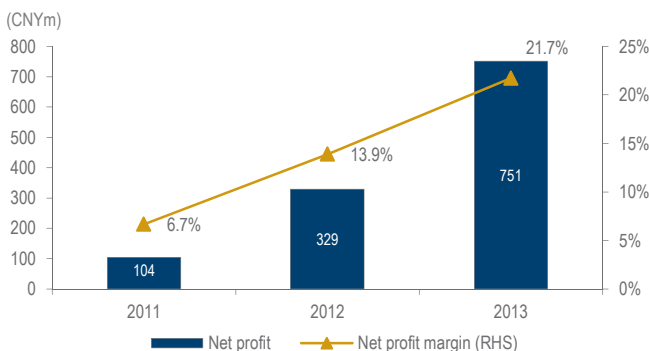
According to information disclosed to the China Central Depository & Clearing Company (CCDC), CGN Wind has recorded strong earnings growth, an improvement in its net profit margin attributable to its fast capacity expansion, and a good geographical distribution of its wind assets. Despite unfavourable wind conditions in 1H14, CGN Wind posted revenue of CNY2.464bn and net profit of CNY760m, up 47.2% YoY and 62.7% YoY, respectively.

■ **CGN Wind: revenue and installed capacity growth**



Source: Company

■ **CGN Wind: net profit growth and gross margin**

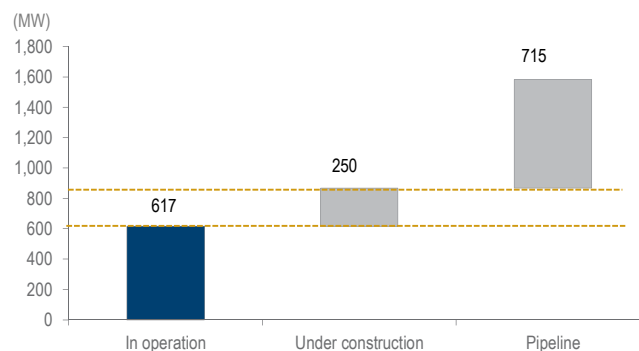


Source: Company

Solar

CGN Solar Energy was established in August 2009 and in 2014 it was ranked as the ninth-largest solar farm operator in China, with 617MW of installed solar capacity and 4.5GW of solar reserves. It has built 3 major solar bases, in Xinjiang, Qinghai and Gansu, as well as installations in Ningxia and Tibet. It also operates a commercial rooftop distributed PV plant in New Jersey (US) and its Singapore solar-biomass project (biomass: 10MW, solar: 0.5MW) entered operations in January 2015. CGNPC targets to build 5GW of solar projects by 2020.

■ **CGN Solar Energy: consolidated installed capacity for solar project**



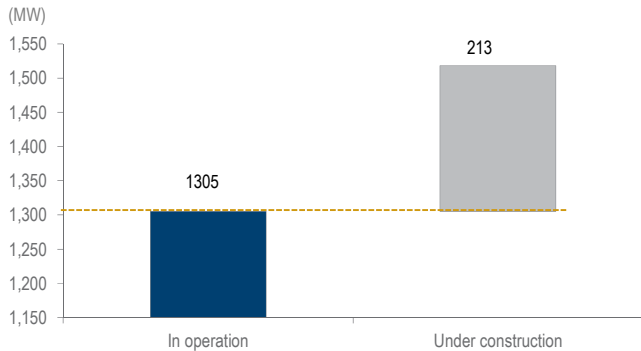
Source: Company

Hydro

CGNPC has a 1,518MW hydro power investment under CGN Energy Development Company, which is 64.84%-owned by CGNPC. Despite the small scale of the hydro operation, we regard it as a near-term asset injection target for Meiya as it features competing geographic locations (which we explain further in the next section of this report).

CGNPC also has equity stakes in 2 pumped storage power stations (PSPS) with an attributable capacity of 2,208MW, which complement its nuclear plants. The NDRC has announced favourable policies for PSPS, with permitted returns set at the long-term government bond yield plus 1-3pp (the equity IRR could be leveraged to 20% assuming 70% debt financing). Since CGNPC could also realise synergies between the PSPS and its nuclear plants, we believe it would be interested in developing future PSPS projects.

■ **CGNPC: hydro project summary**



Source: Company

Overseas projects

In July 2014, CGNPC established a subsidiary, CGN Europe Energy (CGNEE), to specialise in renewable energy project investments in Europe. To date, CGNEE has acquired an 80% equity interest in a 72MW wind farm project in the UK and a 100% equity interest in the 80MW Fujin project in France. CGNPC operates several overseas projects, including the Singapore biomass project, the US solar project, and a 20MW wind farm in Melbourne, Australia.

In step with China's "one-belt, one-road" strategy to export its nuclear technology, CGN Power has signed cooperation agreements to develop nuclear power projects with Electricity of France (EDF) and secured nuclear projects in the UK and Romania in 2014. We believe Meiya could leverage CGNPC's overseas expansion initiatives in developing its clean energy projects overseas.

■ **CGNPC: overseas non-nuclear operation summary**

	Country	Capacity	Note
Biomass	Singapore	10.5MW (PV:0.5 MW)	Combined grid operation in Dec 2014
Solar	US	10MW	
Wind	Australia	19.5MW	
Wind	England	72MW	Acquired 80% stake in Dec 2014
Wind	France	80MW	Acquired 100% stake in Feb 2015

Source: Company

According to management, CGNPC aims to have an installed capacity of 70GW by 2020, distributed evenly between nuclear and non-nuclear clean power capacity. The targeted 35GW of non-nuclear capacity includes 10GW of capacity overseas.

Scenario analysis for asset injections

Positioned as CGNPC's sole global platform for the development and operation of non-nuclear clean and renewable power generation projects, Meiya intends to

acquire clean and renewable power generation projects with solid returns from CGNPC with an aggregate installed capacity of 3-5GW in several batches during 2015-18. Such acquisitions represent 80-140% potential upside from the company's attributable installed capacity as of 2014.

Meiya has the following guidelines in place when determining its acquisition plans:

- target equity IRRs of 12.0% for overseas projects and 10.0% for PRC projects
- positive earnings growth and cash flow, and should complement Meiya's existing asset portfolio.

Sensitivity analysis of the size of asset injection in 2015-16

In our model, we assume 1GW of power assets will be injected into Meiya at the end of both 2015 and 2016 (totalling 2GW), and: 1) project equity IRRs of 12%, as shown in the demonstration project (see Appendix 3 for the definition of demonstration project), 2) 70% debt-financed; and 3) power asset to deliver full year contribution in the following year.

We estimate that an additional 1GW asset injection by CGNPC in 2015-16 (approx. USD1.2bn, using market valuations) could lift Meiya's NAV by 17% and raise its net profit CAGR in 2014-17E by 5.06pp.

■ **Meiya: sensitivity of NAV, earnings and net gearing to size of asset injection (2015-16)**

Asset injection from CGNPC (GW)	Asset injection addition (GW)	NAV (HKD/share)	Net profit CAGR in 2015-18E	Net gearing in 2016E
1.0GW	(1.0)	2.77	7.6%	210.9%
1.5GW	(0.5)	3.07	10.4%	271.0%
2.0GW	-	3.40	13.1%	331.8%
2.5GW	0.5	3.71	15.6%	393.2%
3.0GW	1.0	3.98	18.1%	455.4%
3.5GW	1.5	4.29	20.5%	518.3%
4.0GW	2.0	4.59	22.7%	581.9%

Source: Daiwa estimates

■ **Meiya: sensitivity of NAV, earnings and net gearing to size of asset injection relative to our base case (2015-16)**

Asset injection from CGNPC (GW)	Asset injection addition (GW)	NAV (HKD/share)	Net profit CAGR in 2015-18E	Net gearing in 2016E
1.0GW	(1.0)	-19%	-5.48pp	-120.83pp
1.5GW	(0.5)	-10%	-2.67pp	-60.76pp
2.0GW	-	0%	0.00pp	0.00pp
2.5GW	0.5	9%	2.55pp	61.46pp
3.0GW	1.0	17%	5.06pp	123.63pp
3.5GW	1.5	26%	7.39pp	186.54pp
4.0GW	2.0	35%	9.63pp	250.17pp

Source: Daiwa estimates

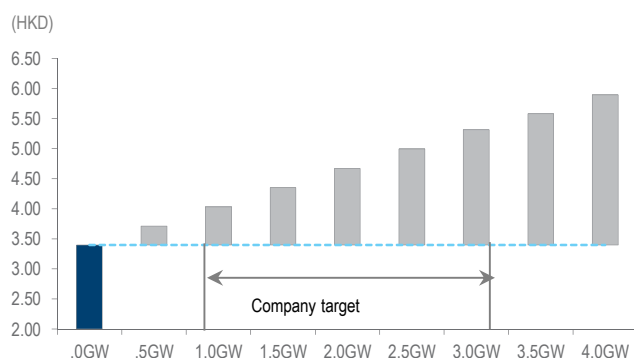
Sensitivity analysis on size of asset injection in 2017-18

Meiya's management estimates 60-70% of CGNPC's renewable assets meet the company's acquisition

criteria, representing 8-9GW out of CGNPC's 14GW non-nuclear consolidated capacity as of end-2014. This 8-9GW of capacity represents 80% potential upside from Meiya's previously announced plans and serves as a large pool from which Meiya can select the most profitable assets.

While we assume only 2GW of asset injections in 2015-16, we expect future injections in 2017-18E to be value-accretive, based on Meiya's 3-5GW acquisition plan. We estimate that each 1GW assets injection by CGNPC in 2017-18 would lift its NAV by 19%.

■ **Meiya: sensitivity of NAV to asset injection size (2017-18)**



Source: Company, Daiwa estimates

■ **Meiya: sensitivity of earnings, NAV and net gearing to asset injection size in 2017-18**

Asset injection in 2017-18	Asset injection	NAV (HKD/share)	NAV (% change)	Net gearing in 2018E	Net gearing in 2018E (% change)
.0GW	-	3.40	0%	269.2%	0.00pp
.5GW	0.5	3.71	9%	312.6%	43.44pp
1.0GW	1.0	4.03	19%	356.3%	87.11pp
1.5GW	1.5	4.35	28%	399.8%	130.69pp
2.0GW	2.0	4.67	37%	443.3%	174.18pp
2.5GW	2.5	4.99	47%	486.7%	217.56pp
3.0GW	3.0	5.31	56%	530.0%	260.84pp
3.5GW	3.5	5.58	64%	573.2%	304.01pp
4.0GW	4.0	5.89	73%	616.2%	347.06pp

Source: Daiwa forecast

Sensitivity analysis on size of first asset injection

The first batch of asset injection of 1GW is scheduled to be completed by end-2015. Management estimates the cash required for the first asset injection to be around USD300mn, assuming the rest is debt financed (70%). Our calculations suggest that an additional 25% asset injection (ie, capacity of 250MW) in 2015 would deliver a 5% boost to 2016E earnings, based on the same 3 assumptions.

■ **Meiya: sensitivity of earnings, CAPEX and net gearing to asset injection size in 2015**

	Asset injection from CGNPC in 2015	2016E Net profit (USDm)	2017E Net profit (USDm)	2015E CAPEX (USDm)	Net gearing in 2015E
-75%	0.25GW	107	139	537	133%
-50%	0.50GW	113	145	801	166%
-25%	0.75GW	119	150	1,066	200%
0%	1.00GW	125	156	1,330	234%
25%	1.25GW	131	162	1,594	269%
50%	1.50GW	137	167	1,859	303%
75%	1.75GW	143	173	2,123	338%
100%	2.00GW	149	179	2,387	373%

Source: Daiwa estimates

■ **Meiya: sensitivity of earnings, CAPEX and net gearing to asset injection size in 2015 (relative to base case)**

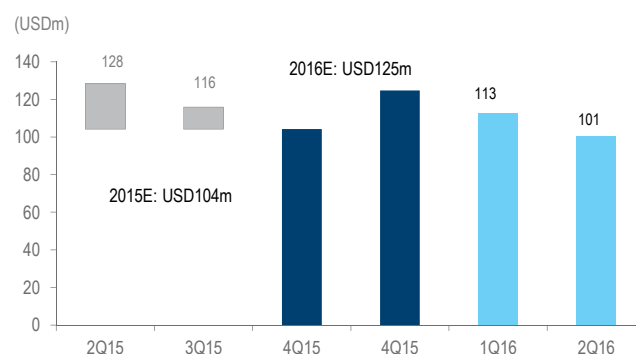
	Asset injection from CGNPC in 2015	2016E Net profit (USDm)	2017E Net profit (USDm)	2015E CAPEX (USDm)	Net gearing in 2015E
-75%	0.25GW	-14.4%	-10.7%	-59.6%	-101.58pp
-50%	0.50GW	-9.6%	-7.2%	-39.8%	-67.91pp
-25%	0.75GW	-4.8%	-3.6%	-19.9%	-34.05pp
0%	1.00GW	0.0%	0.0%	0.0%	0.00pp
25%	1.25GW	4.8%	3.6%	19.9%	34.24pp
50%	1.50GW	9.6%	7.2%	39.8%	68.68pp
75%	1.75GW	14.4%	10.9%	59.6%	103.31pp
100%	2.00GW	19.2%	14.5%	79.5%	138.14pp

Source: Daiwa estimates

Sensitivity analysis of timing of first injection

Meiya management expects to complete the first asset injection before end-2015. In our model, we assume that the transaction will be completed by end-2015 and the 1GW clean and renewable energy asset will contribute a full-year profit in 2016. There is a possibility that the company could obtain approval from SASAC and the CSRC earlier than expected, allowing the asset injection to proceed in mid-2015 (2Q15 or 3Q15). According to our sensitivity analysis, if the asset injection were to go through by 1 quarter earlier than our assumption of at the end of 2015, there would be an 11% enhancement to our profit forecast for 2015.

■ **CGNPC: time of the first 1GW asset injection from CGNPC**



Source: Daiwa estimates

Similarities between Meiya and CR Gas

We believe Meiya could become the next company in the China utilities space, after China Resource Gas (1193 HK, HKD22.80, Outperform [2]), to benefit from asset injections by its strong parent company.

Since CRG's transformation into a city-gas distribution utility in 2H08 (prior to that, it was engaged in the microelectronic business), the company has been trading at a PER premium to its peers, backed by the

expectation that its parent company, CRH, would inject city-gas assets into the company at a discount to the market price. With the support of conglomerate parent CRH, CRG has been the biggest acquirer of large city-gas projects since 2008, and had projects in 11 provincial capitals and 3 municipalities in its city-gas project portfolio as of end-2013. Upon the completion of the final round of asset injections in August 2012, CRG had become one of the Big-4 Mainland city-gas distributors in terms of the number of its city-gas distribution concessions (176 as at end-2013).

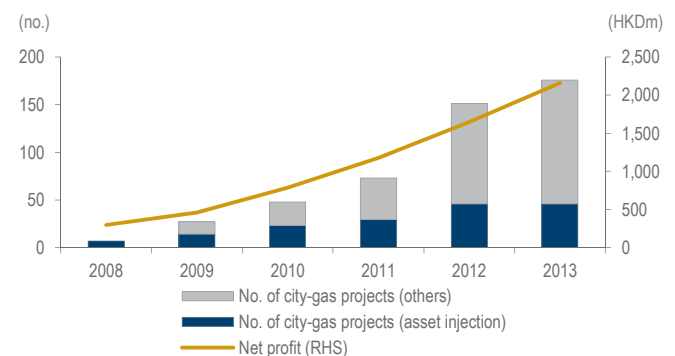
■ CRG: valuation summary for asset injections (2008-12)

Date	Project	Stake acquired	Consideration and means of settlement	Guaranteed profit	Target PER of project	CRG's PER at the time	Discount to CRG
Aug-08	7 city-gas projects (Chengdu, Wuxi, Suzhou, Nanjing, Fuyang, Huaibei, Linhai)	36%-100%	HKD3.8bn Issued 1,131m rights shares at a subscription price of HKD3.42 per rights share on the basis of four rights for every one existing share held on the record date to finance the acquisition of city-gas distribution business.	Yes/HKD250mn	15x	18x	15%
Sep-09	7 city-gas projects (Zhenjiang, Zibo, Xiangfan, Datong, Yangquan, Yicheng, Qianjiang)	49%-100%	HKD1.6bn Funded by internal resource	Yes/HKD124mn	13x	24x	46%
Sep-10	9 city-gas projects (Xiamen, Jining, Suining, Tengzhou, Shifang, Kunshan, Qidong, Gucheng, Hangzhouwan)	49%-100%	HKD2.0bn Settled by the allotment and issuance of 186.7m shares at HKD10.715 per share	Yes/HKD141mn	20x	22x	12%
Jul-11	7 city-gas projects (Yueyang, Zhongshan, Jingdezhen, Anyang, Huizhou Dayawan, Dandong, Dalian Huayuankou)	40%-100%	HKD1.71bn Settled by the allotment and issuance of 161m shares at HKD10.6096 per share	No	17x	17x	-3%
Aug-12	16 city-gas projects (Fuzhou, Nanchang, Jiangmen, Dongying, Taizhou, Heyuan, Fuzhou LPG, Nanzhang, Guixi, Haicheng, Fenghua, Tonghua, Yunnan Pipeline, Jinzhou, Wannian)	49%-100%	HKD2.42bn Settled by cash	No	47x	18x	-157%
Weighted average discount (exclude last one)							16%

Source: Company, Daiwa

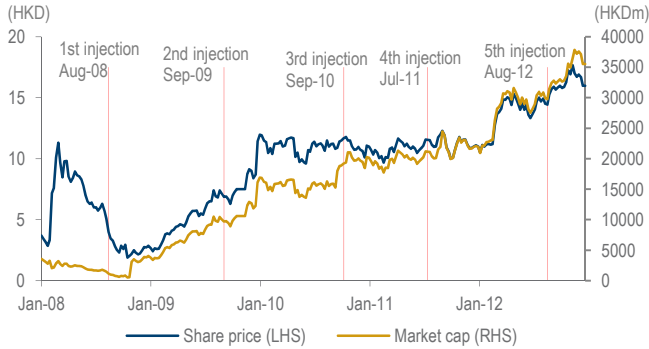
From 2008 until 2012, when the final batch of asset injections was completed, CRG's share price saw a 34% CAGR, while its net profit saw a CAGR of 47% (or 31% EPS CAGR) from 2009-2013. During this 5-year period, CRG's city-gas projects grew in number from 7 in 2007 to 151 in 2012 (46 projects from asset injections).

■ CRG: number of city-gas projects and net profit (2008-2012)



Source: Company

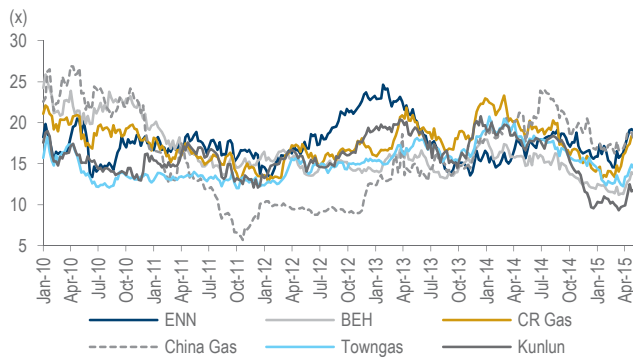
■ **CRG: share price, market cap and timing of asset injections (2008-12)**



Source: Company

We believe one of the main reasons for CRG's PER premium over its peers during the period 2008-12 is the company's ability to acquire city-gas projects from its parent. In our view, the injected brownfield projects held more promise of near-term profitability than greenfield projects or external project acquisitions, for the following reasons: 1) greenfield projects are likely to be loss-making in the near term and take time to start contributing profits, 2) the M&A practicalities for large-scale projects take time to complete, and the projects themselves may need to be turned around, and 3) external project acquisitions can be pricey.

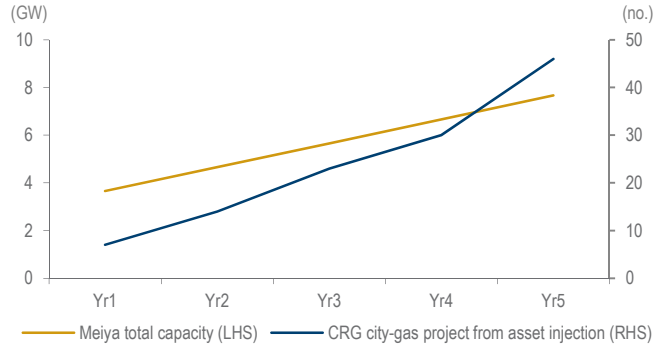
■ **China gas distribution: forward-PER valuation comparison**



Source: Bloomberg, Daiwa

Relative to CRG, we expect a similar pace of capacity additions for Meiya, based on the company's announced plan for 3-5GW of clean and renewable power generation assets to be injected by CGNPC over next the 4 years, which represents 80-140% potential upside from the company's 3.66GW attributable installed capacity as of 2014.

■ **Meiya and CRG: capacity/project number expansions**



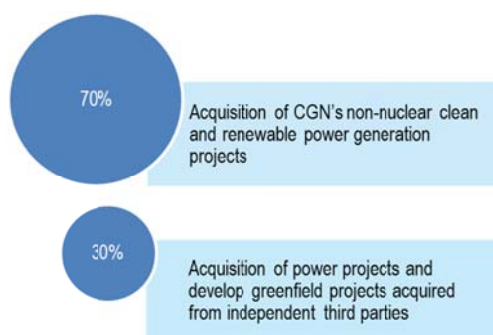
Source: Company, Daiwa estimates

Note: Yr1 for CRG is 2008 and for Meiya is 2014

Financials

Meiya raised net proceeds of around HKD2.0bn (or USD262m) from its public offering in July 2014, of which 70% has been earmarked to selectively acquire clean and renewable power projects from CGNPC and 30% for the acquisition of operational power projects and development of greenfield projects acquired from independent third parties. Meiya's net debt-to-equity ratio fell from 230% at end-2013 to 106% at end-2014.

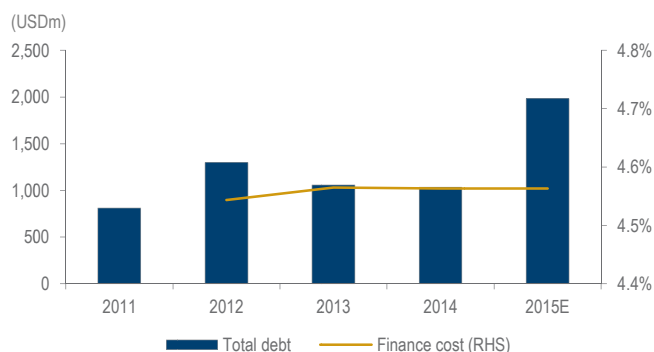
Meiya: use of proceeds from public offering



Source: Company, Daiwa estimates

Meiya's average finance cost stood at 4.54%, 4.56%, and 4.56% in 2012, 2013 and 2014, respectively, including bank loans, bonds and loans granted by CGNPC. CGNPC has given Meiya financing support on 3 levels: low-cost direct loans, guarantees for loans, and a keepwell deed. In 2013, total outstanding borrowings guaranteed or granted by CGNPC to Meiya amounted to USD785.77mn, representing 47.5% of Meiya's total borrowings.

Meiya: debt amount and finance cost



Source: Company, Daiwa estimates

In 2013, Meiya issued a USD350m 4% unsecured bond due in 2018, supported by a keepwell deed and a purchase undertaking provided by CGNPC. Under the keepwell deed, CGNPC has agreed: 1) not to cease to, directly or indirectly, control Meiya, 2) not to pledge or

dispose of any shares of Meiya, 3) to ensure that Meiya has sufficient liquidity to meet payment obligations under the USD bonds, and 4) not to create any security interest over any assets or revenue of Meiya. In addition, CGNPC has undertaken that it will purchase the equity interest in certain of Meiya's China assets at a purchase price that would enable Meiya to satisfy fully its obligations under the USD bonds.

Also, CGNPC acted as the guarantor for a bank loan facility of USD240mn granted to Meiya in June 2012, for which the rate was set at LIBOR plus 3%. CGNPC has also in the past provided USD242mn in shareholder loans to Meiya at an interest rate of 2.3%.

We believe Meiya will maintain its advantage of low financing costs through the continuous support from its parent (CGNPC), as CGNPC could offer financing support when Meiya exercises its asset-acquisition options, and Meiya's listing status enables it to access more flexible methods of financing. Meiya has obtained commitments for a loan facility totalling USD490m from Hong Kong banks and the company expects to issue new bonds in Hong Kong, costing 2-3%, with CGNPC's support.

Valuation

We initiate coverage of Meiya with an Outperform (2) rating and a DCF-based 12 month target price of HK3.40. Our net profit forecast calls for a 22% CAGR for 2014-17 (13% EPS CAGR during the same period).

Even though the company is diversified in terms of fuel types, we adopt a corporate-level DCF as its power projects offer predictable long-term cash flow with minimal downside risk, in our view. Within our DCF valuation, we assume a WACC of 6.6% and zero terminal growth, given growth is implicitly limited without further capex. Our DCF-based valuation yields a fair value of HKD3.40/share, equivalent to a 2015E PER of 18.1x and 2016E PER of 15.1x, on par with the multiples of the clean energy operators (10-16x) and higher than those of the traditional IPPs (6-8x).

As Meiya will incur heavy capex of USD2-3bn in 2015-16E relating to the asset injection from CGNPC, we expect its FCF to be negative over the same period. In our model, we assume a total of 2GW asset injections in 2015 and 2016, respectively (ie, 1GW injection in each of 2015 and 2016).

Meiya: DCF

FCF (USDm)	2015E	2016E	2017E	2018E	2019E	2020E	2021E	2022E	2023E	2024E	2025E
PBT	180	203	252	322	295	296	308	320	327	334	344
Net Interest expense	82	129	154	141	141	135	122	110	104	99	89
Depreciation/amortization	100	136	167	180	189	195	202	209	216	223	230
Adjusted income tax	(56)	(54)	(67)	(92)	(82)	(80)	(82)	(83)	(83)	(83)	(83)
Net change in working capital	4	(17)	(21)	33	-	-	-	-	-	-	-
CAPEX	(1,330)	(1,378)	(356)	(246)	(197)	(197)	(197)	(197)	(197)	(197)	(197)
FCF	(1,020)	(981)	130	338	346	350	354	358	367	376	383
Sum (PV of FCF)	1,876										
TV	2,235										
Total	4,111										
Net Cash / (Debt) @ 15F	(1,869)										
Total DCF (USDm)	2,242										
%shared by M.I.	16%										
Less: Value shared by M.I.	(359)										
NPV (USDm)	1,883										
Exchange rate (HKD/USD)	7.8										
NPV (HKDm)	14,596										
NPV / shares (HKD) - 2015 end	3.40										

Source: Daiwa estimates

Key earnings driver: capacity addition

We believe the key earnings growth drivers over our forecast horizon will be asset injections, given Meiya has no projects under construction and no plans to start construction in 2015-16. In our model, we assume 1GW of power assets to be injected into Meiya at the end of both 2015 and 2016, respectively, totalling 2GW. We expect the power assets to start contributing profits

Meiya: WACC assumptions

WACC calculation	
Equity Beta	1.10
Risk Free Rate	2.3%
Market Risk Premium	9.3%
Cost of Equity	12.5%
Cost of Debt	4.6%
Debt/Capital	70%
Tax	25%
WACC	6.6%
Terminal growth rate	0%

Source: Daiwa estimates

The table below shows the sensitivity of our target price to variations in our WACC and terminal growth rate assumptions. We find that a $\pm 0.5\%$ change in our assumption would have an impact of $-23.1\%/+27.1\%$ on our target price; and a $+0.5\%$ change in our terminal growth assumption would have an impact of $+9\%$ on our target price.

Meiya: target price (HKD) sensitivity to WACC and terminal growth rate assumptions

		WACC						
		5.1%	5.6%	6.1%	6.6%	7.1%	7.6%	8.1%
Terminal growth rate	0.0%	6.74	5.42	4.32	3.40	2.62	1.94	1.35
	0.5%	7.40	5.92	4.70	3.70	2.85	2.13	1.50
	1.0%	8.22	6.52	5.16	4.04	3.12	2.34	1.67
	1.5%	9.26	7.27	5.71	4.46	3.44	2.58	1.87
	2.0%	10.64	8.22	6.39	4.96	3.81	2.87	2.09
	2.5%	12.54	9.48	7.26	5.59	4.27	3.22	2.36
	3.0%	15.32	11.21	8.41	6.38	4.85	3.64	2.68

Source: Daiwa estimates

in the year after they are injected, which we think is a conservative assumption. Hence, we expect the earnings enhancement from the asset injections to be reflected in 2016E at the earliest.

As for 2015, we expect earnings growth to be driven mainly by a full-year profit contribution from Unit 2 of Huangshi Phase 2, with an installed capacity of

680MW (49% stake) and commissioned in April 2014, and the addition of a gas-fired unit (312MW) at Yulchon II, Korea, which commenced combined-cycle operations in April 2014. However, the 98MW gas-fired Hexie project ceased operating in May 2014, which on our forecasts will have a 2% negative impact on revenue for 2015.

■ **Meiya: attributable installed capacity**

(MW)	2011	2012	2013	2014E	2015E
PRC					
Coal	857	854	854	1,188	1,188
Cogen	75	75	75	75	75
Gas	237	237	237	237	138
Hydro	119	119	119	119	137
Korea					
Gas	588	588	1,222	1,534	1,534
Oil	507	507	507	507	507
Total	2,383	2,380	3,014	3,660	3,579

Source: Daiwa estimates

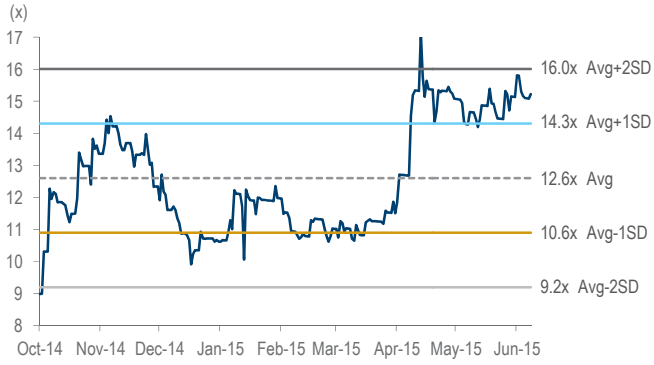
Target price implies PER inline to peer group

Since clean energy accounts for more than half of the capacity under Meiya, and the targeted assets for injection involve pure clean or renewable energy, we benchmark Meiya's valuation to the clean energy companies rather than the traditional IPPs. Our target price for Meiya implies a 2016E PER of 15.1x, in line with the 2016E PER of other Hong Kong-listed China

new energy operators at their current share prices (based on Bloomberg EPS forecasts). We contend that Meiya merits a premium valuation to its clean-energy peers as we expect the planned 3-5GW asset injections over 2015-18 to be value accretive, considering its current 1.8x 2016E PBR.

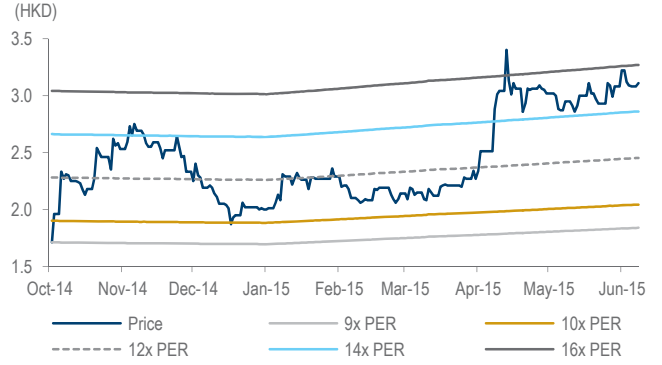
In terms of potential downside to Meiya's valuation, we highlight the following factors: 1) investor concerns over the quality and timing of future asset injections, and 2) even factoring in the 3-5GW of renewable energy assets to be injected by 2018, the company's traditional thermal power plants will still account for 20% of its total generating capacity, on our estimates.

■ Meiya: 1-year forward PER



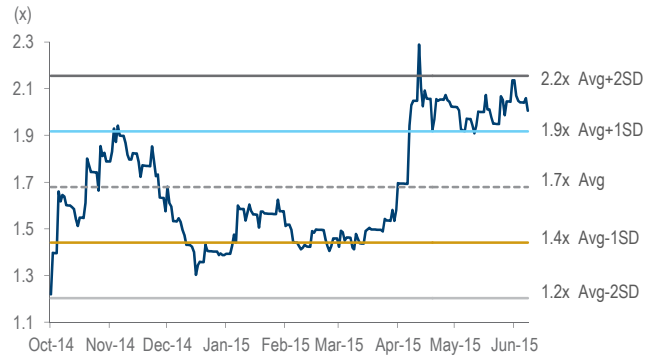
Source: Bloomberg

■ Meiya: 1-year forward PER bands



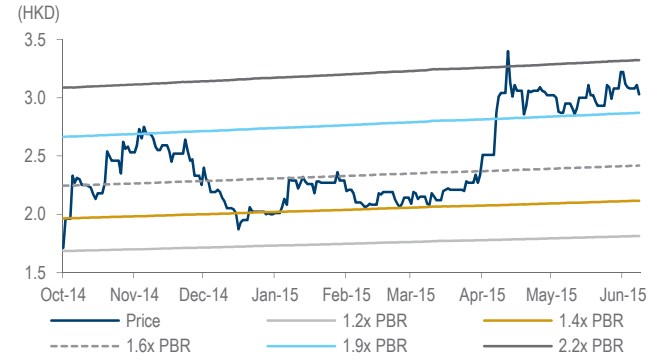
Source: Bloomberg

■ Meiya: 1-year forward PBR



Source: Bloomberg

■ Meiya: 1-year forward PBR bands



Source: Bloomberg

Risks

Delays in asset injections

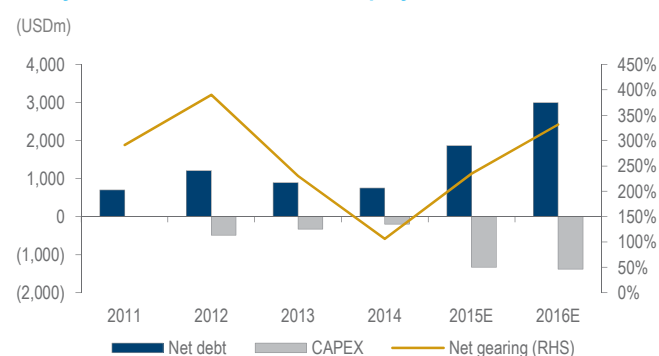
Meiya targets to acquire a first batch of 1GW of clean-energy power assets from CGNPC by the end of 2015. All asset injections are subject to approval from various China government and regulatory authorities, including the State-owned Assets Supervision and Administration Commission of the State Council (SASAC), China Securities Regulatory Commission (CSRC), National Development and Reform Commission (NDRC), or their local counterparts.

The development and acquisition of power projects and businesses may also be subject to various regulatory approvals and there is no guarantee that these approvals can be obtained on time. As such, this is the main risk to our call on the stock.

Equity dilution risk

We expect Meiya to be in a rapid development phase for the next few years, typified by high capex and negative FCF. We believe Meiya should be able to fund future projects from the proceeds of its IPO and through debt financing at a competitive borrowing rate of 4.56%. According to our forecast, although Meiya's net debt-to-equity ratio should increase from 106% in 2014 to 332% at the end of 2016, the ratio should still be significantly lower than the level before Meiya was listed, which was 390%.

■ Meiya: net debt and net debt-to-equity ratio



Source: Company, Daiwa forecasts

That said, we do not rule out the possibility of Meiya choosing equity financing to fund projects or making asset injections coupled with new share issuances. If equity financing is chosen, the company's EPS growth would be diluted. Meiya expects the second and third asset injection to be settled by new share placement, but believes the injection to enhance EPS.

In our model, we currently assume that 1GW of assets will be injected into Meiya in 2015-16, totalling 2GW of

power assets. Any further asset injections over 2017-18 could put further pressure on the company's net debt-to-equity level.

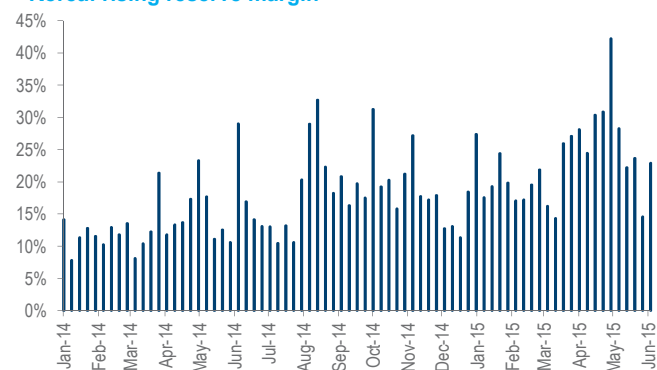
Earnings volatility at the Korea operations

While the Yulchon I power plant is able to pass through fuel-price fluctuations, the Yulchon II and Daesan I power projects receive payments based on a system marginal price, which is influenced by market demand and supply, and may not fully reflect the fuel price fluctuations experienced by the power plants. A tariff adjustment might not accurately reflect production costs.

Furthermore, we have seen a rising reserve margin and falling SMP, by 40% from 140KRW/kWh to 86.97KRW/kWh since the beginning of 2015, on the back of recent weak power demand, but surging new power supply, due to the commissioning or resumption of several nuclear plants.

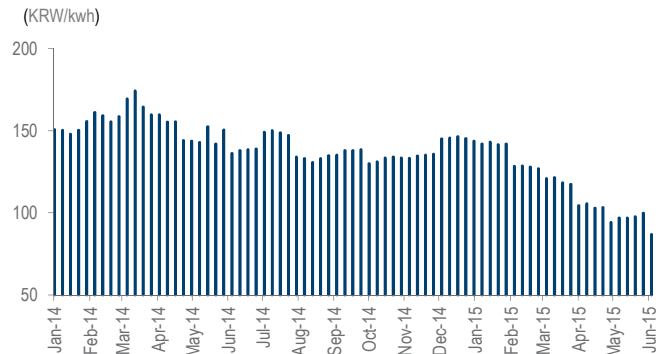
Under Korea's power-pooling system, nuclear power plants get the highest priority for power dispatch, as the grid takes its electricity first due to its high efficiency and lowest variable costs. As such, the increase in the proportion of nuclear power as a percentage of the total power supply will drag down the SMP and could lead to a reduction in power dispatch at Meiya's power plants.

■ Korea: rising reserve margin



Source: KEPCO

■ **KEPCO: falling system margin price (SMP)**



Source: KEPCO

We have carried out a sensitivity analysis on our earnings forecasts, which shows that an additional 4% decrease in the utilization hours at Yulchon II in 2015 will push down our 2015 net profit forecast by 1.1%.

■ **Meiya: sensitivity of earnings, NAV and ROE to changes in utilization hours at the Yulchon II plant**

	2015E Utilisation hours	Changes in 2015E Utilisation hours	2015E Net profit (USDm)	2015E ROE	2014-17 EPS CAGR
-13%	4,100	(600)	100.6	13.38%	13.14%
-9%	4,300	(400)	101.8	13.53%	13.12%
-4%	4,500	(200)	103.0	13.68%	13.10%
Base case	4,700	-	104.1	13.82%	13.08%
4%	4,900	200	105.3	13.97%	13.06%
9%	5,100	400	106.5	14.12%	13.04%
13%	5,300	600	107.7	14.26%	13.02%
18%	5,500	800	108.8	14.41%	13.00%

Source: Company, Daiwa estimates

■ **Meiya: sensitivity of earnings, NAV and ROE to changes in utilization hours at the Yulchon II plant (relative to base case)**

	2015E Utilisation hours	Change in 2015E Utilisation hours	2015E Net profit (USDm)	2015E ROE	2014-17 EPS CAGR
-13%	4,100	(600)	-3.4%	-0.44pp	0.06pp
-9%	4,300	(400)	-2.3%	-0.29pp	0.04pp
-4%	4,500	(200)	-1.1%	-0.15pp	0.02pp
Base case	4,700	-	0.0%	0.00pp	0.00pp
4%	4,900	200	1.1%	0.15pp	-0.02pp
9%	5,100	400	2.3%	0.29pp	-0.04pp
13%	5,300	600	3.4%	0.44pp	-0.06pp
18%	5,500	800	4.5%	0.59pp	-0.08pp

Source: Company, Daiwa estimates

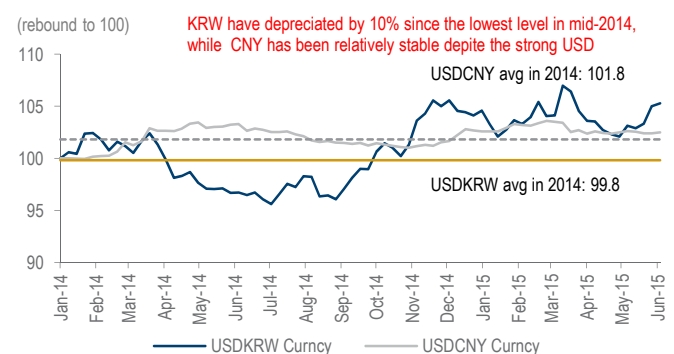
Forex risks

Given that Meiya's large-scale power plants are all located in Korea, the company's earnings from Korea accounted for 78% of Meiya's revenue for 2014, and could increase to over 80% for 2015E, with a full-year of profit contribution from the Yulchon II gas-fired project, which started operations in April 2014 (contributed eight months of profit for 2014). We expect Meiya's USD-based reported earnings to be

subject to fluctuations in the USD:KRW and USD:CNY exchange rates.

The US Dollar has been relatively stronger since the middle of 2014, with the country's looser fiscal policy and steady economic recovery, while the Won has depreciated by 10% against the US Dollar since the highest level in the middle of 2014, or 5% from its average in 2014. The CNY has been relatively stable against the USD.

■ **Meiya: currencies of overseas operations since 2014**



Source: Bloomberg, Daiwa

Our assumption for the USD:KRW exchange rate has priced in the depreciation in the Won against the USD, and we expect this low rate to remain for the rest of the year. We estimate that our 2015 net profit forecast for Meiya could decline by 1.6% for every 3% depreciation in the Won against the US Dollar.

■ **Meiya: sensitivity of earnings, NAV and ROE to changes in the 2015E KRW:USD exchange rate**

2015 USD:KRW Sensitivity analysis	NAV (HKD)	2015E Net profit (USDm)	2015E ROE
9%	3.418	99.5	13.25%
6%	3.413	101.0	13.43%
3%	3.407	102.5	13.62%
Base case	3.402	104.1	13.82%
-3%	3.395	105.9	14.04%
-6%	3.389	107.7	14.27%
-9%	3.382	109.7	14.51%

Source Daiwa estimates

■ **Meiya: sensitivity of earnings, NAV and ROE to changes in 2015E KRW:USD exchange rate (relative to base case)**

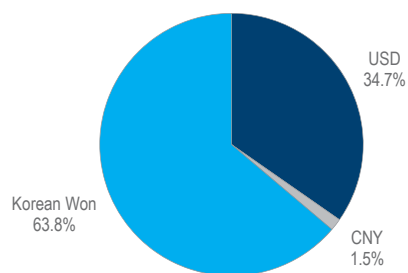
2015 USD:KRW sensitivity analysis	NAV (HKD)	2015E Net profit (USDm)	2015E ROE
9%	0.5%	-4.4%	-0.58pp
6%	0.3%	-3.0%	-0.39pp
3%	0.2%	-1.6%	-0.20pp
0%	0.0%	0.0%	0.00pp
-3%	(0.2%)	1.7%	0.22pp
-6%	(0.4%)	3.4%	0.44pp
-9%	(0.6%)	5.3%	0.69pp

Source: Daiwa estimates

While Meiya does not actively engage in hedging activities, its forex risk can be partly offset by

transitional forex gains from its outstanding Won loans. About 63.8% of Meiya's loans in Won were outstanding as at 4M14, approx. USD904m.

■ Meiya: debt breakdown by currency as of 4M14



Source: Daiwa estimates

Appendix 1: details of CGNPC's wind/solar/hydro assets available for injection into Meiya

■ CGNPC: wind/solar/hydropower projects in operation as at 4M14

Province	Consolidated installed capacity (MW)	Attributable installed capacity (MW)
Wind power projects		
Yunnan	196.5	196.5
Inner Mongolia	1141.1	908.2
Jilin	536.5	463.6
Shandong	353.6	282.2
Shanxi	97.5	97.5
Guangdong	329.1	289.6
Xinjiang	552.5	552.5
Hebei	199.5	162.5
Zhejiang	63.0	63.0
Hubei	147.2	147.2
Gansu	496.0	407.8
Guizhou	144.0	144.0
Liaoning	146.1	114.7
Heilongjiang	446.7	392.0
Anhui	49.5	48.9
Australia	19.5	19.5
Subtotal	4,918.3	4,289.7
Solar-power projects		
Ningxia	30.0	30.0
Shandong	30.0	25.5
Guangdong	10.0	10.0
Xinjiang	190.0	190.0
Gansu	87.0	84.1
Tibet	10.0	10.0
Qinghai	160.0	157.0
Subtotal	517.0	506.6
Hydro projects		
Yunnan	204.3	191.7
Sichuan	697.5	457.5
Guangxi	398.0	372.3
Subtotal	1,299.8	1,021.5
Total	6,735.1	5,817.8

Source: Company

■ CGNPC: wind/solar/hydropower projects under construction as of 4M14

Province	Consolidated Installed Capacity (MW)	Attributable Installed Capacity (MW)
Wind-power projects		
Ningxia	49.5	49.5
Anhui	49.5	24.3
Shandong	198.5	180.1
Shanxi	141.0	141.0
Guangdong	68.0	68.0
Jiangxi	46.2	46.2
Xinjiang	12.0	12.0
Hubei	48.0	48.0
Gansu	647.0	647.0
Guizhou	218.0	218.0
Liaoning	48.0	48.0
Subtotal	1,525.7	1,482.1
Solar-power projects		
Singapore	10.0	10.0
Zhejiang	21.0	21.0
Tibet	20.0	20.0
Ningxia	20.0	20.0
Qinghai	11.0	11.0
Subtotal	82.0	82.0
Hydro projects		
Yunnan	212.9	128.1
Subtotal	212.9	128.1
Total	1,820.6	1,692.2

Source: Company

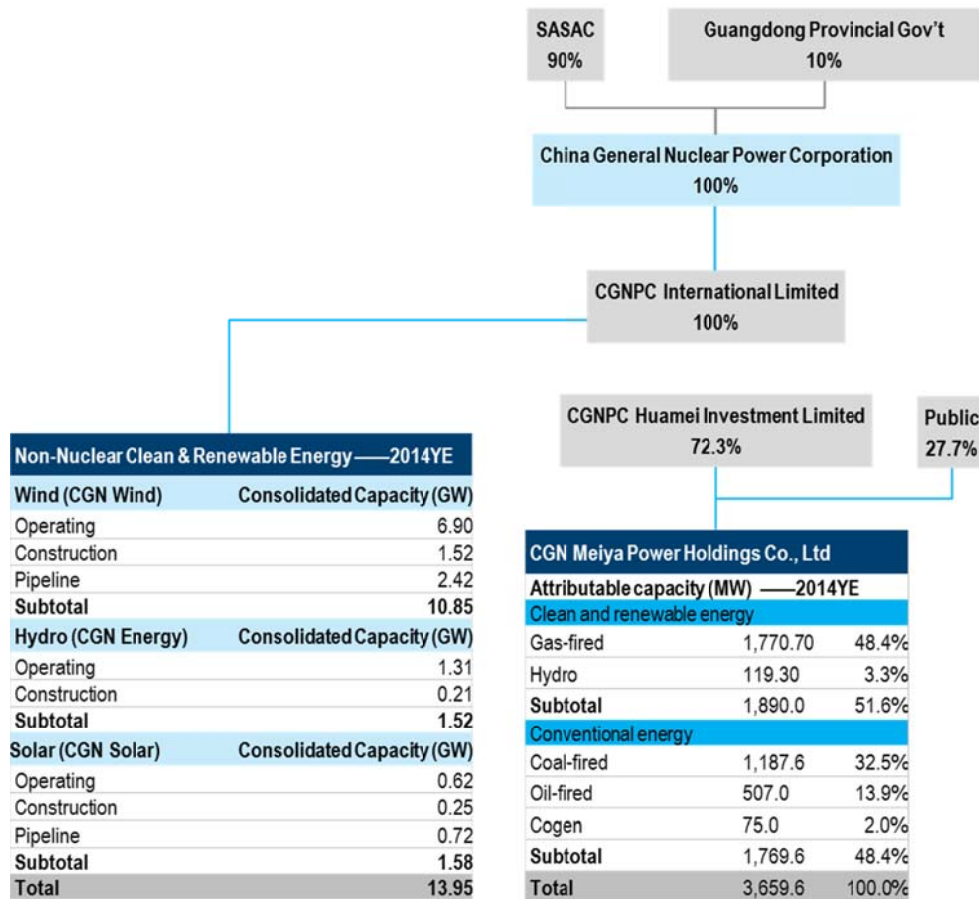
■ CGNPC: List of wind/solar/hydropower projects pipeline as of 4M14

Province	Consolidated Installed Capacity (MW)	Attributable Installed Capacity (MW)
Wind-power projects		
Yunnan	88.5	88.5
Anhui	49.5	49.5
Shandong	300.0	300.0
Guangdong	29.8	29.8
Guangxi	148.5	148.5
Xinjiang	139.5	139.5
Jiangsu	398.0	299.8
Hebei	200.0	168.5
Zhejiang	48.0	48.0
Hubei	167.5	167.5
Guizhou	49.5	49.5
Liaoning	48.0	48.0
Heilongjiang	148.5	148.5
Inner Mongolia	200.0	200.0
Jilin	198.0	182.4
Subtotal	2,213.3	2,068.0
Solar-power projects		
Jiangsu	98.8	98.8
Hubei	40.0	40.0
Subtotal	138.8	138.8
Hydro projects		
Sichuan	132.0	132.0
Shaanxi	180.0	180.0
Yunnan	88.0	59.4
Subtotal	400.0	371.4
Total	2,752.1	2,578.2

Source: Company

Appendix 2: shareholding structure and management profile

Meiya: Shareholding structure



Source: Company

■ Meiya: management profile

Name	Age	Position	Roles and Responsibilities	Background
Mr. CHEN Sui	50	Chairman and non-executive director	Overall corporate strategies planning and business development	Mr. Chen concurrently serves as the chairman of CGN Wind Energy Ltd., CGN Solar Energy Development Co., Ltd. and CGNPC Energy Service Co., Ltd. and is a supervisor of CGNPC Power Co., Ltd. Mr. Chen has more than 26 years of experience in strategic planning, renewable-energy development, construction, operation management and energy conservation management.
Mr. LIN Jian	50	Executive director and president	Formulation, management and execution of overall corporate strategies	Mr. Lin has over 13 years of experience in the power industry. He was the general manager and a director of CGNPC Energy Development Co., Ltd. from September 2012 to May 2014. He served as the general manager of Guangdong Nuclear Power Joint Venture Co., Ltd. from February 2006 to September 2012, and the general manager of Lingao Nuclear Power Co., Ltd. and Lingdong Nuclear Power Co., Ltd. from April 2010 to September 2012.
Mr. CHEA Man Yin Nigel	52	Senior vice-president	Oversees the Conventional Energy Business Unit	Mr. Chea had over 10 years of experience in finance, accounting and auditing, and has participated in a number of major pioneer infrastructure projects in the PRC. He had also worked for large US multinational companies including Pepsi Cola International and Digital Equipment International. Mr. Chea obtained a bachelor's degree in business administration from The Chinese University of Hong Kong in July 1985 and a master's degree in commerce from the University of New South Wales, Australia, in August 1988.
Mr. LEUNG Hok Luen	64	Senior vice-president	Oversees the International Business Unit	Before joining Meiya, Mr. Leung worked at ABB Lummus Global (a division of Asea Brown Boveri) for 22 years. He oversaw all commercial activities in China, including project development, contract negotiation, bidding strategy and project financing. He worked at ABB Lummus Global, a division of Combustion Engineering Inc., for 22 years. At ABB Lummus Global, he oversaw all commercial activities in China, including project development, contract negotiations, bidding strategy and project financing. He earned an MBA from the University of Houston in December 1985. Mr. Leung obtained a bachelor's degree and master's degree in chemical engineering from the Polytechnic University in Hong Kong.
Mr. MYUNG Jinsung	46	Head of Korea	Oversees the Korean operations	Mr. Myung has more than 15 years of experience in the power and gas industries covering all aspects of the power business. Prior to joining Meiya, Mr. Myung worked in Mirant Corporation in Hong Kong and at Enron Corporation in the US, where he was in charge of M&A, business development and international investment. He obtained an MBA with a major in finance from Vanderbilt University in the US in May 1998.
Mr. CHU Heng Kung Henry	60	GM – Conventional Energy Business Unit	Manages the Conventional Energy Business Unit	Mr. Chu is responsible for managing the company's important assets portfolio and power-project investments, including those where Meiya has majority or minority investments. Before joining Meiya, Mr. Chu was the general manager of XTI in China and the Kuo Kuang Power Project in Taiwan. He has over 30 years' experience in technical and general management in the power industry and has participated in a number of power projects in different countries, including Indonesia, the Dominican Republic, and the US. Mr. Chu obtained a bachelor's degree in marine engineering from the National Marine and Oceanic Technology University in Taiwan in 1977.
Dr. WONG Yao Chee Albert	68	Director – Safety and Technical Department	Manages the Safety and Technical Department	Dr. Wong has over 40 years' experience in technical services and project management. Prior to joining Meiya, he worked in Stone & Webster /Shaw Group for around 34 years. Dr. Wong obtained a doctor of philosophy degree in civil engineering from the University of Illinois in February 1973, an MBA from Boston College in May 1981, and a bachelor degree in civil engineering from the University of Hong Kong in November 1968.
Mr. YANG Linghao	40	Chief accountant	Oversees Finance and Accounting Department	Mr. Yang has around 15 years of experience in accounting and finance. Prior to joining Meiya, he worked in the accounting department and finance department of CGNPC, and at various subsidiaries of CGNPC, including CGNPC, CGNPC Energy Development Co., Ltd. and Daya Bay Nuclear Power Finance Co., Ltd. Mr. Yang obtained a bachelor's degree in accounting from the Renmin University of China in 1998.
Mr. WAT Chi Ping Isaac	43	Company secretary and general counsel	Legal compliance and company secretary	Mr. Wat has over 15 years of legal and compliance experience. Prior to joining Meiya, he served as the Director – Legal Counsel of CITIC Securities International Company Limited. He has also worked at major international law firms such as Baker & McKenzie and Fried, Frank, Harris, Shriver & Jacobson LLP. He obtained a post-graduate certificate in law from the University of Hong Kong in June 1996 and a bachelor's degree in pharmacy from the University of Toronto in June 1993.

Source: Company

Appendix 3: financial analysis of a typical wind farm in China

■ Wind farm: typical assumptions of our IRR analysis

Assumption		
Capacity	(MW)	50
Operation	(Years)	20
Unit-capex (including VAT)	(CNY/W)	8.0
Unit-capex (excluding VAT)	(CNY/W)	6.8
Total investment (including VAT)	(CNYm)	400
Total investment (excluding VAT)	(CNYm)	342
Tariff (including VAT)	(CNY/kWh)	0.52
Tariff (excluding VAT)	(CNY/kWh)	0.44
Utilization hours	(hours)	2,200
Self-use rate	(%)	5
Finance cost	(%)	5%
Payback period of debt	(Years)	10
Tax rate	(%)	25
O&M Per MWh electricity generated	(CNY k/MWh)	30
O&M growth after 5 years	(%)	3
Labor cost/MWh of electricity generated	(CNY k/MWh)	20
Debt	(%)	70%

Source: Daiwa

■ Wind farm: equity IRR and project IRR analysis

(CNYm)	Construction Period		Operating Period																
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	...	Year 19	Year 20			
Income statement																			
Revenue																			
Electricity income (ex VAT)		46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	46.4	...	46.4	46.4		
VAT rebate (equipment)		7.9	7.9	7.9	7.9	7.9	7.9	7.9											
VAT rebate (electricity)									3.9	3.9	3.9	3.9	3.9	...	3.9	3.9			
Total		54.3	54.3	54.3	54.3	54.3	54.3	54.3	50.4	50.4	50.4	50.4	50.4	50.4	...	50.4	50.4		
Cost																			
Depreciation		(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	(20.0)	...	(20.0)	(20.0)			
O&M		(3.1)	(3.1)	(3.1)	(3.1)	(3.1)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	(3.2)	...	(3.2)	(3.2)			
Labour cost		(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	(2.1)	...	(2.1)	(2.1)			
EBIT		29.1	29.1	29.1	29.1	29.1	29.0	29.0	25.1	25.1	25.1	25.1	25.1	...	25.1	25.1			
<i>EBIT margin (%)</i>		<i>54%</i>	<i>54%</i>	<i>54%</i>	<i>54%</i>	<i>54%</i>	<i>53%</i>	<i>53%</i>	<i>50%</i>	<i>50%</i>	<i>50%</i>	<i>50%</i>	<i>50%</i>	<i>...</i>	<i>50%</i>	<i>50%</i>			
Interest expense		(13.3)	(11.9)	(10.5)	(9.1)	(7.7)	(6.3)	(4.9)	(3.5)	(2.1)	(0.7)								
Profit before tax		15.8	17.2	18.6	20.0	21.4	22.7	24.1	21.6	23.0	24.4	25.1	25.1	...	25.1	25.1			
Income tax		-	-	-	(2.5)	(2.7)	(2.8)	(6.0)	(5.4)	(5.7)	(6.1)	(6.3)	(6.3)	...	(6.3)	(6.3)			
<i>Effective tax rate (%)</i>		<i>0.0%</i>	<i>0.0%</i>	<i>0.0%</i>	<i>12.5%</i>	<i>12.5%</i>	<i>12.5%</i>	<i>25.0%</i>	<i>25.0%</i>	<i>25.0%</i>	<i>25.0%</i>	<i>25.0%</i>	<i>25.0%</i>	<i>...</i>	<i>25.0%</i>	<i>25.0%</i>			
Net profit		15.8	17.2	18.6	17.5	18.7	19.9	18.1	16.2	17.2	18.3	18.8	18.8	...	18.8	18.8			
<i>Net margin (%)</i>		<i>29.1%</i>	<i>31.7%</i>	<i>34.3%</i>	<i>32.2%</i>	<i>34.5%</i>	<i>36.6%</i>	<i>33.3%</i>	<i>32.1%</i>	<i>34.2%</i>	<i>36.3%</i>	<i>37.3%</i>	<i>37.3%</i>	<i>...</i>	<i>37.3%</i>	<i>37.3%</i>			
PBT		15.8	17.2	18.6	20.0	21.4	22.7	24.1	21.6	23.0	24.4	25.1	25.1	...	25.1	25.1			
+Depreciation		20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	...	20.0	20.0			
-Tax		-	-	-	(2.5)	(2.7)	(2.8)	(6.0)	(5.4)	(5.7)	(6.1)	(6.3)	(6.3)	...	(6.3)	(6.3)			
+interest expense		13.3	11.9	10.5	9.1	7.7	6.3	4.9	3.5	2.1	0.7								
Capex	(400)																		
FCF-Project	(400)	49.1	49.1	49.1	46.6	46.4	46.2	43.0	39.7	39.3	39.0	38.8	38.8	...	38.8	38.8			
-Interest expense		(13.3)	(11.9)	(10.5)	(9.1)	(7.7)	(6.3)	(4.9)	(3.5)	(2.1)	(0.7)								
-Debt repayment		(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)								
FCF-Equity	(120)	7.8	9.2	10.6	9.5	10.7	11.9	10.1	8.2	9.2	10.3	38.8	38.8	38.8	38.8	38.8			
Project IRR	9%																		
Equity IRR	12%																		
Debt schedule																			
Outstanding debt	280	252.0	224.0	196.0	168.0	140.0	112.0	84.0	56.0	28.0	-								
Repayment		(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)	(28.0)								
Interest expense		(13.3)	(11.9)	(10.5)	(9.1)	(7.7)	(6.3)	(4.9)	(3.5)	(2.1)	(0.7)								

(CNYm)	Construction Period		Operating Period													
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	...	Year 19	Year 20
Gross electricity generated (m kWh)	-	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	110.0	...	110.0	110.0
Electricity self-consumed (m kWh)	-	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	(5.5)	...	(5.5)	(5.5)
Net electricity generated (m kWh)	-	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.5	104.5	...	104.5	104.5

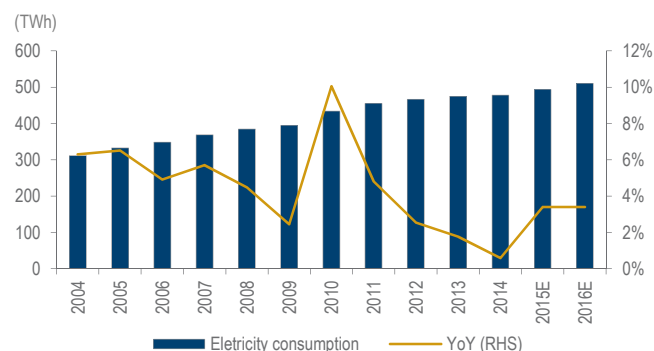
Source: Daiwa

Appendix 4: the Korea electricity market

Demand

Demand for electricity in Korea has increased steadily, at an electricity-consumption CAGR of 3.9% over 2004-14. The Korean Government estimates that its electricity demand will increase at an average annual rate of about 4.0% over 2015-17.

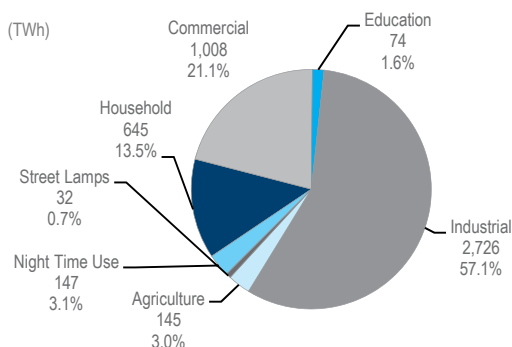
■ Korea: annual growth rate of electricity consumption



Source: KEPCO

Of all the business segments in Korea, the industrial sector consumes the largest amount of electricity (57% in 2014), with the commercial segment second (21% in 2014). The increase in production for the country's main industries (ie, machinery and electronics) has outpaced economic growth, causing industrial electricity demand to rise.

■ Korea: electricity consumption in 2014 by user



Source: KEPCO

The supply of electricity in Korea was tightened up over 2003-13, as reflected by the falling reserve margin, from 17.1% in 2003 to 5.5% in 2013. Given the deteriorating balance, short-term power curtailments were implemented (ie, during peak hours, manufacturing production is ordered to stop to save on the amount of power being used – 3,666MW in 2012).

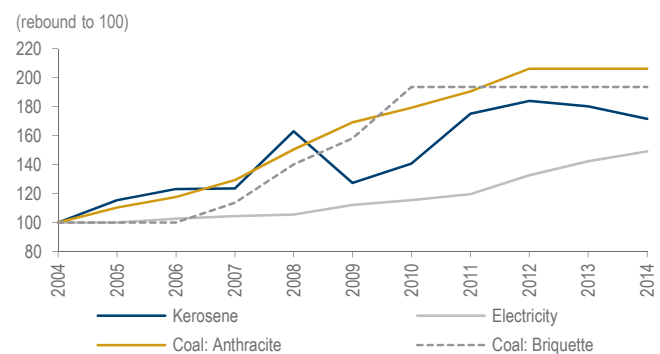
■ Korea: electricity supply was tightened up from 2010-2013

Time	Events
Sep 2011	Due to the unexpected rise in temperature, electricity consumption rose sharply followed by several power-supply failures
Nov 2012	Certain machinery parts, such as fuses and switches, used in 2 nuclear fuel generation units were found to have been supplied with forged quality certificates/ documents, and the units were shut down immediately. Reserve margin compressed to 3.8%.
Jun 2013	Rising electricity consumption due to unexpected temperature spikes, KEPCO issued warning and implemented short-term demand curtailment at 6GW.
Aug 2013	Electricity reserves fell below 3.5GW, KEPCO issued "attention" level warnings.

Source: Media reports

According to the analysis in the sixth basic plan for long-term electricity supply and demand (6th BPE), the higher-than-forecast demand for power demand over 2011-13 was due to: 1) power consumption has increased constantly in Korea, in line with economic growth, as the major industries that consume a lot of electricity lead the economy, 2) commercial and residential power demand, such as cooling and heating, has increased due to improved incomes and demand for such necessities, 3) electrification has accelerated due to the relatively cheap electricity price, which is at a 15% and 20% discount to kerosene and coal, respectively.

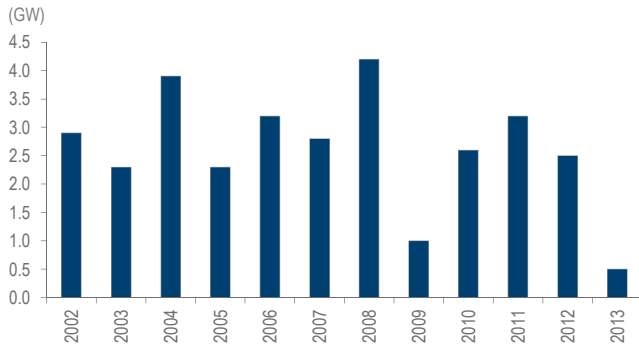
■ Korea: price comparison of electricity and other energy sources



Source: Korea Energy Economics Institute

Despite the higher-than-predicted demand, delays or cancellations of power-plant projects have put further stress on the supply situation, especially over 2011-13. According to the 6th BPE, power plants accounting for installed capacity of 4,150MW due to start operations in 2013 have been delayed or cancelled, making 2013 the year with the lowest net capacity additions, at 500MW, compared with 1-4.2GW over 2002-14.

■ **Korea: newly installed capacity**

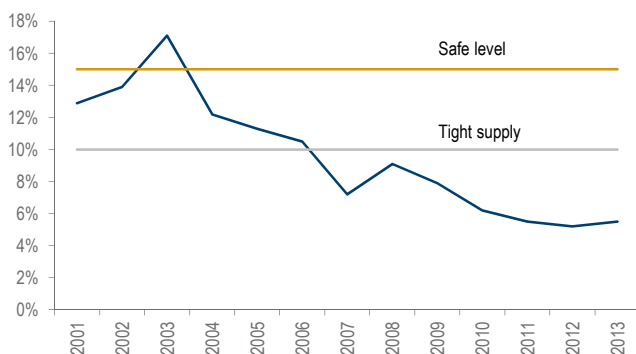


Source: Electric Power Statistics Information System, KEPCO

Since 2010, Korea's supply reserves have been falling due to the reinforcement of nuclear power plant safety standards and the rise in generator outages (supply reserves in the summer of 2012 fell to 3.8%), mainly due to: 1) under the reinforced safety standards, 6 nuclear units were shut down in mid-2013 to replace unqualified components, while another was shut down in July 2014, and 2) generator outages rose from 113 cases in 2010, to 161 cases in 2012.

The reserve margin is calculated as: total supply capacity minus peak electricity demand, divided by peak electricity demand. It is a safety margin that indicates the level of available capacity after peak demand is met. By international standards, a margin higher than 15% is considered a "safe" level, whereas below 10% is considered tight.

■ **Korea: power reserve margin**



Source: Electric Power Statistics Information System, KEPCO

Korea's reserve margin has been on the rise since the beginning of 2014 (10% in January 2014 to 22% in February 2015) mainly due to: 1) the resumption in operations of nuclear power units: some of KEPCO's existing nuclear units resumed operations in January 2014, and other new units will come on line in June-July 2015, and 2) weaker-than-expected power demand growth in 2014 (0.3% YoY).

The 6th BPE came up with a 22% reserve margin goal for 2027. According to the 6th BPE forecast, the gross generating capacity required in 2027 would be 139,815MW, based on a 110,886MW demand forecast, 22% reserve rate, and uncertainty over power plant construction plans. New power generating capacity to be added during the period is 29,570MW, or 2,112MW/year (excluding the 110,245MW of planned capacity reflected in the 5th BPE).

Supply

In Korea, power is produced by 6 power generation companies controlled by KEPCO, independent power producers (IPPs), and sustainable community energy systems. KEPCO transmits the electric power it has purchased from the Korea Power Exchange (KPE) through the transmission and distribution network, and sells it to end customers.

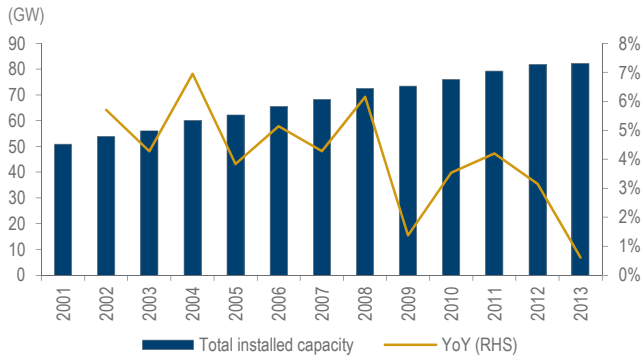
■ **Korea: electric power industry structure**



Source: KEPCO

Korea saw a total capacity CAGR of 4.1% over 2001-13, and is projected to reach 139.8GW by 2027, based on Korea's 6th BPE for long-term electricity demand and supply (issued in 2013).

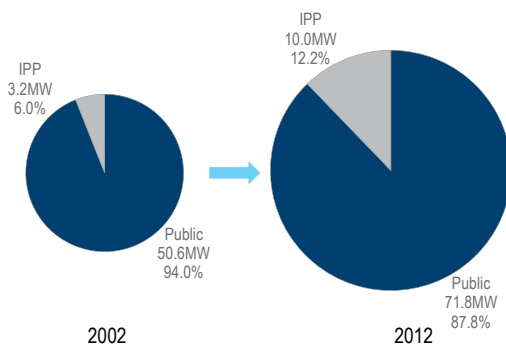
■ **Korea: total installed capacity**



Source: Electric Power Statistics Information System, KEPCO

The power generation market in Korea is dominated by KEPCO, a government-controlled entity, which had a total installed capacity of 70.8 GW as at the end of 2013, representing 86% of the country's total installed capacity (82.3GW). Despite the near-monopolistic nature of the market, the IPP's share rose from 6% in 2002 to 12.2% in 2012, with an annual growth rate of 12%.

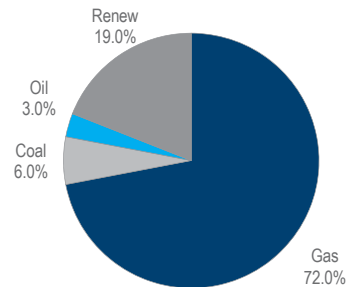
■ **Korea: public and IPP capacity**



Source: 6th BPE

As at the end of 2012, there were 10 major IPPs in Korea (excluding the renewable-energy producers) that accounted for 12.2% of the total generation capacity in the country. Most of the IPPs were gas-fired plants, accounting for 72% of power generation, as at end-2012.

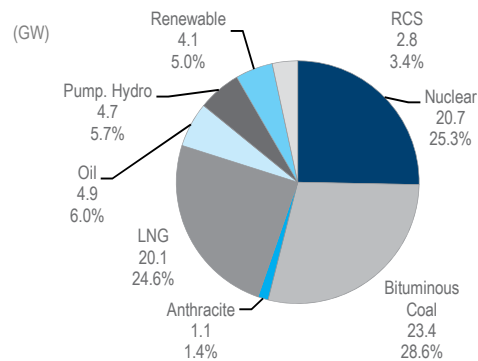
■ **Korea: breakdown of installed capacity among private suppliers (2012)**



Source: 6th BPE

Moreover, Korea's power generation mix is more balanced than in China. In Korea, coal-fired, nuclear and gas-fired power installed capacities accounted for 28.6%, 25.3% and 24.6% of the total mix, respectively, as at end-2012.

■ **Korea: total installed capacity (2012)**



Source: KEPCO

6th BPE for long-term electricity supply and demand

The 6th BPE was announced by the Korean Government in February 2013, guiding for the future supply and demand of electricity over 2013-27. The basic plan is revised every 2 years.

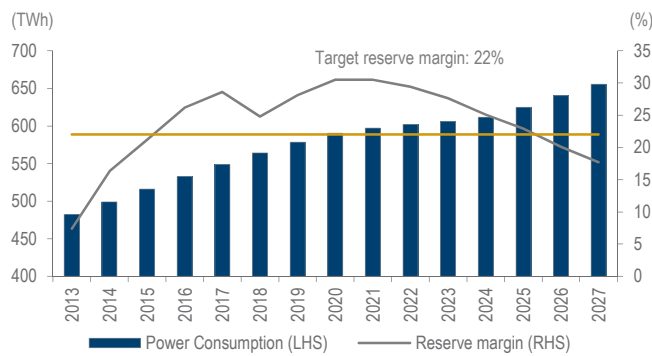
The 6th BPE lists several basic directions for the electricity supply and demand over 2013-27:

- Ensuring that adequate electricity reserves are achieved, appropriate to the size of the economy,
- Stipulating a power supply mix that minimises economic and social costs, and considers the local and overseas socio-political environment,
- Expanding the power-generation capacity, while maintaining the stability of the national electricity grid network, and

- Making renewable generation account for 12% of generation and 20% of installed capacity by 2027.

The Korea Government revised up the target demand in the latest version of the plan. Under the 6th BPE, power consumption is expected to grow by 2.2% YoY to 655,305GWh in 2027. In 2024, power consumption is expected to be 611,734GWh, which is a 10.9% increase compared to the 5th BPE (551,606GWh).

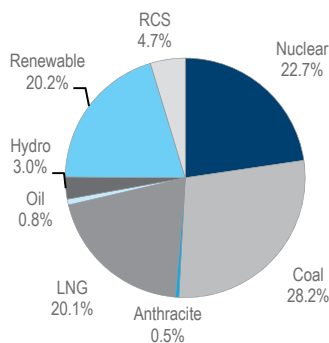
■ Korea: power consumption and reserve margin forecasts



Source: 6th BPE

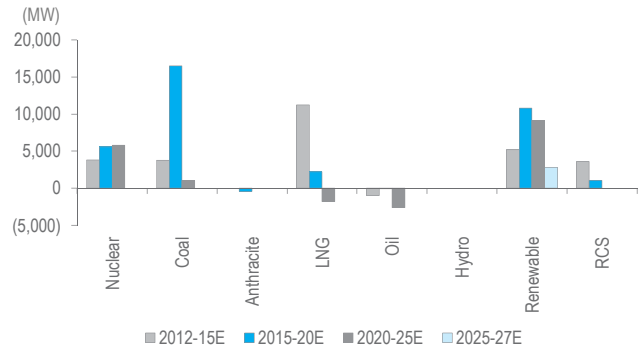
Under the 6th BPE, the IPP contribution is expected to increase to 29% of total installed capacity in 2027, demonstrating the Korean government’s inclination towards enforcing the role of the IPPs in the Korean power market.

■ Korea: target installed capacity by fuel mix (2027E)



Source: 6th BPE

■ Korea: additional installed capacity by fuel type (2012-2027E)



Source: 6th BPE

The proportion of nuclear power as a percentage of the total installed capacity is expected to decline from the 2012 level of 25.3% to 22.7% in 2027, with no further nuclear-power-plant construction plans after the Japan Fukushima accident in 2011.

■ Korea: investment plans in new capacity and capacity expansion

(KRWbn)	New plant (11,980MW) investment			Total	
	2013-17	2018-22	2022-27		
Nuclear	-	-	-	-	0%
Coal	8,232	4,235	-	12,467	80%
LNG	3,172	-	-	3,172	20%
Total	11,403	4,235	-	15,638	100%

(KRWbn)	Capacity expansion (50,923MW) investment			Total	
	2013-17	2018-22	2022-27		
Nuclear	11,074	15,272	1,597	27,942	40%
Coal	24,191	4,235	-	28,425	41%
LNG	13,525	-	-	13,525	19%
Total	48,789	19,506	1,597	69,892	100%

Source: 6th BPE

Pricing scheme

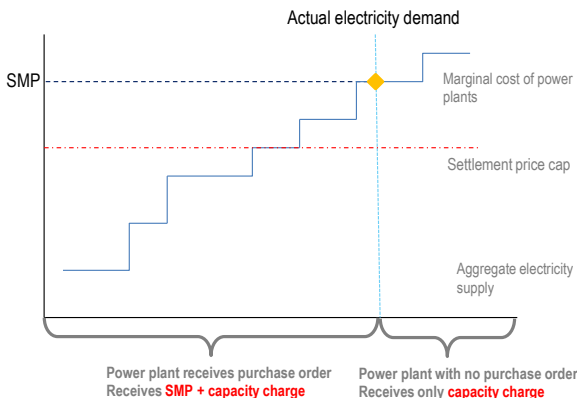
Since April 2001, buying and selling electricity in Korea has to go through the KPX, the sole electricity exchange market in Korea, according to the terms and conditions stated in the KPX’s regulations (unless a power producer has a power purchasing agreement with KEPCO, in which case it would sell electricity in accordance with the terms and conditions of the PPA; the Yulchun I plant has a contract like this).

Cost-based pool system: The price of electricity in the Korean electricity market is determined principally based on the cost of generating electricity using a system known as the “cost-based pool” system. Under the cost-based pool system, the price of electricity has 2 principal components, namely a system marginal price (representing, in principle, the variable cost of generating electricity) and the capacity price/charge (representing, in principle, the fixed cost of generating electricity).

1) Capacity charge: The capacity charge is a fixed charge, regardless of actual electricity generation, and is adjusted regularly to reflect changes in the Korean producer price index, corporate tax rates and significant changes in the rate of return of corporate debentures. It serves as a compensation fee for the construction and maintenance costs of power plants.

2) System marginal price: this is a variable component that KPX pays to the power generators to compensate them for their variable costs, ie, fuel costs. It is adjusted regularly to reflect changes in the Korean producer price index, corporate tax rates and interest rates.

■ **Korea: system marginal price mechanism**

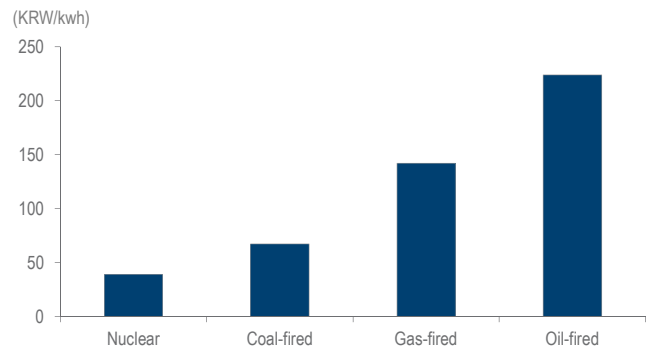


Source: Daiwa

Since 2008, the dispatch priority in Korea is determined by a merit order system, where the order is awarded to the most efficient power generator and arranged in ascending order until the last unit of electricity demand is met. The variable costs for the last generating unit to receive a purchase order is referred to as the SMP, which also usually represents the most expensive price at which electricity can be supplied at any given hour.

The last unit producer usually turns out to be a gas-fired generator, as nuclear power is fully consumed, given that it offers the lowest variable cost. However, as all of the country's nuclear and most of its coal-fired power plants are run by state-owned KEPCO, they get a lower SMP, while the IPPs and the hydro and gas-fired power generators get the full SMP.

■ **Korea: current production cost comparison for nuclear, coal-fired and gas-fired, oil-fired power plants**



Source: Korea Energy Economics Institute

The variable costs for each generating unit are determined on a monthly basis by the Cost Evaluation Committee, run under the KPX, and based on the previous month. The costs are then adjusted for a static transmission loss factor (on an annual basis). Thus, the Korea power generators are subject to minimal risk of fluctuating fuel costs.

The final allocation of electricity supply, however, is further adjusted on the basis of other factors, including the proximity of a generation unit to the geographical area to which the power is being supplied, the network and fuel constraints, and the amount of power that is lost due to power outages.

On 1 March 2013, the KPX implemented a settlement price-capping scheme for a 2-year period. Power generators receive the higher of either the capped price (determined as the variable cost of a designated gas-fired power plant in Korea) or the variable cost.

Long-term PPA: A few plants sell power directly to KEPCO under power-purchase agreements (PPAs), where the power plants receive a capacity charge, an energy charge and a start-up charge, and the capacity charge is similarly determined under a cost-based pool system. The start-up charge is a contracted charge based on the actual number of start-ups of a power-generating unit, and is also adjusted based on a project's actual monthly gas price. The energy charge refers to the price at which the power generators purchase fuel. The fluctuation in the gas price is largely absorbed by KEPCO, the offtaker, through monthly energy-charge pass-through provisions built into the tariff governed by the PPA.

■ **Korea: illustration of a tariff**

Contract type	Type	Tariff		
		capacity charge	SMP	Start-up charge
Cost-based pool system	Variable cost<SMP	Capacity charge + SMP		
	Variable cost>SMP	Only capacity charge		
Long-term PPA		Capacity charge + start-up charge + energy charge		

Source: Daiwa

Meiya's Korea power plants are protected by PPAs

Meiya's 588MW Yulchon I power plant has a long-term PPA with KEPCO, Korea's largest electricity utility, which expires in 2025. The high fixed capacity charge agreements set an energy charge that allows Meiya to fully pass through fluctuations in fuel prices, which

ensures the company makes a stable return. The energy charge refers to the price at which Yulchon Company purchases gas from KOGAS for any month for the Yulchon I Power Project. The start-up charge is a contracted charge for each time the plant starts up.

Meiya's other plants (installed capacity: 1,453MW) are run under a cost-based pool system. The start-up charge is a contracted charge based on the actual number of start-ups of a plant, and is also adjusted based on a project's actual monthly fuel price. Fluctuations in tariffs for Meiya's gas-fired projects primarily reflect adjustments for gas prices.

Appendix 5: clean-energy peer comparison

■ Clean-energy operators: valuation comparison

Ticker	Company	Rating	Target price			Mkt Cap (USDm)	Turnover (USDm)	PER (x)			PBR (x)			ROE (%)			Net Debt-to-Equity (%)			EPS CAGR
			Price (HKD)	Upside	(USDm)			2015E	2016E	2017E	2015E	2016E	2017E	2015E	2016E	2017E	2015E	2016E	2017E	2014-2017E
China clean energy operators																				
1811 HK	CGN MEIYA POWER HOLDINGS CO	Outperform	2.99	3.40	14%	1,655	6.8	15.9	13.3	10.6	2.1	1.8	1.6	13.8	14.7	16.1	234	332	294	13%
579 HK	BEIJING JINGNENG CLEAN ENE-H	Hold	3.24	3.80	17%	2,871	8.1	10.7	8.4	8.1	1.3	1.2	1.0	12.8	14.6	13.6	150	174	181	20%
816 HK	HUADIAN FUXIN ENERGY CORP-H	Buy	3.93	4.60	17%	4,262	12.1	10.4	8.1	7.2	1.6	1.3	1.2	15.9	17.6	17.4	333	332	322	23%
956 HK	CHINA SUNTIEN GREEN ENERGY-H	Outperform	1.78	1.95	10%	853	2.8	10.8	9.0	7.1	0.7	0.6	0.6	6.5	7.4	8.9	138	169	173	30%
916 HK	CHINA LONGYUAN POWER GROUP-H	NR	8.79			9,112	17.9	15.7	13.3	11.5	1.6	1.4	1.3	10.3	10.9	11.4	200	193	194	27%
958 HK	HUANENG RENEWABLES CORP-H	NR	3.20			4,015	16.4	14.9	11.6	8.9	1.4	1.3	1.1	9.7	11.1	13.2	284	292	281	35%
1798 HK	CHINA DATANG CORP RENEWABL-H	NR	1.26			1,182	0.7	22.4	15.1	10.7	0.7	0.7	0.6	3.3	4.3	5.9	429	375	394	na
182 HK	CONCORD NEW ENERGY GROUP LTD	NR	0.60			692	10.7	10.0	7.9	5.9	0.9	0.8	0.7	8.2	10.1	11.6	123	130	87	29%
	Simple average						13.8	10.8	8.7	1.3	1.1	1.0	10.1	11.3	12.3	236	250	241	25%	
	Weighted average						14.1	11.4	9.5	1.5	1.3	1.2	11.2	12.3	13.0	240	247	241	26%	
China coal IPPs																				
836 HK	CHINA RESOURCES POWER HOLDIN	NR	22.45			13,898	20.8	8.8	8.5	8.4	1.3	1.2	1.1	15.7	14.7	14.0	123	111	100	2%
902 HK	HUANENG POWER INTL INC-H	NR	10.32			25,759	33.9	8.9	8.9	8.6	1.5	1.4	1.3	18.0	16.5	16.8	204	177	159	4%
1071 HK	HUADIAN POWER INTL CORP-H	NR	8.46			12,945	12.2	9.5	9.4	9.0	1.6	1.5	1.3	17.4	15.4	14.3	289	256	218	3%
991 HK	DATANG INTL POWER GEN CO-H	NR	4.22			16,412	12.7	9.7	8.1	7.7	1.0	0.9	0.8	8.7	11.7	12.0	330	337	285	16%
2380 HK	CHINA POWER INTERNATIONAL	NR	6.28			5,858	23.6	11.2	10.9	10.8	1.5	1.4	1.3	13.4	12.6	12.9	201	186	200	3%
	Simple average						9.6	9.2	8.9	1.4	1.3	1.2	14.6	14.2	14.0	229	214	192	6%	
	Weighted average						9.3	8.9	8.6	1.4	1.3	1.1	15.1	14.6	14.5	231	214	189	6%	
China power equipment																				
2208 HK	XINJIANG GOLDWIND SCI&TEC-H	NR	12.28			5,943	5.5	15.2	12.9	12.4	1.8	1.6	1.5	12.3	12.6	12.6	75	88	91	72%
1072 HK	DONGFANG ELECTRIC CORP LTD-H	NR	15.04			7,110	7.0	15.4	14.2	12.7	1.3	1.2	1.1	8.8	9.3	9.8	Net cash	Net cash	Net cash	-5%
658 HK	CHINA HIGH SPEED TRANSMISSIO	NR	6.81			1,436	8.7	12.5	11.2	10.2	0.9	0.9	0.8	8.2	8.3	8.6	89	72	61	37%
2727 HK	SHANGHAI ELECTRIC GRP CO L-H	NR	7.22			39,150	106.1	30.3	28.1	25.8	2.1	2.0	1.9	7.1	7.3	8.1	Net cash	Net cash	Net cash	7%
	Simple average						20.4	18.3	17.0	1.6	1.5	1.4	9.2	9.6	10.0	40	39	40	14%	
	Weighted average						26.3	24.0	22.2	2.0	1.8	1.7	8.3	8.6	9.3	14	15	17	8%	
Global wind farm operators																				
IBE SM	IBERDROLA SA	NR	6.06			42,856	247.0	16.0	15.0	14.0	1.0	1.0	1.0	6.6	6.8	7.1	70	67	63	7%
EDPR PL	EDP RENOVAVEIS SA	NR	6.46			6,370	3.1	36.4	29.4	24.4	0.9	0.9	0.9	2.7	3.1	3.8	70	66	67	29%
IFN AU	INFIGEN ENERGY	NR	0.27			158	0.4	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Simple average						26.2	22.2	19.2	1.0	1.0	0.9	4.6	5.0	5.4	70	66	65	18%	
	Weighted average						18.6	16.9	15.3	1.0	1.0	1.0	6.1	6.3	6.7	70	67	64	10%	
China nuclear operator																				
1816 HK	CGN POWER CO LTD-H	Outperform	4.70	5.00	6%	26,498	113.3	27.1	22.7	17.8	3.1	2.8	2.6	11.9	13.1	15.2	129	126	112	7%
601985 CH	CHINA NATIONAL NUCLEAR POW-A	NR	4.88	0.00		12,244	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	Simple average						27.1	22.7	17.8	3.1	2.8	2.6	11.9	13.1	15.2	129	126	112	7%	
	Weighted average						27.1	22.7	17.8	3.1	2.8	2.6	11.9	13.1	15.2	129	126	112	7%	

Source: Bloomberg, Daiwa forecasts. Share prices as at the close on 10 June 2015.

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Disclosure of investment ratings

Rating	Percentage of total
Buy*	61.0%
Hold**	26.1%
Sell***	12.9%

Source: Daiwa

Notes: data is for single-branded Daiwa research in Asia (ex Japan) and correct as of 31 March 2015.

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