



Equity Research | China | Solar Power

14 July 2016

Likely more catalysts ahead

- Upon our recent site visit, UPV demonstrated good execution capability of self-development from its 100MW Top Runner project in Datong, which adopts advanced technologies and benefits from solid support from the local government.
- Despite slowdown in capacity expansion 1H16, UPV reported curtailment improvements in Gansu and Xinjiang with utilisation hours up 42% and 5% YoY respectively.
- Biggest beneficiary of the 6th patch of Renewable Energy Subsidy, which may proceed faster than expected, with 630MW eligible capacity and related receivables accumulating to c.Rmb1.0bn.
- UPV currently trades at 7.8x 2016E PER and 0.98x 2016E PBR, which have priced in industry-wise difficulties on subsidy delays and liquidity/gearing concerns.

Visit to Datong Top Runner plant

We recently visited UPV's 100MW solar power plant in Datong, Shanxi, the company's first self-developed ground-mounted project, named the "Top Runner Project". It serves as a milestone to demonstrate UPV's good execution capability. And the project would be value accretive with attractive returns as advanced technologies have been adopted and the local government has provided solid support from preparation to power dispatch.

Curtailments show improvements in 1H16

Grid-connected capacity expanded by 120MW in 1H16, which may drag the 1GW installation target for 2016 and further affect the top-line growth. However, the focus should be put on operational efficiency instead of asset expansion. It is worth noting that curtailments improved in Gansu and Xinjiang in 1H16, as utilisation hours grew by 42% YoY and 5% YoY respectively; in addition, further upsides are expected with the implementation of policies on minimum guaranteed utilisation hours.

Biggest beneficiary of 6th patch FiT subsidies

The 6th patch of Renewable Energy Subsidy is likely to proceed faster than market's expectation and UPV would benefit most among the HK-listed solar operators. 63% of its grid-connected capacity (totalling 630MW) is expected to be included in the latest catalogue, and related subsidy receivables amount to c.Rmb1.0bn, which would largely improve UPV's operating cash flow and ease the pressure on working capital once collected.

Valuation has already priced in downside negatives

After massive sell-off earlier this year, UPV currently trades at 7.8x 2016E PER and 0.98x 2016E PBR, according to Bloomberg consensus, which we think have already priced in industry-wise difficulties on subsidy delays and liquidity/gearing concerns.

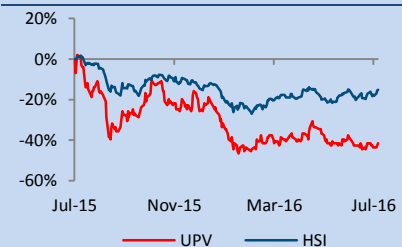
United PV (686 HK)

Non-rated

Close price	HKD 0.59
Market cap.	HKD 2.86bnn
Free float	69%
52-week range	HKD 0.52 – 1.04
3-mth ave. T/O	HKD 5.22mn

Price as of 13th July 2016

Stock rel HSI performance (%)



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Takeaways: site visit and updates

Visit to Datong Top Runner plant

We recently visited UPV's 100MW solar power plant in Datong, Shanxi, which is included in China's first Top Runner Program and is the first ground-mounted project developed by UPV. We believe this project could serve as a milestone for UPV as it helps demonstrate UPV's good execution capability of solar project development, and Top Runner projects would serve as an industry-wide recognition to strengthen company branding. Construction of the project was completed on a tight schedule and challenges such as tight supply of high-efficiency modules and extreme weather conditions at the year end, etc were overcome. Moreover, there are three aspects of this project that we would like to highlight, as follow:

1. **notable costs reduction in preparation stage** thanks to the simple and transparent auction system, and the scoring weights 30% on on-grid tariff as well as 50% on company qualifications to avoid hostile bid;
2. **leading efficiency in solar power generation**, in addition to using PV products with advanced conversion and degradation rates (UPV Datong project uses mono-crystalline module from Longi with 17% conversion rate), the projects also adopt innovative operational techniques such as string inverters, 4G wireless coverage and smart PV system;
3. **utilisation is protected against curtailment** as grid-connection and dispatch are ensured by local policies, the local municipal DRC is in charge of the comprehensive planning and building relevant infrastructure including power transformers, transmission lines, roads and etc.

Good operational transparency

Capacity expansion skewed towards 2H16

UPV recently released its 2Q16 operation data. As of June 2016, UPV's grid-connected capacity expanded by 120MW to 996MW from 876MW at the end of 2015, comprising the 100MW Shanxi Datong project which achieved grid-connection –on 24th June and 20MW project in Xinjiang. The company will stick to its 1GW installation target for 2016 and views 2H16 the best time to pursue M&As as the rush installation has been completed and large numbers of projects have achieved grid-connection before the end of June this year.

Figure 1: Installed capacity

	1H15	2H15	1H16	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16
No. of projects in operation	21	24	26	17	20	25	24	24	26
Grid-connected capacity (MW)	637.0	876.0	996.0	597.0	617.0	807.0	876.0	876.0	996.0
- Net addition (MW)	170.0	239.0	120.0	130.0	20.0	190.0	69.0	-	120.0
Guangdong	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4
Gansu	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Qinghai	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0	200.0
Jiangsu	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8	23.8
Inner Mongolia	190.0	330.0	330.0	170.0	190.0	330.0	330.0	330.0	330.0
Xinjiang	100.0	100.0	120.0	80.0	100.0	100.0	100.0	100.0	120.0
Hubei	-	100.0	100.0	-	-	-	100.0	100.0	100.0
Shanxi	-	-	100.0	-	-	-	-	-	100.0
Yunnan	-	19.8	19.8	-	-	-	19.8	19.8	19.8

Source: Company, CSC Research

Curtailment improved in Gansu and Xinjiang

Total power generation increased by 51% YoY to 342GWh for 2Q16, and by 56% YoY to 611GWh for 1H16, which was mainly driven by the 160MW capacity expansion in Inner Mongolia and 100MW in Hubei. Curtailments improved in Gansu and Xinjiang, as the utilisation hours grew by 42% YoY and 5% YoY respectively; and according to the company, UPV's utilisation hours are c.10% higher than the market average in these two areas. Moreover, we expect to see further improvements going forward on the back of the minimum guaranteed utilisation hour policy (the notice was announced jointly by NDRC and NEA in late May), which guarantees 1,350-1,500 utilisation hours for these two areas, leading to notable increase in UPV's power generation.

Figure 2: Power generation and utilization hours

	1H15	1H16	YoY %	1Q15	2Q15	3Q15	4Q15	1Q16	2Q16	YoY %
Power generation (MWh)	391,670	611,211	56%	164,474	227,196	274,337	247,690	268,790	342,421	51%
Guangdong	1,435	1,198	-17%	622	813	831	612	485	713	-12%
Gansu	39,587	47,560	20%	19,596	19,991	18,117	18,271	19,149	28,411	42%
Qinghai	150,053	158,261	5%	69,473	80,580	75,095	84,400	73,241	85,020	6%
Jiangsu	14,893	15,884	7%	6,381	8,512	8,447	5,066	7,123	8,761	3%
Inner Mongolia	152,218	266,791	75%	68,402	83,816	141,577	102,067	125,873	140,918	68%
Xinjiang	33,484	55,077	64%	-	33,484	30,270	16,009	12,303	42,774	28%
Hubei	-	48,574	-	-	-	-	21,265	22,699	25,875	-
Shanxi	-	2,640	-	-	-	-	-	-	2,640	-
Yunnan	-	15,226	-	-	-	-	-	7,917	7,309	-
Utilization hours										
Guangdong	598	499	-17%	259	339	346	255	202	297	-12%
Gansu	396	476	20%	196	200	181	183	191	284	42%
Qinghai	750	791	5%	347	403	375	422	366	425	6%
Jiangsu	626	667	7%	268	358	355	213	299	368	3%
Inner Mongolia	951	808	-15%	456	466	545	309	381	427	-8%
Xinjiang	335	501	50%	-	372	303	160	123	389	5%
Hubei	-	486	-	-	-	-	213	227	259	-
Shanxi	-	26	-	-	-	-	-	-	26	-
Yunnan	-	769	-	-	-	-	-	400	369	-

Source: Company, CSCI Research

Figure 3: Minimum guaranteed utilisation hours

	Minimum Guaranteed utilisation	Estimated utilization of UPV, 2015	Capacity (MW), Jun 2016	% of total installed capacity
Gansu	1400-1500	761	100	10%
Inner Mongolia	1400-1500	1,489	330	33%
Ningxia	1,500	-	-	0%
Qinghai	1450-1500	1,552	200	20%
Shanxi	1,400	-	100	10%
Xinjiang	1350-1500	808	120	12%

Source: Company, CSCI Research

Biggest beneficiary of FiT collection

According to industry and news sources, the 6th patch of Renewable Energy Subsidy catalogue has been finalised and very likely to be announced in 3Q16 and at the earliest in July, and the eligible FiT receivables may possibly be collected by end of this year, which would be ahead of market expectations. To recall, MoF opened the application for the 6th patch of subsidy on 30th Jan 2016, with application deadline on 29th Feb, and eligible projects must achieve grid-connection by Feb 2015; the preliminary examination was completed in early May.

As UPV has built up its solar portfolio by active M&As of grid-connected projects, UPV would be the biggest beneficiary among other HK-listed solar operators. As of Jun 2015, 12% of its grid-connected capacity is already receiving the 5th patch of FiT subsidies, including the 23.8MW agriculture-PV projects in Xuzhou Jiangsu and the 100MW Gansu project. Meanwhile, 63% of the current grid-connected capacity (totalling 630MW) are eligible and have applied for the 6th patch, with related subsidy receivables amounting to c.Rmb1.0bn. The company indicates that this over-due amount would be collected in one go according to past experience and newly incurred subsidies would be collected on a quarterly basis thereafter, which would largely improve UPV's operating cash flow and ease pressure on working capital.

Figure 4: UPV's project list, as of June 2016

No.	Project	Province	Project Type	Dev. Mode	Capacity (MW)	Acquisition	Grid connected
1	深圳前海光伏示范电站一	Guangdong	DG	M&A	2.1	2013.06	2012.10
2	深圳前海光伏示范电站二	Guangdong	DG	M&A	0.3	2014.04	2014.04
3	江苏徐州丰县晖泽光伏农业项目一	Jiangsu	DG	M&A	20.0	2013.12	2011.12
4	江苏徐州丰县晖泽光伏农业项目二	Jiangsu	DG	M&A	3.8	2013.12	2011.12
5	甘肃嘉峪关 100MW	Gansu	Utility	M&A	100.0	2013.06	2013.06
6	青海共和 20MW	Qinghai	Utility	M&A	20.0	2013.06	2013.09
7	青海共和 100MW	Qinghai	Utility	M&A	100.0	2014.06	2013.12
8	青海共和 50MW	Qinghai	Utility	M&A	50.0	2014.06	2013.12
9	青海共和 30MW	Qinghai	Utility	M&A	30.0	2014.06	2013.12
10	内蒙古察右前旗 50MW	Inner Mongolia	Utility	M&A	50.0	2014.04	2013.12
11	内蒙古托克托县 40MW	Inner Mongolia	Utility	M&A	40.0	2014.04	2013.12
12	内蒙古乌拉特后旗 40MW	Inner Mongolia	Utility	M&A	40.0	2014.04	2013.12
13	内蒙古科左后旗一期 40MW	Inner Mongolia	Utility	M&A	40.0	2015.01	2013.12
14	内蒙古科左后旗二期 20MW	Inner Mongolia	Utility	M&A	20.0	2015.04	2013.12
15	新疆哈密一期 20MW	Xinjiang	Utility	M&A	20.0	2015	2013.12
16	新疆哈密二期 20MW	Xinjiang	Utility	M&A	20.0	2015	2013.12
17	新疆吐鲁番一期 20MW	Xinjiang	Utility	M&A	20.0	2015	2013.12
18	新疆吐鲁番二期 20MW	Xinjiang	Utility	M&A	20.0	2015	2014.09
19	新疆正信民丰一期 20MW	Xinjiang	Utility	M&A	20.0	2015.05	2014.12
20	国电内蒙古察哈尔右翼前旗 30MW	Inner Mongolia	Utility	M&A	30.0	2015.09	2014.12
21	国电内蒙古科左中旗 60MW	Inner Mongolia	Utility	M&A	60.0	2015.09	2014.12
22	国电内蒙古商都县 50MW	Inner Mongolia	Utility	M&A	50.0	2015.09	2014.12
23	湖北随州 100MW	Hubei	Utility	M&A	100.0	2015.10	2015.05
24	云南永胜 19.8MW	Yunnan	Utility	M&A	19.8	2015.12	2015.12
25	山西大同领跑者 100MW	Shanxi	Utility	Self-develop	100.0	-	2016.06
26	新疆五家渠	Xinjiang	Utility	M&A	20.0	2016.04	2016.04

Source: Company

Appendix 1 – UPV’s Datong project

Figure 5: UPV’s Datong project and transmission line



Source: CSCI Research

Figure 6: UPV’s Datong project



Source: CSCI Research

Figure 7: Adjustable panel tilt angle



Source: CSCI Research

Figure 8: String inverters by Huawei



Source: CSCI Research

Figure 9: On-site weather observer



Source: CSCI Research

Figure 10: Power transformer for Top Runner base



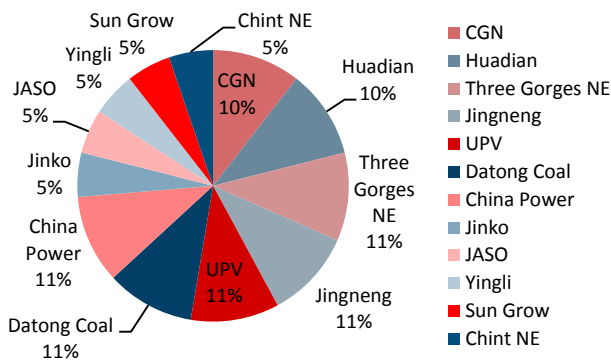
Source: CSCI Research

Datong Top Runner base

In light of the grid-curtailment and weak installations of distributed PV, China's National Energy Administration (NEA) had launched the Top Runner Program in 2015 to prompt using high-efficiency PV products and to accelerate PV industry transformation. In June this year, NEA released installation target for 2016, limiting PV installations to 18.1GW PV, of which 30% has been allocated to the Top Runner Program (5.5GW in 2016 vs. 1GW in 2015).

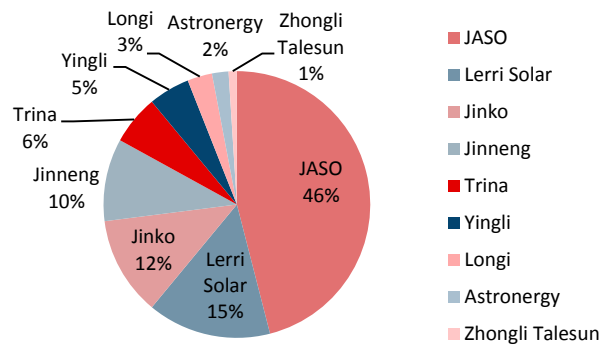
The Datong Project is the first PV base approved under the Top Runner Program. The project is located in coal mining subsidence areas in Datong, Shanxi, and has a designed capacity of 3GW for construction during 2015-2017. The first phase of 1GW installation began construction in June 2015 and completed grid-connection by end of June this year. There are 13 projects in the base, including seven 100MW projects, five 50MW projects and one 50MW experimental site.

Figure 11: Datong Top-Runner operators



Source: CSCI Research

Figure 12: Datong Top-Runner module suppliers



Source: CSCI Research

The Datong Top Runner base was regarded as a good example for other provinces to follow. The local municipal DRC is in charge of the comprehensive planning, it introduced the simple and transparent auction system which largely improved efficiency in the preparation stage, composed supporting documents, and also took care of relevant infrastructure, i.e. construction of power transformers, transmission lines, roads and etc.

We see incentives for the local government to support the PV base. To clarify common misunderstandings, although the subsidence over abandoned coal mines has occurred for over decades, but it has been barely recognised; however, it is no longer suitable for living or farming due to potential damage to buildings and diversion of surface water. Alternatively, the PV farm would help: 1) meet power demands from local industrials, 2) promote the transition to green power from black coal, 3) generate tax revenues for local governments, and 4) provide employment for local residents (construction, O&M).

Appendix 2 – Company background

Emerging pure solar farm operator in China

United PV is an emerging leading solar farm operator in China with the strong branding of China Merchants Group. Its grid-connected capacity achieved 136% CAGR growth in 2013-15 through active project acquisitions.

Transformation from solar manufacturer to downstream solar farm operator: United PV expanded into solar power business in Jun 2013 after acquiring a 92% stake of China Solar Power Group, and making China Merchants New Energy Group (CMNEG) its largest shareholder. Prior to this, the company has been mainly involved in the sale and manufacturing of solar cells through its wholly-owned subsidiary Fortune Arena. In Oct 2014, United PV completed the disposal of 70% equity interest in Fortune Arena, which suffered from double-digit gross loss through 2012-1H14 due to low production utilisation, and focus on the solar farm business.

Portfolio expansion by active acquisition of grid-connected projects: Grid-connected solar capacity of United PV increased from 157MW in 2013 to 876MW at the end of 2015, achieving 136% CAGR growth over the period. Its rapid growth was fuelled by active M&As of projects, and to mitigate operational risks, target projects must fulfil key requirements, including 1) confirmed grid connection, 2) at least 8% project IRR (curtailment and FiT delays incorporated), and 3) valid power purchase agreements. As of June 2016, 97% of its grid-connected capacity is utility-scale solar farms.

Pipeline supported by strategic co-operations and start the self-development: In 2015, United PV only added 369MW capacity (vs. 900MW guidance), which was largely due to the failed acquisition deal with Hareon. We are positive on the project pipeline of United PV as it has established strategic co-operation with a number of leading enterprises such as Zhongli Talesun, PGO and Nari Electric. Moreover, it also started self-development for the 10MW Shenzhen Qianhai DG project and the 100MW Top Runner project in Datong, Shanxi. The company expects future capacity expansion by 70% acquisition and 30% self-development, and overseas projects would be considered going forward.

Strong branding of China Merchants Group: UPV is the only solar farm operator under China Merchants Group. At the end of 2015, 24% stake of United PV is held by CMNEG, which is the only subsidiary of China Merchants Group (CMG) to engage in the solar power and renewable energy business (79.36% stake of CMNEG is indirectly held by CMG). The other strategic investors include Zhongli Science and Technology Group and Fosun International (656 HK).

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Company Rating Definition

The Benchmark: Hong Kong Hang Seng Index; Time Horizon: 12 months

Outperform	Relative Performance >10%
Neutral	Relative Performance is -10% to 10%
Underperform	Relative Performance <10%

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