US Yieldcos and Solar
The Solar Race to the Bottom

Equities
Americas
Electric Utilities

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

2Q Results: Worse than Feared: What Now?

FSLR's initial 2017 thoughts coupled with SPWR's guidance cut and relatively cautious commentary from resi players overall suggests 2017 fears are playing out worse than even low expectations coming into 2Q. The question today remains to what extent is this adequately priced in – and could we continue to have more negative news? Datapoints suggest margins on panels themselves could yet be revised lower. The pressure for SPWR and FSLR has largely been a systems margin headwind and mix consideration rather than addressing pricing on the core panel product. Net-net, the bias across the sector remains more concerning. Even Resi remains surprisingly weak as competition from loans appears to be taking market share from lease providers – and causing the likes of SCTY and VSLR to tact towards these less profitable upfront sales

SPWR: The key debate in solar is whether others will follow their lead?

With still other (largely Chinese) solar players poised to report, the wider question remains how much compression will be exhibited in both downstream (project) development on margins as well upstream. While we think SPWR's margin pressures are in part due to a heightened expectations from its Analyst Day last Fall, we are concerned on the trend for developers more (FSLR principally). Applying similar margins to FSLR on systems yields a scenario where shares are trading today, but still see risks to margins on modules for FSLR (and others as well). Meanwhile the SPWR debate is whether it can buck wider concerns on resi (after utility-scale expectations have been largely removed from shares at current levels).

Yieldcos Are the Place to Be: Market Coming Back?

Equity appears to be gradually trickling back into the sector following PEGI's latest post-2Q offering as well as ongoing at-the-market equity offerings for both NYLD and NEP. We emphasize the sector continues to see YoY and QoQ DPS growth despite broader concerns on the structure for YieldCo's to work; we think the sector will continue to enjoy a bid amidst efforts to navigate through the solar developer downturn – and will benefit from capital flows towards the 'existing' asset owners.

But will the wider sector get a bid? This is the key debate

The wider debate remains whether the sector will continue on the M&A trend following disclosures from Brookfield that it was in discussions to purchase the remaining ownership stake from SUNE as part of its ongoing restructuring (on top of its existing TERP ownership acquired in the open market). Given the implied discount rate on our projected cash flows, we ask whether Brookfield or others will look at other public entities? We reiterate our Sell rating on TERP given continued consternation over its ability to extricate itself from the sector; while a bid for remaining shares remains a potential risk to the upside, we perceive several layers of issuers as remaining outstanding. The contrasting datapoint to TERP has been the inability to find a clear private equity buyer to take down stakes in the existing YieldCos. Specifically, NYLD discussed a private angle in addition to leverage or public equity to fund CSVR; no private equity investor materialized vs. 1Q update. Further, given limited parent drops we see a need to continue to source drop-downs from elsewhere in the sector, adding to potential M&A pressures to acquire pipeline. NYLD has been specific here too that it is in negotiations to enter into ROFO arrangements with entities other than NRG following the appointment of an independent CEO earlier this year.

Solar Pressures Galore, But Still Adding Capacity?

With capex still being spent to add supply, we believe we are not at the bottom yet

Even US companies are still adding, which is credible given intact balance sheets

The question is *when* will we see the 'bottom' of the solar cycle? We think akin to the 2011 downturn, it will be tied to lower projected utilization rates on facilities and rationalization of supply. By contrast, companies remain committed to adding new module supply; both FSLR and SPWR remained committed to adding new supply, potentially on an expedited basis on their 2Q update calls. As such, we think the inventory cycle and rationalization cycle has yet to force capex revaluation; this is likely to be driven as margins are all the more squeezed into 2017. We look for Chinese developer datapoints on facility expansion in coming weeks still. Irrespective of desires to add panel capacity (we agree that it is not a bad financial decision given the low capex required per Watt), ultimately it will be pricing and an inability to expand the solar market at such substantial supply growth. We maintain that FSLR and SPWR's efforts to shifts towards panel sales rather than downstream (and need to offset lost margin with volume) as only exacerbating the supply cycle. Bottom line, we stick with the wind sector, YieldCos, and those with low valuations.

Will the solar headwind have an impact on Wind?

Among the most asked questions of late is whether the headwinds experienced in the tax equity realm for Solar will spread to Wind? We think the higher financing costs as well as less competitive terms will have only a very modest impact on the wind side. Specifically, NEE has never specifically focused on high valuations at NEP to meet its NEE valuation (the overall SOP remains focused on a SOP with continued ownership rather than asset sale). Further given the more spreadout nature of PTCs relative to the front-end loaded nature of solar ITCs makes the solar market much more susceptible to shifts in tax equity assumptions (the tax equity market is dictated by annual tax absorption capabilities of developers).

NEE poised to perform on Settlement prospects at FPL

While the SPWR datapoint is cautious on NEE, we continue to emphasize the clear prospects for de-risking of this story around a settlement in its pending FPL rate case. We see a clear positive skew given the SPWR overhang emerging as well as concerns from many investors on what is the 'remaining' positive catalyst for NEE shares. The company appears poised to buck the wider trend in both Renewable and Utility landscapes – and raise long-term EPS guidance expectations on 2018.

Is tax equity a truly limiting factor? Utility-scale impacts appear clear.

Lastly, the latest datapoints from SPWR on tax equity appear focused on the valuation for projects by utility buyers (and their more limited tax appetite from bonus depreciation extensions received in December alongside the ITC) rather than necessarily any sudden reductions in tax capacity in the sector more broadly. We remain surprised by solar company 'surprise' around the reduction in desirability of solar assets as the sector's growth and corresponding growth in ITCs had seemingly outpaced the tax appetite of the utility sector in recent periods; with the latest extension of the ITC for a 5-year period, we think we could still yet see 'new' (non-utility and unconventional financial companies) enter the fray.

Resi: Is the Shift to Cash Sales Happening? We Think Yes.

Both SCTY and VSLR appeared to focus more efforts on leases in the quarter with VSLR's launch of the cash/loan product and SCTY's relaunch of the company's separate loan product recently. On the other hand, lease products remain RUN's key focus area. SPWR continued to highlight improving results on the non-lease DG side. However, we remain focused on how this phenomenon of lease vs non-lease plays out going forward. We think this divergence will only continue as SCTY seeks to expand its platform of loan providers, as well as shift its mix towards upwards of ~50% of total sales by ~4Q per comments on its call. The strategies will continue to diverge with two key variables: volume and margins (how much markets share will seemingly higher-margin leases lose – or can prices moderate to compete?)

Figure 1: Comparing Resi Solar Results

	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	65	60	61
3Q 16	170	na	na	na	na	na
4Q 16	315-415	na	na	na	na	na
2016	900-1000	na	270-280	na	na	na

Source: Company Reports

What Other Solar Company Reports Are Coming Up?

JASO: August 17, 8AM Call

Dial in: 866 519 4004 pwd: JA Solar

CSIQ: August 18, 8AM Call.

Dial in: 866 519 4004 pwd: 40195616

TSL: August 23, 8AM Call

Dial in: 855-298-3404 pwd: Trina Solar

YGE: August 23, 8AM Call

Dial in: 866-519-4004 pwd: 60248726

Company Reviews:

SCTY Q2 Review: Pressures Remain

The downside spread continues to widen

While we continue to predicate our price target on the TSLA deal price, we believe the downside associated with rejection by TSLA shareholders continues to increase in our view as execution risks continue to grow. This concern was reiterated with 2Q disclosures provided alongside the 10Q. While investors may have largely migrated from the equity value seeing this as principally a merger arb opportunity, the wider question remains whether the limited spread below deal price is appropriate. With TSLA shares having a market cap of north of \$30 Bn, the impact of acquiring the \$2 Bn market cap of SCTY would appear to have a limited total impact on overall valuation (<10%). The question for TSLA shareholders will be the incremental per annum cash deficit generated from this subsidiary. The merits behind the deal appear to be increasingly driven by the added financial strength of TSLA's balance sheet and the synergy improvements, largely driven immediately from SG&A (and then eventually around any storage synergies and corresponding customer acquisition cost improvements).

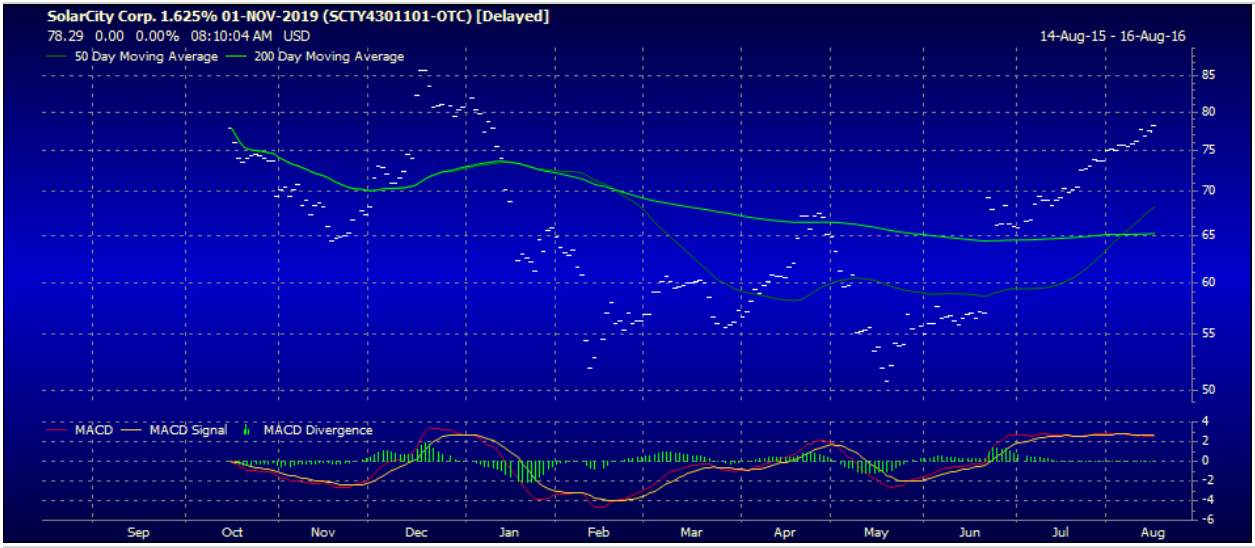
Fundamental Change language around TSLA deal; limits others?

Mgmt continues to note in its 10Q that the proposed acquisition by Tesla would not constitute a "Fundamental Change" according to the indentures of the convertible notes. The 10Q adds a new statement flagging this would appear to be a limiting factor for any other bidders of the deal given the trigger on seemingly all of its ~\$900 Mn in outstanding converts It can be further noted that for facilities purposes, mgmt has received a Change of Control waiver already around its pending Tesla acquisition; this is an incremental positive.

What about the credit? Meaningfully improved

While the equity has improved of late, we include the latest trading price for bonds of SCTY Converts, illustrating the improved financial qualify of the combined entity. We also see risk of a Fundamental Change trigger as further adding to credit quality of the deal.

Figure 2: SCTY 2019 Converts continue to improve



Source: FactSet

Covenant Focus Continued: More cautious language in the 10Q

Mgmt acknowledges it has sought and successfully received relief from creditors with respect to covenants in the first half, with the new requirements meaningfully less stringent, focusing largely on recourse liquidity rather than non-recourse cash interest obligations. Mgmt specifically further cites declines in its 'unencumbered liquidity' in both 1Q and 2Q. While our projections don't anticipate a breach any more, the degradation in metrics relative to mgmt. targets remains an overarching concern.

What about resi growth? Doubts remain

Is SCTY losing market share? Evidence of late suggests yes

Among the key concerning factors raised with 2Q results is the lumpiness of the 2H16 MW installations. Mgmt has guided to a largely flat outlook, but the key appears to be an acceleration in commercial installation backlog in 4Q (which would suggest more of a slowing in resi trends than previously anticipated). Further, it appears initial backlog in Mexico is materializing; these projects appear to be cash sales to C&I parties. Net-net, SCTY appears to be continuing to lose market share in the resi sector.

Is it competitive? Avoiding more competitive platforms

Despite a wider marketing commitment to providing consistent pricing for customers, we note SolarCity has actively avoided selling on online platforms as it would appear its offerings are increasingly uncompetitive vs. other independent providers. While the resi market appears to be increasingly expanding from a geographic perspective (including expanding Florida sales), SCTY appears to be losing out on pricing with its loan product. We note SCTY appears to recognize the limitations of leases, and consistent with VSLR peer, is tacking towards more leases rather than loans. We think SCTY and others could continue to push channels with the great margin propositions; the question is for well-known vendors, can they *afford* to sell through more competitive channels online?

No luck on panels, despite accelerated timeline

While confirming that its efforts in upstate New York was indeed ahead of schedule with 2Q17 target now, mgmt remains subject to the anti-dumping provisions on Chinese panels. The facility continues to appeal this decision, but this could materially reduce the profitability of the project. The economics of the panels had principally benefitted from higher US delivered panel prices from Chinese peers. The impact on panel sales has yet to be quantified in terms of utilization and overall profitability impact (we think this will garner more attention in 2017).

SPWR Q2 Review: Choppy Waters

What is next for the equity after 2Q results?

As the dust settles after the poor 2016 and 2017 guidance update, the focus has shifted towards just how 'bottomed' out are System expectations (seemingly substantially for 2017). Our model is consistent with mgmt. guidance that ~$300 Mn in EBITDA would translate to zero EBITDA contributions.

SPWR is now the play on resi and C&I growth?

Replaces SCTY as the focal point of resi solar interest

To this end, the next investor debate emerging is whether SPWR now principally a play on the resi and C&I markets remaining intact. While mgmt. is guiding for ~30% YoY growth in these two markets (consistent with the wider market), can they continue to do so at equal margins amidst the clear pressures seen with SCTY and RUN. SPWR has always emphasized loan and direct sales rather than lease.

- Latest marketing strategy datapoints: While it has been keen of late to lock up individual dealers to exclusively sell its higher cost panels and go direct to consumer – the question is whether its evolving marketing strategy will succeed? We note some caution that its higher panel costs remain a niche, but one that is more than fully reflected in its pricing today. Rather, it would appear that the warranty for the full life of the panels (~25-years), is among the key appealing factors to its direct Resi and C&I sales.
- Margin datapoints on resi and C&I: Net-net, while we admit some potential for execution pressure on resi margins, we think our modest C&I expectations could surprise to the upside.
- Valuation thoughts: Will SPWR get caught up in the depressed valuation cycle of the resi sector?

Total remains the investor focus: For investors sticking with shares, the key focus for them remains the support provided to shares from a larger entity backstopping the company and effectively providing a balance sheet support. We emphasize Total has continued its trend into Alternative Energy following its 2Q acquisition of Saft.

FSLR Q2 Review: Panels are King

Investor Feedback and next steps for FSLR?

Investors will likely be cautious to enter FSLR before 2017 guidance

With management attempting to be forthright on pressures in 2017 on its last quarter call – but especially after the SPWR call – we think investors will be cautious to come back into the equity prior to setting a low on expectations, likely around the ~December 2017 Guidance release. Should we set margins on systems business down to the single digit level and then hold module margins in mid teens, shares could come out in the high-30's. In turn, should modules continue to exhibit pressure down to 10% levels (as anticipated by some Chinese module manufacturers), this could yet indicate further pressure on shares. This is despite its projected net cash balance (~mid-teens per share). Net-net, the recent and upcoming datapoint could still weigh on shares.

Is the outlook even worse than what was provided at the Analyst Day? We think the situation has continued to deteriorate such that the projected cumulative cash burn could yet be revised down (eg – more negative) when updated around the 2017 guidance presumably. We see mgmt's strategy of maintaining ample liquidity on the balance sheet as a clear advantage and bearing out quite well amidst the ongoing observed pressures.

Yieldcos

CAFD: Parent's Losing Faith?

The initial signs of late suggest both FSLR and SPWR may be having second thoughts about CAFD-centric focus

While we have yet to hear any formal shift in commitment from either SPWR or FSLR, we note several datapoints suggesting CAFD is declining focus for the parents, though for differing reasons. FSLR's C-level management change provided a backdrop to change the composition of management's focus on the yieldco. CAFD's relative unwillingness to raise capital thus far has meant FSLR is effectively pushed to find outside buyers which might have been used for other projects.

FSLR Management Change Not Supportive of CAFD at C-Suite

FSLR's recent management changes consciously removed C-suite management at FSLR from CAFD's C-Suite. Mark Widmar (FSLR CEO, former CAFD CFO) and Alex Bradley (FSLR Interim CFO, former CAFD VP of Operations) replacements are associated with FSLR. Bryan Shumaker, the newest CAFD CFO, is currently FSLR Chief Accounting Officer while Max Gardner is currently VP of project finance and filling in the VP of Operations role.

FSLR: What is the future of CAFD under new strategic approach?

Among the potential causalities of the latest strategy for FSLR is the commitment to CAFD. While management appears patient to see if its YieldCo strategy bears fruit, we note the approach to a module only sales approach, de-emphasizing the development model leaves CAFD as less appealing. That said, with ~1GW in systems targeted next year, there is clearly no dearth of projects under way, only exceeded by NEE.

What about SPWR? Claims It's a 'Pillar' but some Questions Remain

SunPower recently highlighted that the dislocation in the yieldco market caused a shift in EBITDA recognition timing assumptions, leading to a $35-45M impact to guidance. Management continued to highlight that CAFD remains a core strategic pillar for SPWR, but the core test remains to be seen if CAFD can successfully digest Henrietta later this year, which could require several hundred million of capital (compared to recently disclosed $447M payment from Southern Company for 51% including tax attributes). Further, at the time of SPWR's analyst day, CAFD was trading just above $13/sh, while the yieldco is ~20-25% higher today at $16+. This suggests the possibilities that 1) analyst day guidance was predicated on greater than 25% CAFD share price increase following the Nov 12 analyst day 2) management has opted to prioritize CAFD drop down timing push out for capital market related reasons or 3) other factors caused SPWR management to shift assumptions related to the yieldco. Regardless, we think the decision to shift guidance *due to* CAFD drop down assumptions would highlight the precarious nature of relying on the yieldco, which could test management's focus on the yieldco going forward, particularly if Henrietta proves difficult to finance. Further, any undue reliance on debt (presumably project debt, though higher CAFD run rate could support some incremental parent debt) could render future drops increasingly difficult to rely on for parents, particularly given the *equity* stake that the parents maintain.

FSLR: What is the future of CAFD under new strategic approach?

Among the potential causalities of the latest strategy for FSLR is the commitment to CAFD. While management appears patient to see if its YieldCo strategy bears fruit, we note the approach to a module only sales approach, de-emphasizing the development model leaves CAFD as less appealing. That said, with ~1GW in systems targeted next year, there is clearly no dearth of projects under way, only exceeded by NEE.

NYLD: Looking for Partners & More

Overall, we remain quite positively inclined on shares of NYLD. We remain surprised by the degree of correlation between the parent and the YieldCo subsidiary, which is not the case with peers SPWR and FSLR. We saw the following from NYLD:

- Why were margins pressured? Street was concerned about the 100% leverage at CVSR, hence it traded down on Friday
- CVSR ratios intact: Debt service coverage ratios (DSCR) remain intact at CSVR despite 100% leverage given the low interest costs due to 2.8% DOE loan guarantee on the project finance.
- Finding partners: utility-scale wind remains the clearest hole in the development portfolio. We look for tangible developments this quarter with potentially several counterparties identified.

SunRun

Getting Closer to Goals

SunRun's above-guidance installation results of 65MW vs 60MW guidance compare to Q1 installs of 56MW, which is an improvement versus Q1 flat installations in Q4. Management highlighted the challenging YoY comps as the industry focused on volume growth last year. Unlevered NPV of $0.94 in the quarter was just shy of the company's $1/w target. Cash and third party loan mix was ~16% in the quarter and mgmt sees this in the mid teens to 20% range into the back half of the year. Company guides to Q3 of 72MW and implied Q4 guide (at midpoint of FY guide of 270-280MW) of 77MW.

Loan Vs Lease

While acknowledging the debate on loan vs lease on the call, RUN highlighted the benefits of leases (by pointing out the depreciation benefit to companies and the shift down in tax benefits in 2022) while maintaining focus on leases going forward. The company highlighted management's estimate that there are 5 times more "solar ready homes" in California than currently installed, which implies incremental 15-20GW of residential solar potential. The company also highlighted selective pullback in some areas of the business, which would support a refocus on the 'core' resi solar markets like California and the Northeast, though management declined to comment in depth on specific breakdowns and growth between markets.

RUN: Making the Case for the Lease/Commercial Ownership

RUN's Chair Ed Fenster continued to make the case for the economics of leases last week on their 2Q call, emphasizing the shift towards loans was an implicit acknowledgment for the need to find immediate cash (given the lack of need for tax equity), rather than a more competitive offering. Fenster was largely focused on the recognition that the commercial ITC was extended for a longer period of time and permitted a higher base level of ITC recognition.

Past 2Q Note Rehash

SPWR: Summarizing our 2Q Note:

Explaining the Situation

The latest developments for SunPower with 2Q results were surprising to many investors, with SPWR viewed as among the most 'resilient' to the ongoing solar downturn. It was the problematic utility-scale self-development business that drove the problems tied to the business, consistent with issues elsewhere in the sector – and the clear concerns expressed by investors for some time. Mgmt's confidence in recent quarters and bullish view at the time of its Analyst Day had alleviated concerns raised previously on this compression risk. The question will be how management can regain credibility as a premium story given its premium product amidst its substantial guide down in the latest quarter. We see the latest datapoints as the most negative developments thus far in the ongoing solar downcycle and represents substantial risk to the downside for the balance of the sector – both across module sales as well as for developers. This would appear to be a cautious comment for independent solar developers as well given the limited margin to no margin available for even integrated manufacturers such as SPWR.

Interest Rates are Low – How are Hurdles Going Up?

Among the critical questions raised by SPWR's latest guidance is how to explain the increase in investor hurdle rates amidst record low interest rates. We flag the YieldCo sector has recently recovered to recent relative heights once more in equity valuations as well, with the Yield cycle poised to recover. Further, we find it notable for mgmt. to cite challenges in higher hurdle rates amidst its YiedlCo subsidiary having the best valuation of peers in the sector. The question si whether higher margins at the time of its Analyst Day had been predicated on a higher equity valuation for CAFD to ensure a lofty valuation for its developed projects in terms of sell-down.

Tax equity and the bonus depreciation cycle

Among the real dynamics that has emerged of late is the higher cost of tax equity and more limited tax appetite for utilities. The more limited appetite is due to bonus depreciation extension, which satiated the tax appetite for many utilities through much of the decade. In turn, hurdle rates because of the deferred tax benefits have been increased for the potential utility buyers approached previously.

The Henrietta Datapoint: This is probably not the lone datapoint?

We had been constructive into 2Q results principally on the back of the $447 Mn agreed for the 100MW 51% stake in the Henrietta project (as well as 10% further stake in another 74MW solar project in nC); we note of this sum, SO appears to be paying ~$150 Mn for the ITCs and ~2/3rds for the PPA attributes. Bottom line, this datapoint had appeared quite robust to us, particularly following on the heels of a ~14x EV/EBITDA transaction to NYLD yesterday. Net-net, it would appear this sale was in some respects a selectively advantaged project given the meaningfully above-market contract for the project. Mgmt further acknowledged that Henrietta would substantially contribute to 3Q results – likely driving the bulk of the higher EBITDA on offer.

Signing negative margin PPAs? Admitting problems from last year.

Among the most cautious datapoints from the call was the admission that under the current backdrop of market conditions, certain PPAs signed last year did not appear economic any longer due to an inability to monetize at positive margins. We emphasize the utility-scale business posted a negative -1.6% aggregate margin overall in the current quarter.

Will the latest doubt on the sector push PPAs higher?

We've noted for some time the willingness of developers and buyers of infrastructure like assets alike to take lower returns—and in-turn sign progressively lower market rates on PPAs. SPWR garnered attention last year for signing high $30/MWh PPAs in Nevada; it states in its presentation concerns around PPAs signed below $50/MWh more broadly. The question is precisely what had mgmt. been assuming at the time of those deals to ensure adequate margins were achieved?

What's the big readthrough? FSLR.

We see the SPWR datapoints on utility-scale datapoints as particularly cautious for the predominantly utility-scale developer FSLR as it looks to next year. In tandem with datapoints of a substantial sell-down of mgmt's equity yesterday, we think there could yet be further pressure on FSLR shares tomorrow following their own weak guidance last week. We note our margins in our FSLR model continue to reflect high teen margins in future years. The SPWR challenges only further validate the shift in margin towards a panel-only focus away from self-development.

Just How Weak is Power Plant Segment Guidance?

2017 preliminary guidance included essentially only DG profitability with neutral power plant EBITDA, while power plants would actually be a substantial contributor to volume targets in light of SPWR's 1.1GW deployment range for power plant (50% of which is contracted). While we have long thought go-forward power plant margins would be challenging, EBITDA break-even suggests the PPA atmosphere is borderline uneconomic, though management appears to be attempting to take all of the negative news in one quarter in this instance. We note the company suggested some project push outs from 2016 to 2017-18, which could imply an even more challenging PPA atmosphere than we had expected. However, we think the company is unlikely to bid the majority of projects at uneconomic margins and this suggests that SPWR is taking a more conservative approach to external projections. Past Oasis rollouts have been above the company's expectation, so we think there is a healthy level of conservatism baked into power plant assumptions today.

DG is the Saving Grace: But Less Visibility could pressure multiple

We are reducing our multiple to 6x from 7x to reflect this reduced confidence in forward estimates

SPWR's more pronounced pivot to the DG business suggests the strength of the company's diversified model is working, though the continued shift to cash sales could actually impact adjusted EBITDA in the near term as tax monetization is more easily achieved from leases. Nonetheless, challenges on the utility front are clearly more pronounced than management had expected while management noted continued demand for the resi products, particularly the integrated Equinox product. However, DG is an inherently short cycle business and we note the company's near term focus on DG should allow a more meaningful change in the power plant business as the company continues to bid on 2018 large scale projects. We view this as the latest example of an opportunistic 2017 expectations reset (FSLR being the first), which will allow the company to implement the tough choices needed to make 2017 the trough year while still maintaining the core business lines.

Refocusing Some Module Production to Remain Competitive

SPWR's shift of module assembly from the Philippines into Mexico suggests the company is doubling down on North and South American Markets in some respects – a decision which has already proven advantageous with the recent ~500MW Mexican project win. In an increasingly challenging PPA environment, local manufacturing and associated project bidding benefits should serve the company well both in the US and emerging South American markets. Mgmt emphasizes it is not reducing total planned MWs at this time with a shift way from system development effectively backfilled with lower nominal margins for module-only sales, effectively the parallel strategy pursued by FSLR.

The Rise of the Global IPP: Competition Beckons

In many ways the latest pressure playing out on SPWR is the concern we raised last year around SunEdison pertaining to an increasingly competitive backdrop of IPPs, Utilities, and Solar Developers all focused on building out projects amidst a modest pullback in the US market given timing of many projects into the 2016 period. The question is whether European peers such as Enel will continue to leverage their exceptionally low cost of capital to compete down returns for higher cost of capital independent developers such as SPWR. Amidst limited opportunities elsewhere for investment dollars for the likes of these IPPs, we think pressures on solar returns could remain. The question is whether the zero-orosingle digit margins implied by SPWR are truly accurate where even integrated vendors cannot

Where is management focused now? Self-Development in select markets

Mgmt emphasizes it will focus only on constructing and owning projects in the US, LatAm, and France. It also appears to add Japan to this list, at least in terms of projects already under development with modestly higher margins. Specifically, it sees higher margins available in Mexico and Chile; we attribute these to locational advantages and supplier benefits for in-country manufacturing in the Mexican case and more credit-specific considerations for development in Chile with bilateral exposure to mostly large miners.

Total opportunities in Africa and Middle East remain the further angle

Mgmt stresses in the international arena it would continue to pursue opportunities on largely an equipment basis (lower total revenue opportunity), with a focus on cross-marketing in regions where Total has substantial market share. While this angle has yet to meaningfully play itself out, we think this is indeed a real eventuality.

What's our Call on SPWR Shares?

We believe a meaningful recovery in shares could be a 2017 event as future 2018/19 utility-scale margin recovery will become more tangible. Further 2017 should provide greater comfort around the continued buildout of panel supply – and efforts to rationalize. We emphasize the downside is likely limited to the extent Total is willing to buy back in the equity to limit complete collapse of the project. While the most negative 2Q call update yet – we suggest investors not overreact to datapoints amidst what appears a potential for improvement later this decade. At a minimum, a repositioning of the company around lower O&M

without this business segment and/or shift towards more resi business could be the next move in a protracted downturn for utility-scale.

FSLR: 2Q Note Summary

The future is panels for FSLR

FSLR increased Series 5 capacity expectations from 365Wp to 365-390Wp per panel

Contrary to any expectation that FSLR would backtrack from its focus on panel production, management doubled down and provided incremental details and thought processes around series 5 and 6 rollout. In fact, series 5 expectations were subtly increased – analyst day guidance suggested S5 panels would be 365MW, while Q2 slides highlight a *range* of 365-390W, while S6 is scheduled to be above 400W. For comparison, multi-c-Si are typically in the ~315Wp+ range while including PERC technology increases this to ~330Wp, according to FSLR's analyst day slides.

Margins reaching a low in 2017?

Mgmt stated on its latest call that it would see the lowest margins through the balance of this decade in 2017. We believe this is largely due to a mix of 1) lower margins from 2/3 series 4 and lower revenue/margins from projects. Our rough math suggests incremental project additions of late included ASP in the $1.30 range – likely including 16MWac of PPA's in India which is substantially lower ASP vs US projects.

Figure 3: What are Future Project ASPs? Likely in the $1.30 Range

Q1 Results Data		Q2 Results Data		Implied		Implied Module ASP mid Q2 to mid Q3	
Jan - Apr 27	600 MW	Through Q2	800 MW	Implied April 27 - Aug 3	800 MW	Modules Only	550
		Q2 -> Aug 3	600 MW			Module ASP	$0.50
		Total Since Q1	1400 MW			Revenue	$275
	($M)		($M)		($M)	Project Revenue	325
Bookings --> April 27	$300	Bookings -> Aug 3	$900	Implied Bookings	$600	**ASP/W**	**$1.30**
						*Rough math, depends on	
Rev/Watt	$0.50	Rev/Watt	$0.64	**Implied Rev/Watt**	**$0.75**	250MW bookings timing	

Source: Company Filings, UBSe

What does Margin 'Trough' mean for 2017?

Could management roll out series 5 sooner than expected and keep the margin?

Management appears to be increasingly confident in the margin profile of the panel business as series 5 and 6 roll out. Successful rollout of Series 5 earlier than expected could see this play out even sooner than expected, providing a degree of support to 2017 margin guidance when the company provides later this year. However, the real opportunity remains 2018 and 2019 in our view. Since expectations appear to largely price in a trough 2017, management could use this as an opportunity to speed up the transition and gain a leg up on the competition in this instance (by completing the upgrades sooner than expected and keeping the margin benefit on advanced panel production).

Admitting it could yet shift out recognition of the Stateline project into 2017

Among the key questions on the Street of late has been the potential for 2016 results to prove sufficiently intact that mgmt. would push out project recognition into 2017 to boost results. Mgmt overall has 400 MWs of systems locked in for 2017 and is targeting 1GW overall. It is not clear to what extent this 1GW is inclusive of the remaining owned stake of Stateline (102MWac for ~34% remainder).

Shift to Series 5 Shuts Down the EPC Business

As part of a larger shift to series 5 production next year (1GW of actual panel production), FSLR is shutting down its EPC business while maintaining the traditional project development and module production sides of the business. Historically, FSLR's EPC business was largely viewed as a core differentiator as it was inherently tied to the project development business. This link is being broken as the company effectively seeks to (in a sense) commoditize aspects of its panels, leaving the differentiation to the technology rather than the physical size. Series 5's ability to fit into traditional racking could prove the merits of FSLR's technology on its own. Considering the company's previous success with non-standard panel sizes, foregone EPC margin (likely lower vs project development and potentially panel production as well) may be more than made up for by heightened volume appeal longer term.

What projects are in Guidance?

Stateline, Moapa, and California Flats are expected to close during the second half of the year, though 34% Stateline could be pushed out according to management; this seems largely dependent on CAFD's ability to come up with the appropriate level of capital. We perceive the delay of Stateline could itself push 2017 back towards a ~$3 EPS figure.

2016 results doing well – and more cost savings coming too

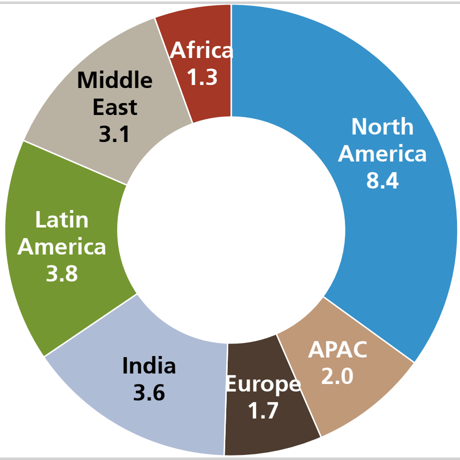
We emphasize the guidance revisions during results were clearly constructive and bode well to shifting EPS into 2016. We note the non-GAAP O&M charges are principally related to the write off of Tetra Sun, rather than cash O&M impacts. Rather, the shift to the upper end of its EPS guidance range on a core basis is positive although many investors are already prone to believe FSLR delivers consistently conservative guidance.

What are the Future Opportunities?

FSLR highlighted a number of international opportunities including 200MWac in India and 53MWdc power plant in Zambia. The lion's share remains in North America, and we expect incremental opportunities in Georgia are not included in this number, for example.

53MW power plant in Zambia could be a sign of the elusive Africa opportunity picking up for FSLR

Figure 4: 24GW of FSLR Bookings Opportunities



Source: Company Filings, UBSe

Management is selling

We note that following his resignations as CEO of FSLR on June 30th, Dir Hughes has sold 267,689 of his 356,429 FSLR shares, approx. 75% of his total share in the company. Dir Hughes sold his shares on two separate days, on Aug 4th, 154,852 at a price of $44.53, and on Aug 5th, 25,596 shares at a price of $43.8, for a total of $8M. We see the Mr Hughes choice to sell 75% of his shares at about a month and a half after his resignation as CEO as a cautious datapoint.

Ex-CEO sells off 75% of his shares in FSLR for $8M.

How to Reach 1GW in 2017? FSLR already Halfway there.

Management highlighted ~400MWdc of projects for 2017 is already booked, but we note disclosures in the 10Q include significant India Projects and Japan projects which span two years, which provides some fluidity to the estimate. Aggregating all of the projects likely to be built before the end of 2017, we note ~560MWdc (~469MWac) included in FSLR's project list, some of which will be substantially completed even before 2017 starts. The new management did not make any specific comments about Switch Station Projects recently in particular, which we note could be worth ~$300M+ revenue in our view. We believe adding incremental 400-500MW is largely achievable particularly in light of recent strong interest from utilities of late expressed from Dominion, Southern, and others.

Could FSLR start a relationship with Dominion and Capitalize on the existing partnership with Southern to make up 2017?

Figure 5: FSLR 2017 Projects

2017 Projects			
Project Names - Confirmed	MWdc	% Built	
Sold - Helios, Hondorus	30	1%	
	MWac	% Built	MW Left to completion
Unsold - India (2016/2017)	300	59%	123
Unsold - Switch Station 1	120	15%	102
Unsold - Switch Station 2	95	2%	93
Unsold - Japan (2017/2018)	71	4%	68
Unsold - Cuyama	48	23%	37
Total (Including Japan)	634		
Potentially Sold in 2017	563		423

Source: Company Filings, UBSe.

FSLR 2017: What Else Did We Learn?

We highlight some of the key details here on 2017 from the FSLR call.

Figure 6: Select FSLR Commentary on 2017

Select 2017 Details and Commentary		
Focus	Data	
Quarterly Systems Bookings	83 MW	1/3 of 250MW
Target 2017 Bookings	1000 MW	
	Series 4	Series 5
Module Production	~1000 MW	~2000 MW
Stateline (34%)	Could be Sold?	
Margin	Lower end of "the Range"	
Product Margin	Series 4 = margin pressure in 2017	
Why lower margin?	Series 4 still 2/3 of production	
How much 2017 Series 4 is contracted	Some is contracted, some needs to be sold through 2017	
When is margin "Fixed"?	End of 2017 with complete series 5 rollout will support margin	
Confidence around incremental bookings needed for 2017 systems	Of the 600MW needed (to reach 1,000MW contracted for 2017), high conviction on 300MW	
Cash at the start of 2017	~$2B by end of 2016	

Source: Q2 FSLR call Transcript, UBSe

VSLR Q2 Review – Focusing on Quality

VSLR Beats Estimates. Positive signals for the residential solar sector.

VSLR beats Q2 guidance while lowering cost to all-time low of $2.94

We note more favorable view on residential solar as of late, with VSLR earnings exceeding street's estimates. VSLR saw 116% y/y revenue growth as well as a 2% decrease in cost per watt, and resulting in a significant drop in loss from operations from ($72.3) in 2015 to ($36.5). While only 2% y/y, when comparing Q1 to Q2 result, its Q1 VSLR cost per watt were $3.34. The ability to reduce cost vs Q1 provides some visibility on what to expect for other sector participants, and emphasizes that further significant cost reductions are possible for the sector. We also point to another positive for the overall sector: MW growth. VSLR exceeded their guidance for MW deployed at 61MW, reversing the downward MW deployment trend over the past four quarter. This exceed could be indicative of the ability of some players to continue to grow and meet targets. In the past VSLR has shown strength in meeting guidance 4Q14-2Q15, but saw some upsets for 2015, surrounding the unsuccessful SUNE deal. VSLR's peers RUN and SCTY have shown mixed ability to meet guidance, with RUN meeting or being fairly close to guidance for the past year. SCTY on the other hand has illustrated some difficulty in meeting targets as seen by the red highlighting below; moreover, while SCTY has met guidance in the past two quarters that was based more guidance cuts than achieving previously estimated growth.

Announcing Company Changes, Moving into Direct Sales/Loan Business

VSLR increases prices in approx. half of service territory

During the call, interim CEO David Bywater laid out the company's strategy for the upcoming quarters. Focus will be on creating a sustainable business model through sound economics and flexible pricing, enhancing the customer experience by stream-lining the process from contract signing to PTO, joining together energy production and consumption through a partnership between Vivint Solar and Vivint Smart Home, improving per watt economics by raising prices in some states, and finally, supporting growth by moving into the cash and loan sales business. *We see these new trends as indicative that the market is moving away from the SCTY quantity-focused business model of larger MW deployment, towards a more quality and cost focused business model.*

Moreover, the shift towards cash and loan business is in contrast to SCTY more recent slowdown in growth in the direct sales business. Based on the expected changes for the next quarters, VSLR did not provide concrete guidance for future quarters growth, but said it would fall somewhere in line with deployment in Q1 and Q2. In terms of cost per watt, mgmt points out that these will largely be depended on MW deployment as the majority of them are fixed cost.

Figure 7: Solar & YieldCos Comps Table

	Ticker	Rating	Market Cap. ($ in millions)	Price 8/16/2016	Price Target	Dividend Yield	Short Interest	Days to Cover	P/E Multiple 2016E	P/E Multiple 2017E	P/E Multiple 2018E	P/E Multiple 2019E	Earnings Per Share 2016E	Earnings Per Share 2017E	Earnings Per Share 2018E	Earnings Per Share 2019E	EV / EBITDA Multiple 2016E	EV / EBITDA Multiple 2017E	EV / EBITDA Multiple 2018E
SOLARCOs																			
First Solar Inc	FSLR	Neutral	3,863	37.74	52.00	0.00%	16.1%	7.7	8.8	14.8	13.5	9.9	4.30	2.56	2.79	3.82	5.1	7.2	2.8
SunPower Corp	SPWR	Buy	1,485	10.75	13.00	0.00%	26.7%	9.2	37.9	17.0	7.9	5.8	0.28	0.63	1.36	1.84	11.3	8.8	3.1
Canadian Solar Inc.	CSIQ	Not Rated	756	13.08	NA	0.00%	11.9%	3.0	5.3	4.8	na	na	2.48	2.73	na	na	5.4	na	na
Hanwha Q Cells Co.	HQCL	Not Rated	1,051	12.64	NA	0.00%	na	14.7	15.8	na	na	na	0.80	na	na	na	na	na	na
JA Solar Holdings Co.	JASO	Not Rated	370	7.78	NA	0.00%	na	12.0	5.6	5.8	na	na	1.39	1.35	na	na	3.2	na	na
JinkoSolar Holding Co.	JKS	Not Rated	611	19.48	NA	0.00%	na	9.2	4.1	3.5	na	na	4.70	5.62	na	na	3.7	na	na
SolarCityCorp	SCTY	Neutral	2,383	23.76	25.37	0.00%	33.7%	6.5	nm	nm	nm	nm	-4.92	-2.89	-2.12	-1.96	-14.7	-38.5	123.5
Vivint Solar Inc.	VSLR	Not Rated	354	3.29	NA	0.00%	NA		nm	nm	na	na	-1.99	-2.47	na	na	-34.6	na	na
SunRun	RUN	Not Rated	621	6.09	NA	0.00%	24.4%	24.0	nm	nm	na	na	-1.63	-0.54	na	na	-43.2	5.5	-3.9
SolarEdge Technologies Inc.	SEDG	Not Rated	744	18.26	NA	0.00%	NA		9.1	9.2	na	na	2.00	1.98	na	na	na	na	na
Trina Solar Ltd.	TSL	Not Rated	976	10.55	NA	0.00%	NA		13.2	9.3	na	na	0.80	1.14	na	na	4.9	na	na
Yingli Green Energy Holding Co.	YGE	Not Rated	77	4.25	NA	0.00%	NA		nm	nm	na	na	-4.08	-0.93	na	na	7.5	na	na
Zep Inc.	ZEP	Not Rated	NA	NA	NA	NA	NA		na	na	na	na	na	na	na	na	na	na	na
Enphase	ENPH	Not Rated	85	1.82	NA	0.00%	NA		nm	nm	na	na	-0.56	-0.08	na	na	3813.8	na	na
Average									12.5	9.2	10.7	7.9	0.3	0.8	0.7	1.2	2.3	-7.5	31.4

		Rating	Market Cap. ($ in millions)	Price 8/16/2016	Price Target	% Public Float	Short Interest	Days to Cover	Dividend Yield (%) 2016E	Dividend Yield (%) 2017E	Dividend Yield (%) 2018E	Dividend Yield (%) 2019E	Dividend Growth Rate 2016E	Dividend Growth Rate 2017E	Dividend Growth Rate 2018E	Dividend Growth Rate 2019E	EV / EBITDA Multiple 2016E	EV / EBITDA Multiple 2017E	EV / EBITDA Multiple 2018E
'PRIMARY' YIELDCOs																			
8point3 Energy Partners	CAFD	Sell	1,147	16.15	15.00	28.1%	5.7%	7.9	6%	7%	7%	7%	116%	13%	11%	0%	18.0	13.1	16.4
Hannon Armstrong Sustainable Infrast	HASI	Buy	999	23.06	22.00	94.2%	3.6%	7.8	5%	6%	7%	7%	14%	12%	13%	0%	na	na	na
NextEra Energy Partners LP	NEP	Neutral	2,943	30.66	na	43.8%	0.3%	0.7	5%	6%	7%	7%	44%	17%	16%	8%	8.2	7.3	na
NRG Yield	NYLD.A	Buy	3,264	16.45	18.00	48.6%	6.5%	11.3	6%	6%	7%	8%	13%	12%	12%	5%	8.4	7.6	na
Pattern Energy Group A	PEGI	Not Rated	1,753	23.02	na	76.4%	14.4%	13.4	7%	8%	8%	8%	10%	10%	10%	0%	13.8	13.4	na
TerraForm Power	TERP	Sell	1,052	11.52	6.00	88.8%	16.2%	7.1	12%	12%	12%	12%	4%	0%	0%	0%	10.1	9.9	na
Tranaslta Renewables	RNW-CA	Not Rated	3,207	14.31	na	40.2%	na	5.9	6%	6%	7%	7%	7%	4%	3%	0%	10.3	9.6	na
Average (Ex-TERP)									5.8%	6.4%	7.1%	7.3%	34%	11%	11%	2%	10.3	9.6	16.4
'SECONDARY' YIELDCOs																			
Algonquin Power & Utilities Corp.	AQN-CA	Not Rated	3,321	12.18	na				4%	5%	5%	5%	-2%	9%	8%	0%	2.8	6.4	na
Brookfield Renewable Partners LP	BEP.UT-CA	Not Rated	11,926	39.89	na				6%	6%	6%	6%	na	5%	6%	0%	na	na	na
Capital Power Corporation	CPX-CA	Not Rated	2,028	21.10	na				7%	8%	8%	8%	-5%	6%	5%	0%	8.3	7.7	na
Greencoat UK Wind Plc	UKW-GB	Not Rated	707	1.17	na				5%	5%	6%	6%	6%	1%	2%	0%	na	na	na
Innergex Renewable Energy Inc.	INE-CA	Not Rated	1,562	14.46	na				4%	5%	5%	5%	-3%	3%	4%	0%	12.6	14.6	-9.5
Renewables Infrastructure Group Limi	TRIG-GB	Not Rated	820	1.07	na				6%	6%	6%	6%	-4%	2%	2%	0%	na	na	na
Average									5%	6%	6%	6%	-2%	4%	5%	0%	8.3	7.7	-9.5
GLOBAL' YIELDCOs																			
Abengoa Yield PLC	ABY	Not Rated	1,930	19.26	na				7%	10%	10%	10%	-1%	37%	2%	0%	9.3	na	na
Saeta Yield SA	SAY-ES	Not Rated	739	9.06	na				8%	9%	9%	9%	-6%	4%	11%	0%	8.3	8.6	na
TerraForm Global	GLBL	Not Rated	404	3.46	na				15%	13%	NA	NA	-52%	-16%	na	na	3.7	8.9	na
Average									10%	10%	10%	10%	-20%	8%	6%	0%	7.1	8.7	na

Source: UBS estimates for companies under coverage; all others are Factset

Figure 4: Global Solar & YieldCos Comps Table Continued…

Global YieldCos	Ticker	Rating	Market Cap. ($ in millions)	Price 8/16/2016	Price Target	% Public Float	Short Interest	2015E	Div Yield 2016E	2017E	2018E	2019E	Div Yield Growth 2016E	2017E	2018E	2019E	Earnings Per Share 2016E	2017E	2018E	P/E Multiple 2016E	2017E	2018E	EV / EBITDA Multiple 2016E	2017E	2018E
Bluefield Solar Income Fund	BSIF-GB	Not Rated	310	1.00	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	48	0.95	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	707	1.17	NA	92.4%		8%	5%	5%	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	346	1.04	NA	96.6%		9%	6%	6%	na	na	-27%	2%	na	na	-0.02	-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	24	3.27	NA	#N/A		0%	0%	0%	na	na	na	na	na	na	-0.23	0.07	na	na	47.1	na	10.9	na	na
Good Energy Group	GOOD-GB	Not Rated	37	2.23	NA	58.0%		2%	1%	2%	2%	na	-34%	3%	21%	na	0.09	0.15	0.23	23.7	15.1	9.8	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	1,930	19.26	NA	na		7%	7%	10%	10%	10%	-1%	37%	2%	0%	0.59	0.89	1.07	32.7	21.6	18.0	9.3	na	na
Saeta Yield SA	SAY-ES	Not Rated	739	9.06	NA	na		8%	8%	9%	9%	9%	6%	4%	11%	0%	0.36	0.61	0.70	25.1	15.0	13.0	8.3	8.6	na
TerraForm Global	GLBL	Not Rated	404	3.46	NA	64.2%		13%	15%	13%	na	na	18%	-16%	na	na	-0.06	0.09	na	-54.6	39.9	na	3.7	8.9	na
Average - Global YieldCos									6%	6%	7%	10%	-11%	5%	9%	0%	0.1	0.3	0.7	6.7	27.7	13.6	8.1	8.7	na
Average - Primary and Secondary YieldCos (Ex- TERP)									6%	6%	7%	7%	18%	8%	8%	1%							10.3	10.0	3.4

Source: UBS estimates for companies under coverage; all others are Factset

Valuation Method and Risk Statement

Risks for Utilities and Independent Power Producers (IPPs) primarily relate to volatile commodity prices for power, natural gas, and coal. Risks to IPPs also stem from load variability, and operational risk in running these facilities. Rising coal and, to a certain extent, uranium prices could pressure margins as the fuel hedges roll off Competitive Integrateds. Further, IPPs face declining revenues as in the money power and gas hedges roll off. Other non-regulated risks include weather and for some, foreign currency risk, which again must be diligently accounted in the company's risk management operations. Major external factors, which affect our valuation, are environmental risks. Environmental capex could escalate if stricter emission standards are implemented. We believe a nuclear accident or a change in the Nuclear Regulatory Commission/Environment Protection Agency regulations could have a negative impact on our estimates.

Risks for regulated utilities include the uncertainty around the composition of state regulatory Commissions, adverse regulatory changes, unfavorable weather conditions, variance from normal population growth, and changes in customer mix. Changes in macroeconomic factors will affect customer additions/subtractions and usage patterns.

Solar sector risks include : 1)Solar panel and other input pricing is subject to ongoing price deflation, which affects economics of downstream projects and margins of upstream producers. 2) Government incentives being added or removed have had a disproportionate effect on demand in the past, and may continue to 3) reliance on power purchase agreements in electricity markets could make future contracts more difficult to sign 4) solar power is directly competing with other traditional generators as well as other renewables like wind, which creates uncertainty as wholesale power markets shift 5)Headline risk and policy risk continue to shift economics in countries as trade policies and changes to other key policies affect solar economics.

Valuation for IPPs are based on sum-of-the-parts analysis.
Valuations for regulated utilities are based on multiples of earnings per share.

Required Disclosures

This report has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

For information on the ways in which UBS manages conflicts and maintains independence of its research product; historical performance information; and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures. The figures contained in performance charts refer to the past; past performance is not a reliable indicator of future results. Additional information will be made available upon request. UBS Securities Co. Limited is licensed to conduct securities investment consultancy businesses by the China Securities Regulatory Commission. UBS acts or may act as principal in the debt securities (or in related derivatives) that may be the subject of this report. This recommendation was finalized on: 17 August 2016 09:26 AM GMT.

Analyst Certification: Each research analyst primarily responsible for the content of this research report, in whole or in part, certifies that with respect to each security or issuer that the analyst covered in this report: (1) all of the views expressed accurately reflect his or her personal views about those securities or issuers and were prepared in an independent manner, including with respect to UBS, and (2) no part of his or her compensation was, is, or will be, directly or indirectly, related to the specific recommendations or views expressed by that research analyst in the research report.

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.

KEY DEFINITIONS: Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months. **Market Return Assumption (MRA)** is defined as the one-year local market interest rate plus 5% (a proxy for, and not a forecast of, the equity risk premium). **Under Review (UR)** Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation. **Short-Term Ratings** reflect the expected near-term (up to three months) performance of the stock and do not reflect any change in the fundamental view or investment case. **Equity Price Targets** have an investment horizon of 12 months.

EXCEPTIONS AND SPECIAL CASES: UK and European Investment Fund ratings and definitions are: Buy: Positive on factors such as structure, management, performance record, discount; **Neutral:** Neutral on factors such as structure, management, performance record, discount; **Sell:** Negative on factors such as structure, management, performance record, discount. **Core Banding Exceptions (CBE):** Exceptions to the standard +/-6% bands may be granted by the Investment Review Committee (IRC). Factors considered by the IRC include the stock's volatility and the credit spread of the respective company's debt. As a result, stocks deemed to be very high or low risk may be subject to higher or lower bands as they relate to the rating. When such exceptions apply, they will be identified in the Company Disclosures table in the relevant research piece.

Research analysts contributing to this report who are employed by any non-US affiliate of UBS Securities LLC are not registered/qualified as research analysts with FINRA. Such analysts may not be associated persons of UBS Securities LLC and therefore are not subject to the FINRA restrictions on communications with a subject company, public appearances, and trading securities held by a research analyst account. The name of each affiliate and analyst employed by that affiliate contributing to this report, if any, follows.

UBS Securities LLC: Julien Dumoulin-Smith; Jerimiah Booream, CFA.

Company Disclosures

Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
8Point3 Energy Partners LP[16]	CAFD.O	Sell	N/A	US$16.15	16 Aug 2016
First Solar Inc[16]	FSLR.O	Neutral	N/A	US$37.74	16 Aug 2016
NextEra Energy[2, 3, 4, 5, 6a, 6b, 7, 16]	NEE.N	Buy	N/A	US$123.99	16 Aug 2016
NextEra Energy Partners LP[2, 4, 6a, 16]	NEP.N	Neutral	N/A	US$30.66	16 Aug 2016
NRG Yield[16]	NYLDa.N	Buy	N/A	US$16.45	16 Aug 2016
SolarCity Corp[16]	SCTY.O	Neutral	N/A	US$23.76	16 Aug 2016
SunPower Corp[16]	SPWR.O	Buy	N/A	US$10.75	16 Aug 2016
TerraForm Power, Inc.[4, 6a, 16]	TERP.O	Sell	N/A	US$11.52	16 Aug 2016

Source: UBS. All prices as of local market close.
Ratings in this table are the most current published ratings prior to this report. They may be more recent than the stock pricing date

2. UBS AG, its affiliates or subsidiaries has acted as manager/co-manager in the underwriting or placement of securities of this company/entity or one of its affiliates within the past 12 months.
3. UBS Securities LLC is acting as an advisory to NextEra Energy Inc on its announced agreement to acquire Energy Future Holdings' interests in Oncor Electric Delivery.
4. Within the past 12 months, UBS AG, its affiliates or subsidiaries has received compensation for investment banking services from this company/entity or one of its affiliates.
5. UBS AG, its affiliates or subsidiaries expect to receive or intend to seek compensation for investment banking services from this company/entity within the next three months.

6a. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and investment banking services are being, or have been, provided.

6b. This company/entity is, or within the past 12 months has been, a client of UBS Securities LLC, and non-securities services are being, or have been, provided.

7. Within the past 12 months, UBS Securities LLC and/or its affiliates have received compensation for products and services other than investment banking services from this company/entity.
16. UBS Securities LLC makes a market in the securities and/or ADRs of this company.

Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report. For a complete set of disclosure statements associated with the companies discussed in this report, including information on valuation and risk, please contact UBS Securities LLC, 1285 Avenue of Americas, New York, NY 10019, USA, Attention: Investment Research.

Global Disclaimer

This document has been prepared by UBS Securities LLC, an affiliate of UBS AG. UBS AG, its subsidiaries, branches and affiliates are referred to herein as UBS.

Global Research is provided to our clients through UBS Neo and, in certain instances, UBS.com (each a "System"). It may also be made available through third party vendors and distributed by UBS and/or third parties via e-mail or alternative electronic means. The level and types of services provided by Global Research to a client may vary depending upon various factors such as a client's individual preferences as to the frequency and manner of receiving communications, a client's risk profile and investment focus and perspective (e.g., market wide, sector specific, long-term, short-term, etc.), the size and scope of the overall client relationship with UBS and legal and regulatory constraints.

All Global Research is available on UBS Neo. Please contact your UBS sales representative if you wish to discuss your access to UBS Neo.

When you receive Global Research through a System, your access and/or use of such Global Research is subject to this Global Research Disclaimer and to the terms of use governing the applicable System.

When you receive Global Research via a third party vendor, e-mail or other electronic means, your use shall be subject to this Global Research Disclaimer and to UBS's Terms of Use/Disclaimer (http://www.ubs.com/global/en/legalinfo2/disclaimer.html). By accessing and/or using Global Research in this manner, you are indicating that you have read and agree to be bound by our Terms of Use/Disclaimer. In addition, you consent to UBS processing your personal data and using cookies in accordance with our Privacy Statement (http://www.ubs.com/global/en/legalinfo2/privacy.html) and cookie notice (http://www.ubs.com/global/en/homepage/cookies/cookie-management.html).

If you receive Global Research, whether through a System or by any other means, you agree that you shall not copy, revise, amend, create a derivative work, transfer to any third party, or in any way commercially exploit any UBS research provided via Global Research or otherwise, and that you shall not extract data from any research or estimates provided to you via Global Research or otherwise, without the prior written consent of UBS.

This document is for distribution only as may be permitted by law. It is not directed to, or intended for distribution to or use by, any person or entity who is a citizen or resident of or located in any locality, state, country or other jurisdiction where such distribution, publication, availability or use would be contrary to law or regulation or would subject UBS to any registration or licensing requirement within such jurisdiction. It is published solely for information purposes; it is not an advertisement nor is it a solicitation or an offer to buy or sell any financial instruments or to participate in any particular trading strategy. No representation or warranty, either expressed or implied, is provided in relation to the accuracy, completeness or reliability of the information contained in this document ("the Information"), except with respect to Information concerning UBS. The Information is not intended to be a complete statement or summary of the securities, markets or developments referred to in the document. UBS does not undertake to update or keep current the Information. Any opinions expressed in this document may change without notice and may differ or be contrary to opinions expressed by other business areas or groups of UBS. Any statements contained in this report attributed to a third party represent UBS's interpretation of the data, information and/or opinions provided by that third party either publicly or through a subscription service, and such use and interpretation have not been reviewed by the third party.

Nothing in this document constitutes a representation that any investment strategy or recommendation is suitable or appropriate to an investor’s individual circumstances or otherwise constitutes a personal recommendation. Investments involve risks, and investors should exercise prudence and their own judgement in making their investment decisions. The financial instruments described in the document may not be eligible for sale in all jurisdictions or to certain categories of investors. Options, derivative products and futures are not suitable for all investors, and trading in these instruments is considered risky. Mortgage and asset-backed securities may involve a high degree of risk and may be highly volatile in response to fluctuations in interest rates or other market conditions. Foreign currency rates of exchange may adversely affect the value, price or income of any security or related instrument referred to in the document. For investment advice, trade execution or other enquiries, clients should contact their local sales representative.

The value of any investment or income may go down as well as up, and investors may not get back the full (or any) amount invested. Past performance is not necessarily a guide to future performance. Neither UBS nor any of its directors, employees or agents accepts any liability for any loss (including investment loss) or damage arising out of the use of all or any of the Information.

Any prices stated in this document are for information purposes only and do not represent valuations for individual securities or other financial instruments. There is no representation that any transaction can or could have been effected at those prices, and any prices do not necessarily reflect UBS's internal books and records or theoretical model-based valuations and may be based on certain assumptions. Different assumptions by UBS or any other source may yield substantially different results.

This document and the Information are produced by UBS as part of its research function and are provided to you solely for general background information. UBS has no regard to the specific investment objectives, financial situation or particular needs of any specific recipient. In no circumstances may this document or any of the Information be used for any of the following purposes:

(i) valuation or accounting purposes;

(ii) to determine the amounts due or payable, the price or the value of any financial instrument or financial contract; or

(iii) to measure the performance of any financial instrument.

By receiving this document and the Information you will be deemed to represent and warrant to UBS that you will not use this document or any of the Information for any of the above purposes or otherwise rely upon this document or any of the Information.

UBS has policies and procedures, which include, without limitation, independence policies and permanent information barriers, that are intended, and upon which UBS relies, to manage potential conflicts of interest and control the flow of information within divisions of UBS and among its subsidiaries, branches and affiliates. For further information on the ways in which UBS manages conflicts and maintains independence of its research products, historical performance information and certain additional disclosures concerning UBS research recommendations, please visit www.ubs.com/disclosures.

Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management, which will also have sole discretion on the timing and frequency of any published research product. The analysis contained in this document is based on numerous assumptions. All material information in relation to published research reports, such as valuation methodology, risk statements, underlying assumptions (including sensitivity analysis of those assumptions), ratings history etc. as required by the Market Abuse Regulation, can be found on NEO. Different assumptions could result in materially different results.

The analyst(s) responsible for the preparation of this document may interact with trading desk personnel, sales personnel and other parties for the purpose of gathering, applying and interpreting market information. UBS relies on information barriers to control the flow of information contained in one or more areas within UBS into other areas, units, groups or affiliates of UBS. The compensation of the analyst who prepared this document is determined exclusively by research management and senior management (not including investment banking). Analyst compensation is not based on investment banking revenues; however, compensation may relate to the revenues of UBS Investment Bank as a whole, of which investment banking, sales and trading are a part, and UBS's subsidiaries, branches and affiliates as a whole.

For financial instruments admitted to trading on an EU regulated market: UBS AG, its affiliates or subsidiaries (excluding UBS Securities LLC) acts as a market maker or liquidity provider (in accordance with the interpretation of these terms in the UK) in the financial instruments of the issuer save that where the activity of liquidity provider is carried out in accordance with the definition given to it by the laws and regulations of any other EU jurisdictions, such information is separately disclosed in this document. For financial instruments admitted to trading on a non-EU regulated market: UBS may act as a market maker save that where this activity is carried out in the US in accordance with the definition given to it by the relevant laws and regulations, such activity will be specifically disclosed in this document. UBS may have issued a warrant the value of which is based on one or more of the financial instruments referred to in the document. UBS and its affiliates and employees may have long or short positions, trade as principal and buy and sell in instruments or derivatives identified herein; such transactions or positions may be inconsistent with the opinions expressed in this document.

United Kingdom and the rest of Europe: Except as otherwise specified herein, this material is distributed by UBS Limited to persons who are eligible counterparties or professional clients. UBS Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. **France:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities France S.A. UBS Securities France S.A. is regulated by the ACPR (Autorité de Contrôle Prudentiel et de Résolution) and the Autorité des Marchés Financiers (AMF). Where an analyst of UBS Securities France S.A. has contributed to this document, the document is also deemed to have been prepared by UBS Securities France S.A. **Germany:** Prepared by UBS Limited and distributed by UBS Limited and UBS Deutschland AG. UBS Deutschland AG is regulated by the Bundesanstalt fur Finanzdienstleistungsaufsicht (BaFin). **Spain:** Prepared by UBS Limited and distributed by UBS Limited and UBS Securities España SV, SA. UBS Securities España SV, SA is regulated by the Comisión Nacional del Mercado de Valores (CNMV). **Turkey:**

Distributed by UBS Limited. No information in this document is provided for the purpose of offering, marketing and sale by any means of any capital market instruments and services in the Republic of Turkey. Therefore, this document may not be considered as an offer made or to be made to residents of the Republic of Turkey. UBS AG is not licensed by the Turkish Capital Market Board under the provisions of the Capital Market Law (Law No. 6362). Accordingly, neither this document nor any other offering material related to the instruments/services may be utilized in connection with providing any capital market services to persons within the Republic of Turkey without the prior approval of the Capital Market Board. However, according to article 15 (d) (ii) of the Decree No. 32, there is no restriction on the purchase or sale of the securities abroad by residents of the Republic of Turkey. **Poland:** Distributed by UBS Limited (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce regulated by the Polish Financial Supervision Authority. Where an analyst of UBS Limited (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce has contributed to this document, the document is also deemed to have been prepared by UBS Limited (spolka z ograniczona odpowiedzialnoscia) Oddzial w Polsce. **Russia:** Prepared and distributed by UBS Bank (OOO). **Switzerland:** Distributed by UBS AG to persons who are institutional investors only. UBS AG is regulated by the Swiss Financial Market Supervisory Authority (FINMA). **Italy:** Prepared by UBS Limited and distributed by UBS Limited and UBS Limited, Italy Branch. Where an analyst of UBS Limited, Italy Branch has contributed to this document, the document is also deemed to have been prepared by UBS Limited, Italy Branch. **South Africa:** Distributed by UBS South Africa (Pty) Limited (Registration No. 1995/011140/07), an authorised user of the JSE and an authorised Financial Services Provider (FSP 7328). **Israel:** This material is distributed by UBS Limited. UBS Limited is authorised by the Prudential Regulation Authority and regulated by the Financial Conduct Authority and the Prudential Regulation Authority. UBS Securities Israel Ltd is a licensed Investment Marketer that is supervised by the Israel Securities Authority (ISA). UBS Limited and its affiliates incorporated outside Israel are not licensed under the Israeli Advisory Law. UBS Limited is not covered by insurance as required from a licensee under the Israeli Advisory Law. UBS may engage among others in issuance of Financial Assets or in distribution of Financial Assets of other issuers for fees or other benefits. UBS Limited and its affiliates may prefer various Financial Assets to which they have or may have Affiliation (as such term is defined under the Israeli Advisory Law). Nothing in this Material should be considered as investment advice under the Israeli Advisory Law. This Material is being issued only to and/or is directed only at persons who are Eligible Clients within the meaning of the Israeli Advisory Law, and this material must not be relied on or acted upon by any other persons. **Saudi Arabia:** This document has been issued by UBS AG (and/or any of its subsidiaries, branches or affiliates), a public company limited by shares, incorporated in Switzerland with its registered offices at Aeschenvorstadt 1, CH-4051 Basel and Bahnhofstrasse 45, CH-8001 Zurich. This publication has been approved by UBS Saudi Arabia (a subsidiary of UBS AG), a Saudi closed joint stock company incorporated in the Kingdom of Saudi Arabia under commercial register number 1010257812 having its registered office at Tatweer Towers, P.O. Box 75724, Riyadh 11588, Kingdom of Saudi Arabia. UBS Saudi Arabia is authorized and regulated by the Capital Market Authority to conduct securities business under license number 08113-37. **Dubai:** The information distributed by UBS AG Dubai Branch is intended for Professional Clients only and is not for further distribution within the United Arab Emirates. **United States:** Distributed to US persons by either UBS Securities LLC or by UBS Financial Services Inc., subsidiaries of UBS AG; or by a group, subsidiary or affiliate of UBS AG that is not registered as a US broker-dealer (a **'non-US affiliate'**) to major US institutional investors only. UBS Securities LLC or UBS Financial Services Inc. accepts responsibility for the content of a document prepared by another non-US affiliate when distributed to US persons by UBS Securities LLC or UBS Financial Services Inc. All transactions by a US person in the securities mentioned in this document must be effected through UBS Securities LLC or UBS Financial Services Inc., and not through a non-US affiliate. UBS Securities LLC is not acting as a municipal advisor to any municipal entity or obligated person within the meaning of Section 15B of the Securities Exchange Act (the "Municipal Advisor Rule"), and the opinions or views contained herein are not intended to be, and do not constitute, advice within the meaning of the Municipal Advisor Rule. **Canada:** Distributed by UBS Securities Canada Inc., a registered investment dealer in Canada and a Member-Canadian Investor Protection Fund, or by another affiliate of UBS AG that is registered to conduct business in Canada or is otherwise exempt from registration. **Mexico:** This report has been distributed and prepared by UBS Casa de Bolsa, S.A. de C.V., UBS Grupo Financiero, an entity that is part of UBS Grupo Financiero, S.A. de C.V. and is an affiliate of UBS AG. This document is intended for distribution to institutional or sophisticated investors only. Research reports only reflect the views of the analysts responsible for the reports. Analysts do not receive any compensation from persons or entities different from UBS Casa de Bolsa, S.A. de C.V., UBS Grupo Financiero, or different from entities belonging to the same financial group or business group of such. For Spanish translations of applicable disclosures, please see www.ubs.com/disclosures **Brazil:** Except as otherwise specified herein, this material is prepared by UBS Brasil CCTVM S.A. to persons who are eligible investors residing in Brazil, which are considered to be: (i) financial institutions, (ii) insurance firms and investment capital companies, (iii) supplementary pension entities, (iv) entities that hold financial investments higher than R$300,000.00 and that confirm the status of qualified investors in written, (v) investment funds, (vi) securities portfolio managers and securities consultants duly authorized by Comissão de Valores Mobiliários (CVM), regarding their own investments, and (vii) social security systems created by the Federal Government, States, and Municipalities. **Hong Kong:** Distributed by UBS Securities Asia Limited and/or UBS AG, Hong Kong Branch. **Singapore:** Distributed by UBS Securities Pte. Ltd. [MCI (P) 018/09/2015 and Co. Reg. No.: 198500648C] or UBS AG, Singapore Branch. Please contact UBS Securities Pte. Ltd., an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110); or UBS AG, Singapore Branch, an exempt financial adviser under the Singapore Financial Advisers Act (Cap. 110) and a wholesale bank licensed under the Singapore Banking Act (Cap. 19) regulated by the Monetary Authority of Singapore, in respect of any matters arising from, or in connection with, the analysis or document. The recipients of this document represent and warrant that they are accredited and institutional investors as defined in the Securities and Futures Act (Cap. 289). **Japan:** Distributed by UBS Securities Japan Co., Ltd. to professional investors (except as otherwise permitted). Where this document has been prepared by UBS Securities Japan Co., Ltd., UBS Securities Japan Co., Ltd. is the author, publisher and distributor of the document. Distributed by UBS AG, Tokyo Branch to Professional Investors (except as otherwise permitted) in relation to foreign exchange and other banking businesses when relevant. **Australia:** Clients of UBS AG: Distributed by UBS AG (Holder of Australian Financial Services License No. 231087). Clients of UBS Securities Australia Ltd: Distributed by UBS Securities Australia Ltd (Holder of Australian Financial Services License No. 231098). This Document contains general information and/or general advice only and does not constitute personal financial product advice. As such, the Information in this document has been prepared without taking into account any investor's objectives, financial situation or needs, and investors should, before acting on the Information, consider the appropriateness of the Information, having regard to their objectives, financial situation and needs. If the Information contained in this document relates to the acquisition, or potential acquisition of a particular financial product by a 'Retail' client as defined by section 761G of the Corporations Act 2001 where a Product Disclosure Statement would be required, the retail client should obtain and consider the Product Disclosure Statement relating to the product before making any decision about whether to acquire the product. The UBS Securities Australia Limited Financial Services Guide is available at: www.ubs.com/ecs-research-fsg. **New Zealand:** Distributed by UBS New Zealand Ltd. The information and recommendations in this publication are provided for general information purposes only. To the extent that any such information or recommendations constitute financial advice, they do not take into account any person's particular financial situation or goals. We recommend that recipients seek advice specific to their circumstances from their financial advisor. **Korea:** Distributed in Korea by UBS Securities Pte. Ltd., Seoul Branch. This document may have been edited or contributed to from time to time by affiliates of UBS Securities Pte. Ltd., Seoul Branch. **Malaysia:** This material is authorized to be distributed in Malaysia by UBS Securities Malaysia Sdn. Bhd (Capital Markets Services License No.: CMSL/A0063/2007). This material is intended for professional/institutional clients only and not for distribution to any retail clients. **India:** Distributed by UBS Securities India Private Ltd. (Corporate Identity Number U67120MH1996PTC097299) 2/F, 2 North Avenue, Maker Maxity, Bandra Kurla Complex, Bandra (East), Mumbai (India) 400051. Phone: +912261556000. It provides brokerage services bearing SEBI Registration Numbers: NSE (Capital Market Segment): INB230951431, NSE (F&O Segment) INF230951431, NSE (Currency Derivatives Segment) INE230951431, BSE (Capital Market Segment) INB010951437; merchant banking services bearing SEBI Registration Number: INM000010809 and Research Analyst services bearing SEBI Registration Number: INH000001204. UBS AG, its affiliates or subsidiaries may have debt holdings or positions in the subject Indian company/companies. Within the past 12 months, UBS AG, its affiliates or subsidiaries may have received compensation for non-investment banking securities-related services and/or non-securities services from the subject Indian company/companies. The subject company/companies may have been a client/clients of UBS AG, its affiliates or subsidiaries during the 12 months preceding the date of distribution of the research report with respect to investment banking and/or non-investment banking securities-related services and/or non-securities services. With regard to information on associates, please refer to the Annual Report at: http://www.ubs.com/global/en/about_ubs/investor_relations/annualreporting.html

The disclosures contained in research documents produced by UBS Limited shall be governed by and construed in accordance with English law.

UBS