



Concord New Energy Group Ltd.(0182.hk)

—— An Experienced Wind & Solar Developer and Operator

# 2017 Annual Results Presentation

19<sup>th</sup> Mar 2018



# Disclaimer

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	Unit : RMB	As of 31 <sup>st</sup> Dec 17	As of 31 <sup>st</sup> Dec 16	Change
<b>Balance Sheet</b>	Net assets	5,255.15 mil	5,225.75mil	+0.56%
	Cash and cash equivalent	1,110.80mil	1,891.27mil	-41.27%
	Gearing ratio (Total Liabilities divided by Total Assets)	0.645	0.635	+1.57.%
<b>Consolidated P&amp;L</b>	Revenue	1,035.97mil	1,785.17mil	-41.97%
	Net Profit	200.04mil	457.82mil	-56.31%
	Fully diluted EPS	2.33cent	5.30cent	-56.04%
<b>Segment Revenue</b>	Power generations <sup>1</sup>	717.55mil	674.03mil	+6.46%
	EPC	235.82mil	1,043.69mil	-77.41%
	Others	82.60mil	67.45mil	+22.46%
<b>Segment Result<sup>2</sup></b>	Power generations	467.15mil	425.31mil	+9.84%
	EPC	-107.70mil	37.20mil	-389.52%
	Others	10.49mil	17.08mil	-38.58%
	Other gains and losses (BT& Impairment)	72.02mil	130.84mil	-44.96%

1. Power generation revenue from consolidated power plants

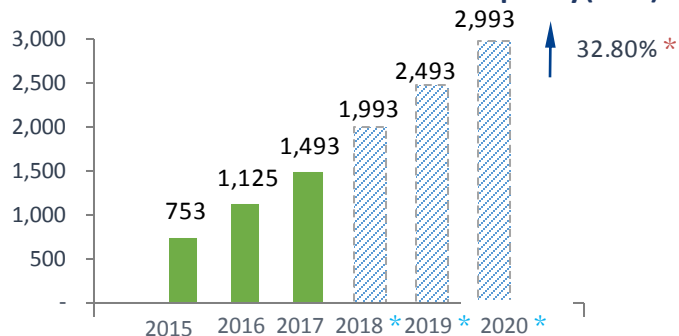
2. The Segment Result are the earnings before interest and tax and disposal gain. The power generation includes the power generation, URP release, deferred tax contribution and shared profits of joint ventures.

		As of 31 <sup>st</sup> Dec17		As of 31 <sup>st</sup> Dec16		Change	
		Total	Equity	Total	Equity	Total	Equity
<b>Power Plants Investment</b>	Total capacity in operation	2,718MW	1,806MW	2,547MW	1601MW	+6.71%	+12.86%
	-Wind	2,387MW	1,493MW	2,053MW	1,125MW	+16.27%	+32.80%
	-Solar	331MW	313MW	494MW	476MW	-32.99%	-34.27%
	Total newly added capacity	439MW	439MW	470MW	446MW	-6.59%	-1.57%
	- Wind	384MW	384MW	420MW	396MW	-8.57%	-3.03%
	- Solar	55MW	55MW	52MW	52MW	+5.77%	+5.77%
<b>Power Generation Output</b>	Total attributable wind power generation output		1997GWh		1335GWh		+49.56%
	Weighted average wind plant capacity factor (attributable)		1921hours		1692hours		+13.53%
	Weighted average wind plant capacity factor (consolidated)		2072hours		1785hours		+16.09%
	Total attributable solar power generation output		450GWh		742GWh		-39.35%
	Weighted average solar plant capacity factor (attributable)		1367hours		1432hours		-4.54%
	Weighted average solar plant capacity factor (consolidated)		1313hours		1422hours		-7.66%
	Weighted average tariff (RMB)						
	-Wind (attributable)		0.5582/kWh		0.5636/kWh		-0.96%
	-Wind (consolidated)		0.5830/kWh		0.6074/kWh		-4.13%
	-Solar (attributable)		0.9698/kWh		0.9703/kWh		-0.05%
	-Solar (consolidated)		0.9357/kWh		0.9509/kWh		-1.69%
	Wind Turbines availability rate		97.19%		96.14%		+1.05%
	Solar Modules availability rate		98.73%		98.89%		-0.16%
	The Average Grid Curtailment of Wind (attributable)		9.1%		19.31%		-10.21%
	The Average Grid Curtailment of Wind (consolidated)		0.19%		0.50%		-0.31%
	The Average Grid Curtailment of Solar(attributable)		7.49%		9.44%		-1.95%
	The Average Grid Curtailment of Solar(consolidated)		8.31%		9.88%		-1.57%

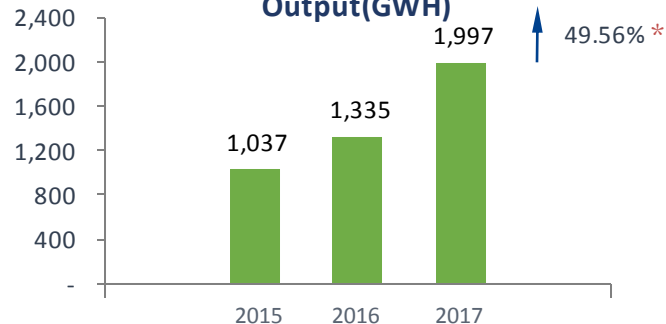
## Significant Growth in Attributable Installed Capacity and Power Generation of Wind Power Projects

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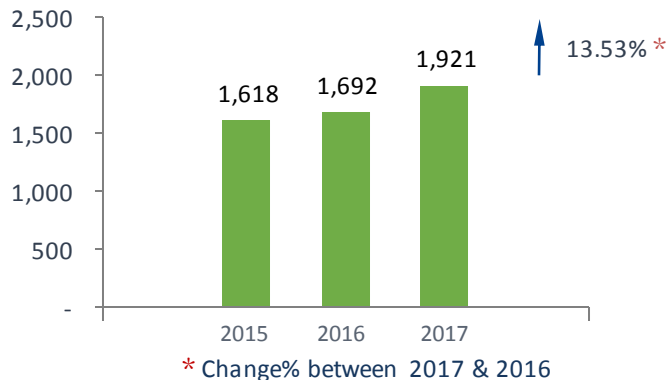
**Attributable Wind Installed Capacity(MW)**



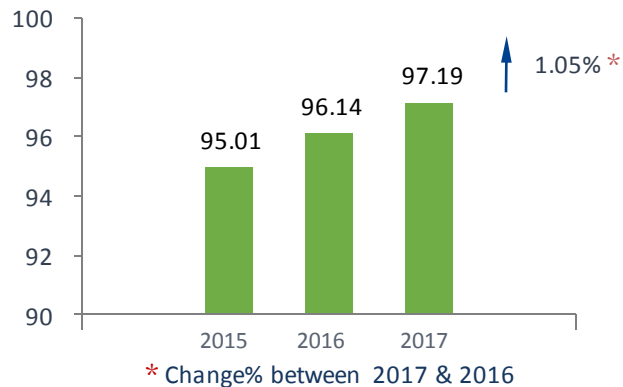
**Attributable Wind Power Generation Output(GWH)**



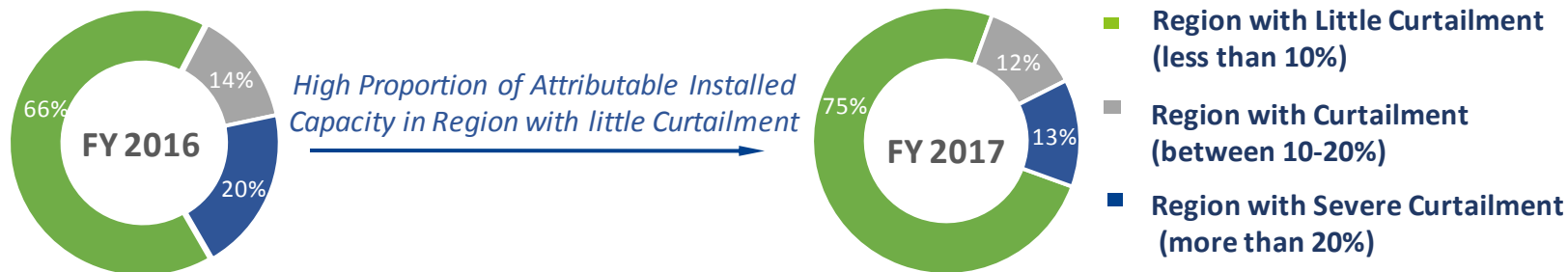
**Wind Plants Capacity Factor(Hour)**



**Availability Rates of Wind Plants (%)**



### Significantly Increased Proportion of Wholly-owned Wind Projects in Southern China without Curtailment



Regions	Unit	Wholly-owned Wind Plants	Jointly-owned Wind Plants	Wholly-owned Solar Plants	Jointly-owned Solar Plants	Total
North-eastern China	MW	-	162	-	-	162
Northern China	MW	-	186	20	7	213
North-western China	MW	-	103	9	-	112
Eastern China	MW	130	118	40	4	292
Central and Southern China	MW	628	86	-	-	714
Western and Southern China	MW	80	-	215	-	295
Overseas	MW	-	-	18	-	18
<b>Total</b>		<b>838</b>	<b>655</b>	<b>302</b>	<b>11</b>	<b>1806</b>

**CNE** **Concord New Energy Group Limited**  
**(0182.hk)**

- Total Shares Outstanding: 8.67bn
- Total Assets: 14.81bn
- Net Assets: 5.26bn
- 2017 Revenue: 1.04bn
- 2017 Net Profit: 0.2 bn

**Power Generation**



**Wind Power**

- Owns and operates 46 wind power plants (attributable capacity 1,493MW)
- Focusing the projects investment in areas without curtailment in southern China
- Over 28GW exclusive wind resources pipeline

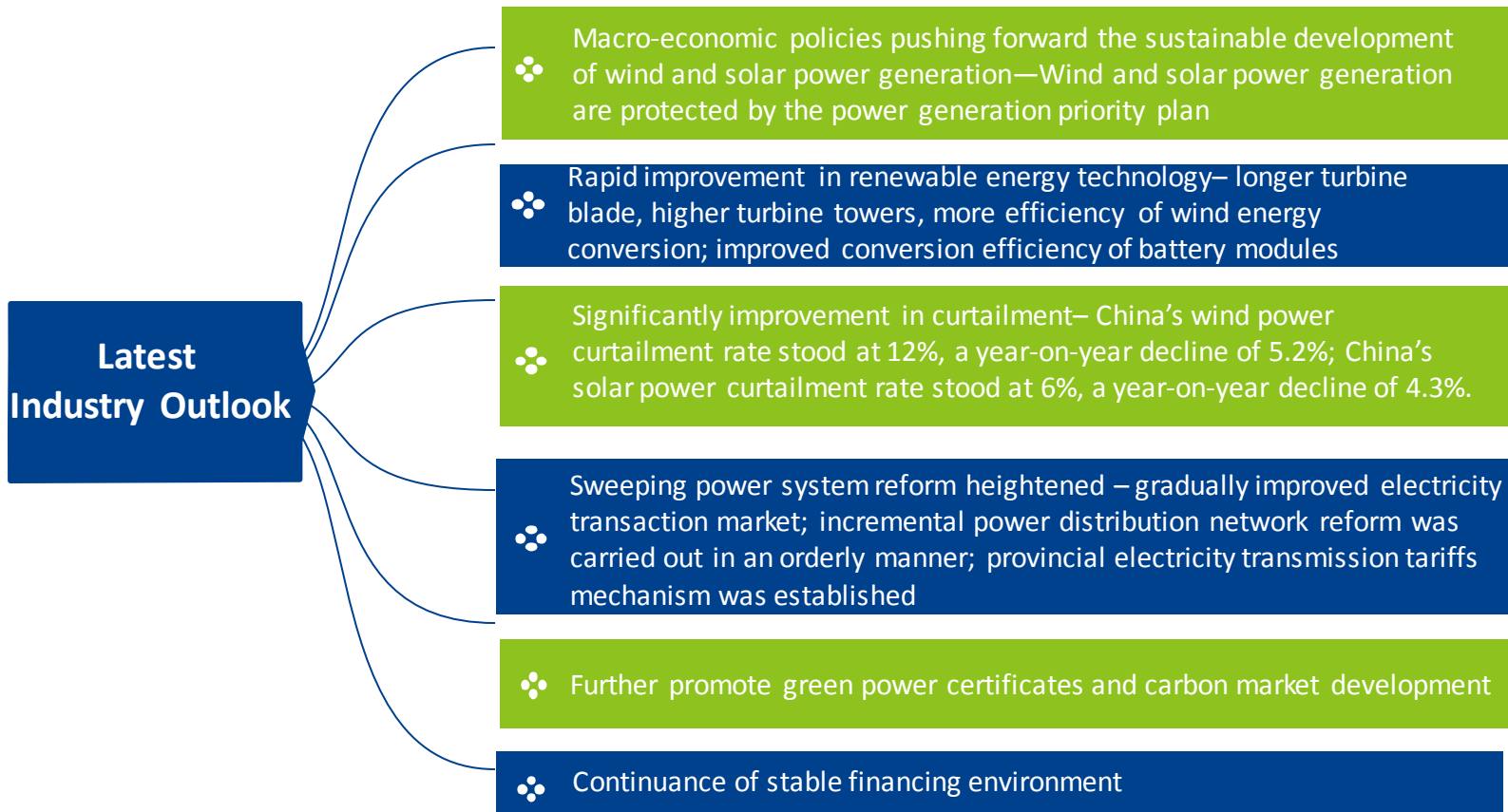


**Solar Power**

- Owns and operates 18 wind power plants (attributable capacity 313MW)
- Over 8GW exclusive solar resources pipeline

**Other Businesses**

- Consultation & Design
- Professional O&M
- Energy Internet
- Finance Lease
- Engineering Construction and Equipment Procurement







1

Successfully implement the strategic transformation, power generation became company's main business. During the year, added a total of 11 wind & solar power plants into operation (439MW), all of which were wholly-owned projects.

2

Assets quality has further improved. Solar project with potential curtailment risk in northern Shanxi province was sold. The installed wind power capacity in southern China without curtailment increased significantly.

3

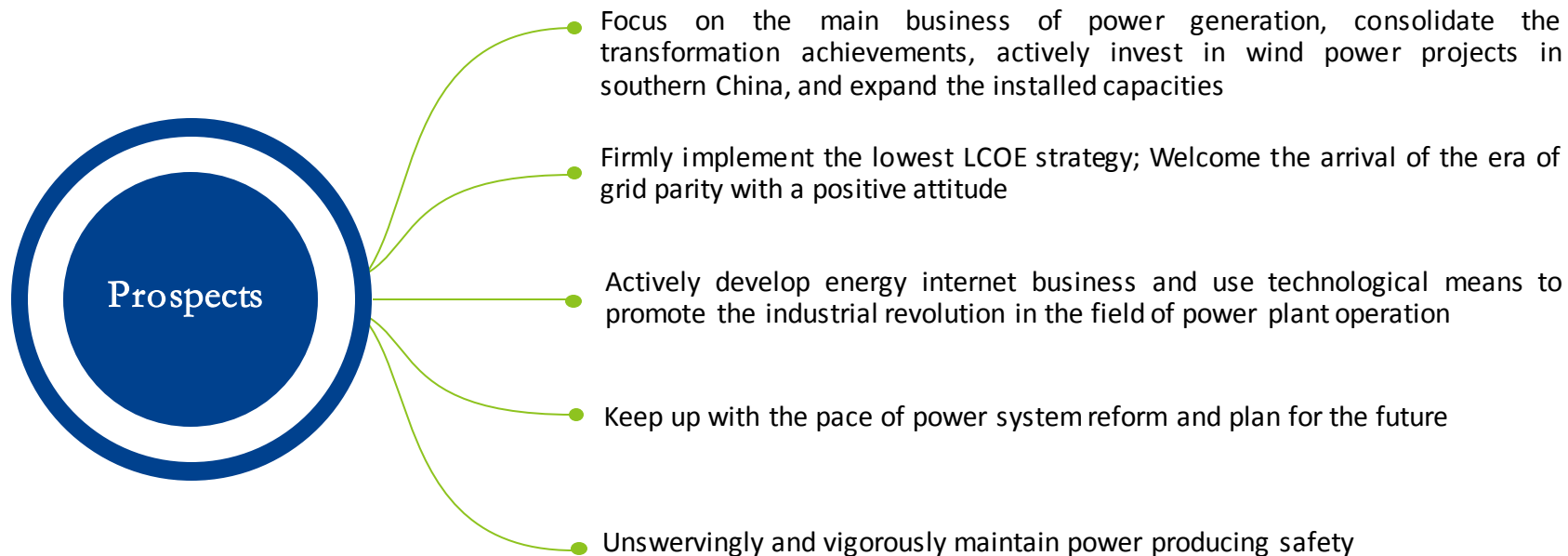
Implementation of the lowest levelized cost of electricity ("LCOE") strategy, effectively drive down the LCOE of new construction projects through adoption of latest turbine types, repeated optimization of designs and acceleration of project construction; Fully advancing the application of "POWER+" system in projects operation.

4

Vigorously develop "POWER+" energy internet business, actively build intelligent operation, the operational indicators have significantly improved, lower the LCOE of the power plants.

5

Project development network has been improved, total 16 wind power projects (885MW) listed in the annual development plan and 2 solar projects have approved/registered (50MW), all of which were located in regions without grid curtailment.



Implementation the strategy of lowest LCOE and enhance the Group's core competitiveness



- I. Actively track and apply new technologies, new turbine types, and new processes in the construction of the Group's invested projects and build high-quality, high-efficiency power plants



- I. Comprehensively promote the application of energy internet in power plants operation, provide the refined management, personalized and precise operation as well as maintenance services manned by no one or only a few people, to reduce the cost of generation and management



- I. To improve the management of power plants operation, increase equipment availability and power generation output by the application of "POWER+"

On 24 February, the industry-leading energy internet cloud platform "POWER+1.0" released and has been applied total installed capacity of 1090MW.

Through the diagnostic analysis by "POWER+" platform, the average power generation of wind power plants increased more than 1%; the "POWER+" dust early-warning model and application of the inefficient string diagnosis algorithm, the power generation of solar power plants increased more than 5% in average.

"POWER+" products won the "Best Product Breakthrough of the Year" at the 2nd China International Energy Internet Summit.

By taking advantage of its "POWER+" products, the Group actively builds a cloud-based operation and maintenance model, which provides the centralised management, personalized and precise operation as well as maintenance services manned by no one or only a few people.

"POWER+" products won the "Energy Internet Cloud Platform Innovation Award of the Year"

Internet O&M  
Management  
POWER+1.0

On-Site O&M

61 wind power and solar power plants' overall O&M in total and signed 32 service contracts in areas such as scheduled inspection, preventive tests, technical renovation and overhaul and spare parts sales.

Successfully passed the new standard certification of the "Three-standard System". Obtained the TÜV wind turbine O&M capability certification from Germany as the first third-party independent O&M company that has passed TÜV International certification.

Awarded the "Top Ten Wind Power Operation and Maintenance Enterprises of 2017" and get the first place.



## Executive Directors

**Mr. Liu Shunxing, Chairman** – An Executive Director of China Energy Council, a Deputy Director of Energy Conservation and Enterprise Energy Management Committee. He once worked in NDRC and China Energy Conservation Investment Corporation.

**Ms. Liu Jianhong, Vice Chairperson** – Former Chief Legal Officer of China Energy Conservation Investment Corporation, possessing over 10 years of experiences in renewable energy industry.

**Mr. Yu Weizhou, CEO** – Former Deputy Chief Engineer of Guohua Energy Investment Ltd. Also previously served at State Electricity Regulatory Commission of the PRC (SERC) and the Nation's Electric Dept.

**Mr. Niu Wenhui, CFO** – has over 20 years of financial management experience. He was the Vice President of China Ruilian Industry Group and CFO of Rainbow Group Shenzhen Branch.

**Mr. Gui Kai, Vice President** – has more than 20 years experience in power system. He was General Manager of Shenhua Trading Group and vice general manager of Guohua Energy Investment Co., Ltd.

**Mr. Shang Li, CTO** – holds a Ph. D degree in Princeton University, USA. He was formerly the Chief Architect and vice president of Intel China Research and an Associate Professor in University of Colorado.

**Founders** Mr. Liu Shunxing and others

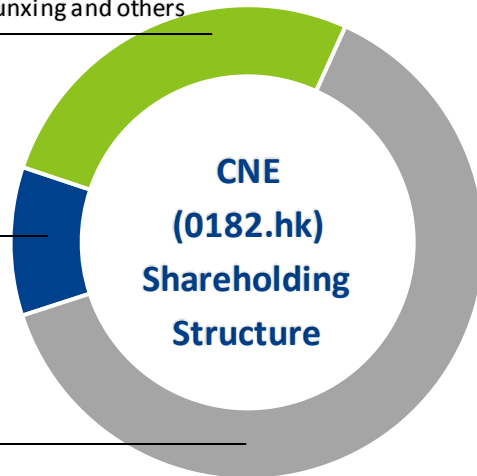
26.64%

**Huadian Fuxin**

10.14%

**Other**

63.22%



## Non-Executive Director

**Mr. Wu Shaohua** — currently work for Huadian Fuxin Energy Limited Company

## Independent Non-Executive Director

**Mr. Yap Fat Suan, Henry** — Fellow Member of the Institute of Chartered Accountant in England and Wales and an Associate Member of Hong Kong Institute of Certified Public Accountants. He is also an independent non-executive director of DVN (Holdings) Limited.

**Dr. Wong Yau Kar, David** — Permanent Honorary President of the Chinese Manufacturers' Association of Hong Kong and Deputy Chairman of the Hong Kong Institute of Directors.

**Ms. Huang Jian** — Partner of Ruihua Certified Public Accountants

**Dr. Fang Zhixi, Jesse** — holds a doctorate degree from University of Nebraska-Lincoln. He was the global vice president of Intel and founded Intel Labs China, ILC as its first dean.

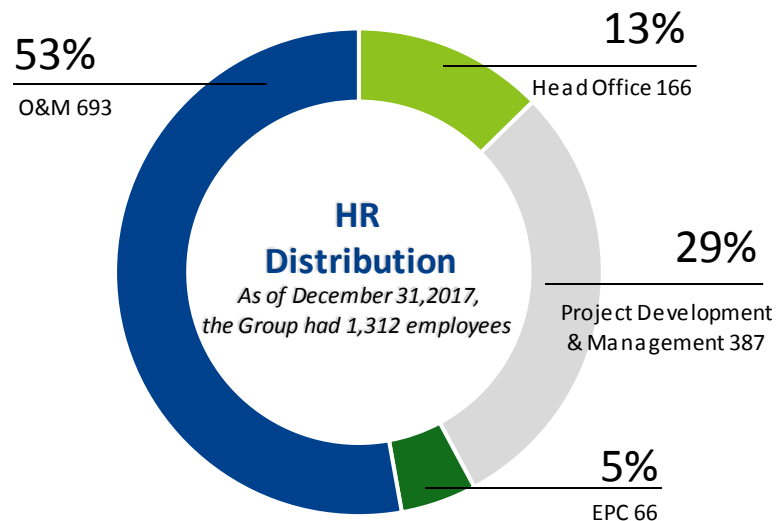
## Other Management Team

**Mr. Jiang Yingjiu, Vice President** — Joined the company in 2006, Jiang had worked for Beijing Municipal Commission of Housing and Urban-Rural Development and China Energy Conservation Investment Corporation

**Mr. Shang Xuelian, Vice President** — Joined the company in 2008, Shang had worked for thermal power plant of Shandong Lubei Enterprise Group Limited.

**Mr. Ma Suoming, Vice President** — Joined the company in 2015, Ma had worked for dispatch center of National Grid.

**Mr. Wang Xigang, Vice President** — Joined the company in 2009, Wang had worked for AVIC.



# Appendix

## Attributable Power Generation (GWH)

Attributable Power Generation in Total				Power Generation of Wholly-owned and Controlled Power Plants		
Business Segments and Regions	2017	2016	Conversion Rate	2017	2016	Conversion Rate
<b>Wind Power Generation</b>	1,997.17	1,335.39	49.56%	783.22	190.63	310.85%
Northeastern China	269.73	245.56	9.84%	-	-	-
Northern China	430.02	374.06	14.96%	-	-	-
Northwestern China	126.29	90.84	39.02%	-	-	-
Eastern China	457.47	288.71	58.46%	217.90	33.56	549.28%
Central and Southern China	563.59	324.84	73.50%	415.26	145.70	185.02%
Western and Southern China	150.06	11.38	1218.39%	150.06	11.38	1218.39%
<b>Solar Power Generation</b>	450.29	742.41	-39.35%	432.16	725.57	-40.44%
Northern China	25.64	12.03	113.17%	12.57	-	-
Northwestern China	63.89	376.00	-83.01%	63.89	376.00	-83.01%
Eastern China	59.31	56.42	5.13%	54.26	51.60	5.14%
Western and Southern China	285.59	275.78	3.56%	285.59	275.78	3.56%
Overseas Regions	15.85	22.18	-28.56%	15.85	22.18	-28.56%
<b>Total</b>	<b>2,447.46</b>	<b>2,077.80</b>	<b>17.79%</b>	<b>1,215.38</b>	<b>916.20</b>	<b>32.65%</b>

## Attributable Installed Capacity (MW)

Power Plants of the Group				Wholly-owned and Controlled Power Plants		
Business Segments and Regions	2017	2016	Conversion Rate	2017	2016	Conversion Rate
<b>Wind Power Generation</b>	1,493	1,125	32.80%	838	454	84.58%
Northeastern China	162	162	0.00%	-	-	-
Northern China	186	186	0.00%	-	-	-
Northwestern China	103	103	0.00%	-	-	-
Eastern China	248	215	15.31%	130	82	58.54%
Central and Southern China	714	378	88.82%	628	292	115.07%
Western and Southern China	80	80	0.00%	80	80	0.00%
<b>Solar Power Generation</b>	313	476	-34.27%	302	465	-35.06%
Northern China	26	6	310.95%	20	-	-
Northwestern China	9	227	-96.04%	9	227	-96.04%
Eastern China	44	44	0.00%	40	40	0.00%
Western and Southern China	215	180	19.44%	215	180	19.44%
Overseas Regions	18	18	0.00%	18	18	0.00%
<b>Total</b>	<b>1,806</b>	<b>1,601</b>	<b>12.85%</b>	<b>1,140</b>	<b>919</b>	<b>24.02%</b>



2,387MW-total capacity; 1,493MW-attributable capacity

### Jointly-owned Projects: 655MW attributable installed capacity

Year	Projects	Regions *	Province	Capacity (MW)	CNE's stake	Tariff (RMB/kWh)	Attributable Capacity
2006	Chantu Phase I	NE	Liaoning	50.25	25%	0.64	12.56
2008	Taiqi Phase I	N	Inner Mongolia	49.5	49%	0.52	24.26
2008	Erlianhaote Phase I	N	Inner Mongolia	21	49%	0.52	10.29
2009	Linchang Phase I	NE	Jilin	49.5	49%	0.61	24.26
2009	Mazongshan	NE	Liaoning	49.5	24.5%	0.61	12.13
2009	Qujiagou	NE	Liaoning	49.5	24.5%	0.61	12.13
2009	Zhaqi Phase I	N	Inner Mongolia	49.5	49%	0.54	24.26
2009	Heiyupao Phase I	NE	Jilin	49.5	49%	0.61	24.26
2010	Wuchuan	N	Inner Mongolia	49.5	46%	0.51	22.77
2010	Huadeng Phase I	N	Inner Mongolia	49.5	32%	0.54	15.84
2010	Huadeng Phase II	N	Inner Mongolia	49.5	32%	0.54	15.84
2010	Zhalute Phase II	N	Inner Mongolia	49.5	32%	0.54	15.84
2010	Zhalute Phase III	N	Inner Mongolia	49.5	32%	0.54	15.84
2010	Guazhou	NW	Gansu	201	51.5%	0.52	103.52
2011	Touzhijian	N	Inner Mongolia	49.5	51%	0.51	25.25
2011	Kailu	N	Inner Mongolia	49.5	32%	0.54	15.84
2011	Manihu	NE	Liaoning	49.5	30%	0.61	14.85
2011	Gulibengao	NE	Liaoning	49.5	30%	0.61	14.85
2012	Heiyupao Phase III	NE	Jilin	49.5	32%	0.58	15.84
2012	Heiyupao Phase IV	NE	Jilin	49.5	32%	0.58	15.84
2012	Tianchang	E	Anhui	48	49%	0.62	23.52
2013	Chaoyang Wanjia	NE	Liaoning	49.5	30%	0.61	14.85
2013	Guanshan	E	Anhui	48	49%	0.61	23.52
2013	Suzhou Fuli	E	Anhui	48	49%	0.61	23.52
2013	Jianghua	CS	Hunan	48	59%	0.61	28.32
2014	Zilingpu	CS	Hubei	48	59%	0.61	28.32
2014	Huolonggang	CS	Henan	49.5	59%	0.61	29.21
2014	Yantai Gaotong	E	Shandong	48	49%	0.61	23.52
2016	Lingshan	E	Anhui	48	49%	0.61	23.52

### Wholly-owned Projects: 838MW attributable installed capacity

Year	Projects	Regions *	Province	Capacity (MW)	CNE's stake	Tariff (RMB/kWh)	Attributable Capacity
2015	Feixi	E	Anhui	34	100%	0.61	34
2015	Dongtian	CS	Hunan	48	100%	0.61	48
2016	Jiepai	CS	Hunan	48	100%	0.61	48
2016	Jiagou	E	Anhui	48	100%	0.61	48
2016	Cangfang	WS	Yunnan	48	100%	0.61	48
2016	Fuchuan Shijia	CS	Guangxi	48	100%	0.61	48
2016	Fuchuan Chaodong	CS	Guangxi	48	100%	0.61	48
2016	Bainijing	WS	Yunnan	32	100%	0.61	32
2016	Nanzhao	CS	Henan	100	100%	0.61	100
2017	Wuhe	E	Anhui	48	100%	0.6	48
2017	Qiaotoupu	CS	Hunan	48	100%	0.6	48
2017	Tongdao Linkou	CS	Hunan	48	100%	0.6	48
2017	Yangjiawan	CS	Henan	48	100%	0.6	48
2017	Xinzao	CS	Guangxi	48	100%	0.6	48
2017	Hongtang	CS	Hunan	48	100%	0.6	48
2017	Chuansu	CS	Hunan	48	100%	0.6	48
2017	Shengjiangshan	CS	Hubei	48	100%	0.6	48

\* NE- Northeastern China, N-Northern China, NW-Northwestern China, E-Eastern China, CS-Central and Southern China, WS-Western and Southern China

331MW-total installed capacity; 313MW-attributable installed capacity

Year	Projects	Regions *	Province	Capacity (MW)	CNE's stake	Tariff (RMB/kWh)	Attributable Capacity
Jointly-owned Projects: <b>10.78MW</b> attributable installed capacity							
2011	Suqian	E	Jiangsu	8.88	49%	2.4	4.35
2015	Zhaer	N	Inner Mongolia	20	32.16%	0.95	6.43
Controlled Projects: <b>302.02MW</b> attributable installed capacity							
2011	Wuwei	NW	Gansu	9	100%	1.15	9
2012	Hawaii	—	US	0.9	80%	USD 0.41 (2% increase/Y)	0.72
2013	Yongren	WS	Yunnan	50	100%	1	50
2013	Wisconsin	—	US	1	100%	USD 0.21 (1% increase/Y)	1
2014	Naidong	WS	Tibet	20	100%	1.15	20
2014	Pingyuan	E	Shandong	40	100%	1.2	40
2015	Indiana	—	USA	10	100%	USD 0.20	10
2015	Huaping	WS	Yunnan	50	100%	0.95	50
2015	Eryuan	WS	Yunnan	30	100%	0.95	30
2015	Yanyuan	WS	Sichuan	30	100%	0.95	30
2015	Rhode Island(Johnston)	—	USA	1.5	100%	USD 0.175	1.5
2015	Rhode Island (North kingstown)	—	USA	0.5	100%	USD 0.19	0.5
2015	Ohio	—	USA	4.3	100%	USD 0.07 (2% increase/Y)	4.3
2017	Cuomei	WS	Tibet	20	100%	1.15	20
2017	Haixing	N	Hebei	20	100%	1.18	20
2017	Jiangzi	WS	Tibet	15	100%	1.15	15

\* NE- Northeastern China, N-Northern China, NW-Northwestern China, E-Eastern China, CS-Central and Southern China, WS-Western and Southern China



P&L(RMB'000)	2017	2016
<b>Revenue</b>	1,035,967	1,785,166
Cost of sales and services rendered	(643,752)	(1,266,974)
Gross profit	392,215	518,192
<b>Other income</b>	43,593	49,189
<b>Other gains and losses, net</b>	72,023	130,839
<b>Expense</b>		
Distribution and selling expenses	(530)	(6,992)
Administrative expenses	(179,018)	(167,728)
Finance costs	(184,903)	(141,677)
Share of profit of joint ventures	102,940	73,445
Share of profit of associates	24,246	19,366
<b>Profit before income tax</b>	270,566	474,634
Income tax expense	(63,948)	(13,018)
<b>Profit for the year</b>	206,618	461,616
<b>Profit attributable to:</b>		
Owners of the Company	200,036	457,815
Non-controlling interests	6,582	3,801

Asset (RMB'000)	2017	2016
Current assets	3,708,449	6,677,819
Non-current assets	11,098,689	7,661,530
Total assets	14,807,138	14,339,349
Current liabilities	(3,616,445)	(5,788,133)
Non-current liabilities	(5,935,547)	(3,325,466)
Total liabilities	(9,551,992)	(9,113,599)
Net current assets	92,004	889,686
Net Asset	5,255,146	5,225,750
Share Capital	75,164	75,645
Reserves	5,082,632	4,994,632
Cash Flow ('000)	2017	2016
Net cash from operating activities	272,204	440,241
Net cash used in investing activities	(2,034,807)	(1,186,290)
Net cash from financing activities	944,991	1,079,785
Net increase/(decrease) in cash and cash equivalents	(817,612)	333,736
cash and bank balances	1,110,803	1,891,277

## Wind Power Plant Economics Assumptions:

1. Capacity of wind farm=48MW	4. Total Investment=RMB 36.0mil (RMB7.5/watt)	9. Bank Loan =RMB 288.0mil (80%)
2. Capacity factor =2,100hours	5. CAPEX =RMB 306.0mil	10. Interest rate = 4.9%
3. Tariffs =RMB0.60/kWh (include VAT)	6. VAT for CAPEX =RMB 44.50mil	11. Construction period = 12 months
	7. Capital=RMB 72.0mil (20%)	12. VAT for CAPEX offset by VAT for power sales

## Project Income Statement:

(in RMB mil )			Year 0	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year 10
Net Electricity tariffs (exclude 17%VAT)				51.69	51.69	51.69	51.69	51.69	51.69	51.69	51.69	51.69	51.69
VAT Refund (17%)				-	-	-	-	-	4.13	4.39	4.39	4.39	4.39
Total revenue				51.69	51.69	51.69	51.69	51.69	55.82	56.09	56.09	56.09	56.09
Depreciation	(a)	24 years		13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30
O & M costs		0.03/kWh		3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02	3.02
Repair costs		3% of elec tariff rev		1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55	1.55
Operating expense				1.54	1.59	1.63	1.68	1.73	1.79	1.84	1.89	1.95	2.01
Total				19.42	19.47	19.61	19.56	19.61	19.66	19.72	19.77	19.83	19.89
Operating profit				32.27	32.23	32.18	32.13	32.08	36.16	36.37	36.31	36.26	36.20
Loan balance at end of the year		288		264	240	216	192	168	144	120	96	72	48
Interest expense		12years 4.9%		13.52	12.35	11.17	10.00	8.82	7.64	6.47	5.29	4.12	2.94
Profit before tax				18.75	19.88	21.01	22.13	23.26	28.52	29.90	31.02	32.14	33.26
Tax		25%		-	-	-	2.77	2.91	3.56	7.48	7.76	8.04	8.31
Profit after tax	(b)			18.75	19.88	21.01	19.37	20.35	24.95	22.43	23.27	24.11	24.94
Capital		72											
VAT offset	(c)	46.46		8.79	8.79	8.79	8.79	8.79	0.52	-	-	-	-
Loan repayment	(d)	12years		-24.00	-24.00	-24.00	-24.00	-24.00	-24.00	-24.00	-24.00	-24.00	-24.00
Cash Flow	(a)+(b)+(c)+(d)		-72	16.84	17.97	19.10	17.46	18.44	14.78	11.73	12.57	13.41	14.25
20-year equity IRR			24.39%										
20-year project IRR			11.66%										
ROE				32.27%	33.64%	35.41%	32.35%	35.95%	36.26%	37.42%	38.59%	39.75%	40.92%

注意：以上为太阳能电场投资之财务模型样本，但协合新能源对该等数据不承担任何法律责任。

## Assumptions: Tariff = Desulfurization Coal-fire Benchmark tariff, actual settlement tariff by the Power Grid Corp

1. Capacity of wind farm = 48MW

2. Capacity factor = 2,100 hours

3. Tariffs = Desulfurization Coal-fire Benchmark tariff

4. Total Investment = RMB 36mil (RMB 7.5/watt)

5. CAPEX = RMB 306mil

6. VAT for CAPEX = RMB 44.5mil

7. Capital = RMB 72mil (20%)/108mil (30%)

9. Bank Loan = RMB 288mil (80%)/252mil (70%)

10. Interest rate = 4.9%

11. Construction period = 12 months

12. VAT for CAPEX offset by VAT for power sales

## Project Cash Flow

### Based on 20% of Capital

Province	Benchmark tariff (RMB)	Project IRR	Equity IRR	Cash Flow (in: RMB)										
				Year0	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10
Guangxi	0.4207	6.27%	7.77%	-72.00	-0.77	0.36	1.49	1.72	2.71	3.69	3.36	0.35	2.02	2.02
Hunan	0.45	7.20%	10.10%	-72.00	2.11	3.24	4.37	4.29	5.28	6.26	4.58	2.34	3.18	4.02
Hubei	0.4161	6.12%	7.41%	-72.00	-1.23	-0.10	1.03	1.31	2.29	3.28	2.99	0.03	2.00	1.70
Anhui	0.3844	5.09%	5.04%	-72.00	-4.37	-3.24	-2.12	-1.50	-0.51	0.47	0.52	-2.15	1.87	-0.48
Henan	0.3779	4.88%	4.58%	-72.00	-4.96	-3.83	-2.70	-2.03	-1.04	0.06	0.06	-2.56	1.74	-0.78
Yunan	0.3358	3.45%	1.60%	-72.00	-9.09	-7.96	-6.83	-5.71	-4.73	-3.74	-3.19	-5.43	-1.51	-0.67

### Based on 30% of Capital

Province	Benchmark tariff (RMB)	Project IRR	Equity IRR	Cash Flow (in: RMB)										
				Year0	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year 10
Guangxi	0.4207	6.25%	7.34%	-108.00	3.92	4.90	5.89	5.82	6.67	7.53	6.96	3.84	5.40	5.30
Hunan	0.45	7.18%	9.25%	-108.00	6.80	7.78	8.76	8.39	9.24	10.10	8.18	5.84	6.57	7.30
Hubei	0.4161	6.19%	7.03%	-108.00	3.46	4.44	5.42	5.40	6.26	7.11	6.60	3.52	5.38	4.98
Anhui	0.3844	5.07%	5.01%	-108.00	0.32	1.30	2.28	2.59	3.45	4.31	4.13	1.34	5.25	2.80
Henan	0.3779	4.86%	4.61%	-108.00	-0.27	0.71	1.69	2.07	2.92	3.78	3.66	0.93	5.12	2.50
Yunan	0.3358	3.42%	1.95%	-108.00	-4.40	-3.41	-2.43	-1.62	-0.76	0.09	0.41	-1.93	1.87	2.60

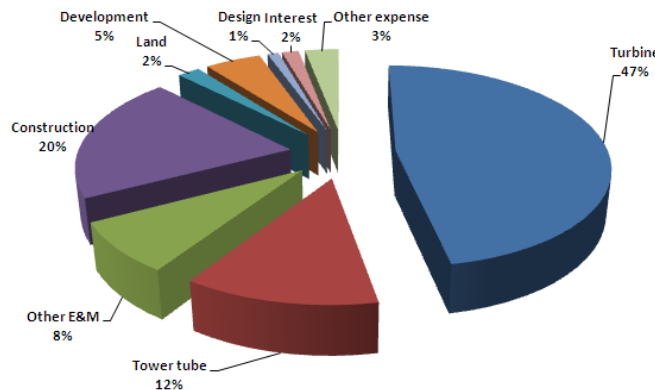
Wind Power Projects are Much Less Rely on Subsidies than Solar and the Cash Flow will be Positive without Subsidies

CAUTION : The numbers above are hypothetical numbers illustrating a sample financial model for a wind farm in China. Such numbers do not derive from any wind power plant in which CNE has invested or plan to invest.

## Sensitivity/ Scenario Analysis:

Scenario (assuming other factors held constant)	Impact on Profit	Impact on IRR	IRR change (from base case of 24.39%)	Current level
Grid tariffs decreased by 1 cent	-RMB 0.84mil	-1.63%	23.30%	RMB0.49-0.61/kWh (include VAT)
Capacity factor decreased by 100 hours	-RMB 2.24mil	-2.91%	21.48%	1,700-2,500 hours
PBOC rate increased by 0.50%	-RMB 1.38mil	-1.13%	23.26%	4.5-5.9
Project cost increased to RMB 8,000/kw	-RMB1.79mil	-3.67%	20.72%	RMB 7-8/watt

## Project Costs Distribution:



Area	Tariffs	Grid Curtailment Situation	Capacity Factor	Interest Rate	Equity IRR	Project IRR
I	0.47	N	2700	4.90%	23.78%	11.53%
		Y	1900		8.18%	6.55%
II	0.5	N	2500	4.90%	23.13%	11.36%
		Y	1900		10.38%	7.40%
III	0.54	N	2300	4.90%	23.05%	11.34%
		Y	2000		15.71%	9.22%
IV	0.6	N	2100	4.90%	24.39%	11.66%

## Solar Power Plant Economics Assumptions:

1. Capacity of solar farm = 30MW	5. Module = RMB 2.5/w att, BOS = RMB 3.0/w att	9. Capital = RMB 33.0mil (20%)
2. Capacity factor = 1,300hours	6. Total Investment = RMB 165.00mil	10. Bank Loan = RMB 132.0mil (80%)
3. Tariffs = RMB0.75/kWh (include VAT)	7. CAPEX = RMB 148.5mil	11. Interest rate = 4.9%
4. Solar Module annual degradation = 1% (20years)	8. VAT for CAPEX = RMB 21.58mil	12. Construction period = 6 months

## Project Income Statement:

(in RMB mil)			Year 0	Year1	Year2	Year3	Year4	Year5	Year6	Year7	Year8	Year9	Year10
Net Electricity tariffs (exclude 17%VAT)				26.69	26.69	24.50	24.25	24.00	23.75	23.50	23.25	23.00	22.75
Total revenue				26.69	26.69	24.50	24.25	24.00	23.75	23.50	23.25	23.00	22.75
Depreciation	(a)	20 years		7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43	7.43
O & M costs		RMB 0.02/kWh		0.78	0.77	0.76	0.76	0.75	0.74	0.73	0.73	0.72	0.71
Repair costs		3% growth rate/yr	0.3	-	-	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37
Operating expense		3% growth rate/yr	1.5	1.50	1.55	1.59	1.64	1.69	1.74	1.79	1.84	1.90	1.96
Insurance		0.1% total investment		0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17
Land costs		RMB 5mil/ yr	5	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00
Total				14.87	14.91	15.25	15.29	15.35	15.40	15.45	15.51	15.57	15.63
Operating profit				12.09	11.78	9.25	8.96	8.65	8.35	8.05	7.74	7.43	7.12
Loan balance at end of the year			132	122.57	113.14	103.71	94.29	84.86	75.43	66.00	56.57	47.14	37.71
Interest expense		15years 4.9%	3.23	6.24	5.78	5.31	4.85	4.39	3.93	3.47	3.00	2.54	2.08
Profit before tax				5.85	6.01	3.94	4.10	4.27	4.43	4.58	4.74	4.89	5.05
Tax		25%		0.00	0.00	0.00	0.51	0.53	0.55	1.15	1.18	1.22	1.26
Profit after tax	(b)			5.85	6.01	3.94	3.59	3.73	3.87	3.44	3.55	3.67	3.78
Capital			36.00										
VAT offset	(c)	23.54		2.29	2.27	4.17	4.12	4.08	4.04	0.61	-	-	-
Loan repayment	(d)	15years		-9.43	-9.43	-9.43	-9.43	-9.43	-9.43	-9.43	-9.43	-9.43	-9.43
Cash Flow	(a)+(b)+(c)+(d)		-33.00	6.14	6.27	6.10	5.71	5.81	5.91	2.05	1.55	1.67	1.78
20-year equity IRR			14.64%										
20-year project IRR			7.61%										
ROE				17.73%	18.20%	11.94%	10.88%	11.31%	11.73%	10.42%	10.77%	11.12%	11.47%

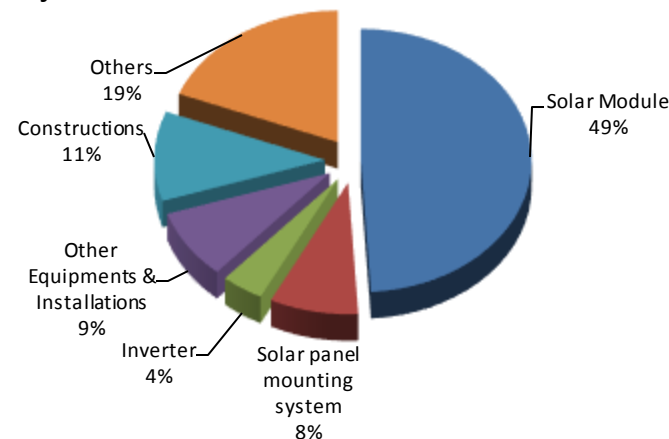
CAUTION : The numbers above are hypothetical numbers illustrating a sample financial model for a wind farm in China. Such numbers do not derive from any wind power plant in which CNE has invested or plan to invest.

### Sensitivity/ Scenario Analysis:

Scenario (assuming other factors held constant)	Impact on the first year Profit	Impact on IRR	IRR change (from base case of 14.64%)	Current level
Grid tariff increased by RMB0.85/kWh (include VAT)	+RMB 3.30mil	+10.70%	25.34%	RMB0.75-1.1/kWh (include VAT)
Capacity factor decreased by 100 hours	- RMB2.01mil	-5.3%	9.34%	1,300-2,000 hours
PBOC rate increased by 0.50%	-RMB 0.63mil	-1.19%	13.45%	4.9-5.9
Project cost increased by RMB 7.0/watt	-RMB 2.51mil	-7.20%	7.44%	RMB 6-8/watt
No additional land costs	+RMB 5mil	+15.45%	30.09%	RMB2-8 mil/year/50MW

Area	Tariffs	Grid Curtailmen t Situation	Capacity Factor	Interest Rate	Equity IRR	Project IRR
I	0.65	N	1600	4.90%	14.43%	7.58%
		Y	1300	4.90%	2.86%	3.98%
II	0.75	N	1400	4.90%	15.44%	7.85%
		Y	1300	4.90%	10.55%	6.50%
III	0.85	N	1200	4.90%	13.67%	7.38%

### Project Costs Distribution





Year of Operation		2013	2014	2015	2016	2017
National installed capacity (GW)		76.52	95.81	129.34	148.64	164.00
Tariff (RMB/kWh)	Area I	0.51	0.51	0.49	0.47	0.47
	Area II	0.54	0.54	0.52	0.50	0.50
	Area III	0.58	0.58	0.56	0.54	0.54
	Area IV	0.61	0.61	0.61	0.60	0.60
Cost (RMB/kW)	Overall Cost(North)	6,690	6,850	6,890	6,600	6,400
	Overall Cost(South)	7,350	7,445	7,420	7,330	7,150
	Direct Drive	4,022	4,025	4,450	4,280	3,780
	Double-Fed	3,846	4,250	4,250	4,080	3,700

Year of Operation		2013	2014	2015	2016	2017
National installed capacity (GW)		15.89	24.86	41.58	77.42	130.00
Tariff (RMB/kWh)	Area I	0.90	0.90	0.90	0.80	0.65
	Area II	0.95	0.95	0.95	0.88	0.75
	Area III	1.00	1.00	1.00	0.98	0.85
Cost(RMB/w)	Overall Cost(North)	7,650	7,002	6,760	5,891	5,700
	Overall Cost(South)	7,800	7,458	6,920	6,017	5,900
	Inverter	0.41	0.319	0.26	0.24	0.18
	Module	4.30	4.25	4.14	3.92	2.70

FY	Attributable Installed Capacity (MW)		Attributable Power Generation (GWh)		Power Plants Income (RMB '000)		Attributable Net Profit (RMB '000)	
	2017	2016	2017	2016	2017	2016	2017	2016
Total	1,806	1,601	2,447.46	2,077.80	717,548	674,032	361,056	345,156
Wholly-owned Wind Power Plants	838	454	783.22	190.63	366,295	88,100	145,630	27,079
Jointly-owned Wind Power Plants	655	671	1,213.95	1,144.76	-	-	121,222	86,894
Wholly-owned Solar Power Plants	302	465	432.16	725.57	351,253	585,932	88,241	225,266
Jointly-owned Solar Power Plants	11	11	18.13	16.84	-	-	5,964	5,917

: Remark: Net Profit refers to the sum of net profit of power plants. The income of jointly-owned power plants are not consolidated. Data from MD&A.



# Thank you for your Interest in CNE

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