

US Solar & Alternative Energy

2Q16 Playbook: Yield to the Rescue

Equities

Americas
Electric Utilities

Poised for the worst, but prepared for better days ahead

We suspect 2Q results could well be the clearest indication yet of decelerating trends in module margins and the burgeoning oversupply in solar. We emphasize this trend could be particularly acute for the likes of FSLR as it continues to reposition towards a more module-specific manufacturers and other (largely Chinese) pure-play manufacturing equities. We suspect the diversification benefits alongside constructive 3Q guidance updates for SPWR could help shield this specific equity. Meanwhile, SCTY already cut its '16 guidance, but we don't necessarily perceive resi pressures as necessarily widespread— this appears more of a market share question.

Where is the opportunity of late? Yieldco's as poised to clear the air with 2Q

Yieldco's continue to trade well and we may be nearing a point where some of the higher quality names could successfully tap the capital markets. Specifically, we expect NRG/NYLD to drive home a reinvigorated push towards a new (potentially independent ROFO) commitment alongside renewed commentary to the subsidiary from NRG as well as execution datapoints from recently anointed NYLD CEO. We continue to see nominally positive tailwinds for the sector as lower-for-longer yields push more investors towards yieldcos, while a return to yield valuation would represent further upside. We are adjusting our thought process around our yieldco coverage valuation and marking to market our 50% weighting for yield method (except TERP, which we do not assume will grow further in valuation) while adding a premium or discount to account for differences across the space. Further, we apply a 6% discount to the DCF methodology, in line with current 30-year yields plus a slight discount to address tail risks to cash flows beyond the contracted periods.

How do companies look into the quarter?

On the yieldco front, weak wind in the quarter could provide a challenging quarter on cash generation, but we see the larger backdrop in a lower-for-longer environment largely supporting continued strength in the sector. We emphasize the investor willingness to revisit the thesis and drop down thesis as legacy SUNE related issues appear increasingly in the rear view. We like NYLD against this backdrop with a new management team and potential partnership opportunities, but expect the sector more generally to grind higher. We emphasize NEE remains among our favourite renewable picks overall, with likely rate case settlement in ~coming weeks as a potential key catalyst to push shares higher. Elsewhere, NYLD is our favourite play amidst potential recovery in the wider yieldco sector. In contrast to our YieldCo refocus, we see TERP as among the priciest shares already, embedding a negligible discount rate already.

What's Next for Resi? Focusing on growth in an NEM 2.0 world

While the SCTY/TSLA merger news has dominated resi solar recently, we note California data should remain in focus over the next several months. SDG&E recently hit the NEM 1.0 cap, and PG&E is only ~250MW away. We think the effects of shifting economics under NEM 2.0 remain ambiguous. Regulatory backdrop appears more challenging on the margin, although headlines could prove supportive as potential Nevada ballot initiative and possibility for more constructive outcomes for solar in Arizona remain on the table (we note the recent decision to remove the demand charge from the UNS rate case, though switch towards time of use rates creates other challenges). Overall, policy appears intact at present, but see risk of headwinds in peripheral states. The wider question remains whether NEM 2.0 implementation is a 'real' headwind in CA. We suspect not.

Julien Dumoulin-Smith

Analyst

julien.dumoulin-smith@ubs.com

+1-212-713 9848

Jeremiah Booream, CFA

Associate Analyst

jeremiah.booream@ubs.com

+1-212-713 4105

Paul Zimbardo

Associate Analyst

paul.zimbardo@ubs.com

+1-212-713 1033

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Julien Dumoulin-Smith

Analyst
julien.dumoulin-smith@ubs.com
+1-212-713 9848

Jerimiah Booream, CFA

Associate Analyst
jerimiah.booream@ubs.com
+1-212-713 4105

Paul Zimbardo

Associate Analyst
paul.zimbardo@ubs.com
+1-212-713 1033

Time for Utility to Start Shining

Within the past week alone, Georgia, Massachusetts, and New York have approved state level plans to build or procure several GW of renewables. While timelines vary, we see this translating into increased pickup in both the South-Eastern and North-Eastern US solar procurements in 2017. SPWR and FSLR will likely be heavily involved in bids during that timeframe, which could translate into actual installs in 2018/2019. We note the 1.2GW renewable IRP passed in Georgia along with the New York 50% Clean Energy Standard and the Massachusetts legislature approved a bill which included 1.6GW of offshore wind and ~1.1GW other renewables (likely largely hydro and wind). This provides an increasingly constructive backdrop as we look to states like Washington, Michigan, Pennsylvania, and NJ among others as potential RPS increase candidates, driving further utility scale procurement in the next 3-5 years. We see the Georgia datapoint as the most tangible opportunity for FSLR given its historic relationship with SO in recent years – and other regional developers given its better solar capture in the more humid climate of the Southeast US. We emphasize the market appears to be largely discounting any meaningful recovery beyond the 2017 dip, and we continue to like SPWR against this backdrop while the sentiment around FSLR appears particularly punitive against a backdrop supporting a potential switch back towards US project development.

PM Summaries

We include a brief summary of our views by company into 2Q results:

SCTY: With most of the focus on the merger of late, we expect limited reaction to results as shares are currently pricing in a likely deal completion and the preannouncement gave several key metrics already. The latest guidance cut suggests continued weakness, but management will likely seek to tone down negative sentiment in light of upcoming merger votes and potential TSLA-backed product rollouts. The issue remains convincing TSLA shareholders amidst the weakening '16 backdrop; discussion of SCTY's market share remains key in our view as the customer loan vs. lease debate continues.

FirstSolar: We expect a weak Q2 post will do little to offset the negative sentiment in the stock of late as investors focus increasingly on the lack of 2017 guidance and implications for cash deployment from the focus on module sales. We remain neutral at these levels but note that any commentary around a shift to expand project development plans could be viewed positively, though we doubt the new management team will choose to make any announcements until the next guidance call at least.

NRG Yield: (Key Focus) NYLD's New CEO is likely to fully take the reins this quarter and could provide investors with more insight into his thought process both in terms of return profiles and capital sources and uses. Importantly, Mr Sotos' concept of outside partnerships could yield interesting dynamics depending on implementation. Our recent [NRG downgrade](#), with no change to our fundamental opinion on NYLD, underscores our view that NYLD remains largely undervalued even with our updated comparatively conservative (vs peers) estimates. Further details on CVSR drop could provide some clarity on CAFD profile for the project in light of likely high debt utilization as well. Net-net, we would think actual details on accretion from CVSR could be cautious, but lack of equity needs should offset negative sentiment on that front to an extent.

Nextera Energy Partners: NEP reported with Nextera on 7.27.16 and increased CAFD run rate on the back of the Cedar Bluff and Golden Hills acquisitions. Other Yieldco's may be waiting for NEP to raise equity but the company's reticence thus far could shift if yieldco valuations continue to improve, particularly in light of 1Q renewable updates from parent company NextEra.

TerraForm: (Key focus) As the [Latest 8k Disclosures](#) did little to dispel our negative bias on the stock, we look ahead to mid/late August deadlines to provide audited financials to the debt holders or risk more punitive outcomes. Overall, TERP shares look richly valued despite a number of risks to the story, and we maintain our cautious view despite the latest disclosed acquisition efforts by Brookfield.

8point3 Energy: Mgmt was quite clear it was willing to do an equity raise at (lower at the time) valuation (presumably via an accretive raise and project purchase), among other avenues contemplated including more holdco debt and further asset leverage. Stateline and Henrietta, would both require more capital than we see readily available, so future capital raise (or further push outs) would be relatively untested for the company – making Henrietta/Stateline particularly difficult to digest. Recently filed \$800M mixed shelf suggests some willingness to

pursue these avenues but we see the market as relatively untested in this regard.

SunPower: *We expect a relatively quiet quarter as the company continues to hold large projects on balance sheet (deferring revenue recognition until 2H); datapoints on the latest Southern sell-down of Henrietta should provide a positive halo as well as credit extension. This should affect 3Q guidance. Business updates from recent Helix and Equinox launches on the commercial and residential sides respectively suggest potential upside to segment results/margins as the product suites continue their rollout, so preliminary commentary around these will be key as well.*

Figure 1: Solar and YieldCo Comp Sheets

	Ticker	Rating	Market Cap. (\$ in millions)	Price 8/1/2016	Price Target	Dividend Yield	Short Interest	Days to Cover	P/E Multiple				Earnings Per Share				EV / EBITDA Multiple		
									2016E	2017E	2018E	2019E	2016E	2017E	2018E	2019E	2016E	2017E	2018E
SOLARCOs																			
First Solar Inc	FSLR	Neutral (UR)	4,844	47.38	59.00	0.00%	15.1%	3.6	11.4	15.1	14.1	11.1	4.15	3.15	3.36	4.27	5.2	6.1	4.1
SunPower Corp	SPWR	Buy	2,004	14.52	22.00	0.00%	27.9%	8.3	9.4	8.8	6.6	6.5	1.55	1.66	2.19	2.24	6.9	6.2	3.3
Canadian Solar Inc.	CSIQ	Not Rated	854	14.77	NA	0.00%	12.0%	2.7	5.8	3.8	na	na	2.53	3.93	na	na	4.7	na	na
Hanwha Q Cells Co.	HQCL	Not Rated	1,136	13.66	NA	0.00%	na	17.0	7.9	na	na	na	1.72	na	na	na	na	na	na
JA Solar Holdings Co.	JASO	Not Rated	362	7.60	NA	0.00%	na	8.7	5.5	5.6	na	na	1.39	1.35	na	na	3.2	na	na
JinkoSolar Holding Co.	JKS	Not Rated	598	19.05	NA	0.00%	na	6.9	3.8	3.4	na	na	5.07	5.60	na	na	3.7	na	na
SolarCityCorp	SCTY	Neutral	2,479	24.72	25.37	0.00%	40.1%	7.2	nm	nm	nm	nm	-4.92	-2.89	-2.12	-1.96	-13.4	-38.2	124.9
Vivint Solar Inc.	VSLR	Not Rated	315	2.94	NA	0.00%	NA		nm	nm	na	na	-2.66	-3.13	na	na	-8.6	na	na
SunRun	RUN	Not Rated	517	5.07	NA	0.00%	24.4%	16.8	nm	nm	na	na	-1.99	-1.81	na	na	-27.4	4.8	-4.1
SolarEdge Technologies Inc.	SEDG	Not Rated	700	17.19	NA	0.00%	NA		8.2	7.6	7.2	7.2	2.09	2.27	2.39	2.39	7.2	na	na
Trina Solar Ltd.	TSL	Not Rated	955	10.33	NA	0.00%	NA		13.0	9.1	na	na	0.80	1.14	na	na	4.7	na	na
Yingli Green Energy Holding Co.	YGE	Not Rated	72	3.94	NA	0.00%	NA		nm	nm	na	na	-4.08	-0.93	na	na	7.5	na	na
Zep Inc.	ZEP	Not Rated	454	NA	NA	NA	NA		na	na	na	na	na	na	na	na	na	na	na
Enphase	ENPH	Not Rated	85	1.81	NA	0.00%	NA		nm	90.5	na	na	-0.55	0.02	na	na	na	na	na
Average									8.1	18.0	9.3	8.3	0.4	0.9	1.5	1.7		-8.7	32.1
	Rating	Market Cap. (\$ in millions)	Price 8/1/2016	Price Target	% Public Float	Short Interest	Days to Cover	Dividend Yield (%)				Dividend Growth Rate				EV / EBITDA Multiple			
								2016E	2017E	2018E	2019E	2016E	2017E	2018E	2019E	2016E	2017E	2018E	
PRIMARY YIELDCOs																			
8point3 Energy Partners	CAFD	Sell	1,167	16.44	11.00	28.1%	5.4%	6.4	6%	6%	7%	7%	116%	13%	12%	0%	17.4	12.8	16.6
Hannon Armstrong Sustainable Infracorp	HASI	Buy	988	22.81	22.00	94.3%	3.8%	7.7	5%	6%	7%	7%	14%	13%	15%	0%	na	na	na
NextEra Energy Partners LP	NEP	Neutral (UR)	2,907	30.28	na	43.3%	0.3%	0.5	5%	6%	7%	7%	42%	17%	16%	8%	8.2	7.2	na
NRG Yield	NYLD.A	Buy	3,353	16.88	16.00	48.9%	7.0%	9.9	6%	6%	7%	7%	13%	12%	12%	5%	8.3	7.3	na
Pattern Energy Group A	PEGI	Not Rated	1,779	23.74	na	76.0%	14.6%	8.3	7%	7%	8%	8%	10%	9%	10%	0%	13.5	13.2	na
TerraForm Power	TERP	Sell	1,077	11.79	6.00	82.6%	18.5%	5.0	12%	12%	12%	12%	4%	0%	0%	0%	10.1	9.9	na
Transtasia Renewables	RNW-CA	Not Rated	3,158	14.09	na	40.2%	na	5.5	6%	6%	7%	7%	7%	4%	3%	0%	10.0	11.2	na
Average (Ex-TERP)									5.7%	6.4%	7.1%	7.2%	34%	11%	11%	2%	10.0	11.2	16.6
SECONDARY YIELDCOs																			
Algonquin Power & Utilities Corp.	AQN-CA	Not Rated	3,329	12.21	na				4%	5%	5%	5%	-8%	9%	11%	0%	-0.4	1.1	na
Brookfield Renewable Partners LP	BEP.UT-CA	Not Rated	11,688	40.61	na				6%	6%	6%	6%	na	6%	5%	0%	na	na	na
Capital Power Corporation	CPX-CA	Not Rated	2,019	21.00	na				7%	8%	8%	8%	-5%	6%	5%	0%	8.3	7.7	na
Greencoat UK Wind Plc	UKW-GB	Not Rated	676	1.12	na				6%	6%	6%	6%	6%	1%	2%	0%	na	na	na
Innervex Renewable Energy Inc.	INE-CA	Not Rated	1,689	15.64	na				4%	4%	4%	4%	-3%	3%	3%	0%	14.6	14.5	na
Renewables Infrastructure Group Limited	TRIG-GB	Not Rated	775	1.05	na				6%	6%	6%	6%	-2%	2%	2%	0%	na	na	na
Average									5%	6%	6%	6%	-2%	5%	5%	0%	8.3	7.7	na

Source: Company Filings, FactSet, and UBS Estimates (Companies that are Not Rated are exclusively FactSet consensus)

Figure 2: Solar and YieldCo Comp Sheets

Global YieldCos	Ticker	Rating	Market Cap. (\$ in millions)	Price 8/1/2016	Price Target	% Public Float	Short Interest	Div Yield					Div Yield Growth				Earnings Per Share			P/E Multiple			EV / EBITDA Multiple		
								2015E	2016E	2017E	2018E	2019E	2016E	2017E	2018E	2019E	2016E	2017E	2018E	2016E	2017E	2018E	2016E	2017E	2018E
Bluefield Solar Income Fund	BSIF-GB	Not Rated	313	1.01	NA	93.2%		10%	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Foresight Solar	FTSV-GB	Not Rated	47	0.93	NA	75.2%			na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Greencoat UK Wind	UKW-GB	Not Rated	676	1.12	NA	97.5%		8%	6%	6%	6%	na	-30%	1%	2%	na	na	na	na	na	na	na	na	na	na
John Laing Environmental Assets	JLEN-GB	Not Rated	na	1.03	NA	na		9%	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
NextEnergy Solar	NESF-GB	Not Rated	330	1.03	NA	86.4%		9%	6%	7%	na	na	-27%	2%	na	na	-0.03	-0.03	na	na	na	na	na	na	na
Renewables Infrastructure Group	0FJSSF-E	Not Rated	na	na	NA	na			na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Phoenix Solar	PS4-DE	Not Rated	26	3.58	NA	# N/A		0%	0%	0%	na	na	na	na	na	na	-0.22	0.07	na	na	52.0	na	10.9	na	na
Good Energy Group	GOOD-GB	Not Rated	37	2.24	NA	56.8%		2%	1%	2%	2%	na	-34%	3%	21%	na	0.10	0.15	0.23	23.3	14.9	9.7	na	na	na
EDP Renewables UK Ltd	0D7V40-E	Not Rated	na	na	NA	na			na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
Abengoa Yield PLC	ABY	Not Rated	1,980	19.76	NA	na		7%	9%	10%	10%	10%	18%	19%	1%	0%	0.78	0.91	0.84	25.4	21.6	23.5	9.3	na	na
Saeta Yield SA	SAY-ES	Not Rated	751	9.20	NA	na		8%	8%	8%	9%	9%	6%	4%	11%	0%	0.36	0.60	0.69	25.7	15.3	13.3	8.4	8.6	na
TerraForm Global	GLBL	Not Rated	401	3.44	NA	62.6%		13%	15%	13%	na	na	18%	-16%	na	na	-0.06	0.09	na	-54.3	39.6	na	3.7	8.9	na
Average - Global YieldCos									7%	6%	7%	10%	-8%	2%	9%	0%	0.2	0.3	0.6	5.0	28.7	15.5	8.1	8.7	na
Average - Primary and Secondary YieldCos (Ex- TERP)									6%	6%	7%	7%	17%	8%	8%	1%							10.0	9.4	16.6

Source: Company Filings, FactSet, and UBS Estimates (Companies that are Not Rated are exclusively FactSet consensus)

Figure 3: 2Q16, 2015 and YTD Performance

BENCHMARKS	Ticker	2Q16 Return	2015 Return	YTD Return	RSI (14Day)
S&P500	SP50	1.3%	-0.7%	5.6%	54.2
Global X YieldCo ETF	YLCO	5.1%	-30.3%	8.7%	59.2
Guggenheim Solar ETF	TAN	-7.4%	-10.1%	-29.3%	53.5

YIELDCOs and MLPs	Ticker	2Q16 Return	2015 Return	YTD Return	RSI (14Day)
Atlantica Yield PLC	ABY	8.1%	-29.4%	1.5%	42.8
8Point3 Energy Partners	CAFD	8.9%	-21.2%	2.4%	65.3
Dominion Midstream Partners	DM	-13.3%	-21.8%	-13.8%	49.2
Hannon Armstrong Sustainable Inf.	HASI	13.0%	33.0%	19.8%	53.0
Pattern Energy Group A	PEGI	24.1%	-15.2%	13.3%	49.0
Transalta Renewables	RNW-CA	5.2%	-9.7%	35.0%	70.1
TerraForm Power	TERP	10.9%	-59.3%	-7.4%	40.4
NextEra Energy Partners, LP	NEP	12.6%	-11.6%	1.5%	39.7
NRG Yield Inc.	NYLD.A	11.5%	-38.4%	21.1%	69.4
Average		9.0%	-19.3%	8.2%	53.2

SOLARCOs	Ticker	2Q16 Return	2015 Return	YTD Return	RSI (14Day)
First Solar Inc.	FSLR	-28.2%	48.0%	-28.0%	60.3
SunPower Corp.	SPWR	-31.1%	16.2%	-51.1%	47.9
SunRun	RUN	-7.9%	9.3%	-56.7%	49.1
SolarCity Corp.	SCTY	-1.4%	-4.6%	-52.4%	50.5
Vivint Solar Inc.	VSLR	20.4%	3.7%	-68.9%	61.7
Average		-9.7%	14.5%	-51.4%	53.9

Source: Factset

The Weather Backdrop with 2Q

Wind Speeds

We provide a snapshot of changing wind speeds below; we highlight a notable drop QoQ across all regions except California and Arizona, consistent with commentary from NYLD suggesting Wind Speeds were lacklustre at the beginning of Q2. This could prove deleterious to yieldco results generally, give presence of wind in all except CAFD. In contrast, 3Q appears to have started off with reasonable impacts, particularly in Texas.

Low wind speeds in Q2 could prove a negative sign for the diversified yieldcos in the quarter

Figure 4: Wind Speeds (Knots, 1 Knot = 1.15078 MPH)

State	2Q16	1Q16	QoQ% Delta	2016 YTD	FY 2015	FY 2014	FY2013	FY2012
California	5.73	4.8	19%	6.61	3.92	7.91	1.94	3.1
Texas	4.22	6.61	-36%	9.32	6.33	10.12	4.55	6.41
Iowa	4.66	9.77	-52%	6.37	8.85	11.41	6.58	9.01
Illinois	4.07	10.92	-63%	3.39	6.69	8.62	4.02	6.64
Oklahoma	5.37	9.09	-41%	9.01	4.11	7.85	7.31	6.11
Arizona	5.24	4.36	20%	7.76	3.05	8.79	2.76	4.58
Massachussets	3.26	15.51	-79%	4.93	4.8	5.56	5.72	9.84
North Dakota	8.97	14.37	-38%	10.61	8.43	15.15	6.43	4.22
South Dakota	7.72	13.38	-42%	10.57	7.48	9.92	7.83	5.01
North Carolina	3.18	7.25	-56%	5.09	4.06	2.9	3.67	3.86
South Carolina	3.18	6.5	-51%	5.38	3.64	3.57	3.62	3.53

Source: Bloomberg

What did NextEra Indicate?

In the 2Q earnings deck, NextEra includes a breakdown of its wind production across the 12.5GW fleet. Q2 results this year look marginally worse on the whole (92% of long term average vs 93% last year) particularly in Texas and the South. Overall, wind dynamics appear quite challenging.

NextEra's wind tracker confirms weak wind in the quarter

Figure 5: NEE Wind Production Index

2015										
	2nd Quarter					3rd Quarter		4th Quarter		
	MW	April	May	Jun	Q	MW	Q	MW	Q	YTD
Midwest	3,066	102%	106%	79%	97%	3,066	95%	3,066	105%	100%
West	2,931	89%	96%	79%	88%	2,931	95%	3,119	93%	89%
Texas	2,848	86%	98%	85%	90%	2,848	103%	2,848	99%	90%
Other South	1,684	90%	90%	94%	91%	1,782	99%	1,782	101%	94%
Canada	808	109%	116%	101%	109%	830	91%	880	111%	103%
Northeast	195	99%	84%	127%	101%	195	83%	185	98%	94%
Total	11,531	93%	99%	85%	93%	11,651	97%	11,879	100%	94%

2016									
	1st Quarter		2nd Quarter						
	MW	Q	MW	April	May	Jun	Q	YTD	
Midwest	3,066	95%	3,054	113%	87%	105%	102%	98%	
West	3,205	100%	3,303	95%	95%	84%	92%	95%	
Texas	3,097	97%	3,100	97%	97%	78%	87%	92%	
Other South	1,981	102%	1,981	90%	90%	82%	87%	95%	
Canada	880	97%	880	87%	87%	111%	91%	95%	
Northeast	185	94%	185	81%	81%	116%	89%	92%	
Total	12,413	98%	12,503	92%	92%	88%	92%	95%	

*% is a measure of % wind vs long term average. New wind included after first month built

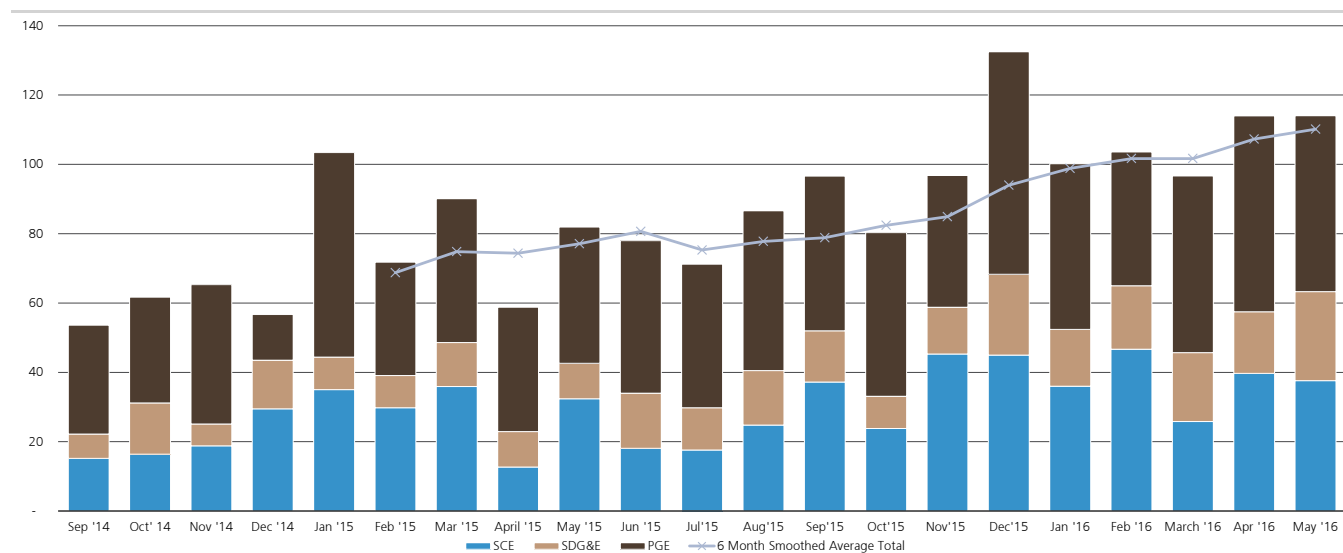
Source: Company Filings, UBS

What's Going on in California: Net Metering

While SDG&E has reached the NEM 1.0 cap, PG&E has ~250MW+ left and SCE is unlikely to hit the cap this year with ~770MW left. We continue to watch this closely and note any shift downwards could further the bear thesis on the res names. As it stands, weak bookings results from SCTY and cautious commentary from others suggests the large players may be losing market share in the state.

Trends appear intact thus far – are the large players losing market share in California?

Figure 6: Incremental Net Metering Additions



Source: Company Regulatory Filings

We continue to see a fairly stable trend of continued NEM penetration; the question is *who* is getting this sale: the large lease companies, or more of a loan and direct sale market. We suspect the latter will remain a key trend.

Figure 7: Year Over Year Changes in California Residential Installs under NEM 1.0

YoY - Total Installs	Aug'15	Sep'15	Oct'15	Nov'15	Dec'15	Jan '16	Feb '16	March '16	Apr '16	May '16	June'16
SCE	35.6%	37.6%	37.7%	40.0%	40.4%	39.0%	39.5%	37.1%	39.3%	38.6%	39.3%
SDG&E	46.8%	48.3%	44.3%	45.7%	46.5%	47.3%	48.6%	48.9%	49.6%	52.3%	na
PG&E	39.0%	39.1%	39.5%	38.1%	41.7%	39.0%	38.5%	38.0%	38.5%	38.3%	37.6%
Total	39%	40%	40%	40%	42%	40%	40%	39%	40%	40%	na

YoY Change in Monthly Installs	Sep'15	Oct'15	Nov'15	Dec'15	Jan '16	Feb '16	March '16	Apr '16	May '16	June'16
SCE	144.7%	45.1%	141.0%	52.5%	2.9%	56.7%	-28.1%	212.6%	16.0%	77.9%
SDG&E	111.4%	-37.2%	114.3%	66.4%	74.5%	96.8%	56.7%	74.5%	152.0%	na
PG&E	42.0%	54.8%	-5.5%	386.4%	-19.0%	18.0%	22.8%	57.4%	29.1%	15.2%
Total	80%	30%	48%	134%	-3%	44%	7%	94%	39%	na

Source: Company Regulatory Filings. SDG&E data not available yet for June

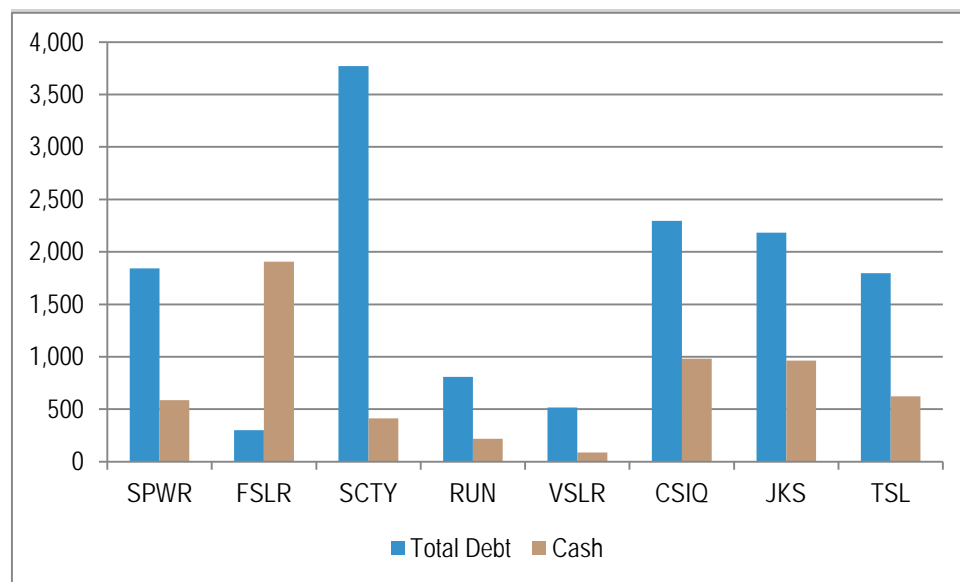
How do Balance Sheets Look?

Overall, leverage in the sector remains high and only FSLR has a net cash balance (though it is likely mostly earmarked for capex at this point internally). With limited free cash flow at most solar companies, we would be surprised to see any meaningful deleveraging. For the time being, we expect the cheap and wide availability of credit to provide a tailwind to the sector, in contrast to concerns across the sector earlier this year.

Access to capital is the lifeblood of Resi solar sector

We emphasize substantial interest rate sensitivity of the residential solar sector as particularly acute. Both the low interest rate environment, and particularly the robust liquidity of the market place today has provided a beneficial tailwind to the resi sector. The paucity of ABS deals of late remains a bit surprising in our view given the ample availability across the sector.

Figure 8: Comparison – Debt Vs Cash



Source: Factset

Updating Our Thoughts on Yieldco Valuations

Investor interest in Yieldcos is picking up once again, but does that mean we're in the next leg of a yield based valuation methodology? The answer isn't yet definitive but we note average one month YLCO index return of ~6% led by TERP (40%) and NYLD (20%) suggests investors are starting to give the sector the benefit of the doubt again. We maintain our overall constructive bias on the sector amidst the backdrop of an exceptional low interest rate environment; the sector has underperformed peer sector moves in the UTY and AMZ, with a willingness from a wider array of investors in pursuit of yield.

What's Priced In? Market Likely assuming Growth or Yield

Using our NPV estimates shown below, implied discount rates on current market prices of our yieldco's under coverage suggests investors are pricing in growth beyond the current portfolios, higher than expected cashflows, or a mix of each. We believe growth expectations are more likely given recent announcements from NYLD and NEP to pursue debt-funded drops, while CAFD's shelf offering suggests appetite for equity raises is slowly returning.

Figure 9: Implied Discount Rates at Yieldco's

	Current Share Value	NPV (\$M - UBSe)	Implied Discount Rate
NYLD.A	\$16.88	\$3,086	4.5%
NEP	\$30.61	\$2,875	3.8%
TERP (Unadjusted)	\$11.79	\$1,765	1.0%
CAFD	\$16.44	\$1,167	0.9%

Source: Factset, UBSe, prices as of August 1, 2016

But can it keep going? All depends on the drop-down thesis

With investors focused on strictly assets (ex- drop down growth) typically valuing assets at a levered low end of the range of ~5-6% of late, we see the DCF discount rates implied by shares as clearly reflecting some degree of this growth.

Updating Valuation Inputs and Methodology

We are updating all of our dividend-paying yieldco methodologies to account for lower interest rates, renewed interest in the sector, and relative yield-based methodology assumptions based on asset quality.

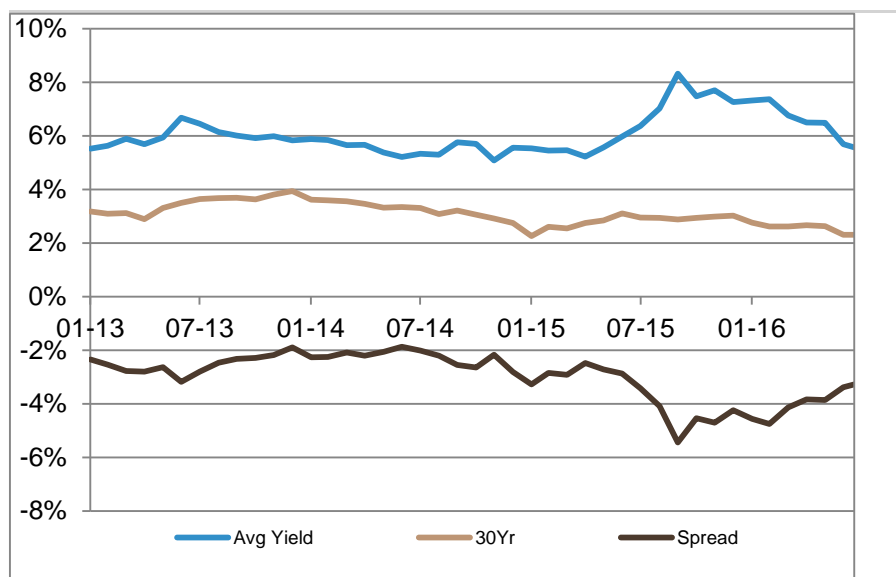
What is the right DCF Yield?

Bottom line: average 3% spread to treasuries suggests 5.3% discount rate today, which we apply a slight haircut to in order to arrive at our 6% DCF discount rate in order to account for some cash flow tail risk in the 20-30 year period of asset life as well as potential for rates rising.

Our DCF methodologies are typically based off 20-30 year cash flow assumptions, so we compared average spread to 30-year US treasury rates as shown below. We note yieldco risk-off environment generated average yields above 8% in 2015 but recent shift towards yield assets in a lower-for-longer interest rate environment suggest shift towards dividend stocks could see a further reversion to the mean, which is a ~3% spread to the 30 year treasury in this case. We included the peer group listed figures below in our analysis, which includes most large yieldcos.

We are maintaining our previously established 50/50 split between DCF and dividend yield for yieldcos with functioning parents (non-TERP) while shifting our assumptions in both.

Figure 10: Avg Spread to 30 Year Treasuries is ~3%



Source: Factset, UBS

Adjusting for tail risks: +~1%

Utilizing multi-year average dividend spread of 3% suggests 5.3% discount rate, which we haircut to 6% to account for tail risks such as recontracting risk and rising rates. Many yieldco's today have PPA's locked in for 15-20 years in the \$100/MWh+ range, which compares to average merchant power prices in the ~\$30 range currently. We emphasize contract roll off remains a key input to many assumptions, particularly when investing in low return propositions.

We apply a ~100bp discount to current implied 5.3% discount rate derived from average spread methodology, which we round to 6%

Figure 11: Peak Spot Power Prices (\$/MWh) -> Meaningfully lower than PPA prices

Power Price \$/MWh								
Quarter End	PJM West	PJM East	CAISO	ERCOT	MISO Indiana	MISO Illinois	NEISO	NYISO
6/30/2016	32.9	28.8	27.3	21.3	32.0	28.6	28.2	28.4
3/31/2016	29.6	31.4	23.9	19.0	31.4	25.9	29.4	29.3
12/31/2015	30.6	28.5	31.5	21.1	37.3	25.6	30.5	25.0
9/30/2015	38.1	40.5	40.1	33.0	38.1	32.0	38.5	36.6
6/30/2015	37.7	37.1	25.7	27.2	37.0	29.7	29.0	32.8
3/31/2015	57.3	67.4	32.3	26.5	44.4	31.9	87.0	78.3
12/31/2014	39.9	48.3	43.0	33.6	58.9	35.6	46.1	41.4
9/30/2014	41.6	45.4	49.7	37.1	35.2	36.4	40.7	40.1
6/30/2014	48.3	51.5	45.6	41.0	37.9	46.1	42.9	44.0
6/30/2016								
vs	-13%	-22%	6%	-22%	-14%	-4%	-3%	-13%
6/30/2015								

Source: Bloomberg

While merchant power prices in 15-20 years are clearly unknown, continued depressed power price environment could introduce further recontracting risk from legacy triple digit PPA prices.

Further, spread movements and potentially elevated risk free yields suggest a ~100bp increase to our DCF discount rate is appropriate, which we round down to 6% and apply to our valuation methodology.

Marking Dividend Yield to Market

Further, current average yield for the yieldco universe including international comps is ~6%, as shown below.

Figure 12: Yieldco Peer Set Dividend Yield is ~6%

		Price	Dividend Yield (%)		
Yieldco Peer Universe		7/25/2016	2016E	2017E	2018E
8point3 Energy Partners	CAFD	\$16.94	5.5%	6.3%	7.0%
Algonquin Power & Utilities Corp.	AQN-CA	\$12.43	4.2%	4.6%	5.1%
Brookfield Renewable Partners LP	BEP.UT-CA	\$40.79	5.8%	6.1%	6.5%
Greencoat UK Wind Plc	UKW-GB	\$1.11	5.7%	5.7%	5.9%
Hannon Armstrong	HASI	\$22.65	5.5%	6.1%	7.0%
Innergex Renewable Energy Inc.	INE-CA	\$15.46	4.1%	4.3%	4.4%
NRG Yield, Inc. Class A	NYLD.A	\$17.47	5.4%	6.3%	7.1%
Pattern Energy	PEGI	\$24.25	6.5%	7.1%	7.8%
Renewables Infrastructure Group Limi	TRIG-GB	\$1.02	6.3%	6.4%	6.5%
TransAlta Renewables, Inc.	RNW-CA	\$13.98	6.3%	6.5%	6.7%
Average Yield			5.5%	5.9%	6.4%

*Note, TERP and ABY excluded due to dividend uncertainty

Source: Factset, UBSe

Old Vs New Yieldco Valuation Methodology

We are shifting our valuation methodology and marking to market to account for changes in the appropriate DCF discount as well as current implied dividend yields in the 6% range. Our old assumptions are listed below, which included higher discount rates, appropriate for a more challenging environment in the yieldco space in the past. We are shifting valuation for all of our yieldcos under coverage with a functioning parent (as opposed to TERP, given SUNE's bankruptcy proceedings) to include a 6% DCF discount rate, appropriate for mostly-contracted cashflows with some tail risks. Further, we apply a premium/discount to our peer yield methodology based on asset/cashflow and parent ROFO quality.

Figure 13: Updated Yieldco Valuation Methodology

New Valuation Inputs							
Yieldco	DCF Value	Yield Value	Total Value/Sh	DCF discount	Peer Yield	(Premium) / Discount	Yield (%)
NYLD	\$15	\$21	\$18	6%	6%	1%	7%
NEP	\$25	\$36	\$31	6%	6%	-1%	5%
CAFD	\$10	\$19	\$15	6%	6%	0%	6%
*NYLD, NEP, and CAFD Valued at 50/50 Yield/DCF							
	DCF Value	Adjustments	Net Value	Adjustments based on asset/cash flow quality			
TERP	TERP (unch)	\$9	\$3				

Old Valuation Inputs					
Yieldco	DCF Value	Yield Value	Total Value/Sh	DCF Yield (%)	
NYLD	\$13	\$19	\$16	8%	7%
NEP	\$19	\$30	\$25	8%	6%
CAFD	\$10	\$13	\$11	7%	9%
*NYLD, NEP, and CAFD Valued at 50/50 Yield/DCF					
	DCF Value	Adjustment	Net Value		
TERP	\$9	\$3	\$6		

Unchanged Ratings	
NYLD	Buy
NEP	Neutral
CAFD	Sell
TERP	Sell

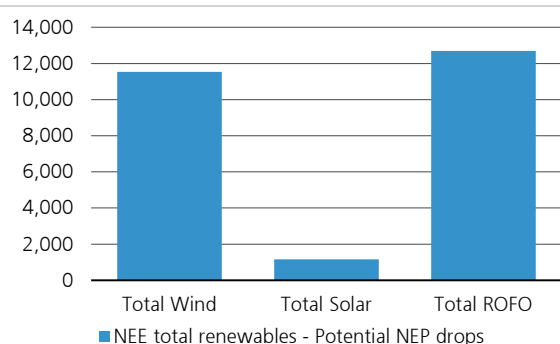
Source: UBSe

Peer Yield Adjustments:

NYLD: We apply a 100bps discount to current peer implied dividend yields to account for some more near term recontracting risk for ~35% of the current portfolio. Specifically the conventional assets, Marsh Landing (720MW), El Segundo (550MW) and Walnut Creek (485MW) have PPA's expiring in 2023. Importantly, all three are gas fired plants, which we view as lower quality cash flows versus more easily contracted renewable plants. As such, we apply a 7% yield to our 2018 distribution assumption.

NEP: NextEra Energy Partners is largely viewed as the "best in class" yieldco with ~2GW of wind, 310MW of solar, and seven pipelines spanning 542miles. More importantly, 10GW+ of implied existing potential ROFO assets provides industry-leading line of sight to drop down potential and extensive list of assets to build out geographic diversification and fuel mix.

Figure 14: Potential NEP Drops Much Larger than ROFO (MW)

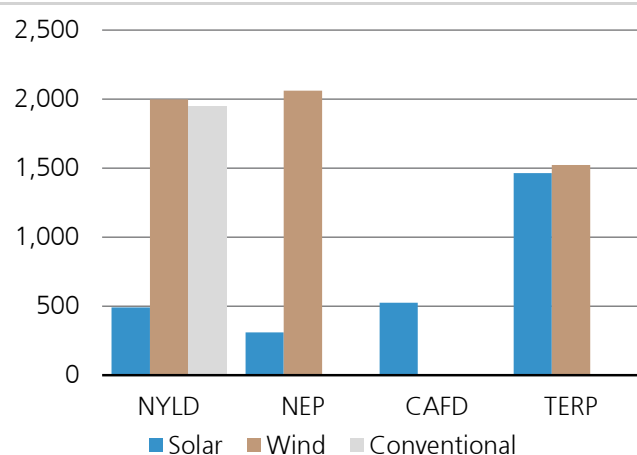


Source: Company Reports

CAFD: we apply no discount or premium to CAFD's assumed yield methodology. On one hand, we see value in the solar-only cash flow profile, which is generally more predictable than wind generation. However, sponsor ROFO commitments appear to shift on a regular basis due in large part to CAFD's ability to digest large drop downs accretively, which offsets some of the benefits from a potentially more stable cash flow profile. We apply our peer yield 6% to 2018 dividends.

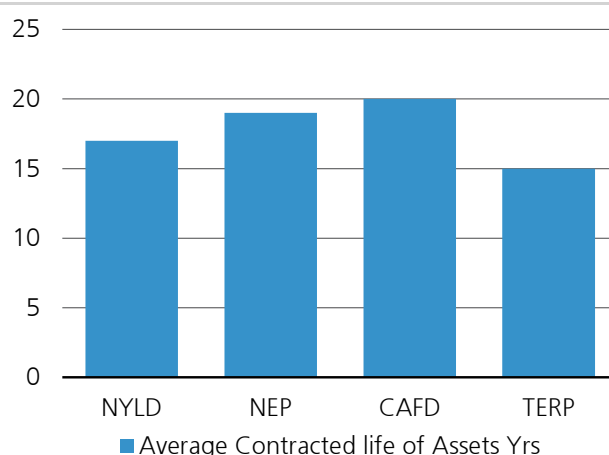
We include a key comparison metrics for yieldco comparisons below, which reflect the aforementioned differences.

Figure 15: Existing Assets – Fuel Basis (MW)



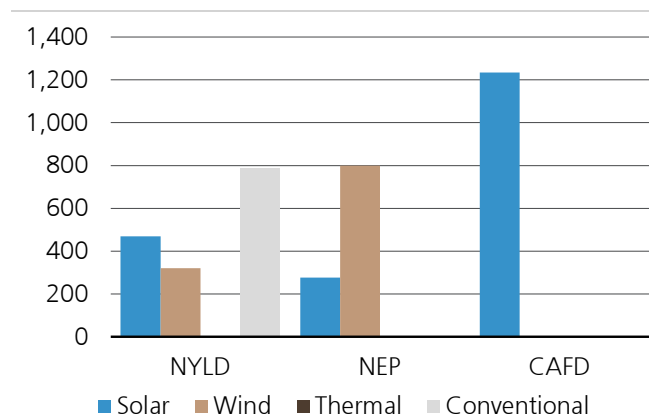
Source: Company filings and UBSe. Note: NYLD also has thermal assets

Figure 16: Average Contracted Life of Existing Assets (Years)



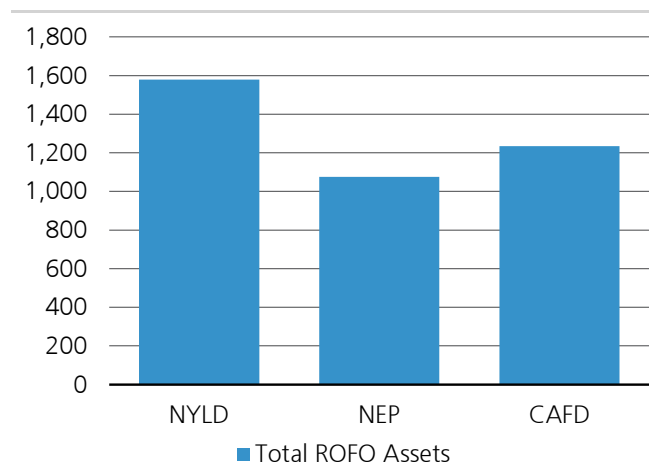
Source: Company filings and UBSe

Figure 17: ROFO Assets – Fuel Basis (MW)



Source: Company filings and UBSe

Figure 18: Total ROFO Assets (MW)



Source: Company filings and UBSe

Key Themes

Residential Solar: How bad are things really?

What is happening in California in the Resi Solar Market?

What's Going on in California? More Scrutiny of various data sets

We continue to field a number of investor questions around California installations and applications in light of 1) NEM 2.0 Uncertainty, 2) Emerging time of use rates and 3) industry datapoints around solar deployments in the state. Accordingly, we took a closer look at Utility-reported data through May 2016 and contrasted with a [recent note](#) which utilized the California Solar Initiative (CSI) data, which was only current through March. Notably, our concerns around PG&E nearing the NEM cap appear to be playing out, as monthly installs decreased ~50% MoM – the largest decline since the data was first reported 20 months ago for the utility. PG&E's trailing 6 month average of 72 MW/month remains the most important to resi installers followed by SCE (avg. 53 MW/month), and SDG&E (avg. 25 MW/month). Whereas SDG&E and SCE applications remained mostly stable over the past three months, PG&E experienced significant curtailment with y/y growth falling from 96.6% in April to 7% in May 2016. We note the SDG&E and SCE data would appear to be in contrast to concerns of a California-wide slowing due to pending NEM 2.0 implementation described by some on 1Q calls (RUN emphasized this concern more than its peer SCTY).

SCTY is Losing Market Share

We also looked closer at our CSI data through March to analyze share shifts in the state. Our analysis indicates a steady decrease in deployments listing SCTY as the primary installer. Year over year, market share has shifted from 24% in March 2015, to 15% in March 2016. While deployments are somewhat seasonal, a comparison with competitor's like SCTY and RUN suggests SCTY's slowdown is likely a reflection of high install base and focus on cash internally. RUN (3.51% as of Mar 2016) and VSLR (5.6%) have demonstrated more stable performance over the past year with marginal market share changes

SCTY is losing market share in California but this may be largely lost amidst merger chatter

Digging into California

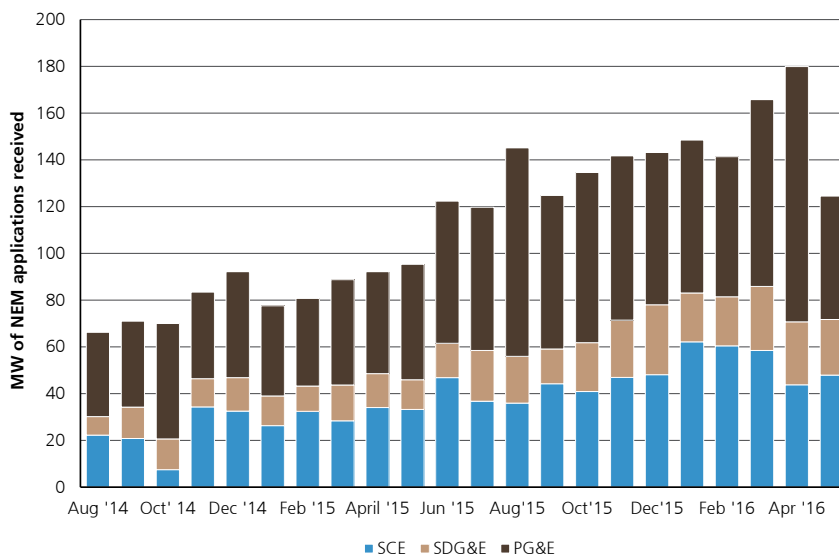
We took a closer look at California Utility-sourced NEM Data given recent concerns around applications, installs, and shifts in California more generally. We were able to analyze data since August 2014, which suggests preliminary evidence for our [recent assertion](#) that nearing NEM CAP could create issues in PG&E territory. Although SCE appears to be running at full steam into the end of its net metering cap, PG&E applications slowed considerably in May.

50% PG&E Drop Off?

We note significant divergence in May application data this year, from ~181MW to ~126MW total, driven almost entirely by a ~50% decline MoM in PG&E territory, as well as a several MW decline in SCE. Comparative data is limited but we note last year, PG&E territory actually increased applications ~13% MoM. 50% decline is by far the largest among the available dataset (the second largest decline of 26% MoM was Sept 2015 in PG&E territory). While it is possible that this change was driven by a shift in data collection methodology or delay in processing applications, we did not see commensurate declines in the other two IOU's.

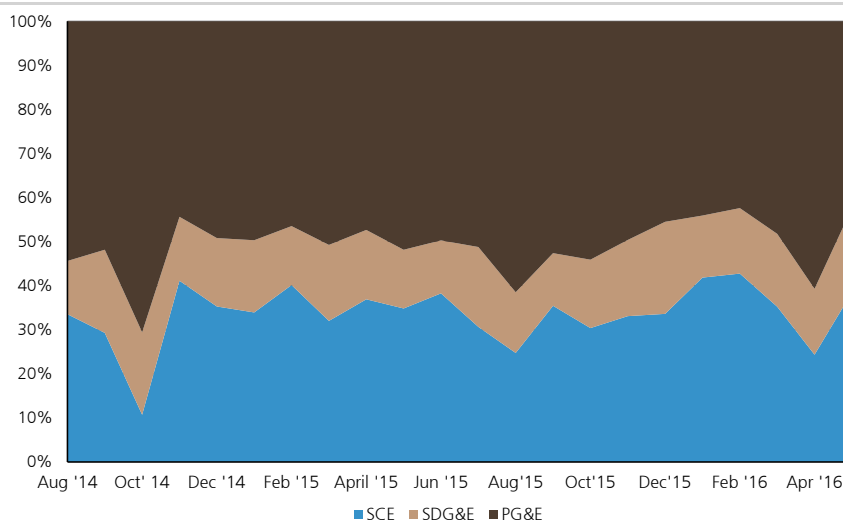
May application data suggests 50% Monthly decline in PG&E service territory, unlike SCE and SDG&E. Was it a timing fluke, or a sign of something larger?

Figure 19: NEM Applications by Utility (in MW) – Drop Off?



Source: SCE, SDG&E, PG&E Company Filings, UBS

Figure 20: NEM Applications by Utility (in %)



Source: SCE, SDG&E, PG&E

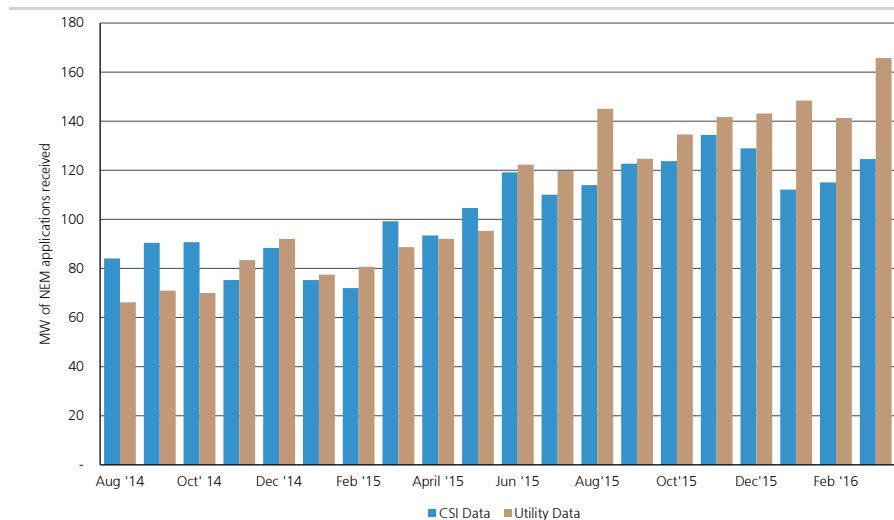
According to the recent Utility-sourced data, PG&E had only ~250+ MW left (on a trailing basis) under NEM 1.0, SDG&E has hit the cap, and SCE still has ~770 MW still remaining. However, their respective proximity to the NEM 1.0 cap must be understood relative to their market size, something illustrated in the two figures below. "Total NEM Applications Received (in MW)" looks closer at the number of NEM applications received by each of the three Californian utilities, while the next graphs their respective market share. In terms of proximity to NEM 1.0 cap then, SDG&E is the closest but it also has a significantly smaller market in terms of new NEM applications, with an average of only 25 MW of monthly applications. PG&E has just over 300 MW left before it will hit its NEM 1.0 but added approximately 245 MW in the past three months alone. Either way, we expect both utilities to reach their NEM 1.0 caps within the next 1-2 quarters.

PG&E had ~250MW left under NEM 1.0 at the beginning of August, while SCE has reached the cap already

CSI Data Vs Utility Reports

Whether we analyze the California Solar Initiative data or the Utility reported data, the trend is clearly increasing over the last year but we note increasing discrepancies between CSI and Utility reported data, perhaps suggesting double counting of applications or a timing shift. There is no consistent difference between the data sets, rather we attribute the variance to the fact that CSI accounts for new NEM applications the day they were received, while the utilities include in their monthly data only the number of application received and manually processed.

Figure 21: Total NEM Applications Received (in MW)



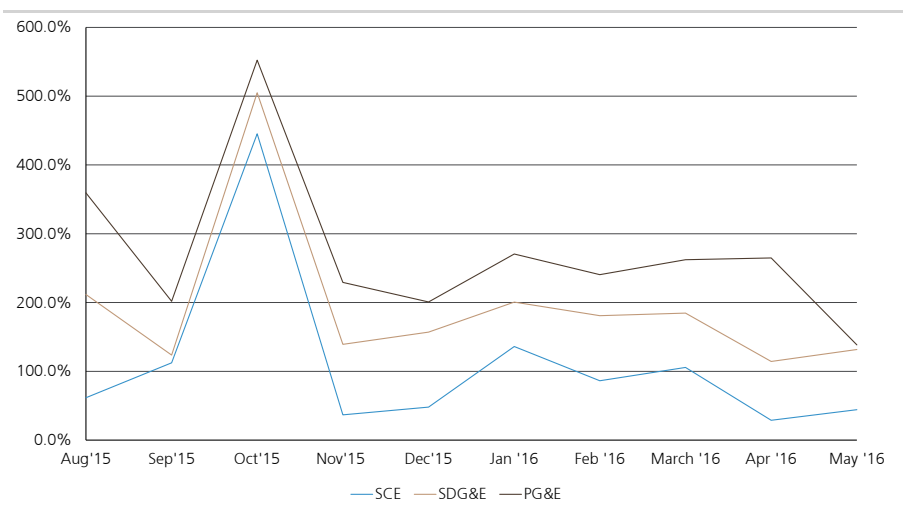
Source: California Solar Initiative, SCE, PG&E, SDG&E, UBS

Volatile Demand for NEM Applications

An analysis of the NEM application YoY growth rates across SCE, SDG&E, and PG&E illustrates a significant amount of volatility. Interestingly, all three utilities have moved pretty much in sync until April 2016, when PG&E's YoY growth rate moved opposite to peers. While PG&E's YoY growth rate has fallen from exceptional highs in the past (in August 2015 it fell from a YoY growth rate of 147.8% to 78.3% in the following months, and in November 2015 from 90% to 47.4 % YoY growth in December), this time might carry more significance as YoY growth is down to an all-time low of 7%, vis-à-vis 150% growth the previous month. However, given manual booking requirements discussed previously, this difference might just be the result of a processing time lag and will be recovered in the June data. Should growth remain this low in the June data, we would view as a confirmation of potential slowdown in the Cali market. However, we note *application* data can be misleading and is a leading indicator of installs – it can take anywhere from 6 weeks to several months to go from application to interconnected install.

Growth decelerating in PG&E; not so much in other territories

Figure 22: YoY Growth Rates, Application Data (%)



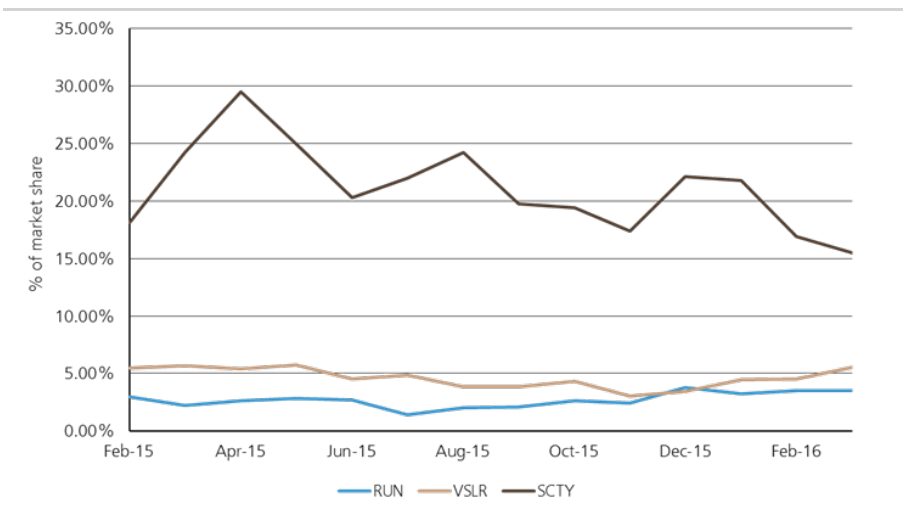
Source: CPUC

Data Suggests SCTY Losing Market Share

The data gathered by the California Solar Initiative (CSI) also indicates changing market shares for solar companies such as SunRun, Vivint Solar, and SolarCity. While still significantly larger than its competitors, SolarCity's share of new NEM applications is decreasing notably over the past year. In March 2016, 15.5% of new NEM applications listed SolarCity as installer, in comparison to 29.3% in March 2015. We view this as a logical outcome of focus on cash conservation at SCTY and significant volume push from all players in the California market, which would dilute SCTY's share. As shown below, SCTY's market share has dropped from ~30% in April 2015 to less than 15% in March 2016. Meanwhile, competitors, RUN and VSLR, have maintained a somewhat consistent market share of ~6% and ~4% respectively.

SCTY Cash conservation focus and overall volume rush in California likely driving SCTY share loss.

Figure 23: NEM Application Market Share by Company



Source: CSI, UBS

Where is resi solar trend more generally? We look towards the Web's Insights on trends

We held [a recent conference call](#) with Vikram Aggarwal, CEO of the website price comparison platform, EnergySage.com, to look at the latest competitive dynamics. While admittedly the platform is just a slice of overall resi solar installations, we believe it offers real-time insights into evolving trends in the wider sector.

Expanding beyond the core states: Watch for 'Tier 2' deployments

Mr. Aggarwal continued to emphasize Tier 2 states were relevant, with some of the lowest pricing appearing in FL. Despite the prohibition on third-party leasing due to state specific rules, Florida appears to be attracting among the lowest priced loan offers versus other regions. The call noted other 'Tier 2' states to watch including Colorado, West Texas (El Paso), and Oregon/Washington. EnergySage estimates the critical threshold payback period to make solar 'attractive' appears to be around 8.8 years.

Florida, Texas, and other non-core states could start to work for resi deployments

High efficiency still deciding quite a bit of US Residential Solar Sales

Market data indicates that 45% of customers look for the best value when deciding on a specific solar energy product and 35% of them focus on higher efficiency panels. Meanwhile, only 3% of customers search for solar panels based on their aesthetics, indicating that product strategies focused specifically on competitive advantages in appearance might be misplaced. Overall, consumers prefer high efficiency, black on black, better looking solar panels; SPWR and other manufacturers of higher efficiency panels could be potential beneficiaries of this trend.

Solar Sales Becoming Yet More Competitive: seeking multiple offers now

While solar panels sales used to rely more on door-to-door interaction between a solar company's sales personnel and local residents, the success of online platform EnergySage illustrates the increasing demand for third-party intermediaries to assist customers in better weighing their options. Using online sales platforms like EnergySage, customers can compare different systems according to quality, price, etc. and choose the product they find most competitive. This side-by-side comparison is likely to not only increase competition between companies, but also enhance the growth potential of smaller resi solar companies lacking the marketing and sales clout of some of the majors. Despite aggregate marketing of ~\$1.5 Bn in 2015 from larger resi players, our industry conversations suggest disproportionate potential gains for smaller solar players, aggregated through the likes of Spruce among others

Declining Consumer Interest in Solar Energy Leasing

Recent sales trends indicate less consumer interest in leasing solar energy service. Instead a growing number of customers prefer to purchase solar panels up front or through a third-party loan. Those loans allow consumers to keep up to ~80% of their saving, while solar leases and PPAs leave consumers with between 10% to 30%. The rise of third-party lending options is significant; over 60 different options exist on EnergySage for customers to receive loans from national banks, their local credit unions, or regional banks; Admirals Bank continues to have the greatest market share here, despite its declining proportion.

Decline in leasing trend a likely headwind for the likes of SCTY

Will be key to successfully ramp a new loan product given this trend

Potentially connected to increased interest in ownership, is the rise in smaller companies providing installation services. While consumers generally used to go with one of the bigger solar service providers, an increasing number of customers have started to shop around for the best deal – EnergySage's *own* growth rate has been over 300% this past year.

Tesla/SolarCity: What is Going on?

August 1st announcement yielded little in the way of details and more in the way of questions. Bottom line, we are sceptical of the merits of the deal and look to Q2 results call to flesh out what is really happening at the company.

Overview of the Transaction

On 8/1/16 TSLA announced details of its agreement to acquire SCTY in an all-stock transaction (see our note on the initial offer, [Driving Off into the Sunset](#)). TSLA provided expected synergy targets of \$150m (\$150-200m mentioned on call, albeit with 'upside') within one year, adjusted offer price to \$25.37 (\$26.70 last close), and said the deal would close in Q4 assuming SEC and majority shareholder approval. There is a 45 day go-shop period during which SCTY can solicit and/or accept a higher offer. We continue to remain cautious on the deal given lack of compelling synergies (most could seemingly be achieved through a JV), and the fact this is an unneeded distraction for TSLA management which already faces challenges with the Model 3 launch and significant production targets. We note that a lack of any quantitative assessment of the storage prospects -- outside of (well articulated) prospects in Hawaii – emphasize the lack of clarity in terms of TSLA's ability to execute. The deal would appear 'too early' for its time given the infancy of the resi solar sector (with net metering still largely in place).

Synergies Remain Vague

The company provided limited financial quantification of the \$150m cost synergies. Qualitatively, the synergies will come from lower customer acquisition costs by leveraging TSLA's retail footprint (foot traffic of 3m per year), savings from combined installation/service of solar & storage, savings from supply chain efficiencies (e.g. both companies source inverters), and leveraging TSLA's manufacturing expertise. Ultimately, TSLA envisions combining vehicle, charger, and storage delivery/installation in "a one truck and one trip" solution. Given investor caution around the SCTY deal, we are surprised by the lack of quantitative details on the solar/storage combo on the call.

Few Details on New Products and Cost Savings

We are increasingly cautious on resi solar fundamentals but note a number of questions remain unanswered today. The two new products focused on integrated solar+storage and another focused on new roof construction. The offerings weren't fleshed out, but management could provide more compelling details later. However, this lack of clarity on new products was combined with vague cost savings goals and lackluster cost improvements from SCTY, making for a generally cloudy outlook. [Current disclosures](#) in the merger agreement suggest cost savings will come from lower hardware, reduced installation, improved manufacturing, and reducing customer acquisition costs, though we are unsure how much of that would come from *synergies* versus previously planned cost reduction. Furthermore, SCTY's 45 day go-shop period could yield further offers, but we note the failed VSLR acquisition provides poor precedent here and we do not assume a bidding war occurs

What are the Synergies? We think not a lot to point to initially

On the initial media call, TSLA highlighted potential synergies in the servicing operations (fewer trips to install storage/solar units), product development (integrated solar-storage products), and possible crossing selling opportunity at TSLA stores. However, we note that no specific synergy estimates were provided, initially, and the subsequent ~\$150M number has a number of uncertainties around it. SolarCity and Tesla have worked together on a battery offering, and there may be some potential future synergies on the SG&A front, but we note Elon Musk was initially unaware of how many Tesla customers have solar – implying customer acquisition synergies may not be the primary focus. Current residential solar penetration is no more than 1-2% across the US, and one of SCTY's most stubborn cost items is opex on an absolute and relative basis, which grew from \$414M in 2014 to \$767M in 2015. Potential to reduce customer acquisition cost could bode well for SCTY cost structure, but SCTY's value proposition has been focused on saving money on a utility bill – not luxury goods. However, the re-introduction of SCTY loan product could prove enticing for TSLA buyers as it would allow system ownership. TSLA storage infrastructure is very limited - adding the SCTY servicing organization could therefore reduce future investment for servicing.

What will the combined entity be? It's a generic renewable strategy

We see the TSLA and SCTY combination as a creating a renewable energy conglomerate. Given significant struggles already to reconcile GAAP results vs. underlying ongoing cash flows for SCTY as a stand-alone company, we see risk for lower investor confidence in results. We emphasize SCTY had been pursuing enhanced disclosures in recent quarters to add to confidence in FCF growth story. Bottom line, given the limited strategy overlap between the two companies and need to improve disclosures to gain traction on the story (market to investors who truly understand underlying residential customer and revenue dynamics) we don't think an alternative energy conglomerate makes much sense.

Cautious sign?

In an alternative read, we think the move could be potentially defensive, in an effort to bolster liquidity and cut costs to improve underlying cash flow profiles for both businesses given ongoing challenges rather than executing on a clear strategic rationale.

The offset: investors had asked what the strategy was on 1Q call already?

Analysts had asked the company on the 1Q call what the core strategy of the business was following its latest missteps in achieving its growth and cost targets. We think the potential merger is unlikely to address these underlying concerns. Either the core residential solar model works – and generates margins (which we believe) – or it doesn't.

Batteries = not a significant synergy; why is that?

We believe that batteries today are *not* a real synergy, nor will be under the current US regime for Net Metering in the US through the next 3-4 year period. The core market for SCTY is California with 100% net metering and hence we see limited value to a battery cross-sale. Which market is relevant? Hawaii. We note this remains a limited (single digit figure) for installs for SCTY and will likely remain quite modest. While a test bed for battery penetration, we doubt this remains a real opportunity to ramp. We don't expect a significant pullback in Net Metering any *other* relevant market for SCTY, or at least enough to make batteries 'work' in the near-term.

Where do batteries make sense? Rather, does this indicate a shift further towards commercial efforts: quite possible in our view. While not likely to be a large portion of future sales given mixed success in C&I, we think the battery emphasis could yet indicate the latest effort to scale a dual-product sale (solar + batteries). We note C&I deployments typically have meaningfully higher demand charges, tied to peak load consumption, which can be reduced through appropriate battery load management. This would appear outside of SCTY's core focus today.

A Quick Look at SCTY Board: The Lonely One

TSLA-SCTY Boards & management heavily linked

With concerns around potential conflicts of interest, we briefly summarized the relationships between TSLA and SCTY board members and senior management (see Figures). While two members (Musk & Gracias) will recuse themselves, we found that all but one SCTY member (Kendall) had some kind of TSLA relationship. We expect a definite agreement from both boards in the near term, with the critical question whether shareholders will subsequently approve the deal, with a particular focus on the TSLA vote.

On the media call TSLA CEO emphasized synergies tied to cross-marketing batteries; don't view this as that meaningful

Does this suggest further scaling of C&I? Potentially.

Board and management closely linked

In the below Figures, we highlight the different SCTY relationships with TSLA. There are 8 board members. Musk is conflicted (>20% ownership in both companies). It's also known that Lyndon & Peter Rive are first cousins of Musk. In addition, Straubel is TSLA CTO. This leaves only 4 independent members. Gracias is conflicted being on both boards, Fisher's firm (Draper Fisher Jurvetson) is also on both boards, and Pfund's firm was an early investors in TSLA. Arguably this leaves Donald Kendall Jr. as the lone member on SCTY's board without any apparent Tesla relationship. In Figure 2, we highlight a very similar situation at TSLA where only two board members appear to have no relationship with Tesla whatsoever.

Figure 24: SCTY Board & Senior Management and % Ownership of ea. company

Board/Mang.	Board Member	Title	Other Conflict	% TSLA	% SCTY
Board	Elon Musk	TSLA Chairman & CEO; SCTY Chairman	Both Boards	21.3%	22.5%
Board/Mang.	Lyndon Rive	SCTY CEO & co-founder	Elon Musk Cousin	0.0%	2.3%
Board/Mang.	Peter Rive	SCTY CTO & co-founder	Elon Musk Cousin	0.0%	2.3%
Board	John H.N. Fisher	MD of Draper Fisher Jurvetson (VC firm)	DFJ owns 4.9% SCTY	0.0%	0.0%
Board	Antonio Gracias	CEO, Chairmen Valor (owns 0.2% SCTY & TSLA)	Both Boards	0.0%	0.0%
Board	Donald R. Kendall Jr	MD & CEO Kenmont (investment mang)		0.0%	0.04%
Board	Nancy E. Pfund	Founder/Managing Partner DBL Investors (early investor in TSLA)	Board member of TSLA Pre-IPO	0.0%	0.16%
Board	JB Straubel	TSLA co-founder & CTO		0.2%	0.8%
Mang.	Tanguy Serra	President and CFO	Former CEO at Vivint	0.0%	0.02%

Note: TSLA ties highlight in light blue

Source: Company reports, UBS

Figure 25: TSLA Board & Senior Management and % Ownership of ea. company

Board/Mang.	Board Member	Title	Other Conflict	% TSLA	% SCTY
Board/Mang.	Elon Musk	TSLA Chairman & CEO; SCTY Chairman	Both Boards	21.3%	22.5%
Board	Brad W. Buss	Former CFO SCTY		0.004%	0.029%
Board	Robyn M. Denholm	CFO/COO Juniper Networks		0.0%	0.0%
Board	Ira Ehrenpreis	General Partner with Technology Partners		0.01%	0.0%
Board	Antonio J. Gracias	CEO, Chairmen Valor (owns 0.2% SCTY & TSLA)	Both Boards	0.0%	0.0%
Board	Steve Jurvetson	MD of Draper Fisher Jurvetson (VC firm)	DFJ owns 4.9% SCTY	0.03%	0.0%
Board	Kimbal Musk	CEO of Medium	Elon Musk Brother	0.1%	0.0%
Mang.	JB Straubel	CTO TSLA	SCTY Board	0.2%	0.8%
Mang.	Jason Wheeler	CFO TSLA		0.0%	0.0%

Note: SCTY ties highlight in light blue

Source: Company reports, UBS

US Procurements Above Expectations: Takeways from NARUC

Renewable procurement efforts poised to accelerate in coming days

Following our latest meetings in Nashville recently we note procurement activities for solar and wider renewables appear poised to accelerate meaningfully. We had [initially highlighted](#) 3 key events worth highlighting, all of which have played out favorably for renewables:

- 1) Georgia Public Service Commission [approved](#) Georgia Power's Integrated Resource Plan, which would add 1,200MW of renewables through 2021 including 1GW+ of utility scale renewables (300MW wind max)
- 2) Massachusetts [legislation passed](#), which could allow 1.6GW of offshore wind and 9.45TWh (~1.1GW) of further renewables, including hydro procurement potential.
- 3) New York Public Service Commission [approved](#) the clean energy standard, which includes a requirement for 50% of the state's power to come from clean and renewable sources by 2030 (including Nuclear).

Both MA and NY are primarily focused on regional advantages towards wind rather than solar, but we see offshore wind as gaining greater attention as well (explicit carve out in MA) and also in NJ too in the future.

Pricing carbon and environmental attributes into power markets

Nuclear and the ability to 'save' units through new state level carbon regimes were among the most debated topics at NARUC. We expect a renewed focus on **meshing environmental markets with energy & capacity** to prove the critical power market reform in 2H16. We are surprised at the widespread interest in the topic – with **both ISO-NE and PJM likely poised to proactively address the topic with meaningful stakeholder processes beginning in the August timeframe**. We look for leadership importantly from ISO-NE on reflecting carbon prices in energy market bids (rather than via the existing low prices in the RGGI market). Bottom line, there appears to be an increasing appreciation for the need to adequately price and incorporate environmental externalities as well as an acceptance of growing renewable penetration for power markets. Further, there is a clear acceptance among a wider range of parties than we would have thought on the **need to enable renewable generators to receive premiums for their green characteristics**; this has been a growing focus in the power world as subsidies to support other efforts (like coal bailouts) have been largely rebuked by FERC and the courts.

What does all this procurement mean? Positive to utility-scale solar sentiment

We see the latest procurement activity as just the latest datapoint to drive expectations on US prospects higher. While not necessarily moving the needle for resi prospects, utility-scale efforts could well get a boost from all of the upcoming activity. Upcoming activity should translate to RFPs in ~2017, with deployment through the decade subsequently. While we think solar module manufacturing

All 3 key near term renewable catalysts we were watching have passed in the last week

ISO-NE and PJM are likely to look to mesh the renewables and capacity markets

margins and inventories appear to be a wider overhang on supply and pricing leverage, we see continued activity as a modest offset. We also emphasize the US election in 4Q could prove among the largest predictors of future renewable activity too – with the fate of tax credits potentially tied to the outcome. We reiterate our preference for SPWR among the solar equities.

Net Metering Reform is Front and Center

We look for NEM reform to potentially accelerate in 2H, likely reducing the attractiveness of economics across a wide range of states in the coming year as a set of common practices for reforms are adopted. While the effort does not necessarily suggest no removal of NEM is a 'bad' outcome, we perceive a wider interest at the conference in reducing NEM compensation across a wide variety of efforts. We emphasize reforms across relatively less attractive solar states do not impede the core economics across the key states. Rather, we see a declining risk environment in both of the key debate states in AZ and NV as the policy backdrop appears to be easing.

Solar remains competitive in Hawaii despite NEM caps

On the solar front, we emphasize addressing NEM reform and providing a future for islands to sell solar systems that are structured as self-supply remains important. Notably both RUN (not covered) and SCTY offer products that are competitive without NEM. We note the likely forthcoming implementation of AMI in the state and subsequent implementation of Time of Use (ToU) rates adds a further risk to even those systems that have been grandfathered as midday rates Net Metered back to the grid could well decline.

Nevada: Waiting Anxiously on Real Reform

We see the state as potentially turbulent in coming months

We believe both the solar Net Energy Metering (NEM) rules as well as wider discussion of restructuring as likely on the table for discussion in the state. Despite the paucity of publicly traded exposure in the state, we continue to see its efforts on both fronts as cautious for regional utilities. Notably, we see the direction in Arizona as quite different, with NEM likely poised to decline modestly via demand charges as well as with the firm previous rejection of restructuring.

Ballot on Market Deregulation and Potentially Solar NEM this Fall

Supported by Switch and other industry participants looking to exit the Nevada electricity market, we see high likelihood for constitutional amendment on market deregulation on the upcoming ballot. We note, however, that the amendment has to pass the ballot twice in order to effect resolution, indicating that market deregulation cannot be achieved before 2020 along this path. This is alongside the latest grandfathering efforts in the state, which would be included on this November's election as well. We emphasize there remains some ambiguity as to whether or not the NEM piece will be put on the ballot this Fall or not still depending on whether it is a petition or a referendum.

We expect a constructive update on NEM grandfathering

Utility-Scale Solar Shining Bright at NARUC conference

While NEM debate continues to hang over distributed solar generation, we see strong future for utility scale solar, even in states such as Nevada and Arizona.

Interest in Utility-Scale Solar Growing

Georgia Passes IRP with 1,600MW of Renewables

Among the most surprising solar developments of late is the [recently passed](#) Georgia Power IRP which calls for 1.6GW of renewables by 2021. Specifically, the utility will procure 1,050 MW of utility scale resources and 150MW of DG. The actual procurement will take place in two chunks – one in 2017 and one in 2019. Further, Georgia power can procure another 100MW of DG through an RFP in 2017 (COD in 2017 or 2018) and another 200MW of self build renewable capacity at or below the company's avoided costs. We emphasize this is up from the initially contemplated 500 MWs for the 3-year period and confirms that the Southeast will likely prove among the more robust regions of at least new growth, if not absolute growth for the utility-scale solar sector through the near-term.

1.2GW of renewables through 2021 was just approved

Prospects for smoother solar relationship in Arizona? Likely.

While the solar interests failed to find common ground with the utilities at the outset of the latest rate case with PNW, we emphasize the latest shift in regulatory approach with the hiring of Former FERC Chair Jon Wellinghof at SCTY has meaningfully shifted perceptions. While fundamental policy agreements remain quite clear given inability to tackle at least basic principles in earlier settlement, we anticipate substantially less political risk than past years through the election cycle.

RPS Increasing Across the U.S.

We see continuous interest by state legislators to increase the share of renewables in the electricity mix via RPS. We note that the outcomes of the upcoming election will play important role in the future success of such legislation as well as the desired level of renewable penetration.

Washington to Follow in OR's footsteps? Perhaps.

Among key developments from the state is a potential focus on new legislation in 2017 focused on pursuing wider coal divestment and an increased RPS, consistent with efforts in adjacent Oregon in the latest session. We note the Governor has publicly indicated his desire to see transition in the state away from coal. We note Puget Sound continues to have an ownership in the MT coal plant, Colstrip which garners continued in-state attention.

WA considering further coal divestment and increase in RPS

Michigan Reforms? Something less comprehensive is possible.

We see some potential for a review of the Renewable Portfolio Standard beyond current targets; the ambition has been 20% by 2025 under proposed legislation. The more intractable issues remain on a reduction in the retail shopping cap from 10%. While less confident in a potential comprehensive legislative deal, we see a more modest shift in the RPS as a real possibility.

What shape could nuclear support take in Pennsylvania? RPS reform.

While we would not expect an explicit ZEC effort in PA, we could well envision a shift in the RPS standard to include uprates of nuclear plants among other forms of compensation to encourage nuclear generation. Seeing uprates as likely off the

table, this could yet prove a more contentious focus for the most vulnerable plants in the state including both Three Mile Island (TMI) and TLN's Susquehanna.

NJ Setting Focus on Carbon: Potential to re-enter RGGI

We emphasize discussions between PSEG and other stakeholders in the state appear to be setting the stage for a return to the RGGI carbon market or a more state specific effort in the ~2018 period.

Wind Energy Taking Off

We note increased interest in wind energy in Northeast as well as Southwest. While MA could pass legislation by the end of this week which could include up to 1.2GW of offshore wind, NJ has already leased 1.1GW of land off its shores. In the Southwest, we see high likelihood for HVDC transmission line to transport excess wind capacity from Texas to Mississippi and Alabama.

Offshore wind: Coming in the next few years?

NJ appears increasingly focused on the offshore opportunities present, with 1.1GW of land leased off its shores; some of these leases are owned by DONG. We emphasize growing attention to offshore possibilities in the US, with Massachusetts poised to be the first state to potentially sign meaningful offshore requirements as part of its legislation. We note the limited renewable resources available to NJ put it in a particularly acute position to look towards offshore resources as a potential avenue to meet its longer-term renewable ambitions. We note the state is contemplating the creation of O-RECs (Offshore Renewable Energy Credits). The focus on the next 5-year outlook.

Expanding Renewables via Long-Distance Transmission

Among the key debates across the Southeast in an effort to expand renewable penetration is whether to pursue renewable imports into the region rather than building in region as an effective procurement answer. In particular the MS PSC is awaiting a proposal from PEGI regarding a HVDC transmission line intended to run bring excess wind capacity from (East) Texas, through Louisiana, to Mississippi (near the AL border). PEGI has already filed proposal in TX, but has yet to provide the MS PSC with concrete information regarding the project. The MS PSC expects to receive the filing in October of this year, but cautions that approval process might likely take longer, as budget constraints and Kemper limit staff time for new projects. We note that MS PSC does not require the transmission line to be fully contracted. The transmission line will extend 200 miles into Mississippi, ending around the Columbus area. As such, the terminus will be in the SO footprint. We emphasize the growing focus on imported wind in the Southeast reflects a growing conflict over which renewable resource will penetrate the region. We would not be surprised if potentially a combination of resources was ultimately pursued. Even just one-large scale HVDC project could meaningfully shift the regional economics.

Should the southeast use long-distance transmission access to wind to complement solar?

International Solar: Still Picking up, but Tough

Regulatory Risks Remain to the demand Side

Recent news out of Spain denying subsidies to solar developers in an ongoing court case reminds us that the boom-bust cycle of solar is often predicated by a major shift in policy. While the ITC extension may allow the US to reach double digit installs over the next several years (though 2017 depends on pushouts), recent shifts elsewhere suggest more modest growth for solar – particularly in light of uncertainty in China for 2H following the FiT cut on June 30th. ~18GW utility scale install cap in the country could provide a challenging 2H, although there may be [room for more optimism as well](#). In a lower demand environment, this could drive module pricing well below 50 cents/watt worldwide. We remain cautious on all companies with module sales exposure (FSLR's strategic shift to modules comes to mind) as we enter a challenging second half of the year, although we think there could be marginal upside on system costs for companies like SCTY. The bigger focus there remains sales and marketing costs.

Echoes of the Previous Policy Boom

Following the once demand-dominating status of Germany, Spain, and Italy, most news these days from European countries involves renewable subsidy cuts of some kind. Spain's court cases continue, Italy's companies are building primarily outside of the country, and Germany considering cutting the FiT program which was once responsible for driving German installations well into the 7-8GW range in the 2010-2012 timeframe. However, skyrocketing electricity prices in the country (due in part to renewable subsidies) remain a point of contention, and we think future policy shifts in the region are unlikely to provide the same constructive regulatory environment.

Global Outlook

~18.1GW Utility Cap in China, but not for Rooftop

Following the recent guidance from NRDC to [address curtailment issues](#), [news reports](#) indicate the Chinese government has fixed its 2016 cap on large-scale solar installation support at 12.6 GW, with an additional 5.5 GW available on a competitive-basis for higher-efficiency "top-runner" projects. While there exist some exemptions for provinces facing severe grid curtailment problems, namely Gansu, Yunnan and Xinjiang, we think this cap could limit year-on-year growth for added additional PV capacity to 20%. In light of previous year's growth rate of ~55%, we believe this cap on solar support for large-scale projects has the potential to curb existing projections, although China clearly remains the significant worldwide volume leader.

Key question now remains what happens to the ~5.5GW of extra cap, with reports suggesting a competitive bidding process to projects offering larger and higher-efficiency options. This could be a strategy to increase consolidation in the sector, although previous efforts to consolidate have encountered some difficulty at the local level. Currently, only Trina Solar, Jinko, JA Solar, Longi Silicon, Risen Energy, GCL Systems, and Canadian Solar are qualified for top runner project supply.

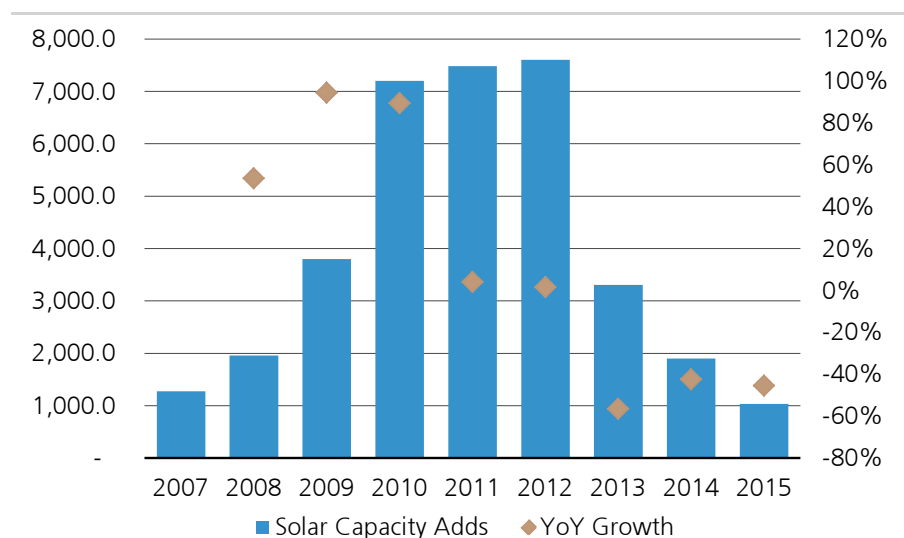
China looks to consolidate again, with 5.5GW set aside for top companies

Germany's Recent Legislation Shifts from Automatic FiT's to Tenders

In June, German Chancellor Angela Merkel met with state premiers to discuss strategies to curb the expansion of renewables in light of significant power price growth for German consumers. Together, they decided on legislation which will limit the onshore wind expansion to 2.8 GW/year, with further constraints on developments in Northern Germany given grid stability concerns. [The bill recently passed congress](#) and is expected to go into effect starting early 2017. Moreover, the German government also announced its intent to move subsidies away from FiT (or any other fixed payment scheme) towards a competitive auction process, where support is only offered to those projects that win a tender. Recent success in Mexico, South Africa, and other countries likely provided the inspiration, and we expect the Country to move more towards a competitive bidding process in the future, particularly in light of declining installations even under the current FiT system.

Germany's electricity costs is driving a shift to more competitive renewable bids

Figure 26: German Historic Capacity Adds (MW)

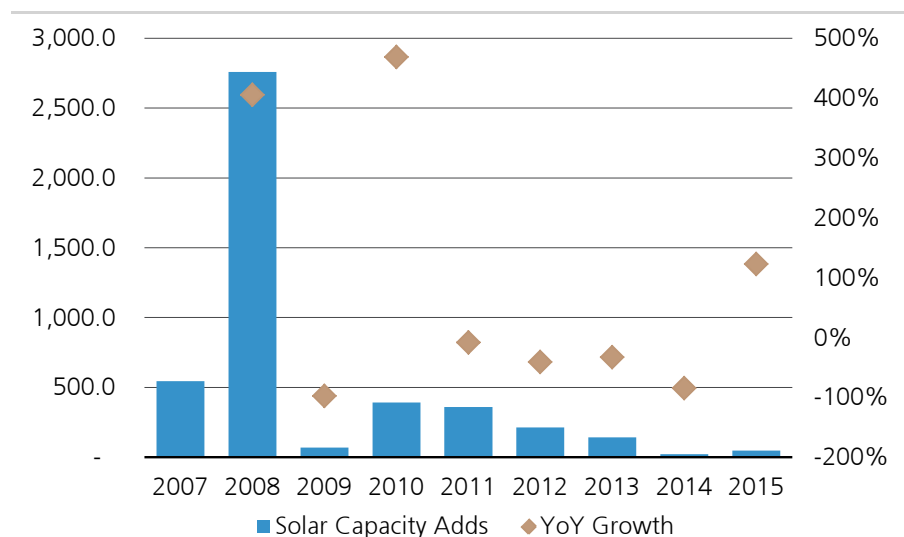


Source: Bloomberg, UBSe

Spain Upholds Significant Solar Cuts

In Spain, a former front-runner of European solar installations, Feed-in-Tariffs were significantly cut back starting in 2012, resulting in negative year-on-year growth for capacity adds. More recently, Spain's Supreme Court upheld a ruling by the Spanish Constitutional Court finding the \$1.7Bn cut in subsidies lawful. The decision represents a disappointment to Spanish power producers hoping to still receive some form of subsidies; and related appeals still remain to be heard.

Figure 27: Historic Spanish Capacity Additions (MW)



Source: Bloomberg, UBSe

Saudi Arabia is taking marginal steps to add solar

In June, Saudi Electric Company (SEC) announced tender for two 50MW projects owned and operated by IPP's under long term contract with SEC. Following recent

bids in the ~3 cent range in the region, we expect healthy competition in this tender but note the relatively small size for a country with ample solar resources.

Dubai Accepts Lowest Solar Bid Yet

The Dubai Electricity and Water Authority announced that a Masdar-led consortium tender to build the 800MW contribution to Mohammed bin Rashid Al Maktoum Solar Park had won the bid. The consortium bid an all-time low of \$0.0299/kWh, undercutting the previously lowest bid given in Mexico by Enel Green earlier this year by 15%. Besides Masdar, the consortium consists of Fotowatio Renewable Ventures and Gransolar Group. Overall, the auction received 5 bids from international energy companies, including Jinko Solar, Engie and First Solar, as well as 95 expressions of interest (EOI). This 800MW tender represented the third phase of development for the Mohammed bin Rashid Al Maktoum Solar Park.

Solar Costs Keep Falling

What does this tender in Dubai imply for the solar market? Prices are falling quickly in emerging markets, with five projects under the 4c mark this year so far. While 80% of these projects were unsubsidized, most contract-winning companies do benefit from either being state-owned or are receiving significant national support. Overall these developments imply increasing appetite for and growth opportunities in emerging markets. While the low prices seen in the Dubai auction might are not necessarily representative for U.S. solar projects, the quickly declining trend does have implications for the U.S. market where we expect to see an increasing competitiveness of solar vis-à-vis conventional generation.

**Could the US see 3-cent PPA's?
We think it could be possible in
the next few years**

Return of Foreign Buyers

But it's not just US interest rates that drive a bid

We continue to perceive a global bias towards yield orienting, low risk assets arising from foreign markets as well. We see this trend as playing a growing influence in both the YieldCo and Utility sector. We see Canadian buying trends of utilities amidst further influx of European capital via direct investments across the Americas – and direct M&A too as indicative of this trend. Global low interest rates should continue to accrue to lower risk assets such as YieldCos just as they have the utility sector.

Figure 28: Treasury Yield – Sovereign Bonds

Treasury Yield	US 10 YR	UK 20 YR	Japan 10 YR	China 10 YR
Current Yield	1.56%	1.58%	-0.24%	2.82%
6-months ago	2.03%	2.28%	0.22%	2.88%
1-Yr ago	2.33%	2.66%	0.42%	3.55%
2-yr ago	2.47%	3.17%	0.54%	4.36%

Source: Factset

Other Thoughts: The Largest Panel Manufacturer in the World (by production) is Being taken Private

While the proposal to take Trina private had been publically known since December 14th, 2015, subsequent news on the event had been relatively sparse

until August 1, 2016 when Trina announced the going private transaction, which valued the company at \$1.1B. Fortune Solar holdings is being taken private by an investor consortium at a 40% premium to where shares were trading before the deal was made official. As of the most recent conference call, Trina's 5.6MW of module capacity implies 20 cents per watt (capacity) of equity value. When factoring in 4.3GW of cell capacity, 1.8GW of wafers, and 2.3GW of ingots, we note replacement value of the company would likely be considerably higher. Module capacity alone is ~10 cents per watt. What does this imply more generally? Panel commoditization continues to make production a challenging business, and capital markets remain skeptical of the value creation. We emphasize our view that integrated players must remain well positioned in the project development space to maintain margins and skeptical of any switch towards panel production only.

Batteries: Charging Up

Battery Storage: Where we Stand?

U.S. storage growth lags European trends where battery storage has grown as much 460% between January 2016 and January 2015. Moreover, recent evidence suggests Solar+Storage is gaining prominence, particularly in European markets. In contrast, 90%+ US storage deployments are in California or PJM (excl. NJ), largely focused on grid stability via frequency regulation (w/o solar). We expect peak shaving to play an increasingly important role both at the commercial and utility scale in the US; shifting rate design towards fixed represents the clearest opportunity for C&I. We view resi economics as still too far even for modest peak shaving, as reducing even a relatively high contemplated resi demand charge equivalent of ~\$3-5/kW-mo is still uneconomic ([see Arizona example vs high fixed upfront costs and complexity for resi installs](#)).

Germany Leading the Way Again? Difference are High Prices vs. the US

In light of significantly elevated electricity prices (approaching 40 cents/kwh vs ~12 cents in the US) for residential customers, we note batteries are likely to play an increasingly important role in German solar deployments as alternative (feed in Tariff) provides lower economic proposition vs what effectively amounts to load shaving at the retail level. In fact, [A study conducted by German government funded research institute, Speichermonitoring](#), demonstrates over a third of new distributed solar installations may already include battery storage, with an average battery size of 6kWh. We see parallels to potential future rate implications for domestic utilities, particularly given push towards wholesale remuneration as a replacement for NEM.

How does TSLA-SCTY merger play into prospects? We think not for now

That said, our latest look suggests this is still too far out for TSLA to be considering a scaling of its battery solution with SCTY; we think this remains a limited niche product focused on backup generation for outages (and not for going 'offgrid' or for clipping residential consumption under any eventual Time of Use rates implemented in states like California). We reiterate they are too early to scale to any meaningful (or more importantly, profitable) sales.

How do we think about US Resi Installs? Not Quite there

In an effort to expound on the limited US residential opportunity, we leverage Arizona once more as the example of a state poised to shift towards more demand drive charges. Existing solar charges are at ~\$0.50/kW and could well at least triple under proposed shifts (if not 10x under full APS proposal). The key underlying question is how big would a battery be and how 'needle peak' are batteries in reducing peak consumption; we emphasize predictive software would need to accurately reduce consumption. Even assuming 1kW is reduced for a cumulative 3-hours, we estimate minimum costs are likely north of \$1,000/kWh today, suggesting the economic return on a 1kW reduction * \$5kW-mo (full increase scenario vs. \$0.50/kW-mo today) * 12 months = \$60/yr is unpalatable vs. ~\$1,000+/kWh minimum investment (we assume 3 hours * \$250/kWh + integration costs). We caution this is not necessarily apples to apples with quoted PowerWall costs (~\$7000/unit for the admittedly larger 2kW continuous output or ~\$3,500/KWh on 10kWh unit); Net-net, overall, the complexity of anticipating moment of and duration of resi load reductions, adequate meter reading, and costs appear to overshadow the opportunity in the US given the clear bias towards variable rates for resi consumers in the US as well as low overall costs of US energy vs. global markets (both on wholesale terms and delivered inclusive of T&D wires charges).

Could the ITC Extend to Batteries? Yes, In Certain Cases

Following last year's ITC/ PTC extension, some federal and state regulators have now turned their eyes toward storage. Currently, ~92% of energy storage deployments are either in California or PJM, but the aggregate is significantly smaller than the solar-only market. In order to address this discrepancy, President Obama held a meeting at the [White House announcing a target of 1.3 GW in added additional storage capacity over the next five years](#) as well as a target of \$1 billion investment in the sector. Further, on May 26, a [bill sponsored by \(D\) Mike Honda was introduced to Congress proposing a 30 percent investment tax credit \(ITC\) for battery storage](#), which could provide significant new incentives for storage. While we would not expect near term movement, we see increasing evidence that the US could provide increasing support for storage over the medium term. *Currently, Solar+Storage can qualify for ITC on the full system cost under very specific circumstances which make realization difficult for storage – related capex.*

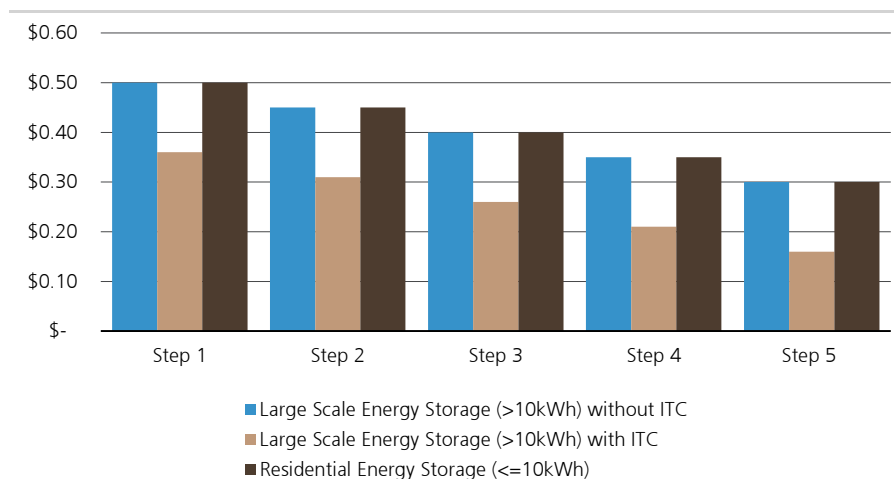
Could we get a surprise ITC for batteries? Support is growing, though difficult in an election year

We emphasize batteries already can qualify depending on system design with solar

California - CPUC Shifting SGIP towards Storage

This government support extends from the federal level to the state. In California, the Public Utility Commission (CPUC) announced its decision to adjust the Self Generation Incentive Program (SGIP) to allocate 75% of the program's budget to energy storage. SGIP was started in 2001 as a response to the Assembly Bill (AB) 970 to provide government incentives for energy storage and behind-the-meter generation. According to the [CPUC's proposed decision](#) from Commissioner Picker, SGIP will transform into a declining block grant incentive system, in which incentives will decline in 5 steps as illustrated in the table below. 15% of incentives will be available to residential sector storage, 40% to renewable generation projects, and 25% to other generation.

Figure 29: Energy Storage Incentives under SGIP (\$/KWh)



Source: CPUC, UBS

Germany: First Mover in Solar: Batteries Next?

In light of high electricity prices in the country and relatively low subsidies for standalone solar systems (if installed today), we dug into [data published by the Speichermonitoring Institute](#), a German government funded research institute. We note solar+storage appears to have largely taken hold in Germany; In 2015, approximately 40% of new distributed solar panel installations included battery storage, with an average useful battery capacity of 6kWh. While this data does not include all new added solar capacity - only panels registered for this study - the sample size is large enough for the result to have significant implications for the correlation between residential solar panel and battery installations. Specifically, we think this illustrates the relationship between a more extreme electricity price and the compensation rate available to solar systems.

High Electricity Prices Incentivizes Battery Deployments

Notably high electricity prices might represent one of the main drivers behind this correlation between panel and battery installations. While electricity prices for industry are only \$179.25/MWh, households pay an average of \$395.05/MWh. The difference results from a renewables tax (which industry is excluded from in order to ensure its global competitiveness). At the same time, Feed-in-Tariffs (FiTs) have come down from highs of over €0.56/kWh to €0.9/kWh for new solar installation. Given the relatively high electricity prices and the low FiT, it is actually more attractive for customers to store their excess electricity from their solar panels and use it in times of peak demand than feed it into the grid for the government FiT. We view this as the logical conclusion of net metering debates over the next few years: if net metering compensation is reduced (or in this case, FiT), batteries will provide improved economics under the right circumstances.

Battery Storage Market Share

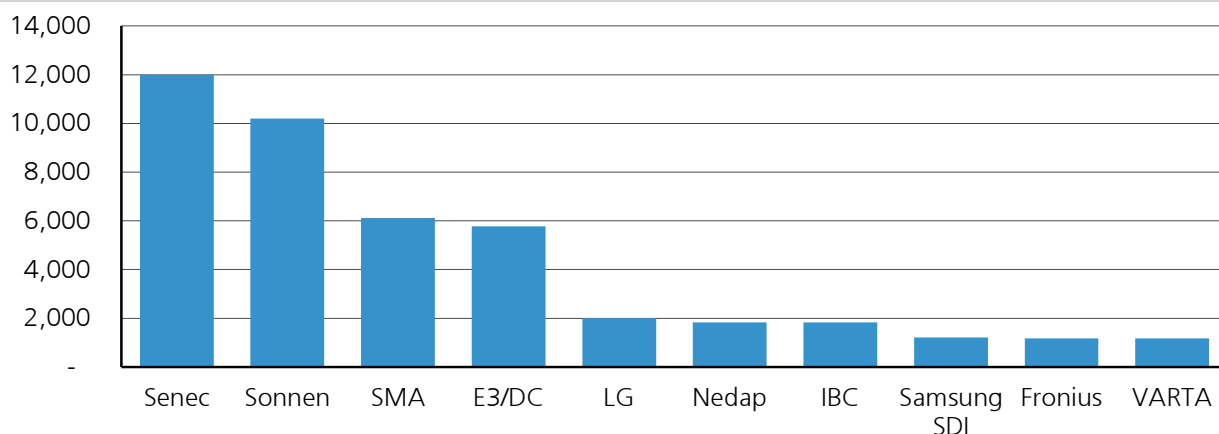
Speichermonitoring's 2016 annual report also provides insight on the relative market share of PV battery producers and retailers in Germany. While this data may not provide 100% system deployments, we think there is a reasonable correlation to the wider market within the country. The graph below shows the cumulative battery capacity deployments of the top 10 PV-battery companies in Germany (on a kWh basis). Interestingly, the markets is grouped into different

Widescale battery deployment in small solar systems in Germany suggest a potential path if US net metering debate continues to shift towards wholesale rates

The top 3-4 firms appear to dominate German battery deployments – unlike the relatively fragmented small solar market

segments, with Senec and Sonnen having the largest share of battery installations, followed by SMA and E3/DC with approximately similar cumulative battery capacity installed, and then a big group of smaller players, all with below 2000 kWh cumulative capacity.

Figure 30: Cumulative Battery Capacity of Top 10 PV-Battery Companies (in kWh)



Source: Speichermonitoring Jahresbericht 2016

Still Some Design Issues in the US

Even with the promise of stronger government support for battery storage and increasing incentive available for potential customers, subsidies alone will not make battery storage competitive across the United States. Until capacity markets are restructured to allow for short-duration capacity calls, storage will continue to have difficulties to meaningfully compete with other power generators. We expect the most meaningful near-term deployments to come from opportunities enabled from market redesigns to price frequency regulation more specifically.

Mexico: First Auction Bodes Well

With recent power reforms in place and the Mexican Energy market opening up, the country held its first Power Auction in March. The full release is [here](#) but we show key details below.

Figure 31: Solar Winners for ~1.9GW in First Mexican Power Auction

Company	Capacity Awarded (MW)	Contract Period (YR)	Clean Energy Certificates CEL (\$M)	Contract Price Range (\$/MWh)
Enel Green Power	992	15	2.25	Low: 35.44
Villanueva	427			
Villanueva 3	327			
Don Jose	238			
SunPower	509		0.99	High: 67.5
Yucatan	400			
Guanajuato	109			
Jinko Solar	241	15	0.50	
Recurrent Energy	62	15	0.14	
Sol de Insurgentes	27	15	0.61	
Photomeris Sustentable	29	15	0.53	
Total	1860			

Source: Cenace, Bloomberg

At ~\$35/MWh, Enel Green Power's low bid ranks as one of the lowest PPA's for solar in the world and demonstrates the potential for new markets to open up rapidly as solar costs continue to come down.

Figure 32: Pricing details of Peru and Mexico's Clean Energy Auction

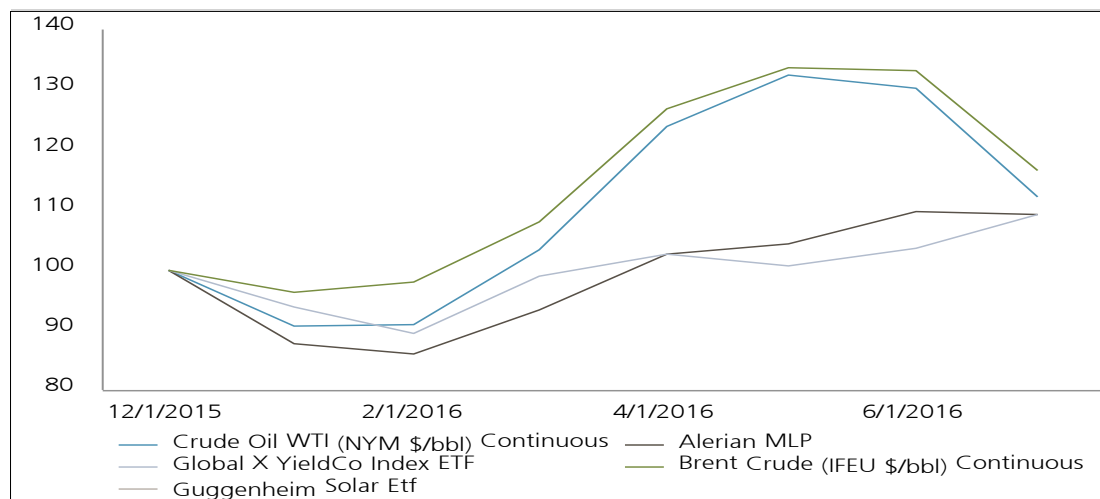
		Contract Price (\$/MWh)
Peru's renewable Energy Auction		
Solar	Enel Green Power	47.98
Wind	Enersur S.A.	36.84
		Average Contract Price (\$/MWh)
Mexican Solar Contract		
Solar	Various Parties	50.7

Source: Company Filings and Bloomberg

YieldCos: Still Gaining Steam, Waiting to Test Markets

Yieldco's have continued to fare well of late into 2Q results and we note several appear close to testing the markets, which would prove an important datapoint for the sector.

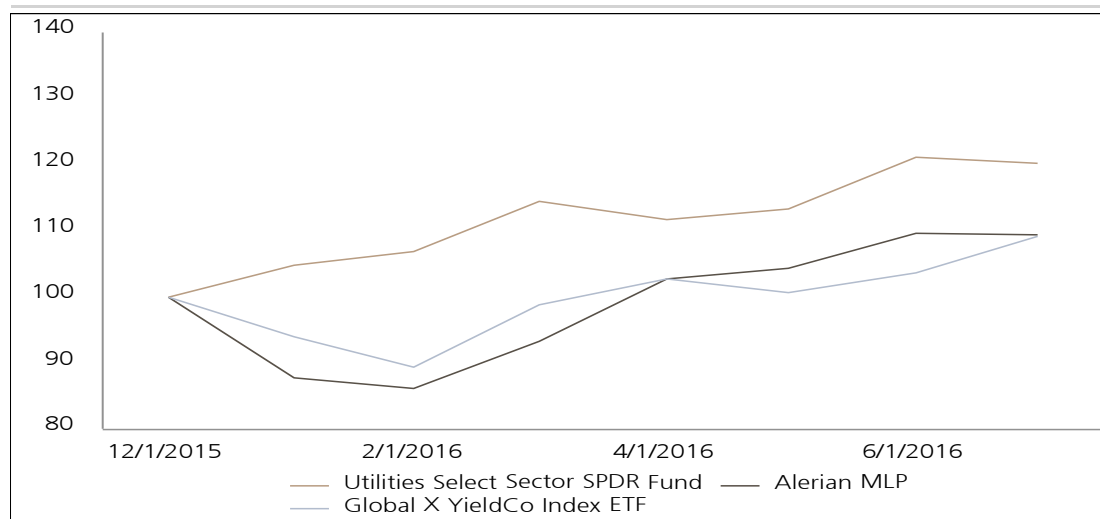
Figure 33: Oil Relative to MLPs and YieldCos (Indexed monthly average prices)



Source: FactSet

Utility comparisons continued to outperform yieldcos and MLPs largely due to the differentiated capital markets risk.

Figure 34: YieldCos vs. XLU vs. MLPs (Indexed monthly average price)



Source: FactSet

With credit spreads and commodities back, are capital markets open?

The emerging question for this niche into 1Q will be whether capital markets – and the accretive growth of the YieldCo sector is back in action? We look for the MLPs to continue to lead the way in this respect, but see recent trends as comforting. In 2H, we see NYLD as keen to illustrate its strength potentially via a private placement to avoid the public overhangs, whereas CAFD is the principle future

issuers (albeit the delay of the Stateline drop from FSLR affords the entity greater latitude).

The private bid remains the source of upside for YieldCos and IPPs

With low interest rates back, we see a real potential for a trend back towards private markets for at least no-growth structures, with entities quoting levered discount rates in the 6-8% range still, modestly tighter than the discount rates on many of the structures contemplated. We note this trend was particularly notable in the IPP sector in recent months through the energy distress.

Retail investors not coming; nor were they present

While many investors – both retail and institutional – have been negatively impacted by the downturn in the cycle, we do not believe they will be overly focused on the under-performance of SUNE. Rather, we suspect many sophisticated institutional investors will appreciate the more discrete nature of this companies' downturn, and appreciate the backdrop of an improving capital market, credit, and commodity environment. Altogether, the lack of retail, could accrue to the sector.

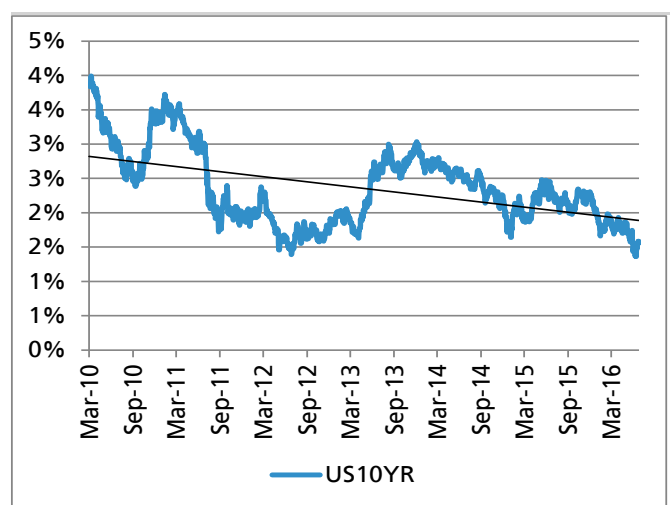
Will the sector be able to move *back* towards growth?

While it would appear few MLP investors have truly transitioned towards DCF valuation approaches, we perceive a clear re-rating bias in the sector towards ascribing a clear base value to the YieldCo sector. While this serves to provide comfort around a 'floor' valuation, this also limits investor willingness to once more ascribe a more speculative 'yield'-methodology to shares.

Low interest rates also add to appeal of the sector

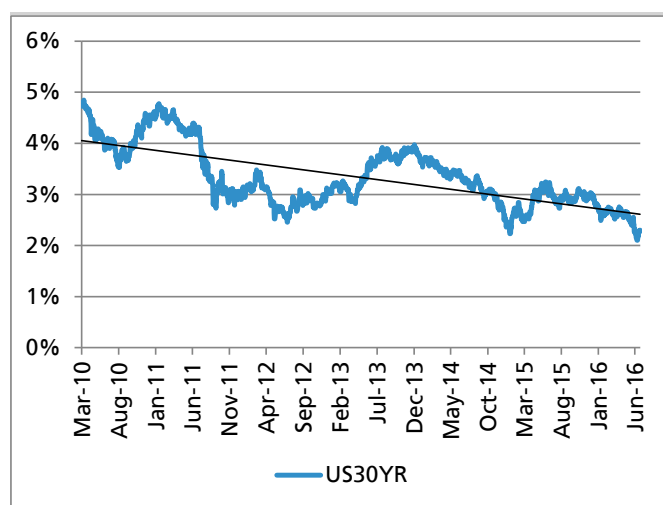
We have returned once more to near the multi-year lows on interest rates. While expectations for rate hikes remain clearer than the last low point in the rate cycle, we emphasize the trend towards cheap funding sources should directly accrue to the sector just as it has already for the utilities.

Figure 35: 10-Year Treasury Rate (Long-Term)



Source: Factset

Figure 36: 30-Year Treasury Rate (Long-Term)



Source: Factset

Will there be as much utility competition? No, without tax appetite.

We expect *less* interest in the PPA contracted model from peer utilities amidst less direct appetite following the extension of bonus depreciation. While they will focus on scaling their development efforts, we see less of a demand for assets from this side of the world. Rather, this would appear to be a favourable trend for the YieldCo sector, which does not necessarily have meaningful tax appetite itself, but employs tax equity typically to cover any liabilities.

Has the MLP meltdown proven out the asset quality of YieldCos? Yes.

We see the consternation over MLP commodity exposure as illustrative of the wider asset quality available in the YieldCo sector given the limited commodity exposure for the 20-year life of many PPAs (admittedly some are 10-year swaps). While YieldCo assets are typically struck at subsidized levels which will eventually decline, the opaque nature of bilateral contracting in the MLP sector, particularly over short interims (~3-years for storage for instance) suggest YieldCo assets are of relatively higher asset quality.

So How do we frame the YieldCo Opportunity?

We prefer NYLD the most, seeing the most constructive opportunity for shares to 're-rate' back towards a Yield methodology should NRG prove able to 'illustrate' the growth concept once further. We see the following as positive catalysts in the near term:

- Nomination of a new independent CEO/executive team
- Update on Greenco/Solar strategy from NRG, potentially adding a new partner to NYLD to source projects
- Continued reaffirmation from NRG that NYLD remains core (and not a sell-down risk)
- Opportunity to re-engage drop-down growth engine via a private sell-down rather than a public equity issuance at current valuations

What other structures are attractive?

We see **NEP** as our second favourite structure, seeing its updated backlog with 1Q results as skewing favorably. The key question is both if investors will once more trade the equity as a function of dividend yield, as well as to what extent can this yield prove *inside* of the major MLP peers.

Company Pages:

FirstSolar

We expect a weak Q2 post will do little to offset the negative sentiment in the stock of late as investors focus increasingly on the lack of 2017 guidance and implications for cash deployment from the focus on module sales. We remain neutral at these levels but note that any commentary around a shift to expand project development plans could be viewed positively, though we doubt the new management team will choose to make any announcements until the next guidance call at least.

For additional context please refer to links to relevant research reports below:

[2017: Into The Great Unknown](#)

[Limited Guidance Leaves Investors Digging](#)

[What to Expect at the Analyst Day?](#)

[Consistency is Key](#)

What to Watch at FSLR

- **2Q results could be quite weak:** Management was quite clear in articulating that results would be just under 50% of EPS in 1H, suggesting 2Q results would be \$4.10-4.50 FY range *50% minus the \$1.66 of results posed, driving towards ~\$0.40-0.50. This is more of a timing issue as ramp of several large projects into 2H will backend weight. Specifically, Silver State South, McCoy, and Stateline are starting to ramp down while other projects like CA Flats, Switch Station, and Moapa sale should ramp earnings into the back half.
- **TetraSun Shutting Down:** FSLR announced on July 5th it plans to shut down tetrasun allocated capacity in Malaysia to support further Series 5 thin film production, incurring charges of \$90-\$110M while reducing opex ~\$8-10M annually in the future. The company characterized the shutdown as a hedge against silicon that's no longer needed, but we note it also shuts FSLR out of the residential market again. Although the residential sector has had its own issues of late, longer term strategy shift could prove challenging for investors if the space comes back into favor.
- **Will FSLR tack back to projects development? Not yet.** FSLR's announced shift towards module developments was initially a play on the ITC extension in our view – more specifically, assuming it *would not be extended*. FSLR's market-leading position as a utility scale project developer in the US will not be lost in the course of several months, and we expect the new CEO will refocus the company towards project development at the next analyst day (likely March/April next year) or even as soon as later this year – likely during the 2017 guidance call if at all.

Figure 37: FSLR Estimates

	2Q16	FY16	FY17	FY18
EPS UBSe	\$0.34	\$4.15	\$2.56	\$2.79
<i>EPS Guidance</i>	<i>\$4.00-4.50</i>			
<i>EPS Consensus</i>	<i>\$0.54</i>	<i>\$4.31</i>	<i>\$2.90</i>	<i>\$3.55</i>
Previous UBSe	\$0.39	\$4.15	\$3.15	\$3.36

Source: Company Filings, FactSet and UBSe

What do we think of FSLR Now?

While FSLR remains one of the highest quality names in the space, relatively limited visibility around 2017 earnings remains the key unknown and we stay on the sidelines awaiting further details on bookings conversion later in the year. 23.3GW pipeline suggests solid longer term runway but 20/80 systems/module split guidance for future bookings suggests risk to module pricing pressure remains elevated as legacy project earnings roll off this year. We expect the company to continue booking module sales at a steady clip but relatively lower lead time for module sales could lead to a situation in late 2016 where investor visibility into future cash flows continues to degrade, particularly given lack of concrete guidance and uncertainty around capital deployments in the face of potential ~\$1.2B of future capex (management is currently baking in ~\$130M of capex related to series 5 launch this year).

We remain on the sidelines

Figure 38: Maximum Capacity Adds Require ~\$1.2B Capex

Capex Per Watt		Max MW Capacity	
New Line	Capex Per Watt	MW	\$ Capex
Series 5 Greenfield	\$0.66	0	\$0
Idled Line Upgrade to Series 5	\$0.45	500	\$225
Idled Line Upgrade to Series 4	\$0.35	500	\$175
Series 6 Greenfield	\$0.40	2000	\$800
		Total Capex	\$1,200

Source: FSLR Analyst day, UBSe

Why appoint an Interim CFO? CEO exit a cautious read on cycle

Mark Widmar has been appointed CEO effective following Jim Hughes' ending date on June 30, 2016; Jim will also join the board of directors. As Mark leaves the CFO role, Alex Bradley will step in as Interim CFO. Alex has been with the company eight years, but we see the 'interim' addendum as an interesting development, particularly given his relatively limited time (since last year) in a treasury role. We question the company's reasoning behind assigning an interim CFO in this instance. We emphasize Hughes joined FSLR during the depths of the last down cycle in 2012. We see his departure as adding modestly to our concerns around a topping in the module cycle with continued supply additions. This also further explains the decision not to issue forward looking guidance at its latest Analyst Day.

We read the transition cautiously, mostly around the interim appointment

Punting on Moapa and Stateline Drops

While management confirmed that current 2016 guidance includes full recognition (~145M below the line) of Stateline and Moapa, exact timing continues to be subject to market conditions and FSLR management suggested they could opt for the Switch route again; replacing cash flows on the ROFO list with longer-dated projects, effectively allowing them to space out 8point3 capital needs even farther.

Moapa was recently listed for sale, consistent with previous mgmnt comments regarding sale in the second half

Figure 39: ~\$320M of Cash from 35% of Stateline

Stateline Impact Calculation		
Current 2016 EPS Guidance	\$4.10-4.50	
Stateline and 8Point3 Earnings	\$145	
\$/Share	\$1.42	
UBS Est of CAFD Earnings (\$M)	\$11.3	
FSLR Ownership	31%	
CAFD Earnings to FSLR (\$M)	\$3.5	
Implied Stateline Earnings (\$M)	\$141	
		Cash
Stateline Implied EPS from Guidance	\$1.38	\$320

Source: UBS estimate

Thoughts on Capex and New Series Rollout

Despite ongoing commentary in the market around Chinese oversupply potential later this year and next, capex decisions may be based to a larger degree on new product rollout (series 5 and series 6) cadence. In the near term, product qualification issues for customers appear to be dragging a bit on timelines for project wins but series 5 and series 4 capacity is largely fungible and we view this as more of a short term timing issue.

Working on backfilling 2017 with up to 1GW of systems

Management appears keen to take time to prove out 2017 EPS guidance, delaying release to December (as it did already with 2016). We note mgmt was quite optimistic with a focus on developing projects at the analyst day. **We estimate this could be worth north of \$1 in incremental EPS to 2017, based on 30% margins * \$1.2/W avg selling price (incremental ~\$0.70/W system step-up vs. module only at \$0.50/W).** That said, we already assume 70% of all sales next year are systems (either self-developed, EPC, etc.) in our assumptions.

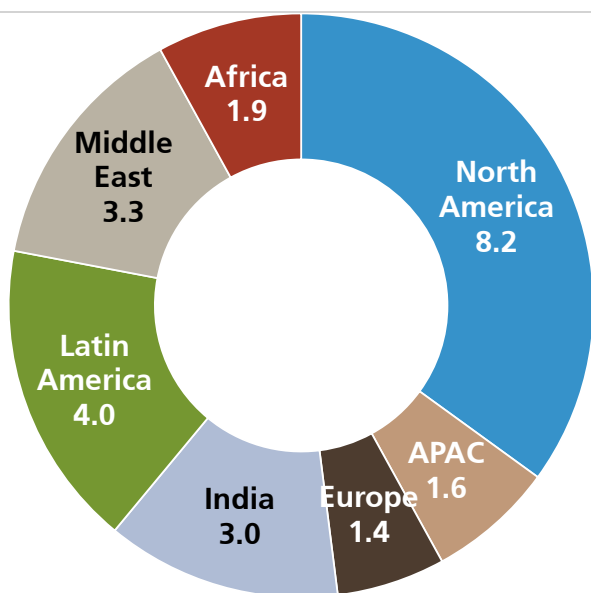
We also emphasize to the extent to which 2017 is weak, there could yet be a delay of EPS from 2016 into the subsequent year to effectively smooth results through this trough year.

FSLR could still opt to push projects from 2016 into 2017

Where else are projects being developed?

Management emphasized global scope of bookings and specifically called out ~\$10M debt increase due to additional financing for international projects. Pipeline continues to suggest increased bookings potential outside the US but mgmt emphasized a 'holistic' approach.

Figure 40: Potential Bookings – 23.3GW Total



Source: Company Filings, UBSe

Holding off on the contracting cycle: wait 6-9 months

Contractors are holding off still to sign further PPAs, still trying to re-assess the renewable landscape after the latest ITC and PTC extensions.

On a related note, we flag that its long-time partner SO has tactically shifted towards utility-scale opportunities in wind for future acquisitions *rather* than solar as it seeks to expand out its pipeline further.

Southern Company – one of FSLR's key partners - has shifted focus to wind

Valuation: Reducing from \$59 to \$52

We are shifting down our FSLR valuation from \$59 to \$52 to account for our reduced confidence in free cash flow generation and tweaked estimates for 2017/2018 margins as well as CAFD valuation.

Removing FCF generation in valuation-(\$5): We are removing credit for "projected Net FCF generated in 2016" in light of recent commentary around cash uses. Management appears focused on utilizing cash for capacity build, which we view as a low-return investment in a largely commoditized space. Past focus on project development generated substantial cash flows (which we still value as cash on balance sheet) but we see increased risk around incremental cash flows from projects accruing to the net cash balance.

Reducing Gross Margin Estimates on Module production in 2017/2018 -(\$2):

We are shifting our gross margin assumptions in 2017+. We had previously assumed 20% gross margin for future module sales, but continued evidence of global module supply/demand imbalance in future years supports an estimate tweak. We now estimate a ~16% gross margin in 2017 (in line with typical range for pure module producers) with ~100bps improvement each year through 2020 as FSLR rolls out its' efficiency roadmap.

Figure 41: Key FSLR Assumptions

Assumptions	2015 E	1Q16 E	2Q16 E	3Q16 E	4Q16 E	2016 E	2017 E	2018 E	2019 E	2020 E
Module % of total sales	10%	10%	10%	10%	10%	10%	30%	40%	50%	60%
BOS % of total sales	90%	90%	90%	90%	90%	90%	70%	60%	50%	40%
EPC Only										
EPC MWs	1,283	429	197	376	502	1,504	1,423	1,490	1,228	1,151
EPC Portion Revenue %	60%	55%	40%	55%	55%	55%	60%	60%	50%	50%
EPC Total ASP \$/W	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.89	\$0.88	\$0.87
EPC Margins %	16%	14%	14%	14%	14%	14%	12%	10%	10%	10%
EPC only - Sales (\$Mn)	\$1,154	\$386	\$177	\$338	\$452	\$1,353	\$1,281	\$1,326	\$1,080	\$1,001
EPC Margin (\$/W)	\$0.14	\$0.12	\$0.12	\$0.12	\$0.12	\$0.12	\$0.11	\$0.09	\$0.09	\$0.09
EPC Margin (\$ Mn)	\$185	\$52	\$24	\$46	\$61	\$183	\$154	\$133	\$108	\$100
Self-Developed										
Self Developed MWs	641	273	172	239	273	957	712	745	982	921
Portion Revenue %	30%	35%	35%	35%	35%	35%	30%	30%	40%	40%
Self Developed ASP \$/W	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.90	\$0.89	\$0.88	\$0.87
Self Developed Margins %	38%	25%	25%	25%	25%	25%	30%	30%	35%	35%
Self Developed - Sales (\$Mn)	\$577	\$245	\$155	\$215	\$245	\$861	\$640	\$663	\$864	\$801
Self Developed Margins (\$/W)	\$0.34	\$0.23	\$0.23	\$0.23	\$0.23	\$0.23	\$0.27	\$0.27	\$0.31	\$0.30
Self Developed Margins (\$ Mn)	\$219	\$61	\$39	\$54	\$61	\$215	\$192	\$199	\$302	\$280
Modules-Plus Only										
Modules - Plus MWs	214	78	123	68	4	273	237	248	246	230
Modules - Plus Portion Revenue	10%	10%	25%	10%	10%	10%	10%	10%	10%	10%
Modules - Plus only ASP \$/W	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20
Modules - Plus Margins %	25%	23%	23%	23%	23%	23%	23%	23%	23%	23%
Modules - Plus Sales (\$ Mn)	\$43	\$16	\$25	\$14	\$1	\$55	\$47	\$50	\$49	\$46
Modules - Plus Margin (\$/W)	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05	\$0.05
Modules - Plus Margin (\$ Mn)	\$11	\$4	\$6	\$3	\$0	\$13	\$11	\$11	\$11	\$11
Implied Revenue (%)	1%					1%	1%	1%	1%	1%
Projected FCF										
BOS/Systems Components										
Total Sales (\$Mn)	\$1,774	\$647	\$357	\$567	\$699	\$2,269	\$1,969	\$2,039	\$1,994	\$1,848
Total Margins (\$Mn)	\$415	\$117	\$68	\$103	\$123	\$411	\$357	\$343	\$422	\$391
Margin %	23%					18%	18%	17%	21%	21%
Modules ASP and Cost/Watt										
Modules ASP \$/Watt	\$0.60	\$0.58	\$0.58	\$0.58	\$0.58	\$0.58	\$0.44	\$0.43	\$0.43	\$0.42
Module Cost \$/Watt	\$0.45	\$0.47	\$0.49	\$0.47	\$0.49	\$0.45	\$0.37	\$0.36	\$0.35	\$0.34
Guidance	0.45					0.40	0.37	0.36		
Gross Margin % - Module	25%	20%	16%	20%	16%	20%	16%	17%	18%	19%

Source:

Figure 42: FSLR Sum-of-the-Parts

FirstSolar Valuation UBSe			
	Downside	Base Case	Upside
DevCo Value			
Capacity Produced (MW) - 2018	3,890	4,140	4,640
\$/Watt - ASP			
Modules	\$0.41	\$0.43	\$0.45
Module Plus	\$0.18	\$0.20	\$0.22
EPC Only	\$0.87	\$0.89	\$0.91
Self Developed	\$0.87	\$0.89	\$0.91
MW			
Modules	3,691	3,891	4,091
Module Plus	148	248	348
EPC Only	1,290	1,490	1,690
Self Developed	545	745	945
Developer Margin (%)			
Modules	12%	17%	22%
Module Plus	18%	23%	28%
EPC Only	5%	10%	15%
Self Developed	25%	30%	35%
Services			
MW in service	4,326	4,326	6,326
Service Fee	\$0.02	\$0.03	\$0.04
Gross Margin	20%	25%	30%
Gross Margin (\$M)			
Modules	\$183	\$287	\$408
Module Plus	\$5	\$11	\$21
EPC Only	\$56	\$133	\$231
Self Developed	\$119	\$199	\$301
Services	\$17	\$32	\$76
Total Gross Margin	\$363	\$662	\$962
Opex	(\$388)	(\$388)	(\$388)
EBITDA	\$203	\$503	\$802
EV/EBITDA	7.0x	7.0x	7.0x
Implied Value	\$1,421	\$3,518	\$5,613
Implied Value (\$/kW-yr)	\$365	\$850	\$1,210
DevCo per Share Value	\$14	\$34	\$54
CAFD LP Ownership Interest			
CAFD Distributed to LP Unitholders	\$0.94	\$1.12	\$1.27
YieldCo Peer Yield	7%	7%	7%
(Premium) / Discount	3%	2.0%	0%
Assumed Yield	10%	9.0%	7%
CAFD LP Value per share	\$9.40	\$14.88	\$18.57
Sponsor Ownership (Class B)	\$0.00	\$0.00	\$0.00
LP Shared Held by FSLR	22.08	22.08	22.08
LP Value to SPWR & FSLR (\$Mn)	\$670	\$670	\$670
FSLR's initial ownership of CAFD	12.2%	12.2%	12.2%
FSLR's share of LP Value	\$208	\$329	\$410
CAFD LP Value to FSLR - UBSe	\$2	\$3	\$4
CAFD LP Value per share - Current Market Price		\$15	
CAFD Shares Outstanding		\$20	
CAFD - Market Cap		\$305	
Sponsor's Ownership		0%	
LP Value to SPWR & FSLR (\$Mn)		\$0.00	
FSLR's initial ownership of CAFD		12.2%	
FSLR's share of LP Value		\$0	
CAFD LP Value to FSLR - Current Market Cap Basis	\$0	\$0	\$0
Parent Contributions		Value/Sh.	
Debt Outstanding at 2015		\$289	
Cash Outstanding at 2015		\$1,830	
Net (debt) cash position		\$1,541	
Contributions per Share		\$14.76	
Value of to FSLR	\$15	\$15	\$15
FSLR Equity Value per Share - UBSe	\$30	\$52	\$72

Source: Company Reports and UBSe

NextEra Energy Partners

NEP reported with Nextera on 7.27.16 and increased CAFD run rate on the back of the Cedar Bluff and Golden Hills acquisitions. We think focus going forward could be more focused on potential Oncor impacts over the longer term. Further, more specifically the implications for future dropdowns and equity appetite could be a key question going forward. Other Yieldco's may be waiting for NEP to raise equity but the company's reticence thus far could shift if yieldco valuations continue to improve, particularly in light of 1Q renewable update from parent company NextEra.

For additional context please refer to links to relevant research reports below:

[Getting the Best Deal It Can](#)
[Engaging in 'Drop Down' Science](#)
[Growing Renewables With or Without CPP](#)
[Beating Guidance Once Again](#)
[Skiing into Busy 2016](#) (Takeaways from recent mgmt meeting)
[Are Reports of YieldCo Downfall Exaggerated?](#)

What's New at NextEra Energy Partners?

Golden Hills and Cedar Bluff:

NEP's latest deal illustrates the positive of healthy parent sponsorship: We estimate NEP's latest deal inked to acquire Cedar Bluff and Golden Hills Wind Energy Centers from NEE provides a ~10-11% levered IRR (8-9% unlevered), among the healthiest offered since the YieldCo sector inception. We emphasize this deal is consistent with the ~9% levered IRR implied from the [prior Seiling wind drop](#) in Feb, and is substantially better than the 7-8% levered IRRs paid by CAFD to acquire its own projects from SPWR (see link: [CAFD's latest drop down](#)). We see the latest drop as illustrating not just NEE health, but importance of parent sponsorship thru the cycle.

Holding company leverage: Defining what the 'true' equity commitment is : Consistent with past drops, the transaction includes core project level debt in the form of \$253 Mn in tax equity. However, to fund the remaining \$312 Mn equity check, NEP has breaks this out with \$100 Mn in Holdco term loan, \$100 Mn in revolver borrowings and a further \$112 Mn in cash on hand. Given the desire to target 3.5x Holdco Debt/CAFD, the latest deal maintains parent leverage intact (when considering just the \$100 Mn Term Loan as permanent financing). As such mgmt was clear to emphasize that it (still) maintains \$300-400 mn of incremental HoldCo capacity. This implicitly assumes that the use of cash liquidity and revolver capacity is ultimately refreshed with (eg- revolver doesn't 'count'). Bottom line, while borrowing capacity remains, there is a clear use of liquidity for the deal. As of 1Q close, NEP had \$325Mn available on its revolver and \$133 Mn in cash, suggesting the bulk of its cash liquidity was utilized.

Golden Hills Wind Energy System

Located in Alameda County close to San Francisco, California, Golden Hills Wind Energy Center is a 85.9 MW wind generation plant running on 48 1.7 MW GE turbines. The project also commenced commercial operations in December 2015.

The asset is fully contracted under an approximately 20 year power purchase agreement with Commercial offtakers including Kaiser and Google.

Drop Down Math

We include the latest details on the deals announced. Interest expense only reflects Term Loan at 5%.

Figure 43: Capital Structure for the Latest NEP Drop

Cedar Bluff and Golden Hills	
312	Cash Purchase Price
212	Equity & Project Revolver
253	Tax Equity
100	Incremental Holdco Term Loan
565	EV
75	EBITDA (UBSe)
7.5x	EV / EBITDA
31.5	Gross CAFD (Guidance)
4	Less: Interest Expense
28	Post-Financing CAFD
4	Less: Distribution Reserve
23	True CAFD
4.7x	Effective Debt/EBITDA
11.2x	Debt / Gross CAFD
10.1%	Cash-On-Cash Yield
5.6%	Gross EV Yield
4.1%	Net EV Yield
1,400	\$/kW Costs
74%	Tax Equity in Capital Stack

Source: Company reports and UBS estimates

NEP: Aversion to Raising Equity Unwarranted?

We remain surprised by the relatively conservative approach to raising equity amidst the nascent willingness to invest (we suspect NEP could well lead the charge here).

Doing the Full IRR

We include the full project specific cash flows for the life of the assets below. We assume a PPA in Kansas will be ~\$25/MWH whereas a PPA in California will be \$50-60/MWh for wind in our assumptions below, weighted 2/3rds for KS and 1/3 for CA. We attempted to reconcile with the Year 1 CAFD contemplated pre-leverage.

Further, we assume a split in the capacity factors down to reflect a ~40% CF in California for 1/3rd of the project as well.

Lastly, we emphasize we simplify the PAYGO structure into a simple PMT function on Tax equity which is indeed too much of a simplifying assumption. We use this as a broad assumption to reconcile EBITDA and CAFD for the project (using a 9% return over 9 years).

Figure 44: Three Periods of Contracted Wind Projects (Tax Equity Period, PPA-Only Period, Merchant Period)

Project Cash Flow Profile	Year 0	Year 10+	Year 20+ Merchant
Capacity MWs	285 MWs	285 MWs	285 MWs
	\$/MWh		
Federal PTC	23 \$/MWh		
Total Tax Credits	23		
Total Tax Credits - Gross Up	35		
Capacity Factor (%)	47%	47%	47%
Output (TWh)	1.17	1.17	1.17
PPA Price	36 \$/MWh	36 \$/MWh	28 \$/MWh
O&M	7 \$/MWh	7 \$/MWh	7 \$/MWh
Energy Margin	29	29	21
	64 \$/MWh	29 \$/MWh	21 \$/MWh
EBITDA	75 \$ Mn	34 \$ Mn	24 \$ Mn
EBITDA Guidance	70-80 \$ Mn	\$ Mn	\$ Mn
Maintenance Capex	5 \$/kW-yr	5 \$/kW-yr	5 \$/kW-yr
Maintenance Capex	1 \$ Mn	1 \$ Mn	1 \$ Mn
Tax Equity - Paygo Structure	253 \$ Mn		
Tax Equity - PMT Function	41 Debt Service		
	33 Pre PAYGo	32 FCF	23 FCF
CAFD	33 \$ Mn	32 \$ Mn	23 \$ Mn
CAFD Guidance	29-34 \$ Mn		

Source: Company reports and UBS estimates

Valuation: Updating PT to \$31 from \$25

We are maintaining our 50/50 DPS Yield/DCF methodology but marking down discount rates in our assumptions as described in our earlier section [here](#). We maintain our methodology in light of potentially increased growth prospects, while future shifts in capital markets availability could signal a further shift towards DCF or pure yield methodology.

Our \$6 PT increase is composed of

+\$3/sh from DCF Value: Our previous DCF value of \$19/sh shifts up to \$25 as we apply a spread to treasuries + risk adjustment methodology which provides \$12.5/sh of value at 6% discount rate, versus previously utilized 8% DCF discount rate which contributed \$9/sh.

+\$3/sh from Yield Value: Our previous 2018 dividend yield methodology utilized a 6% rate on 2018 dividends. We are adjusting this utilizing a mark-to-market peer valuation methodology and shifting down yield by 100bps based on NEP's industry leading yieldco status:

- Why the Premium?: NextEra Energy Partners is largely viewed as the "best in class" yieldco with ~2GW of wind, 310MW of solar, and seven pipelines spanning 542miles. More importantly, 10GW+ of implied potential ROFO assets provides industry-leading line of sight to drop down potential and extensive list of assets to build out geographic diversification and fuel mix.

Figure 45: NEP Valuation- \$31 PT

NEP Valuation			
Methodology	Probability	Value	Weighted Value
2018 DPS Yield	50%	\$36	\$18
Discounted Cash Flows	50%	\$25	\$13
Total Valuation			<u>\$31</u>

Source: UBS Estimates

Figure 46: NEP Full DCF Breakdown

Assumptions			DCF							
Project	Asset Type	State	2017	2018	2019	2020	2021	2022	2032	2042
<i>Initial Portfolio</i>										
Genesis	Solar	CA	-1	25	25	25	25	25	25	30
Northern CO	Wind	CO	17	17	17	17	17	17	12	0
Summerhaven	Wind	ON	17	17	17	17	17	17	17	11
Tuscola Bay	Wind	MI	15	15	15	15	15	15	24	9
Perrin Ranch	Wind	AZ	12	12	12	12	13	13	20	5
Elk City Wind 1	Wind	OK	10	10	10	10	10	10	10	0
Bluewater	Wind	ON	5	5	5	5	5	5	5	5
Conestogo	Wind	ON	3	3	3	3	3	3	3	2
Moore - St. Clair	Solar	ON	0	0	0	0	0	0	1	2
Sombra - St. Clair	Solar	ON	0	0	0	0	0	0	1	2
Total Initial Portfolio			77	103	103	103	103	104	117	65
<i>Added Since IPO</i>										
NET Midstream	Gas		130	145	145	145	145	145	73	
Jericho	Wind	ON	19	19	19	19	19	19	19	13
Baldwin	Wind	ND	8	8	8	8	8	8	16	0
Ashtabula III	Wind	ND	4	4	4	4	4	4	4	6
Stateline	Wind	OR/WA	30	30	30	30	30	30	16	0
Mammoth Plains	Wind	WA	17	17	17	17	17	17	17	15
Palo Duro	Wind	TX	21	21	21	21	21	21	21	15
Shafter	Solar	CA	2	2	2	2	2	2	2	2
Seiling I&II	Wind	OK	33	33	33	33	33	33	21	17
Total Added Since IPO			263	263	263	263	263	263	263	263
Gross Portfolio			340	381	381	381	381	382	305	133
OPEX (\$M)			23	26	26	26	26	26	21	9
Corporate Interest Expense (\$Mn)										
Senior Secured Revolver										
Short-Term Loan			9	8	7	6	5	4	0	0
Short-Term Cash Grant Bridge Loan										
Limited-Recourse Senior Secured Term Loan										
Limited Recourse Term Loan			1	1	1	1	1	1	2	0
Senior Secured Term Loan			10	10	27	25	23	20	0	0
Seiling I&II Parent Debt			0	4	3	3	3	2	0	0
Total Corporate Interest Expense			20	22	39	35	32	28	2	0
Taxes (35%)			0	0	0	0	0	0	-55	-47
CAFD After Tax			297	332	316	320	323	327	227	77
<i>Run Rate Guidance</i>										
Corporate Debt Amort (\$M)										
Senior Secured Revolver					29					
Short-Term Loan			18	19	20	21	22	23	0	0
Short-Term Cash Grant Bridge Loan										
Limited-Recourse Senior Secured Term Loan										
Limited Recourse Term Loan			0	0	0	0	0	0	8	0
Senior Secured Term Loan			0	0	49	51	53	56	0	0
Seiling I&II Parent Debt			0	5	6	6	6	7	0	0
Total Corporate Debt Amort			18	24	103	78	81	85	8	0
Net Levered CAFD			278	308	213	242	242	242	218	77
Net Unlevered CAFD			316	355	355	355	355	355	229	77

Source: Company Filings, UBSe

50/50 Weighted PT

Our DCF overview is included below for reference, but accounts for half of our ascribed value

Figure 47: NEP DCF Results

NEP DCF Summary	
Levered NPV (\$Mn)	\$2,610
Unlevered NPV (\$Mn)	\$3,723
Current Share Price	\$32
Current Market Capitalization	\$3,687
Total Project & Corporate Debt Outstanding (\$Mn)	\$2,816
Assumed Discount Rate	6%
Est Shares Outstanding as of 4/26/16 (Mn)	116.2
\$/Share	\$25.00
Unlevered IRR on Current Stock Price	0%
Levered IRR on Current Stock Price	3%

Source: Company Filings, UBS

Putting it all Together: Consolidated IRRs

We include our full IRR projections for the drop-down including both levered and unlevered approaches. We caution the levered assumption here only reflects the \$100 Mn term loan rather than revolver borrowings. We have not assumed further debt paydown assuming the payback of the revolver borrowings.

Figure 48: NEP Consolidated Drop IRRs

					Merchant			
	2016	2020	2030	2034	2035	2039	2040	2044
Parent Levered (Post-TE, but Pre-Leverage)	(312)	32	32	32	23	23	23	23
IRR: No merchant	7.4%							
IRR: +5 yr merchant life	8.4%							
IRR: +10 yr merchant life	8.9%							

With Term Loan Leverage					Merchant			
	2016	2020	2030	2034	2035	2039	2040	2044
Levered with TL	100	- 5	- 3	- 1	0	-	-	-
Debt Paydown		- 2	- 9	- 14	0	-	-	-
Full Leverage CF	(212)	25	21	17	23	23	23	23
IRR: No merchant	8.7%							
IRR: +5 yr merchant life	10.0%							
IRR: +10 yr merchant life	10.6%							

Source: Company reports and UBS estimates

For additional context, please refer links to relevant reports below:

[7/29/16 Acquiring a Texas Gem](#)

[5/31/16 Can Repowering Put Wind in NEE's Sails?](#)

[5/5/16 Sunny Days Ahead](#)

[4/15/16 How about a Nice Hawaiian Punch](#)

[3/29/16 More Questions Surface Over Oncor](#)

NRG Yield

NYLD's New CEO is likely to fully take the reins this quarter and could provide investors with more insight into his thought process both in terms of return profiles and capital sources and uses. Importantly, Mr Sotos' concept of outside partnerships could yield interesting dynamics depending on implementation. Our recent NRG downgrade, with no change to our fundamental opinion on NYLD, underscores our view that NYLD remains largely undervalued even with our updated comparatively conservative (vs peers) estimates. Further details on CVSR drop could provide some clarity on CAFD profile for the project in light of likely high debt utilization as well. Net-net, we would think actual details on accretion from CVSR could be cautious, but lack of equity needs should offset negative sentiment on that front to an extent.

For additional context, please refer links to relevant reports below:

[6/9/16: Gen Off? Downgrade to Sell](#)

[5/19/16: Selling the Northern Lights](#)

[5/18/16: NYLD: Equity-less Drop](#)

[5/5/16: Sprucing Up the Portfolio](#)

[3/9/2016: Explaining the Path Forward](#)

[1/14/16: Darkest Before Dawn](#)

What to Watch at NYLD

- **New CEO shows enhanced independence;** expect new development efforts: NYLD appointed its first independent President and CEO, Christopher Sotos, effective by the end of 2Q. Mr. Sotos has served on the NYLD Board of Directors since the IPO and was previously head of strategy/M&A at NRG; he will now serve solely as an NYLD executive. Most notably, we see this independent role as driving the potential for more strategic partnering with outside developers. We see a more robust ROFO list as accruing out of prospective new development deals. Further, we emphasize NRG does not appear poised to sell down shares given its own need for the cash dividends.
- **What are CVSR specifics?:** We expect management to provide more specifics on CVSR dropdown or at least an update to dropdown progress. We believe 10% CAFD yield is reasonable based on previous disclosures, though NYLD is likely hesitant to tap the equity markets given only recent recovery in the space.

CVSR Drop Terms: \$150-200M to sell to NYLD

Based on previous NRG/NYLD disclosures the remaining stake of CVSR has \$55Mn EBITDA/\$25Mn CAFD and NRG expects to raise \$150-\$200Mn. As of 3/31/16 there was \$780Mn of project-level debt at consolidated NRG Energy implying ~\$400Mn of debt associated with the drop-down. With a target transaction enterprise value in the range of \$550-\$600Mn we estimate transaction economics similar to the last EME wind drop-down (~11x EV / EBITDA and ~10% CAFD Yield). Specifically based on its guidance management is targeting 10-11x EV / EBITDA and a 13-17% gross CAFD Yield. In the figure to the right we show 9-12% net CAFD which we explain below.

Management has indicated that it is open to adding secured debt to reduce the liquidity requirements from the transaction and based upon its current liquidity we believe that is the prudent choice. Prior to the CVSR financing we forecast that NYLD will have ~\$220Mn of liquidity capacity assuming it fully utilizes its revolver, leaving less than \$50Mn of liquidity at the midpoint of the CVSR transaction price. Adding secured debt to the project will help the liquidity situation but also reduce the cash flow profile. For example, on the right we assume that NRG Yield will finance half of the \$175Mn equity component of the transaction with additional project debt which would reduce CAFD on the project -\$8Mn to \$17Mn. **Factoring in this adjustment is how we arrive at the 9-12% net CAFD, emphasizing that the 10% midpoint is in-line with the last ROFO transaction.** Although NRG Yield has indicated it has project debt latitude for both the initial and ROFO portions of CVSR the asset is already significantly levered (7x+ debt / EBITDA) and it is unclear how much capacity there is with respect to its financing agreements at the project. For the purposes of the exercise we assume that there is sufficient capacity for the debt we estimate.

Figure 49: CVSR Drop Analysis

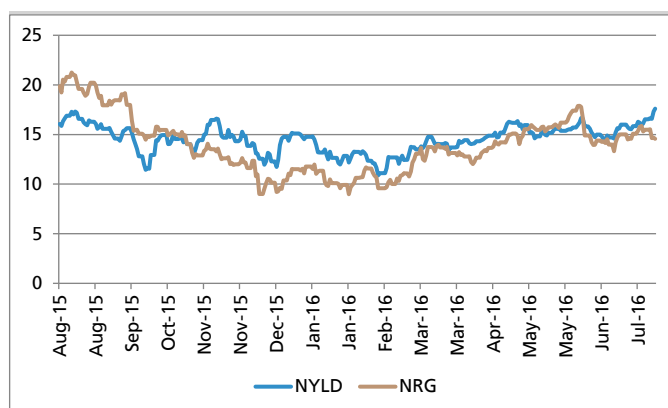
CVSR Drop (UBSe)	EBITDA	CAFD
Implied CVSR Guidance	55	25
Incremental Financing		(8)
Debt Assumed (\$Mn)	398	398
Equity to NRG (\$Mn)	150	200
Total EV	548	598
EV / EBITDA	10.0x	10.9x
Gross CAFD Yield (%)	17%	13%
Net CAFD Yield (%)	12%	9%
2Q16E Liquidity Walk (\$Mn)		
Unrestricted Cash 1Q16		76
Revolver Availability 1Q16		119
Plus: 2Q16E CAFD		66
Less: 2Q16E Dividend		(42)
Pre-CVSR Liquidity		219
Less: CVSR Midpoint		(175)
Plus: Estimated Project Debt		88
2Q16E Ending Liquidity		132

Source: Company Filings and UBS Estimates

NYLD Still Tied To NRG

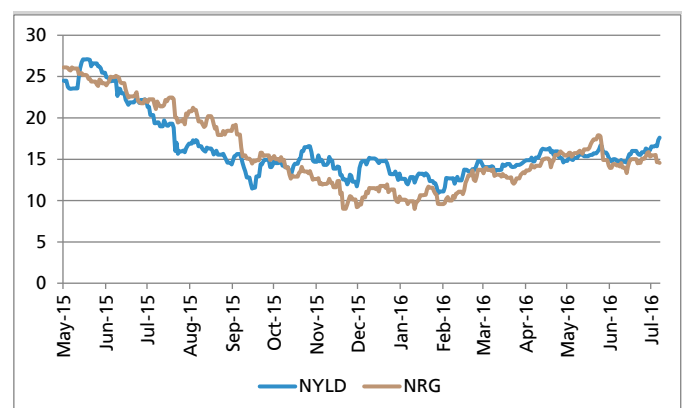
As shown below, NYLD still remains relatively closely tied to NRG Yield. A move towards outside partnerships and continued strength in the yieldco market could shift this dynamic.

Figure 50: Price trend since inception of NYLD



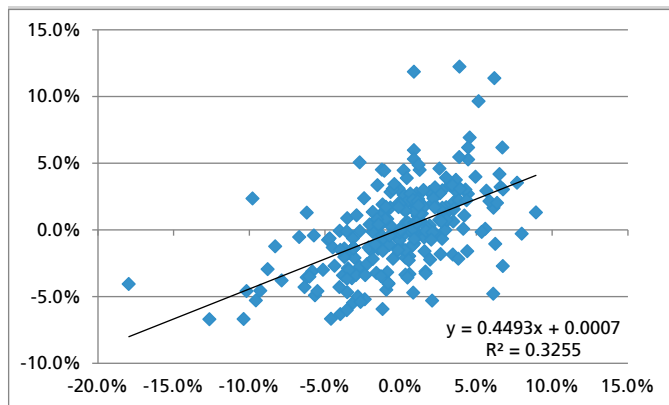
Source: Factset

Figure 51: Price trend - YTD



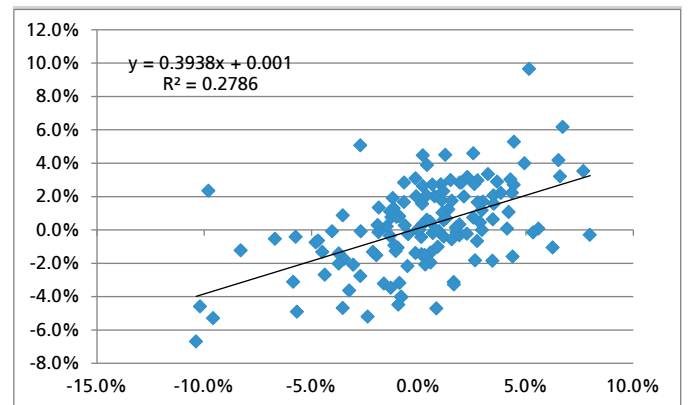
Source: Factset

Figure 52: Correlation – daily price return since inception of NYLD



Source: Factset and UBSe

Figure 53: Correlation – daily price return - YTD



Source: Factset and UBSe

Updated Estimates

While we maintained our annual EBITDA estimates we lowered our 2Q16 EBITDA estimate to \$244M from \$263M, primarily due to lower than average wind production in April. However, we believe, NYLD remains largely undervalued even with our updated comparatively conservative (vs peers) estimates.

Figure 54: Updated EBITDA estimates

NYLD Adjusted EBITDA	2014E	2015E	1QA	2QE	3QE	4QE	2016E	2017E	2018E
Adjusted EBITDA (UBSe)	448	720	188	244	225	140	798	796	795
Adj EBITDA Guidance	455	660	173	242	209	181	805	Run-Rate Guidance	
Consensus (8/9/16)				242	218	166	820	911	1,013
UBSe - Previous				263	225	121	798	796	795

Source: Company filings, Factset and UBSe

Figure 55: Updated EBITDA estimates

NYLD Adjusted EPS	2014E	2015E	1QA	2QE	3QE	4QE	2016E	2017E	2018E
Adjusted EPS (UBSe)	\$1.10	\$0.40	\$0.03	0.38	0.38	0.27	0.97	0.97	0.97
Consensus (8/9/16)				0.41	0.29	0.16	0.92	0.97	1.00
UBSe - Previous				0.44	0.41	0.16	0.96	0.96	0.95

Source: Company filings, Factset and UBSe

Valuation: Updating PT to \$18 from \$16

We are maintaining our 50/50 DPS Yield/DCF methodology but marking down discount rates in our assumptions as described in our earlier section [here](#). We maintain our methodology in light of potentially increased growth prospects, while future shifts in capital markets availability could signal a further shift towards DCF or pure yield methodology.

Our \$6 PT increase is composed of

+\$1/sh from DCF Value: Our previous DCF value of ~\$13/sh shifts up to \$15 as we apply a spread to treasuries + risk adjustment methodology which provides \$7.5/sh of value at 6% discount rate, versus previously utilized 8% DCF discount rate which contributed \$9/sh.

+\$1/sh from Yield Value: Our previous 2018 dividend yield methodology utilized a 7% rate on 2018 dividends. We are maintaining this utilizing a mark-to-market peer valuation methodology and applying a 100bps increase to assumed yield based on NYLD's asset mix and higher recontracting risk.

- Why the discount?: We apply a 100bps discount to current peer implied dividend yields to account for some more near term recontracting risk for ~35% of the current portfolio. Specifically the conventional assets, Marsh Landing (720MW), El Segundo (550MW) and Walnut Creek (485MW) have PPA's expiring in 2023. Importantly, all three are gas fired plants, which we view as lower quality cash flows versus more easily contracted renewable plants. As such, we apply a 7% yield to our 2018 distribution assumption.

Our key model assumptions are shown below:

Figure 56: NYLD Valuation Asset Level Assumptions

NRG Yield Analysis	Net MW	Contracted Annual CAFD (\$Mn)	COD	State	Expiration	Remaining PPA	Estimated Remaining Asset Life	PPA Rate (\$/MWh)	Merchant Rate (\$/MWh)	O&M/Year (\$M)	O&M per kW	Capacity factor	Merchant Revenue (\$M)	Merchant EBITDA (\$M)
Utility Scale Solar														
CVSR I	122	25	2012	CA	2038	23	32	130	60	3.15	25.84	31%	20.1	16.9
Borrego	26	5	2013	CA	2038	23	33	130	60	0.67	25.84	28%	3.8	3.2
Alpine	66	14	2011	CA	2033	18	31	130	60	1.71	25.84	29%	10.0	8.3
Avra Valley	25	5	2012	AZ	2032	17	32	130	60	0.65	25.84	27%	3.5	2.9
Roadrunner	20	4	2011	NM	2031	16	31	130	60	0.52	25.84	28%	2.9	2.4
Avenal	23	5	2011	CA	2031	16	31	130	60	0.59	25.84	19%	2.4	1.8
Blythe	21	4	2009	CA	2029	14	29	130	60	0.54	25.84	27%	3.0	2.4
Kansas South	20	2	2013	CA	2033	18	33	130	60	0.52	25.84	25%	2.6	2.1
TA High Desert	20	2	2013	CA	2033	18	33	130	60	0.52	25.84	25%	2.6	2.1
Desert Sunlight 250	63	10	2013	CA	2035	20	33	130	60	1.63	25.84	26%	8.7	7.1
Desert Sunlight 300	75	12	2013	CA	2040	25	33	130	60	1.94	25.84	25%	10.0	8.1
Distributed Generation														
PFMG DG	5	1			2032	17	35	110	80	0.15	30.00	30%	1.1	0.9
AZ DG	5	1			2033	18	36	110	80	0.15	30.00	30%	1.1	0.9
Wind														
South Trent	101	8	2009	TX	2029	14	24	200	30	4.20	41.54	39%	10.4	6.2
Alta I	150	11	2011	CA	2035	20	26	200	40	9.51	63.39	31%	16.1	6.6
Alta II	150	11	2011	CA	2035	20	26	200	40	8.16	54.42	25%	13.1	5.0
Alta III	150	11	2011	CA	2035	20	26	200	40	8.54	56.91	27%	14.0	5.4
Alta IV	102	8	2011	CA	2035	20	26	200	40	3.59	35.20	19%	6.7	3.1
Alta V	168	12	2011	CA	2035	20	26	200	40	7.96	47.39	18%	10.8	2.8
Alta X	137	10	2014	CA	2038	23	29	200	40	7.41	54.09	27%	13.0	5.6
Alta XI	90	7	2014	CA	2038	23	29	200	30	3.60	40.00	32%	7.5	3.9
EME Wind - Tapestry	204	9	2008		2028	13	23	200	40	13.87	68.00	32%	22.7	8.8
Remaining EME Wind	814	21			2038	23	23	200	40	32.56	171.34	32%	91.3	58.7
Laredo Ridge	81	4	2011	NE	2031	16	26	200	40	2.70	33.32	39%	11.1	8.4
Taloga	130	11	2011	OK	2031	16	26	200	40	7.45	57.31	42%	19.1	11.7
Pinnacle	55	5	2011	WV	2031	16	26	200	40	1.18	21.54	37%	7.2	6.0
Buffalo Bear	19	2	2008	OK	2033	18	23	200	40	0.15	7.82	39%	2.6	2.5
Spring Canyon II	31	3	2014	CO	2038	23	29	200	40	0.40	12.75	39%	4.3	3.9
Spring Canyon III	26	2	2014	CO	2039	24	29	200	40	0.28	10.69	39%	3.6	3.3
Conventional														
Marsh Landing	720	34	2013	CA	2023	8	48	210	N/A	17.28	24.00	38%	34.6	17.3
ESC		8		CA	2024	11	11	210	N/A	N/A	24.00	38%	5.0	5.0
El Segundo	550	26	2013	CA	2023	8	48	210	15	13.20	24.00	25%	44.5	31.3
Walnut Creek	485	22	2013	CA	2023	8	48	210	15	11.64	24.00	12%	30.6	19.0
GenConn-Devon	95	1	2010	CT	2040	25	45	210	N/A	2.28	24.00	50%	3.4	1.1
GenConn-Middletown	95	1	2011	CT	2041	26	46	210	N/A	2.28	24.00	75%	3.4	1.1
Total Asset Level	4,844	316								171				276
Corporate Interest Expense		(61)												
Net CAFD		255												
CAFD Guidance		265												

Source: Company Filings, UBSe

Figure 57: NYLD Valuation

	2015	2016	2017	2018	2019	2020	2021	2025	2030	2040	2050	
Project Levered CAFD	291	(1,440)	316	313	311	310	308	307	287	273	180	65
Project Debt Service			240	252	260	278	286	351	127	99	-	-
Project Debt Interest			152	141	130	119	107	92	47	18	-	-
Total Project Unlevered CAFD	(1,440)	708	707	702	707	701	749	460	390	180	65	
Adjustments												
Add:												
Pro-rata adj EBITDA from Unconsolidated affiliates		122	121	120	119	118	117	113	108	98	88	
Cash Distributions from non-controlling interest		13	13	13	13	13	13	13	13	13	13	
Maintenance Capex		25	25	25	25	25	25	25	25	25	25	
Change in other assets and Liabs		8	8	8	8	8	8	8	8	8	8	
Less:												
Cash Distributions from unconsolidated affiliates		(87)	(87)	(87)	(87)	(87)	(87)	(87)	(87)	(87)	(87)	
Tax Equity proceeds		(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	(14)	
Adjusted EBITDA		775	773	767	771	764	811	518	443	223	98	
Guidance		805										
Less Parent Debt Service							-	-	12	106	124	
Less Parent Debt Interest Payment		61	61	61	61	61	61	61	58	31	-	
Less Tax		-	-	-	-	-	-	-	(18)	(4)	(9)	
Consolidated Levered CAFD	165	(1,440)	255	252	250	249	247	246	225	185	39	(69)
Guidance	165	265										
Consolidated Unlevered CAFD	(6,261)	647	645	641	645	640	688	399	302	39	(69)	
NYLD DCF Summary												
Consolidated Levered NPV	2,717											
Current Market Capitalization (A-Shares)	1,440											
Assumed Discount Rate	6.0%											
Initial Shares O/S	183											
NPV of Current Portfolio	\$14.86											
Upside Case --> Accretive Growth	21											
Probability of Accretive Growth (%)	50%											
Weighted Average	\$17.9											
Unlevered IRR	5%											
Levered IRR	16%											
			Valuation: Unlevered CAFD Net of Debt									
			Consolidated Unlevered NPV		5,506							
			Unlevered Discount Rate		7%							
			Total Project and Corporate Deb		4,821							
					685							
			Initial Shares		183							
			NPV of Current Portfolio		\$4							

Source: Company Filings, UBS

SolarCity

With most of the focus on the merger of late, we expect limited reaction to results as shares are currently pricing in a likely deal completion and the preannouncement gave several key metrics already. Nonetheless, we look to SCTY commentary around results to provide context around Q1 dropoff – how impactful was it really? Clearly the latest guidance cut implies continued weakness, but management will likely seek to tone down negative sentiment in light of upcoming merger votes and potential TSLA-backed product rollouts. California could be challenging in the coming months as PG&E becomes the second utility to approach the net metering cap. As the larger news items are out of the way with the merger announcement, the actual call may be on the quieter side.

Please find links below to our recent SCTY and sector notes

[Deal Synergies Still Cloudy](#)

[A Quick Look at SCTY Board: The Lonely One](#)

[Merger Puts Battery Strategy Front and Center](#)

[Driving off into the Sunset](#)

[Moving the Bullseye](#)

[Tallying the 2016 Capital Requirements](#)

[Getting Another Vivid View of a Difficult Datapoint](#)

[Going for a RUN to Think Through the SCTY Story](#)

[Providing a New Framework for Value](#)

[Another Miss? Back to the Basics](#)

[What's the Story? Financing Over Execution](#)

[Solar Panel Oversupply Comes Early...](#)

[Comparing the Core Resi Portfolio Value](#)

[Have the Returns Really Improved?](#)

[Diving Deeper into Resi Financing Updates](#)

What's New At SCTY?

TSLA announced a deal to acquire SCTY: Details on the deal remain key, which we go over in more depth in the earlier section [here](#).

SCTY Beat the quarter and cut guidance: further deceleration in 2H

SolarCity's [preannouncement](#) of 201MW installed was above the quarterly guidance of 185MW and implies 26% growth into the back half on existing guidance (vs previous implied growth of 49% into the back half on old guidance midpoint of 1,050). This compares to Q1 installs of 214MW and Q2'15 installs of 189MW (~9.5% YoY Growth). Midpoint of yearly guidance would yield a total increase of only 9.4% total installs versus 2016.

Is Sales Cost Improving? Not That Substantially

MW booked in Q2 was ~224MW implied from the announced 40% growth off 160MW bookings in Q1. This suggests sales cost could be in the 70-80 cent range assuming similar cost structure to Q1. However, this is consistent with management expectations of 20% customer acquisition cost improvement suggested on the Q1 call.

Implied Q2'16 cost per watt of \$0.76 would be up ~44% YoY and 36% higher than Q4'15 low of \$0.56/w

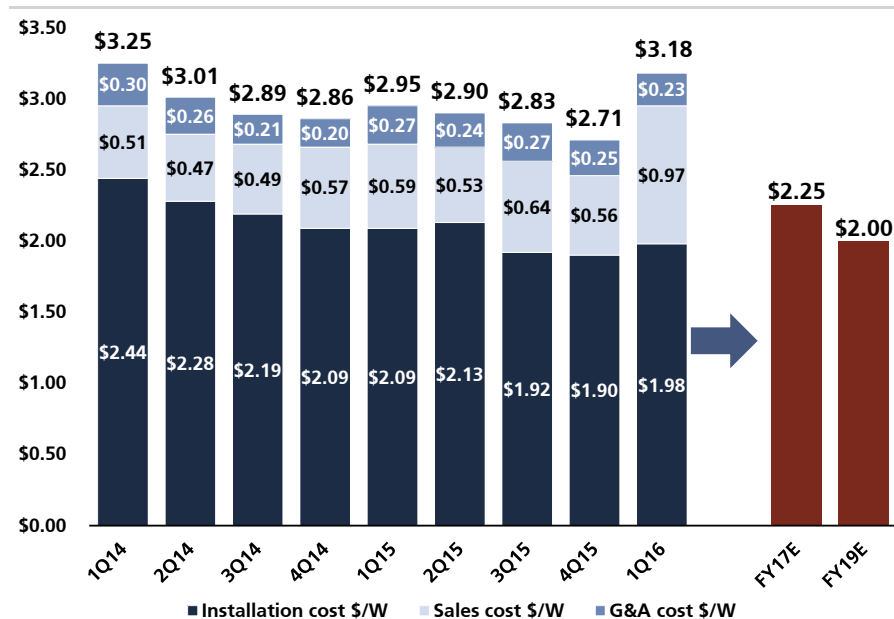
Figure 58: Implied Cost Per Watt

	Q1'16	Implied Q2	
Q1 Sales and Marketing (ex non-cash, \$M)	115		Flat cost structure would imply a 44% sales cost/watt increase year over year
MW Booked	160	224	
=Sales/Mkting Cost Per Watt	\$0.72	\$0.51	
+ Capitalized Sales Cost Per Watt	\$0.25	\$0.25	
=Total Cost Per Watt	\$0.97	\$0.76	
QoQ Change		21%	
Q2'15 Cost Per Watt YoY Change			
	\$0.53	44%	

Source: Company Disclosures, UBS

Compared to previous cost per watts, this still appears relatively unfavorable.

Figure 59: Previous SCTY Cost Per Watt + Targets

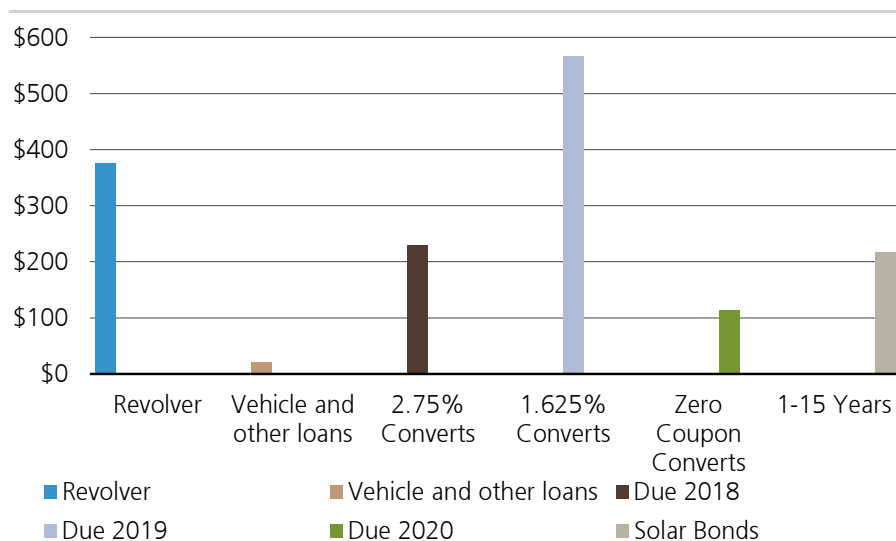


Source: Company Filings

Leverage Concerns? SCTY shifting focus on bringing down leverage

As we outlined in our [recent note](#), SCTY management appears to be cognizant of ongoing leverage issues at the company, and was potentially taking steps to address the ongoing cash recycling needs. For reference, of the ~\$1.5B of recourse debt outstanding, ~\$800M is in the two large public bonds and ~\$113M is the interest-free zero coupon convertible to Silver Lake and Elon Musk.

Figure 60: Current SCTY Leverage



Source: Company Filings, UBSe

What is SCTY Cash Burn?

Management continues to guide to adjusted cash flow breakeven by the end of the year, but we note this implies significant ongoing leverage additions. Assuming average SCTY Cost per watt of ~\$2.73/w in 2016 and 950MW of deployments, implied cash needs of ~\$2.6B to reach 1GW installations could theoretically be covered by SCTY capital raising, if the company is able to execute on stated guidance of \$1.77/W tax equity investment, \$0.10/w rebates and prepayments, and \$0.89 aggregation facility debt (all from 2015 Analyst Day presentation, slide 24), which equates to \$2.76 potential upfront asset financing. We note this is largely dependent on continued access to debt and tax equity as well as significant cost improvements from recent highs of \$3.18/w (on low volume).

More realistically, we see real cash burn this year: Assuming build costs average \$2.80-2.90/W, consistent with recent quarterly results (notwithstanding 1Q issues), and leverage capacity trends closer to \$2.50/W, we estimate parent cash burn would be ~\$0.30-0.40/W, or \$300-400 Mn/yr on the 1GW. Looking Back at the Asset Equity Sale: SolarCity's first portfolio selldown was at ~8% IRR

Solarcity completed the first asset-based equity raise in the residential solar industry at a reported equity value of ~\$1.14/W blended, or ~\$1.37/W resi and \$0.99/W commercial based on our math, very similar to what we had modelled [initially](#). Previously proposed VSLR transaction w/ TERP (which was all resi) implied ~\$1.53/W of equity value last summer based on the revised price (from \$1.77/W initially) which shows SCTY has initially been able to maintain market pricing, albeit on different terms. SCTY maintains counterparty risk through the entire contract duration as well as ~5% cash flow stake over contracted term. We expect other comps like RUN and VSLR may seek to monetize at higher prices where possible – perhaps by cherry picking assets; the current deal does not maximize \$/W value but rather exhibits a preference for state diversity. While the ~8% equity IRR does NOT include residual value past 20 years and DOES include SREC monetization, we do not expect the market to give credit years to years 20-30.

This wasn't a full asset sale, just a 20-year cash flow equity investment

We believe more bullish investor expectations for SCTY previously revolved around a *full* asset sale – not just 20 year cash flows of assets, as this still effectively leaves SCTY with counterparty risk over time – doing little to dispel the bear argument that SCTY assets should not be credited for residual value after 20 year contracted term. The company does maintain a ~5% minority interest and proportional risk of cash flows during the initial 20-year term. One of the key points here is that not only did SCTY sell equity stake for at least ~200bps above the 6% unlevered discount historically used, but also retained several risks on the asset sale. We note the ~8% unlevered return is consistent with at least our expectations on the asset selldown price, and seemingly that of the Street as well

Our Math Yields 8.2% Buyer IRR on De-risked Equity

We ran the numbers on this cash equity financing with several adjustments to account for differences in sold portfolio cash flows and estimate John Hancock received ~8% IRR on today's deal, which is slightly higher than previous expectations and underlines SCTY's interest rate sensitivity. While we note this is the first sale in the industry and would necessarily be priced somewhat conservatively, we think investors are unlikely to give the company the benefit of the doubt in this case.

Figure 61: Cashflow Selldown IRR: How we see the numbers shaking out

Assumptions										
O&M escalator	2.0%									
Degradation	-0.5%									
PPA price escalator	2.2%									
Discount Rate	8%									
	0	1	2	3	4	5	...10	...20	...30	
Year	2015	2016	2017	2018	2019	2020	2025	2035	2045	
Avg annual unit production (kWh/kW)		1,332	1,325	1,319	1,312	1,306	1,273	1,211	1,152	
Haircut to Typical SCTY Guidance Given <35% Cali		-2%								
Avg price (\$/kWh)		\$0.13	\$0.13	\$0.14	\$0.14	\$0.14	\$0.16	\$0.20	\$0.22	
Adjustment for 73% Resi/27% C&I		-5%								
Bad Debt Adjustment		-1%								
SREC (\$/kWh) - Paying for all SRECs		\$0.04	\$0.03	\$0.03	\$0.02	\$0.01				
Total Project Revenue (\$/W)		\$0.21	\$0.20	\$0.21	\$0.20	\$0.19	\$0.19	\$0.22	\$0.23	
O&M Expenses (\$/W)		(\$0.02)	(\$0.02)	(\$0.02)	(\$0.02)	(\$0.02)	(\$0.02)	(\$0.03)	(\$0.03)	
Gross Project Cash Flow (\$/W)		(\$2.84)	\$0.19	\$0.18	\$0.18	\$0.17	\$0.16	\$0.16	\$0.19	\$0.20
Portfolio Share of CF		65%	65%	65%	65%	65%	92%	93%	93%	
TE Share of CF (\$/W)		35%	35%	35%	35%	35%	8%	7%	7%	
Hancock Ownership		95%	Implies 5% Minority Ownership					1%		
Asset Monetization		(3.00)	What Did SCTY Sell its assets to John Hancock for?							
Rebate & Prepayments		0.10	Flips to 1%:							
TE Distributions (\$/W)		\$1.77	(\$0.07)	(\$0.06)	(\$0.06)	(\$0.06)	(\$0.06)	(\$0.01)	(\$0.01)	(\$0.01)
Unlevered Project CF (\$/W)		(1.13)	\$0.12	\$0.11	\$0.11	\$0.10	\$0.10	\$0.14	\$0.00	\$0.00
Residential Price		\$3.24								
Commercial Price		\$2.35								
Announced Sale Price		\$227								
Sale MWs		201								
Implied \$/W Unlevered Proceeds		1.13	Reconciles with above math with Total Asset Sale price of \$3/W							
		IRR		Cash on Cash Yield						
		Unlev.								
20yr		8.2%		10.2% unlevered						

Source: UBSe

Key assumptions in the model:

We identify several key assumptions we've made in the model above that differ from our generic SCTY IRR models.

- **Bad debt adjustment:** John Hancock has employed an adjustment for bad debt, which SCTY has not historically reflected in its projections. We note this remains a relatively limited impact, with just a 1% adjustment down in our view. Historical losses are even lower, albeit the risk of correlated bad debt from customer migration is greater over time.
- **Average price reduction:** Due to the greater portion of C&I contracts. Given the substantially lower rates paid by commercial consumer classes typically, this is a potential real reduction and biggest swing factor in our model above
- **Capacity factor:** We note with the portfolio no more than 35% California, and an emphasis on RECs, we suspect there is real exposure to lower capacity factor (%) markets in the East. We assume just a slight (-2%) degradation as AZ projects can actually have a higher CF than California.

- **Ownership:** We also reflect the 95% share of the cash flow from each MW acquired, reflecting an ongoing 5% minority interest for SCTY.

How scalable is this solution?

We note SCTY's portfolio as of yearend had 1.7GWs installed, with ~400MWs securitized by the ~January timeframe (4 ABS offerings + MyPower deal), leaving the balance eligible to effectively sell down the equity in. Proceeds from the equity offerings will presumably be used to pay down the outstanding debt against the aggregation facilities, making room for these facilities to finance future project development. We believe these shorter-tenor (5-year) aggregation facilities had always been intended as a medium-term bridge facility to an eventual sell-down to an equity or ABS structure.

Blended \$3/W including tax equity and rebates/prepay

\$3/W gross disclosures is composed of \$3.24/W residential and \$2.35/W commercial monetization all in, which implies ~27% commercial and ~73% residential, quite consistent in terms of the sale price we were anticipating (albeit not necessarily with this skew towards C&I. We note the company has previously guided to 20/80% split but does appear to be trending closer to ~30% in recent quarters. Potential lower equity value on commercial (assuming proportional split) suggests management could be sacrificing margin for MW, particularly in light of pressure to hit the already reduced 1,250MW guidance for this year.

Cost of de-risked equity versus past financings

For reference, we have included details on past financings below.

Figure 62: Previous Monetization

<i>ABS Issuances</i>	LMC I	LMC II	LMC III	LMC IV	MyPower
Date	Nov-13	Apr-14	Jul-14	Aug-15	Jan-16
Securitization Issuance (\$M)	\$54.40	\$70.10	\$201.50	\$123.50	\$185.00
/ Aggregate MW Collateralized	<u>44</u>	<u>47</u>	<u>118</u>	<u>108</u>	<u>64</u>
= Debt Monetization (\$/W)	\$1.24	\$1.48	\$1.71	\$1.14	\$2.89
Number of PV systems	5,033	6,596	15,915	16,400	11,290
Contract Price – Weighted Average (\$/kWh)	\$0.15	\$0.15	\$0.15	\$0.14	
Wtd avg. customer agreement fee escalator	2.07%	1.58%	1.61%	2.02%	
Wtd avg. FICO score (residential customer)	762	767	763	742	734
Maturity	Dec-26	Apr-22	Jul-22	Feb-22	Oct-21
Term	13.1	8.0	8.1	6.6	5.8
Wtd avg. Rate	4.80%	4.59%	4.32%	4.41%	5.17%
Wtd avg. Yield					5.90%

Source: Company Filings, UBS

Valuation: PT Maintained at \$25.37

We are maintaining our price target in line with the announced deal price of \$25.37.

Previous Valuation Methodology Yields \$17 on updated guidance

Recently updated guidance of 900-1,000MW implies ~9.5% YoY growth, well below the initial guidance of 1,250MW provided during the Q3 call. While we are currently valuing the company at the announced deal price, we note our implied valuation on previous methodology yields a \$17 number.

Figure 63: 2016 Guidance Changes

2016 Guidance Shifts	Low	High	Mid	Growth off 2015
Q3'15 Call Guidance			1,250	44.0%
Q1 Call Guidance	1,000	1,100	1,050	21.0%
Current 2016 Guidance	900	1,000	950	9.4%
	1H'16 Installs		Implied 2H	Implied Growth
	421		529	26%

Source: Company Filings, UBS

Our previous valuation methodology is included below, which would imply TSLA shareholders will either 1) generate enough ongoing synergies to justify the implied premium or 2) are comfortable with more optimistic projections than we had in our model.

TSLA shareholders would be paying nearly a 50% a premium based on our old valuation methodology

Figure 64: SCTY: Previous Valuation Methodology Yields \$17

SolarCity Valuation UBSe							
DevCo	2016	2017	2018	2019	2020	2021	2022
ITC (%)		30%	30%	30%	26%	22%	10%
Annual Additions (MW)		1,045	1,150	1,264	1,391	1,474	1,504
Gross Project Cash Flow (\$/W)		\$0.19	\$0.19	\$0.18	\$0.16	\$0.15	\$0.15
Tax Equity (\$/W)		(\$0.07)	(\$0.07)	(\$0.07)	(\$0.06)	(\$0.05)	(\$0.02)
Bad Debt Expense							
Unlevered CAFD \$/W		\$0.12	\$ 0.12	\$ 0.11	\$ 0.10	\$ 0.10	\$ 0.13
Monetization IRR (From Unlevered NPV of PowerCo)		7.56%	7.56%	7.56%	7.56%	7.56%	7.56%
Translating from IRR to Cash Yield (very ~similar on Year-1)		2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Unlevered Cash-on-Cash Yield Applied		9.6%	9.6%	9.6%	9.6%	9.6%	9.6%
Installed Cost (\$/W) - Start w/ Guidance	\$2.73	\$2.52	\$2.14	\$1.96	\$1.82	\$1.69	\$1.57
YoY Change (%)			15.0%	8.7%	7.3%	7.1%	6.9%
Base Exit Valuation for Unlevered Project--Post-TE (\$/W)		\$1.28	\$1.27	\$1.12	\$1.08	\$1.04	\$1.34
Bull Exit Valuation for Unlevered Project--Post-TE (\$/W)		\$1.62	\$1.60	\$1.42	\$1.36	\$1.31	\$1.70
FMV (\$/W) Tied to % Change in Installed Cost (50% Weight)		\$3.62	\$3.07	\$2.81	\$2.60	\$2.42	\$2.25
FMV (\$/W) SCTY Disclosure (50% Weight)		\$4.55	\$4.55	\$4.55	\$4.55	\$4.55	\$4.55
FMV (\$/W)		\$4.08	\$3.81	\$3.68	\$3.58	\$3.48	\$3.40
Tax Equity (\$/W)		\$1.57	\$1.46	\$1.41	\$1.19	\$0.98	\$0.44
Base Total System Sale Price (\$/W)		\$2.85	\$2.73	\$2.53	\$2.27	\$2.02	\$1.78
Bull Total System Sale Price (\$/W)		\$3.18	\$3.07	\$2.83	\$2.55	\$2.29	\$2.14
Base Implied Margin (\$/W)		\$0.32	\$0.59	\$0.57	\$0.45	\$0.33	\$0.21
Base Implied Margin (%)		13%	27%	29%	25%	20%	13%
Bull Implied Margin (\$/W)		\$0.66	\$0.92	\$0.87	\$0.74	\$0.61	\$0.57
Bull Implied Margin (%)		26%	43%	44%	41%	36%	36%
Base Gross Margin (\$M)		338	675	726	630	490	315
Bull Gross Margin (\$M)		691	1,061	1,101	1,027	895	850
R&D/Opex - NOT Reflected in Cost Build Up (\$/W)		\$0.04	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
R&D/Opex (\$M)		(42)	(46)	(51)	(56)	(59)	(60)
Base EBITDA (\$M) per Annum		296	629	676	574	431	255
Base EBITDA (\$/W)		\$0.28	\$0.55	\$0.53	\$0.41	\$0.29	\$0.17
Bull EBITDA (\$M) per Annum		650	1,015	1,051	971	836	790
Bull EBITDA (\$/W)		\$0.62	\$0.88	\$0.83	\$0.70	\$0.57	\$0.53
Bull EV/EBITDA (For Terminal Value)							4.0x
Base Implied Value		296	629	676	574	431	1,020
Bull Implied Value		650	1,015	1,051	971	836	3,159
			Bear	Base	Bull		
NPV (\$M)			0	2,161	5,185		
Execution Risk - Discount Rate on DevCo				15%	10%		
Shares Outstanding (M), 2016e				118.3			
			Bear	Base	Bull		
Value of DevCo to SCTY			\$0	\$18	\$44		
Other HoldCo Liabilities (Netting Against DevCo)			As of March 31, 2016				
Converts				909			
Vehicle/Other Loans				28			
Solar Bonds				214			
Revolver				370			
Cash				(362)			
Total Net Parent Debt				1,160			
Value of Liabilities to DevCo				-\$10	-\$10	-\$10	
Net DevCo				\$0	\$8	\$34	
PowerCo				Bear	Base	Bull	
Beta					1.22		
Risk Prem					7%		
Rf					2%		
CAPM Cost of Equity					10.5%		
NPV				893	893	1,206	
Levered (Equity) Discount Rate				10.5%	10.5%	7.5%	
Value of PowerCo to SCTY - NPV				\$8	\$8	\$10	
Silevo				Bear	Base	Bull	
Value of Silevo to SCTY				\$0	\$1	\$8	
SCTY Equity Value Per Share					\$17	\$52	

Source: Company Disclosures, UBSe

SunPower

We expect a relatively quiet quarter as the company continues to hold large projects on balance sheet (deferring revenue recognition until 2H). However, project sale timing – particularly Henrietta – will be key for quarterly commentary and will affect Q3 guidance. Business updates from recent Helix and Equinox launches on the commercial and residential sides respectively suggest potential upside to segment results/margins as the product suites continue their rollout, so preliminary commentary around these will be key as well.

Key Items for the Quarter:

- **2016 project sale timing:** Aside from Henrietta, the 125MW boulder solar project, 68MW Stanford generating station, 68MW Turlock generation station, and 50MW Rio Bravo and Boulder solar projects are listed for COD in 2016 and are as yet unsold. The 86MW Prieska solar project in South Africa complements other international opportunities in Chile and Japan, which provide ongoing earnings streams, but the largest earnings contributor this year will likely be Henrietta, which we estimate could contribute ~\$500M revenue at 30% or higher gross margin.
- **The key question is just how much the 102 MW controlling interest was sold for to Southern Power in 3Q.** We emphasize the deal is likely for 51% of the overall project including ~99% of the associated ITCs. With the project economics signed in ~2012, we suspect pricing here remains meaningfully above peers. We look for SO to release the pricing in its 10Q later this week. Looking at implied economics for Stateline, we see a sale price as potentially upwards of ~\$300 Mn (range of ~\$200-300 Mn likely)
- **Power plant margins:** Partially delayed Hooper revenue recognition (at 0% margin) contributed to ~6% gross margin decline in the power plant business last quarter, so Q2+ margins should improve sequentially, though it could be more back half weighted as the company waits to sell Henrietta.
- **Commercial business updates:** management expects solid bookings, growth, and execution in 2H in the commercial business, which has been more volatile in the past.
- **Readthroughs from Equinox launch** in the market: Equinox, SPWR's complete residential solution, launched near the beginning of Q2. Initial feedback from channel partners should provide some visibility into residential market growth potential particularly as SPWR
- **Extending credit:** We emphasize credit for the equity amidst the module pullback remains key, with the company having executed on an extension into 2018 for \$500 Mn. This is another modest positive.

For additional context please refer the link below:

[SPWR: Stuck in the Solar Sentiment: Transfer With Buy](#)

UBSe vs Consensus

Figure 65: SPWR – Estimates – UBSe vs Consensus

SPWR	1QA	2QE	3QE	4QE	2016E	2017E	2018E
EBITDA - UBSe (\$M)	\$6	\$36	\$136	\$292	\$471	\$512	\$605
EBITDA - Consensus (\$M)	\$6	\$16	\$180	\$241	\$459	\$559	\$597
EPS Non GAAP - UBSe (\$)	(\$0.30)	(\$0.09)	\$0.47	\$1.45	\$1.55	\$1.66	\$2.19
EPS Non GAAP - Consensus (\$)	(\$0.30)	(\$0.15)	\$0.76	\$1.07	\$1.35	\$1.76	\$2.43

Source: Factset and UBSe

Valuation: Buy, \$22 PT

Our Valuation is based on a sum-of-the-parts analysis, which we include below. We believe our 2018 ests and ~7x EBITDA multiple provide the most reasonable value proposition in a sector which is largely out of favor.

Figure 66: SPWR – SOTP Valuation

SunPower Valuation			
DevCo Value	Downside	Base	Upside
Capacity Built (MW) - 2018			
Resi	613	766	919
C&I	591	739	886
Utility	985	1231	1477
Total MW Capacity	2189	2736	3283
\$/Watt Costs			
Resi	\$1.62	\$1.62	\$1.62
C&I	\$1.49	\$1.49	\$1.49
Utility	\$1.50	\$1.50	\$1.50
Development margin (%)			
Resi	15%	21%	27%
C&I	12%	17%	22%
Utility	10%	15%	19%
Overall	12%	17%	22%
LT Guidance	high teens to low 20s		
Gross Margin (\$ Mn)			
Resi	146	261	408
C&I	105	187	292
Utility	150	268	418
Total	401	716	1117
Opex	(\$547)	(\$547)	(\$547)
EBITDA Adjustments	\$509	\$436	\$96
Proportional EBITDA (\$ Mn)			
Resi	\$133	\$221	\$243
C&I	\$95	\$158	\$174
Utility	\$136	\$226	\$249
Adjusted EBITDA	363	605	666
EV/EBITDA	5.0x	7.0x	9.0x
Implied Value	\$1,816	\$4,237	\$5,993
DevCo Value to SPWR			
	11	27	38
CAFD LP Ownership Interest			
	Downside	Base Case	Upside
SPWR Shares		28.88	
Total Shares		71.01	
Sponsor Ownership	40.7%	40.7%	40.7%
Total Current Shares	71	71	71
UBSe CAFD Share Price	\$10	\$11	\$19
Implied Mkt Cap (\$M)	\$710	\$787	\$1,349
SPWR's share of LP Value	289	320	549
CAFD Value to SPWR			
	1.8	2.0	3.5
CAFD GP Ownership Interest			
	Downside	Base Case	Upside
IDR (\$mn) (Base: through 2019)	0.0	0.0	0.0
CAFD GP Value to SPWR	0.0	0.0	0.0
Parent Obligations		Value/Sh.	
Converts (\$mn)		Outstanding	
0.875% debentures due 2021		397	
0.75% debentures due 2018		298	
4% debentures due 2023		417	
Total Converts		1111	
IFC mortgage loan		24	
CEDA loan		28	
Other debt		503	
Total Debt		556	
Minimum lease payments for assets under capital leases		6	
Cash Outstanding		555	
Net Debt		1118	
Obligations per Share		7.05	
Value of to SPWR		(7.0)	
SPWR Equity Value per Share			
	6	22	34
Upside/(Downside)			
	-60%	40%	121%

Source: Company Filings, UBSe

Why 2018?

We prefer to take the longer view for SPWR and see inherent value in the 2018 earnings power of the company, although 2017 could be challenging in light of core US exposure and ITC extension backdrop for the power plant business, although we expect the company will be able to offset US deployment shortfall with increased international business. Further, we expect 2017 slowdown is

largely accounted for in the current value of the stock, given our perceived investor focus on these issues in the previous months coupled with ~50% decline YTD.

What Makes up our PT?

Devco (~\$27)




Our Devco EBITDA in 2018 is most heavily weighted towards the resi business, although we note the company has committed more aggressively to the utility and C&I lines recently with the introduction of Helix and Oasis 3.0 platforms.

Figure 67: MW Deployed

MW Recognized (Revenue)	2013	2014	2015	2016 E	2017 E	2018 E	2019 E	2020 E	2021 E
Power Plant	406	736	497	791	895	1,231	1,422	1,808	1,953
Commercial	182	173	188	439	517	739	885	1,165	1,302
Residential	448	349	283	527	577	766	853	1,045	1,085
Total	1,036	1,258	968	1,758	1,989	2,736	3,159	4,019	4,339
Guidance			1,600-1,900						
MW Recognized - Segment									
MW - Power Plant	39%	59%	51%	45%	45%	45%	45%	45%	45%
MW- Commercial	18%	14%	19%	25%	26%	27%	28%	29%	30%
MW- Residential	43%	28%	29%	30%	29%	28%	27%	26%	25%
Average selling price \$/W									
Power Plant	\$3.76	\$2.18	\$3.16	\$2.00	\$2.10	\$1.50	\$1.43	\$1.28	\$1.22
Commercial	\$1.86	\$2.09	\$2.09	\$1.74	\$1.65	\$1.49	\$1.41	\$1.27	\$1.21
Residential	\$1.65	\$1.88	\$2.29	\$1.90	\$1.81	\$1.62	\$1.54	\$1.39	\$1.32
Total	\$2.42	\$2.08	\$2.70	\$1.91	\$1.90	\$1.53	\$1.45	\$1.31	\$1.24

Source: Company Filing

Figure 68: Devco Valuation Breakdown

DevCo Value	Downside	Base	Upside
Capacity Built (MW) - 2018			
Resi	613	766	919
C&I	591	739	886
Utility	<u>985</u>	<u>1231</u>	<u>1477</u>
Total MW Capacity	2189	2736	3283
\$/Watt Costs			
Resi	\$1.62	\$1.62	\$1.62
C&I	\$1.49	\$1.49	\$1.49
Utility	\$1.50	\$1.50	\$1.50
Development margin (%)			
Resi	15%	21%	27%
C&I	12%	17%	22%
Utility	<u>10%</u>	<u>15%</u>	<u>19%</u>
Overall	12%	17%	22%
LT Guidance		high teens to low 20s	
Gross Margin (\$ Mn)			
Resi	146 	261	408
C&I	105 	187	292
Utility	<u>150</u> 	<u>268</u>	<u>418</u>
Total	401	716	1117
Opex	(\$547)	(\$547)	(\$547)
EBITDA Adjustments	\$509	\$436	\$96
Proportional EBITDA (\$ Mn)			
Resi	\$133	\$221	\$243
C&I	\$95	\$158	\$174
Utility	\$136	\$226	<u>\$249</u>
Adjusted EBITDA	363	605	666
EV/EBITDA	5.0x	7.0x	9.0x
Implied Value	\$1,816	\$4,237	\$5,993
DevCo Value to SPWR			
	11	27	38

Source: UBSe

CAFD Ownership (~\$2)

We utilize our \$11 PT and apply SPWR's LP Ownership to derive ~\$2 value from SPWR's ownership in the yieldco.

Figure 69: CAFD Ownership

CAFD LP Ownership Interest	Downside	Base Case	Upside
SPWR Shares		28.88	
Total Shares		71.01	
Sponsor Ownership	40.7%	40.7%	40.7%
<i>Total Current Shares</i>	71	71	71
UBSe CAFD Share Price	\$9	\$11	\$19
Implied Mkt Cap (\$M)	\$639	\$783	\$1,349
SPWR's share of LP Value	260	318	549
CAFD Value to SPWR	1.6	2.0	3.5

Source: Company Filings, UBSe

CAFD GP Ownership (\$0)

We ascribe no value from SPWR's IDR Value, as we do not assume IDR accretion in our CAFD model. Future changes to CAFD and capital market availability for the yieldco could change this.

Net Debt (-\$7)

We account for the most recent carrying value of debt on the balance sheet and cash balance to arrive at our equity value of ~\$22. We assume no debt converts at current levels, utilizing a lower potential sharecount but deducting the full value of the converts.

Figure 70: Net Debt at SPWR as of Q1'16

Parent Obligations	Value/Sh.
Converts (\$mn)	<u>Outstanding</u>
0.875% debentures due 2021	397
0.75% debentures due 2018	298
4% debentures due 2023	<u>417</u>
Total Converts	1111
IFC mortgage loan	24
CEDA loan	28
Other debt	<u>503</u>
Total Debt	556
Minimum lease payments for assets under capital leases	6
Cash Outstanding	<u>555</u>
Net Debt	1118
Value of to SPWR	(7.0)

Source: Company Filings UBSe

TerraForm Power

As the [Latest 8k Disclosures](#) did little to dispel our negative bias on the stock, we look ahead to mid/late August deadlines to provide audited financials to the debt holders or risk more punitive outcomes. Overall, TERP shares look richly valued despite a number of risks to the story, and we maintain our cautious view.

For additional context please refer to links to relevant research reports below (we note that we have dropped coverage of SunEdison and our estimates and price target from previous notes should not be relied upon)

[Following the Money](#)

[In Search of a Sponsor](#)

[There Goes the SUNE](#)

[SunEdison Inc. Filed for Bankruptcy](#)

[Latest 8K Still Leaves Uncertainties](#)

[Valuing Life Without SunEdison](#)

[More Audit Work To Go](#)

[A More Vivid Future Without the Vivint Deal](#)

[Leaping Over The 10K](#)

[Execution Issues Magnified](#)

What's New At TERP?

Brookfield disclosed in its own 13D filing: "*Brookfield also reviewed with Appaloosa Brookfield's qualifications as a sponsor of the Issuer and Brookfield's belief that an acquisition by it of the shares of the Issuer owned by SUNE would be in the best interests of all stockholders of the Issuer*"

We look for more details on Brookfield's wider strategy this Thursday as the publically traded Brookfield Renewable Energy Partners (BREP) files its quarterly results.

What are our latest key concerns on the equity?

Issue #1: Pushing down the upside case: Refinancing the debt?

While bulls on equity point to both the potential for SG&A synergies as well as potential to refinance at a lower interest the cost of debt, we emphasize the existing capital structure is critical to the value proposition as it does not require amortization. We suspect any future refinancings of the TERP debt would likely include mandatory amortization (and/or comingling with parent assets) in order to ensure a more palatable debt profile. Without an accretive growth story to paydown the debt in the long term and given the roll off profile of CAFD, we see this as a clear risk to near-dated FCF.

Debt amortization will likely be a reality if the capital structure is refinanced

Issue #2: Is cash liquidity as good as it seems? Still owes cash.

We see a clear risk to TERP's remaining ~\$523 Mn in unrestricted cash as of 6/30/2016 (under preliminary financials released).

Call on Cash: Point #1: We note ~\$200ish Mn likely due for the Prairie Breeze II and III (98MW) wind assets from Invenergy that have not closed (*although already reflected in Invenergy CAFD figures in our valuation*). Management cannot close on this acquisition without financials filed.

Call on Cash: Point #2: We note the ongoing risk relating to the DE Shaw litigation in which the company is claiming earnout payments relating to the FirstWind transaction with SUNE is an obligation of TERP to the tune of ~\$231 Mn.

Bottom line, we see risk a sizable portion of the underlying cash from the entity could potentially be consumed from pending claims.

August 15th is the Next relevant deadline for Creditors, but could be pushed out again

The company has 19 calendar days before the revolver lender (Barclays) could choose to trigger a default, and 34 days before 25% of bondholders could choose to, all else equal. While TERP has successfully pushed out deadlines several times before, we note that the latest (seventh) revolver amendment from June 2 **added** this default qualification, compared to the previous amendment. On the other hand, past experience suggests TERP will continue to work with debt holders to push out deadlines to allow for the audited financial statements to be filed. We note the revolver could choose to wait to trigger any default provisions, particularly if TERP is close to receiving the majority consent solicitation. Furthermore, cash walks provided in the latest 8-K show \$71M of project distributions and \$34M of corporate debt service in Q1, while net cash increase of ~\$22M from Q1 to Q2 is likely a partial reflection of project cash traps triggered following the SUNE bankruptcy. Liquid unrestricted cash balance as of Q2 is ~72% of total revolver capacity of \$725M.

What Happens to the Class B Shares?

One of the reminders in the risks from TERP's 8K tells us that SUNE pledged class B shares and IDRs for the DIP financing, the first lien credit and the second lien credit facilities. There are a variety of scenarios listed in the 8K that could trigger a potential including SUNE breach of DIP terms, which could result in the DIP financiers accelerating the debt under DIP financing agreement – a scenario which could see the class B shares converted to class A and liquidated if an adequate buyer is not found beforehand, though. We note that this is an extreme option

and SUNE has stated interest in marketing the class B shares, however. While there has been considerable investor interest in the Brookfield disclosures of late, we note that any change in control would have to be approved by the debt holders in light of the collateralized nature of the class B. Key question now remains how likely the debt holders would be to accept a potential acquisition, particularly since the class B shares are the primary substantially liquid asset in the SUNE asset stack.

Are there PPA risks? Yes.

While the company has long claimed no PPA termination risk, we have previously been primarily concerned with renegotiation risk. Within 46 pages of risks accompanying the debt investor presentation, we note the following:

- Lack of financial statements places at least one project and \$8.3M of CAFD at risk according to the new disclosures. This is incremental to previous listed risk, and could increase if the company found other projects with issues.
 - PPA termination rights around continued ownership by SUNE is raised as well, which requires 50% voting power, translating to 9% economic interest. It remains unclear where mgmt stands on potentially renegotiating such deals as part of SUNE's ongoing divestment process.
- KWP II Wind Plant: *Future* failure to maintain a proper battery system (which has happened at other projects) would constitute default under the contract. Currently the battery system is still functioning so this represents more of a potential issue down the road.

What is the most relevant Default Risk? August 15 Looming

Lack of financial statements continues to be an overhang if left unresolved amidst ongoing SUNE bankruptcy. An event of Default would be reached in the event audited financial statements are *not* filed by August 15 under the current terms of the Revolver. Even in the event the revolver terms were amended again, senior notes due 2023 and 2025 can trigger a default after August 29. This would require 25% of the holders of the notes and could accelerate payment, which would also allow the revolver to trigger a cross-default. Lastly, we flag listing requirements require financials in September as well.

Default event could trigger accelerated payment schedule on the debt. The company had \$523M of free cash as of Q2 and no revolver capacity left as of the most recent disclosure.

What's the potential upside to the story regarding the debt?

Among the potential positive revisions is the potential for refinancing of the holding company notes under a more credit worthy parent. We suspect the meaningful leverage will limit the ability to reduce interest expense unless TERP is ultimately folded into a less levered overall entity. While bulls on the shares remain confident, we suspect the ~9x Debt/EBITDA leverage would not support any real reductions in the ~6% holding company interest. We maintain our belief that the most tangible benefit of consolidation with Brookfield relates to reduction in allocated SG&A across a larger portfolio. At \$5/kW-mo (halving of SG&A), this is still just ~\$15 Mn or ~6% of levered CAFD. Operational synergies appear limited.

"Going Concern" Qualifier Could be in the 10-K.

TERP, like GLBL before it, lists a potential going concern addition to the 10-K when it is eventually filed. This could trigger a default event under the current revolver agreement if there is no modification, though we note the revolver has been

amended several times before. The presences of a qualifier would not trigger a default from the bonds, however.

Accounting for the Cash Uses

Most recent unaudited statement of holdco cash balance highlights \$523M as of Q, up from \$501M in Q1. Net cash increase of \$22M compares to most recently paid dividend of \$49M, though the moving pieces in Q2 are currently undisclosed. Since the last update, the company spent over \$1B, primarily on project acquisitions, which leaves it with no revolver capacity and no apparent readily available liquidity beyond the cash balance that we're aware of. After the (partial) Invenergy acquisition, TERP acquired the 200MW south plains I asset, 18MW of DG/Resi assets, and 20MW additionally in Q1 (18MW river mountain, 1MW DG projects, 1MW final closing of Moose Power). This utilized the majority of the cash sources as shown in the figure below. Further, we note two other discrepancies in cash reporting from current vs past disclosures.

Net cash increase in Q2 of \$22M (with no acquisitions) compares to most recently paid dividend of \$49M in Q4.

- **9/30/2015 cash on hand listed as \$636 Q3, now listed as \$590 holdco unrestricted cash.** The difference appears to be related to a number of changes in restricted cash accounting policy changes. We note these changes include a shift where project-level cash available for operating purposes subject to lender approvals was considered restricted but is now included in *unrestricted* cash (though designated unavailable for immediate corporate purposes).
- Q3'15 presentation: TOTAL UK refinancing net proceeds were listed at \$160M. Actual refinancing proceeds are listed as \$133M in 4Q and \$7M in 1Q in cash walks, for a net **\$20M difference**.

Separate from the two bullets above, we note total cash sources and uses during Q4'15 and Q1'16 below

Figure 71: Following the Money

Sources and Uses of Cash since the last audited financials were provided					
	Sources		Acquisitions		Other Expenses
Revolver Draws	\$655	Q4'15	(\$865)	Q4 Debt Service	(\$10)
UK Refinancing Proceeds	\$140	Q1'16	(\$35)	Q3 Divs Paid in Q4*	(\$49)
Project distributions - Q4	\$63		(\$900)	Q4 "Other"	(\$19)
Project distributions - Q1	\$71			Q1 Debt Service	(\$34)
SUNE Interest Subsidy	\$8			Q1 "Other"	(\$15)
	\$937				(\$128)
% from projects	14%			*dividends have not been paid after Q3	

Q3'15 Ending Cash	590	<div>*No Cash walk provided for Q1 to Q2, but no projects were purchased.</div> <div>~\$20M of net cash generation in Q2 is ~45% of most recently paid dividend (paid in Q4 of 2015)</div>
Q4'15 Ending Cash	499	
Q1'16 Cash	501	
Q2'16 Cash	523*	

Not Included, Potential Large Obligations

--98MW of Invenergy, likely worth ~\$150-200M

--Comanche Solar Project for ~\$163M, which TERP claims will be terminated

Source: Company Filings

Reaffirmed Reverberations from SUNE Bankruptcy

While we have long assumed SUNE subsidies should be removed from valuation, we note TERP now lists various SUNE-related cash flow as a potential future risk.

- \$8M of interest payment during the rest of 2016 (\$8M already paid in Q1)
- \$16M of interest support in 2017
- Reimbursement of capex and O&M related to First Wind acquisitions
- MSA recontracting risk is confirmed: the company said recontracting for O&M services at projects *"would likely be substantially more than the fees that we currently pay under the MSA, which are subject to caps of \$7.0 million and \$9.0 million for 2016 and 2017, respectively"*

Evolving fuel mix too--

While admittedly the balance of revenues has shifted in the interim three quarters since last reporting, the latest disclosures indicate shift in quarterly reporting to 51% Wind vs. 26% as of 3Q15 on a MW basis.

Detailing the DCF

Our Model remains based on operating asset DCF methodology. We reflect only modest debt amortization requirements. Further, we do not reflect the latest updates on pending asset acquisitions (~\$150-200 Mn detriment) nor do we reflect any risk of FirstWind earn out payments in below. We see this as a further ~\$2-3/sh headwind.

Figure 72: TERP DCF Snapshot – Starting with Baseline and adding risk factors

		2016	2017	2018	2019	2020
TerraForm Power DCF Snapshot		Base DCF Valuation Including Invenenergy				
	NPV 10% NPV/sh					
Adjusted Net Levered CAFD	1,243 8.85	231	230	213	220	226
		Net Valuation				
Prospective Adjustments	NPV 10% NPV/sh					
Dilutive payments to SUNE for Vivint Interim Agreement		Assuming no liabilities between TERP and VSLR directly				
Potential dilutive transactions pending (Call Right Projects)	(159) (1.13)	(539)	41	41	41	41
Removing interest and G&A from SunEdison	(41) (0.29)	(24)	(24)			
Estimating cost to build G&A functions independently	(35) (0.25)	(20)	(20)			
Estimate of potential CAFD lost from PPAs 're-opening'	(213) (1.52)	(25)	(25)	(25)	(25)	(25)
Estimate of substantive consolidation with SUNE		Assuming no substantive consolidation				
Other Adjustments for CAFD	(447) (3.18)	(608)	(28)	16	16	16
Total Net Levered CAFD	795 5.67	(378)	203	229	235	241

Source: UBSe

8Point3 Energy partners

Mgmt was quite clear it was willing to do an equity raise at (lower at the time) valuation (presumably via an accretive raise and project purchase), among other avenues contemplated including more holdco debt and further asset leverage. Stateline and Henrietta, would both require more capital than we see readily available, so future capital raise (or further push outs) would be relatively untested for the company – making Henrietta/Stateline particularly difficult to digest. Recently filed \$800M mixed shelf suggests some willingness to pursue these avenues but we see the market as relatively untested in this regard.

For additional context please refer to links to relevant research reports below:

[Poised to Raise More 'Switching' up the Drop Downs](#)
[Paying for More than the Core Portfolio](#)
[P-ivoting the Strategy](#)

What's new at CAFD?

~\$800M mixed shelf signals willingness to raise equity: On July 1st, CAFD filed a mixed shelf for up to \$800M of class A shares which will be used for paying down debt, acquisitions, working capital or capex, according to the prospectus. We note yieldco performance of late directionally supports equity raise potential but we have yet to see market reaction on this front, particularly since Stateline and Henrietta are large projects

Another ROFO Adjustment: Delays push out earnings recognition for parents: In a recurring theme of late, CAFD waived ROFO rights to the ~250MW Moapa project in Nevada while swapping for the ~280MW (Total) California Flats projects – with substantially longer dated CODs of ~Dec 2018 vs Dec 2016 for Moapa. Interestingly, we note all recent ROFO waivers (Switch Station, 14% of Stateline, Moapa) are FSLR projects. ROFO substitution (vs offering with expectation of denial) would have the effect of shifting FSLR's earnings recognition out to '17/'18 in lieu of '16. In contrast, SPWR has remained consistent; its 40% margin recognition for CAFD drops is not affected by shifting.

What is Usable Liquidity? ~\$52M uncommitted today:

CAFD Highlighted Q1 Ending Liquidity of ~\$121M, consisting of \$20M of cash and \$101M revolver capacity. After closing the ~\$12M Macy's project (expected to close on July 1), the company has future project-related cash obligations of ~\$17.1M for Kingbird and \$30.1M for Kern phases 2 and 3, which are expected to close later this year. This leaves effectively \$52M of 'uncommitted liquidity' as of Q2 end. If the company were to invoke the accordion feature of the revolver (which would require approval from banking credit committees), total available liquidity stands at ~\$292M, though we note the company would not be able to utilize the accordion feature under current covenants. CAFD CEO Chuck Boynton disclosed ending ratio of debt to CAFD as of 2Q was just under 5.5x – the maximum allowed for the next several quarters (max reduces to 5x in 3Q'17).

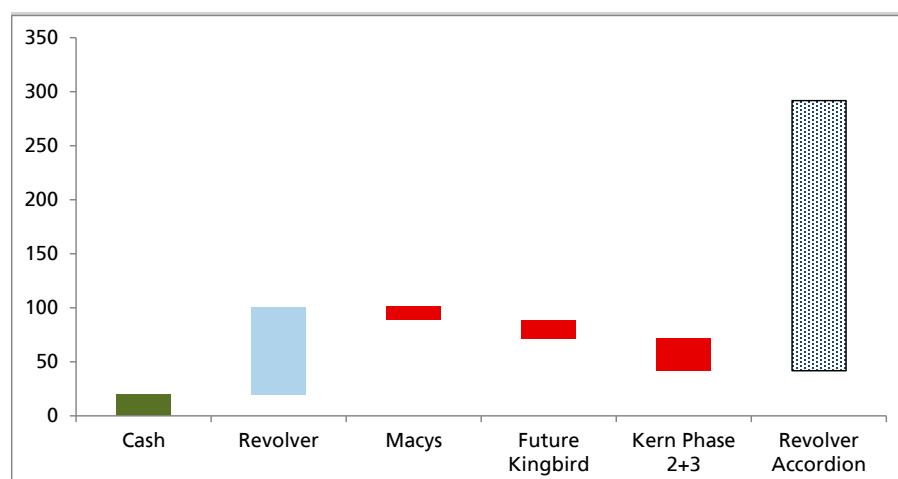
CAFD is near the outer limit of covenants, and beyond the 4X target leverage

Figure 73: Revolver Covenants

Covenants (ratio of debt to cash flow)	
1Q/2Q '16	7x
3Q - 2Q '17	5.5x
3Q '17+	5x
Covenant (debt service coverage ratio)	
Ongoing	Not less than 1.75 to 1.00

Source: Company Filings, UBSe

Figure 74: UBSe Uncommitted Liquidity Walk



Source: Company Filings, UBSe

Credit Metrics Will Naturally Improve, All Else Equal

While the company is clearly leveraging as much as it comfortably can today, upcoming seasonally high cash generation quarters (Q3 and Q4) imply a *natural* deleveraging (as credit metrics are on trailing CAFD) so we think management's ~5X leverage target over the next few quarters makes sense and aligns with what they will need to reach anyway by Q3'17 under the current covenants.

Future Drops Will Require a Change

If CAFD were to acquire a project equal to Kingbird again today, the company would likely have no liquidity left (after accounting for commitments), and near term ROFO list includes Henrietta, Stateline, and Stanford – each of which are larger than the 40MW Kingbird project. We were therefore unsurprised to hear management discussing other options for future project drop downs on the last call including project leverage, equity raises, and further revolver utilization. Further, management claimed that equity raises (for project acquisition) could be accretive at even lower than today's prices, though both Stateline (~34% of 300MW) and Henrietta (102MW) would require substantial capital raises to augment the ~\$52M uncommitted liquidity today.

Future drop downs will likely need to utilize non-revolver sources of capital at this point

Valuation: Updating PT to \$15 from \$11

We are maintaining our 50/50 DPS Yield/DCF methodology but marking down discount rates in our assumptions as described in our earlier section [here](#). We maintain our methodology in light of potentially increased growth prospects, while future shifts in capital markets availability could signal a further shift towards DCF or pure yield methodology.

Our \$6 PT increase is composed of

+\$0.50/sh from DCF Value: Our previous DCF value of ~\$9.50/sh shifts up to ~\$10.50 as we apply a spread to treasuries + risk adjustment methodology which provides ~\$5/sh of value at 6% discount rate, versus previously utilized 7% DCF discount rate which contributed ~\$4.50/sh.

+\$3.50/sh from Yield Value: Our previous 2018 dividend yield methodology utilized a 6% rate on 2018 dividends. We are adjusting this utilizing a mark-to-

market peer valuation methodology and 100bps yield based on NEP's industry leading yieldco status:

- No Premium or Discount applied: we apply no discount or premium to CAFD's assumed yield methodology. On one hand, we see value in the solar-only cash flow profile, which is generally more predictable than wind generation. However, sponsor ROFO commitments appear to shift on a regular basis due in large part to CAFD's ability to digest large drop downs accretively, which offsets some of the benefits from a potentially more stable cash flow profile. We apply our peer yield 6% to 2018 dividends.

Figure 75: CAFD Valuation

8Point3 Energy LP Valuation - UBSe	Downside	Base	Upside
Initial Cash Available for Distribution (CAFD)	\$73	\$73	\$73
ROFO Pipeline	\$61	\$104	\$129
Gross CAFD	\$134	\$177	\$202
Distribution Reserve	15%	15%	15%
Net CAFD	\$114	\$150	\$171
Haircut	20%	20%	20%
CAFD Available for LP Unitholders	\$91	\$120	\$137
Initial A & B Share Count (Mn)	71	71	71
Incremental ROFO Shares (Mn)	24	32	31
Incremental Development Shares (Mn)	0	0	0
Est. Shares Count (Mn)	95	103	102
CAFD Distributed to LP Unitholders	\$0.96	\$1.17	\$1.34
YieldCo Peer Yield		6.0%	6.0%
(Premium) / Discount		0.0%	0.0%
Assumed Yield		6.0%	6.0%
Valuation		\$19	\$22
Weight		50%	100%
Weighted Valuation	\$0.00	\$9.74	\$22.30
DCF Valuation			
NPV (\$M), netting out TL Debt Amort Est	\$730	\$730	
\$/Share	\$10	\$10.29	
Weight	100%	50%	
Weighted Valuation	\$10.29	\$5.14	\$0.00
Weighted Valuation	\$10.00	\$14.88	\$22.00
Upside / (Downside)	-35%	-4%	42%
Sponsor Ownership (Class B)	51%	47%	47%
LP Value to SPWR & FSLR (\$Mn)	\$480	\$714	\$1,056
SPWR: Ownership of Sponsor Portion	\$272	\$405	\$599
FSLR: Ownership of Sponsor Portion	\$208	\$309	\$457
Estimated SPWR Shares (Mn)	133	133	133
Estimated FSLR Shares (Mn)	101	101	101
LP Value to SPWR	\$2.04	\$3.04	\$4.49
LP Value to FSLR	\$2.06	\$3.07	\$4.54

Source: UBSe, Company Filings

Companies Not Covered

Sunrun (RUN)

RUN's 2Q Guidance of 60MW would imply a flat quarter (vs Q1). The company continues to guide towards a backhalf weighted year.

Full-year guidance implies annualized growth of 39%

We note focus in the quarter is likely to remain around annual guidance of 285 MW, given SolarCity's double guidance cut over the last several quarters. Is the phenomenon limited to SCTY? Currently, 2016 full year guidance indicates a y/y growth rate of 39%. We note that this is relatively in line with *previous* SolarCity guidance implied growth.

Figure 76: Guidance vs Actuals

	SCTY		RUN		VSLR	
	Guidance	Actual	Guidance	Actual	Guidance	Actual
1Q 14	78-82	82	na	na	na	20
2Q 14	105-110	107	na	na	na	37
3Q 14	135-150	138	na	na	na	49
4Q 14	179-194	177	na	35	45-47	50
2014	500-550	504	na	115	150	156
1Q 15	145	153	na	37	40-42	46
2Q 15	180	189	na	42	63-67	66
3Q 15	260	256	54-55	56	na	62
4Q 15	280-300	272	na	68	na	59
2015	878-898	870	205	203	290-310	233
1Q 16	180	214	56	60	na	55
2Q 16	185	201	60	na	60	na
3Q 16	na	na	na	na	na	na
4Q 16	na	na	na	na	na	na
2016	900-1000	na	285	na	260	na

Source: Company filings

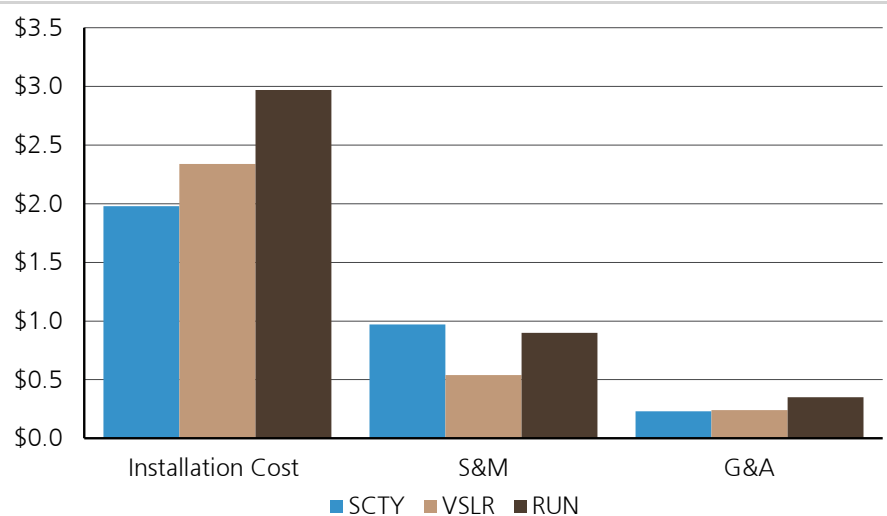
Consistent on Guidance so far

Based on the data shown above, we note that RUN has thus far largely met guidance on a limited data set. 2015A miss was largely attributed to Nevada issues, which was not repeated recently elsewhere. In comparison, SCTY has missed guidance or reduced future guidance several times of late, including shifting original 2016 guide from 1.25 GW to 0.95 GW most recently. Unlike SCTY, RUN has not lowered full year guidance, so we expect solar investors will focus on this contrast. RUN recently increased its working capital facility by \$45 million to \$250 million.

Cost Cutting

RUN's cost per watt lie significantly above peers, and we expect this to be another key focus.

Figure 77: RUN's cost exceed peers



Source: Company filings

What about the Batteries?

RUN launched a new energy storage business, BrightBox, earlier this year. Mgmt has not made any detailed comments on the profitability of BrightBox so far. Last week, RUN announced the addition of BrightBox to its profitable wholesale and retail business - it previously was only available through RUN's leasing platform. We note RUN receives the batteries for its leasing and retail business from TSLA, so a potential SCTY/TSLA merger could challenge this arrangement.

First Solar Inc

Decreasing PT to \$52; Maintain Neutral

2Q results could be quite weak

Management was quite clear in articulating that results would be just under 50% of EPS in 1H, suggesting 2Q results would be \$4.10-4.50 FY range *50% minus the \$1.66 of results posed, driving towards ~\$0.40-0.50. This is more of a timing issue as ramp of several large projects into 2H will backend weight. Specifically, Silver State South, McCoy, and Stateline are starting to ramp down while other projects like CA Flats, Switch Station, and Moapa sale should ramp earnings into the back half.

TetraSun Shutting Down

FSLR announced on July 5th it plans to shut down tetrasun allocated capacity in Malaysia to support further Series 5 thin film production, incurring charges of \$90-\$110M while reducing opex ~\$8-10M annually in the future. The company characterized the shutdown as a hedge against silicon that's no longer needed, but we note it also shuts FSLR out of the residential market again. Although the residential sector has had its own issues of late, longer term strategy shift could prove challenging for investors if the space comes back into favor.

Will FSLR tack back to projects development? Not yet.

FSLR's announced shift towards module developments was initially a play on the ITC extension in our view – more specifically, assuming it would not be extended. FSLR's market-leading position as a utility scale project developer in the US will not be lost in the course of several months, and we expect the new CEO will refocus the company towards project development at the next analyst day (likely March/April next year) or even as soon as later this year – likely during the 2017 guidance call if at all.

Valuation: Reducing from \$59 to \$52

We are shifting down our SOTP derived PT from \$59 to \$52 to account for our reduced confidence in free cash flow generation and tweaked estimates for 2017/2018 margins as well as CAFD valuation. Our 2017 and 2018 EPS shifts down from \$3.15/\$3.36 to \$2.56/\$2.79.

Equities

Americas
Semiconductors

12-month rating **Neutral**

12m price target **US\$52.00**
Prior: **US\$59.00**

Price **US\$47.76**

RIC: FSLR.O BBG: FSLR US

Trading data and key metrics

52-wk range	US\$73.21-40.81
Market cap.	US\$4.84bn
Shares o/s	101m (COM)
Free float	96%
Avg. daily volume ('000)	2,046
Avg. daily value (m)	US\$99.1
Common s/h equity (12/16E)	US\$6.08bn
P/BV (12/16E)	0.8x
Net debt / EBITDA (12/16E)	NM

EPS (UBS, diluted) (US\$)

	12/16E			
	From	To	% ch	Cons.
Q1	1.66	1.78	7	1.66
Q2E	0.39	0.35	-10	0.55
Q3E	0.95	0.99	5	0.90
Q4E	1.18	1.21	2	1.16
12/16E	4.15	4.30	4	4.25
12/17E	3.15	2.56	-19	2.97
12/18E	3.36	2.79	-17	3.57

Julien Dumoulin-Smith

Analyst

julien.dumoulin-smith@ubs.com

+1-212-713 9848

Jeremiah Booream, CFA

Associate Analyst

jeremiah.booream@ubs.com

+1-212-713 4105

Paul Zimbardo

Associate Analyst

paul.zimbardo@ubs.com

+1-212-713 1033

Highlights (US\$m)	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
Revenues	3,309	3,392	3,579	3,880	3,357	3,857	4,127	4,323
EBIT (UBS)	369	424	517	361	204	274	391	447
Net earnings (UBS)	355	462	546	446	267	293	403	458
EPS (UBS, diluted) (US\$)	3.72	4.55	5.37	4.30	2.56	2.79	3.82	4.31
DPS (US\$)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Net (debt) / cash	1,541	1,774	1,541	1,956	2,384	2,484	3,009	3,489
Profitability/valuation	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
EBIT margin %	11.1	12.5	14.4	9.3	6.1	7.1	9.5	10.3
ROIC (EBIT) %	13.3	15.3	15.8	9.7	5.4	7.0	9.6	10.8
EV/EBITDA (core) x	4.8	6.0	4.3	4.8	6.6	4.1	3.2	2.9
P/E (UBS, diluted) x	11.6	13.2	9.8	11.1	18.7	17.1	12.5	11.1
Equity FCF (UBS) yield %	16.9	8.0	(8.6)	7.4	9.4	6.1	11.3	12.6
Net dividend yield %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of US\$47.76 on 02 Aug 2016 19:35 EDT

NextEra Energy Partners LP

Updating PT to \$31 from \$25; Maintain Neutral

NEP's latest deal illustrates the positive of healthy parent sponsorship

We estimate NEP's latest deal inked to acquire Cedar Bluff and Golden Hills Wind Energy Centers from NEE provides a ~10-11% levered IRR (8-9% unlevered), among the healthiest offered since the YieldCo sector inception. We emphasize this deal is consistent with the ~9% levered IRR implied from the prior Seiling wind drop in Feb, and is substantially better than the 7-8% levered IRRs paid by CAFD to acquire its own projects from SPWR. We see the latest drop as illustrating not just NEE health, but importance of parent sponsorship thru the cycle.

Holding company leverage: Defining what the 'true' equity commitment is

Consistent with past drops, the transaction includes core project level debt in the form of \$253 Mn in tax equity. However, to fund the remaining \$312 Mn equity check, NEP has breaks this out with \$100 Mn in Holdco term loan, \$100 Mn in revolver borrowings and a further \$112 Mn in cash on hand. Given the desire to target 3.5x Holdco Debt/CAFD, the latest deal maintains parent leverage intact (when considering just the \$100 Mn Term Loan as permanent financing). As such mgmt was clear to emphasize that it (still) maintains \$300-400 mn of incremental HoldCo capacity. This implicitly assumes that the use of cash liquidity and revolver capacity is ultimately refreshed with (eg- revolver doesn't 'count'). Bottom line, while borrowing capacity remains, there is a clear use of liquidity for the deal. As of 1Q close, NEP had \$325Mn available on its revolver and \$133 Mn in cash, suggesting the bulk of its cash liquidity was utilized.

Aversion to Raising Equity Unwarranted?

We remain surprised by the relatively conservative approach to raising equity amidst the nascent willingness to invest (we suspect NEP could well lead the charge here).

Valuation: Updating PT to \$31 from \$25; Maintain Neutral

We are maintaining our 50/50 DPS Yield/DCF methodology but marking down discount rates. We apply a 6% DCF discount rate to derive 50% of the value and a 5% discount rate on 2018 yield to allow for NEP's industry leading position versus peers (at 6% average), which provides the other 50% of value. Our 6% DCF discount rate is derived from a spread to 30 year treasuries, appropriate for tail risk adjustments and longer term average.

Equities

Americas
Electric Utilities

12-month rating **Neutral**

12m price target **US\$31.00**
Prior: US\$25.00

Price **US\$29.89**

RIC: NEP.N BBG: NEP US

Trading data and key metrics

52-wk range	US\$32.79-19.91
Market cap.	US\$0.49bn
Shares o/s	16.3m (COM)
Free float	100%
Avg. daily volume ('000)	29
Avg. daily value (m)	US\$0.9
Common s/h equity (12/16E)	US\$2.32bn
P/BV (12/16E)	0.7x
Net debt / EBITDA (12/16E)	7.6x

EPS (UBS, diluted) (US\$)

	12/16E			
	From	To	% ch	Cons.
Q1	-	0.31	-	0.14
Q2	-	0.49	-	0.31
Q3E	-	1.78	-	0.30
Q4E	-	(0.69)	-	0.42
12/16E	1.04	1.12	8	1.15
12/17E	1.00	1.08	8	1.52
12/18E	0.99	1.05	6	1.79

Julien Dumoulin-Smith

Analyst

julien.dumoulin-smith@ubs.com

+1-212-713 9848

Paul Zimbardo

Associate Analyst

paul.zimbardo@ubs.com

+1-212-713 1033

Jeremiah Booream, CFA

Associate Analyst

jeremiah.booream@ubs.com

+1-212-713 4105

Highlights (US\$m)	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
Revenues	142	301	471	764	1,038	1,376	1,779	2,441
EBIT (UBS)	66	162	218	362	483	632	809	1,168
Net earnings (UBS)	6	3	10	60	91	129	179	357
EPS (UBS, diluted) (US\$)	0.36	0.18	0.62	1.12	1.08	1.05	1.06	1.62
DPS (US\$)	0.00	0.75	1.22	1.38	1.58	1.82	2.09	2.41
Net (debt) / cash	(1,800)	(1,836)	(3,447)	(4,652)	(5,975)	(7,622)	(9,556)	(11,764)
Profitability/valuation	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
EBIT margin %	46.4	53.8	46.3	47.5	46.5	45.9	45.5	47.9
ROIC (EBIT) %	-	6.4	5.7	6.0	6.0	6.1	6.1	7.2
EV/EBITDA (core) x	-	2.3	1.5	0.8	0.6	0.4	0.3	0.2
P/E (UBS, diluted) x	-	NM	57.0	26.7	27.8	28.5	28.1	18.5
Equity FCF (UBS) yield %	-	16.7	28.0	68.0	81.3	110.9	147.5	210.9
Net dividend yield %	-	2.2	3.5	4.6	5.3	6.1	7.0	8.1

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of US\$29.89 on 02 Aug 2016 19:35 EDT

NRG Yield

Updating PT to \$18 from \$16; Maintain Buy

New CEO shows enhanced independence expect new development efforts:

NYLD appointed its first independent President and CEO, Christopher Sotos, effective by the end of 2Q. Mr. Sotos has served on the NYLD Board of Directors since the IPO and was previously head of strategy/M&A at NRG; he will now serve solely as an NYLD executive. Most notably, we see this independent role as driving the potential for more strategic partnering with outside developers. We see a more robust ROFO list as accruing out of prospective new development deals. Further, we emphasize NRG does not appear poised to sell down shares given its own need for the cash dividends.

What are CVSR specifics?

We expect management to provide more specifics on CVSR dropdown or at least an update to dropdown progress. We believe 10% CAFD yield is reasonable based on previous disclosures, though NYLD is likely hesitant to tap the equity markets given only recent recovery in the space.

CVSR Drop Terms: \$150-200M to sell to NYLD

Based on previous NRG/NYLD disclosures the remaining stake of CVSR has \$55MnEBITDA/\$25Mn CAFD and NRG expects to raise \$150-\$200Mn. As of 3/31/16 there was \$780Mn of project-level debt at consolidated NRG Energy implying ~\$400Mn of debt associated with the drop-down. With a target transaction enterprise value in the range of \$550-\$600Mn we estimate transaction economics similar to the last EME wind drop-down (~11x EV / EBITDA and ~10% CAFD Yield). Specifically based on its guidance management is targeting 10-11x EV / EBITDA and a 13-17% gross CAFD Yield. In the figure to the right we show 9-12% net CAFD which we explain below.

Valuation: Updating PT to \$18 from \$16

We are maintaining our 50/50 DPS Yield/DCF methodology but marking down discount rates. We apply a 6% DCF discount rate to derive 50% of the value and a 7% discount rate on 2018 yield to allow for NYLD's shorter contracted timeline versus peers (at 6% average), which provides the other 50% of value. Our 6% DCF discount rate is derived from a spread to 30 year treasuries, appropriate for tail risk adjustments and longer term average.

Equities

Americas
Electric Utilities

12-month rating **Buy**

12m price target **US\$18.00**
Prior: **US\$16.00**

Price **US\$16.78**

RIC: NYLDA.N BBG: NYLD/A US

Trading data and key metrics

52-wk range US\$17.50-10.05
Market cap. US\$3.07bn
Shares o/s 183m (COM)
Free float 28%
Avg. daily volume ('000) 88
Avg. daily value (m) US\$1.3
Common s/h equity (12/16E) US\$1.79bn
P/BV (12/16E) 1.7x
Net debt / EBITDA (12/16E) 5.6x

EPS (UBS, diluted) (US\$)

	12/16E			
	From	To	% ch	Cons.
Q1	0.03	0.03	0	0.28
Q2E	0.44	0.38	-14	0.38
Q3E	0.41	0.38	-8	0.40
Q4E	0.16	0.27	68	0.24
12/16E	0.96	0.97	2	0.96
12/17E	0.96	0.97	2	1.16
12/18E	0.95	0.97	2	1.29

Julien Dumoulin-Smith

Analyst

julien.dumoulin-smith@ubs.com

+1-212-713 9848

Paul Zimbardo

Associate Analyst

paul.zimbardo@ubs.com

+1-212-713 1033

Jeremiah Booream, CFA

Associate Analyst

jeremiah.booream@ubs.com

+1-212-713 4105

Highlights (US\$m)	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
Revenues	313	583	869	898	896	895	894	894
EBIT (UBS)	128	225	280	538	536	535	534	534
Net earnings (UBS)	109	82	67	178	178	177	174	171
EPS (UBS, diluted) (US\$)	0.84	0.53	0.40	0.97	0.97	0.97	0.95	0.93
DPS (US\$)	0.60	1.44	0.84	0.95	1.06	1.19	1.25	1.31
Net (debt) / cash	(910)	(3,477)	(4,451)	(4,466)	(5,148)	(5,129)	(5,125)	(5,137)
Profitability/valuation	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
EBIT margin %	40.9	38.6	32.2	59.9	59.8	59.8	59.8	59.8
ROIC (EBIT) %	8.8	7.7	5.6	9.3	9.0	8.9	7.9	7.0
EV/EBITDA (core) x	9.8	9.1	6.1	3.4	3.0	9.2	8.8	8.4
P/E (UBS, diluted) x	19.4	42.6	51.3	17.2	17.2	17.4	17.6	18.0
Equity FCF (UBS) yield %	(7.1)	(33.4)	(12.1)	13.7	(10.7)	13.7	13.6	13.5
Net dividend yield %	3.7	6.3	4.1	5.6	6.3	7.1	7.4	7.8

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of US\$16.78 on 02 Aug 2016 19:35 EDT

8Point3 Energy Partners LP

Increasing PT to \$15; Maintain Sell

~\$800M mixed shelf signals willingness to raise equity

On July 1st, CAFD filed a mixed shelf for up to \$800M of class A shares which will be used for paying down debt, acquisitions, working capital or capex, according to the prospectus. We note yieldco performance of late directionally supports equity raise potential but we have yet to see market reaction on this front, particularly since Stateline and Henrietta are large projects

Another ROFO Adjustment: Delays push out earnings recognition for parents

In a recurring theme of late, CAFD waived ROFO rights to the ~250MW Moapa project in Nevada while swapping for the ~280MW (Total) California Flats projects – with substantially longer dated CODs of ~Dec 2018 vs Dec 2016 for Moapa. Interestingly, we note all recent ROFO waivers (Switch Station, 14% of Stateline, Moapa) are FSLR projects. ROFO substitution (vs offering with expectation of denial) would have the effect of shifting FSLR's earnings recognition out to '17/'18 in lieu of '16. In contrast, SPWR has remained consistent; its 40% margin recognition for CAFD drops is not affected by shifting

Credit Metrics Will Naturally Improve, All Else Equal

While the company is leveraging as much as it comfortably can today, upcoming seasonally high cash generation quarters (Q3 and Q4) imply a natural deleveraging (as credit metrics are on trailing CAFD) so we think management's ~5X leverage target over the next few quarters makes sense and aligns with what they will need to reach anyway by Q3'17 under the current covenants.

Valuation: Increasing PT to \$15 from \$11; Maintain Sell

We are maintaining our 50/50 DPS Yield/DCF methodology but marking down discount rates. We apply a 6% DCF discount rate to derive 50% of the value and a 7% discount rate on 2018 yield, in line with peer average, which provides the other 50% of value. Our 6% DCF discount rate is derived from a spread to 30 year treasuries, appropriate for tail risk adjustments and longer term average.

Equities

Americas
Electric Utilities

12-month rating

Sell

12m price target

US\$15.00
Prior: US\$11.00

Price

US\$16.67
RIC: CAFD.O **BBG:** CAFD US

Trading data and key metrics

52-wk range	US\$17.14-10.48
Market cap.	US\$0.59bn
Shares o/s	35.5m (COM)
Free float	100%
Avg. daily volume ('000)	162
Avg. daily value (m)	US\$2.5
Common s/h equity (11/16E)	US\$0.49bn
P/BV (11/16E)	2.0x
Net debt / EBITDA (11/16E)	16.5x

EPS (UBS, diluted) (US\$)

	11/16E	
	UBS	Cons.
Q1E	0.15	0.27
Q2E	0.01	0.50
Q3E	0.01	0.37
Q4E	0.06	(0.06)
11/16E	0.15	0.85
11/17E	0.13	0.71
11/18E	0.04	0.94

Julien Dumoulin-Smith

Analyst

julien.dumoulin-smith@ubs.com

+1-212-713 9848

Jeremiah Booream, CFA

Associate Analyst

jeremiah.booream@ubs.com

+1-212-713 4105

Paul Zimbardo

Associate Analyst

paul.zimbardo@ubs.com

+1-212-713 1033

Highlights (US\$m)	-	11/14	11/15	11/16E	11/17E	11/18E	11/19E	11/20E
Revenues	-	12	11	43	84	98	115	128
EBIT (UBS)	-	(3)	(7)	3	32	15	8	12
Net earnings (UBS)	-	(10)	19	9	11	4	(2)	1
EPS (UBS, diluted) (US\$)	-	(0.29)	0.53	0.15	0.13	0.04	(0.01)	0.01
DPS (US\$)	-	0.00	0.37	0.94	1.05	1.05	1.05	1.05
Net (debt) / cash	-	(260)	(242)	(330)	(572)	(781)	(834)	(900)
Profitability/valuation	-	11/14	11/15	11/16E	11/17E	11/18E	11/19E	11/20E
EBIT margin %	-	-27.8	-69.7	6.7	37.7	15.0	7.2	9.6
ROIC (EBIT) %	-	-	(1.8)	0.4	2.7	0.8	0.3	0.5
EV/EBITDA (core) x	-	-	<-100	66.0	24.0	19.8	15.2	13.2
P/E (UBS, diluted) x	-	-	27.6	NM	NM	NM	NM	NM
Equity FCF (UBS) yield %	-	-	(37.1)	(27.4)	(136.3)	(125.8)	(45.3)	(0.5)
Net dividend yield %	-	-	2.5	5.7	6.3	6.3	6.3	6.3

Source: Company accounts, Thomson Reuters, UBS estimates. Metrics marked as (UBS) have had analyst adjustments applied. Valuations: based on an average share price that year, (E): based on a share price of US\$16.67 on 02 Aug 2016 19:35 EDT

First Solar Inc Investment case

Shifting FSLR story largely revolves around the interplay between systems and modules business, with the company guiding to future mix of 20/80 systems/modules, which could expose the company to increased global supply/demand risk in the challenging module supply space. We are skeptical of the company's ability to continue to generate earnings growth without the more lucrative contribution from legacy projects business, and cash burn for module expansion remains concerning in a largely commoditized market.

NextEra Energy Partners LP Investment case

NextEra Energy Partners is NextEra Energy's YieldCo created in Summer 2014 to hold NextEra Energy's contracted assets. NEP is effectively addressing the major concern of delivering growth through accretive acquisitions for the foreseeable future given its pipeline of contracted 'clean' energy assets. Management accelerated the 2015 distribution growth to achieve the high IDR splits in 2015 with a 12-15% growth rate through 2020E. Despite having the best-in-class asset profile that is available for drop-down, we view material stock appreciation as limited currently given the already leading distribution yield vs peers.

NRG Yield Investment case

Shares around DCF value with attractive risk/reward: While our DCF only value is \$15, our overall valuation yields \$18, with NYLD class A shares trading at \$16.78 (lower than our yield-based valuation of \$21) , we believe the investors are not assigning value to possible strategic partnership revolving around NRG's renewable portfolio as well as with outside developers, and more robust ROFO list as accruing out of prospective new development deals . Additionally, recent underperformance of NRG's shares could potentially open the door of future accretive dropdown of Right of First offer (ROFO) assets to NYLD at lower multiple, adding further upside to NYLD's shares. Our valuation uses a 50/50 weight between the yield and DCF approaches.

8Point3 Energy Partners LP Investment case

While we view CAFD as a vehicle with high-quality sponsors, we see it trading considerably higher than the DCF of the current operating assets (\$10) and slightly lower than our current yield-based valuation (\$19). Our valuation uses a 50/50 weight between the yield and DCF approaches, supporting our view that valuation will be difficult to keep in light of capital needs into the back half.

Valuation Method and Risk Statement

Demand for solar is still largely dependent on individual country government intervention through tax rebates or tariffs although dramatic reductions in installed costs are changing those dynamics. Any material change in an individual country's position on support for solar energy could have a negative impact on the growth of the solar market. The solar industry is also in a state of flux as demand for solar modules has not kept up with capacity additions in over the last few years while regulatory matters and trade disputes create pricing distortions in certain markets. We expect the solar equipment industry will generally face pressure in the near term as industry supply adjusts to fluctuating supply/demand levels and excess inventory is removed from the solar supply chain. On the other hand, the increased presence of yield vehicles has brought cheaper financing to solar and has thus increased opportunities for solar installations globally, increasing module demand and setting the stage for a potential upcycle and mid-term volatility as the markets find equilibrium.

FSLR price target derived via SoTP. CAFD, NEP and NYLD based on 50/50 DPS Yield/DCF methodology but marking down discount rates.

Required Disclosures

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UBS Investment Research: Global Equity Rating Definitions

12-Month Rating	Definition	Coverage ¹	IB Services ²
Buy	FSR is > 6% above the MRA.	47%	32%
Neutral	FSR is between -6% and 6% of the MRA.	38%	25%
Sell	FSR is > 6% below the MRA.	15%	21%
Short-Term Rating	Definition	Coverage ³	IB Services ⁴
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	<1%	<1%

Source: UBS. Rating allocations are as of 30 June 2016.

1:Percentage of companies under coverage globally within the 12-month rating category.

2:Percentage of companies within the 12-month rating category for which investment banking (IB) services were provided within the past 12 months.

3:Percentage of companies under coverage globally within the Short-Term rating category.

4:Percentage of companies within the Short-Term rating category for which investment banking (IB) services were provided within the past 12 months.

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Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
8Point3 Energy Partners LP ¹⁶	CAFD.O	Sell	N/A	US\$16.67	02 Aug 2016
First Solar Inc ^{13, 16}	FSLR.O	Neutral (UR)	N/A	US\$47.76	02 Aug 2016
NextEra Energy Partners LP ^{2, 4, 6, 16}	NEP.N	Suspended	N/A	US\$29.89	02 Aug 2016
NRG Yield ¹⁶	NYLDa.N	Buy	N/A	US\$16.78	02 Aug 2016
SolarCity Corp ^{13, 16}	SCTY.O	Neutral	N/A	US\$24.42	02 Aug 2016
SunPower Corp ¹⁶	SPWR.O	Buy	N/A	US\$14.55	02 Aug 2016
TerraForm Power, Inc. ^{4, 6, 16}	TERP.O	Sell	N/A	US\$11.51	02 Aug 2016

Source: UBS. All prices as of local market close.

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