

# US Renewables

## Further Defining The Latest Renewable Boom

### Equities

Americas  
Electric Utilities

#### Diving into further implications from wind and solar subsidies from last week

We reflect our latest outlooks for both solar and wind today on the back of the latest ITC and PTC extensions passed and signed into law last week. We formally increase our expectations in the charts below, seeing the next boom as tied to ~2018 for wind to make use of the last year of the ~\$23/MWh under commence construction language (effectively 2016, with a 2-year lag), as well as ~2019 for solar, given the last year of the 30% ITC coupled with likely procurement from utilities to meet initial Clean Power Plan (CPP) procurement targets under the EPA's rules. These would ascribe early action credit in the initial years. More broadly, we suspect the 5-year deal is viewed as a 'glidepath' to sustainability, with little likelihood of a further extension (although the 10% ITC for solar would appear to remain permanent).

#### Risk to Net Metering policies is our next focus; others expected to follow NV

Following the latest news today in NV of a proposed order to reduce Net Energy Metering (NEM) compensation, we emphasize our growing focus on state-level reform of NEM outside of traditionally friendly solar jurisdictions. While we had previously thought state regulators would wait until after the year-end 2016 expiration of the ITC prior to reducing compensation, the extension provides a green light for states to begin reducing state-specific Net Energy Metering (NEM) compensation. While the industry characterizes this as sacrosanct, we suspect investors will increasingly need to appreciate a more fluid definition of solar compensation via both NEM and around tariff design (min bill, fixed clauses, etc); even CA admits change is likely upon the next review in ~2019. We further flag risk to MA as tariffs are redesigned in the legislature into next year (by summer), albeit likely limited to commercial scale (resi unchanged).

#### Still think residential outlook supported by CA and Northeast growth

We still think the core solar-friendly states remain quite supportive. We suspect CA will adopt its latest proposed decision on NEM regardless of the ITC extension. Admittedly, piecing together the impact of time-of-use (TOU) rates is the incremental focus depending on how sharp a discrepancy in pricing is ultimately adopted. Further, NY, NJ, and other northeast states remain quite keen, with a wider focus on grid resiliency, and installing automated meters (AMI) to make sure of smart inverters to create this 'smarter' grid that is much discussed. Further we still see community solar prospects as promising, particularly in CA, whose latest NEM modifications appear to open the door all the more to this slightly scaled approach.

#### SREC pricing too is at risk; commodity works as complement to solar pricing

Among the other counterintuitive outcomes of the ITC extension is a risk of pressure on SRECs as prices had previously been expected to climb in 2017 amidst a need to offset the lower ITC despite continued procurement targets. Rather, we suspect banked credits coupled with deflationary trends in the cost of solar will drive a wider bearish market in SRECs. While a risk for YieldCos with disproportionately more eastern exposure (TERP), we also see this as a risk for utilities with exposure, such as NJR.

#### Overall, still very positive for the wider renewables industry

Despite noting some less than ideal second derivative impacts on the industry, the prospects remain exceptionally bright. While we still consider NEE as very cheap (and the best opportunity) amidst a substantial re-rating of renewable valuations of late, we remain biased to prefer other utility-scale developers (FSLR, etc) over residential exposure. While clearly positive to margin, the outlook bolsters volumetric opportunities rather than margins, of limited opportunity to SUNE, which suffers from concerns around contract terms rather than insufficient backlog. We suspect this will also enable FSLR & SPWR to remain more US focused, rather than diversifying abroad to find its post-2016 growth (both are likely now).

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Please see our initial ITC extension reactions in the following link: [US Solar & Alternative Energy - Poised to Grow Meaningfully](#)

## Merchant Solar Prospects Revisited

### What do we estimate the solar economics look like??

We include our latest utility-scale solar mini-model to illustrate exemplary economics from a potential investor in a renewable project. We lower down our PPA expectations given the lower power prices (see below the charts on ERCOT-Houston spark spread and off peak prices below) in Texas market to \$35/MWh from \$40/MWh, and maintain margins under a lower all-in solar build cost of \$1.20/Watt alongside a continued 30% tax credit. We emphasize the \$1.20/W appears consistent with the cost roadmap articulated by FSLR of \$1/Watt plus a 20% margin. We suspect West Texas could yet see among the highest capacity factors of all the markets, with latest datapoints suggesting low 30's is achievable. We believe the developers will use PPA as a tool for financial hedging rather than fixed price contracts. Simultaneously, given the ITC extension and associated cash grant with the leverage, financial leverage would become another key metrics to determine the underlying IRR from the projects. We suspect a palatable cost of project financed debt is supported by the offtake from the meaningfully sized IPP (despite its formal current status in restructuring).

**Figure 1: Estimated Merchant Solar Project Economics in Texas -> New under the ITC Extension**

Inputs					
General		Operational		Financing	
Mega Watts	116	PPA / kWh	\$0.035	Debt	52%
Annual GWH Produced	305	OpEx / Year	\$ 2 MM	Total \$	\$ 94 MM
Effective Tax	35%	OpEx / kWh	\$0.005	Cost of debt	5.0%
Investor IRR	8.4%	Cap Factor	30%	Tenor	25
System Price/W	\$1.20	Degradation factor	1%	Equity	48%
Cash Grant (~27%)	\$48.86			Total \$	\$86.62
Total Sale Price (w/ FMV Step-up)	\$ 181 MM			Debt Service Coverage Ratio	1.30
		Unlevered IRR	6.0%		
		Levered IRR	9.0%		

Source: Company reports and UBS estimates

The prior ~\$40/MWh estimate reflected \$1.50/W economics available today with the 30% ITC. Both assume a 20-year PPA, which is *not* consistent with truly 'merchant' assumptions.

**Figure 2: Estimated Merchant Solar Project Economics in Texas -> Legacy under the 10% ITC**

Inputs					
General		Operational		Financing	
Mega Watts	116	PPA / kWh	\$0.040	Debt	54%
Annual GWH Produced	335	OpEx / Year	\$ 2 MM	Total \$	\$ 121 MM
Effective Tax	35%	OpEx / kWh	\$0.005	Cost of debt	5.0%
Investor IRR	10.8%	Cap Factor	33%	Tenor	25
System Price/W	\$1.50	Degradation factor	1%	Equity	46%
Cash Grant (~27%)	\$61.07			Total \$	\$105.00
Total Sale Price	\$ 226 MM			Debt Service Coverage Ratio	1.30
		Unlevered IRR	6.3%		
		Levered IRR	11.2%		

Source: Company reports and UBS estimates

## What are key considerations on merchant solar entry?

With merchant entry the 'real' threat from the PTC and ITC extensions, we emphasize power prices on-peak have recently begun to recover back to within the realm of making solar 'economic', with 2019 on-peak forwards back towards ~\$40/MWh in recent weeks. We see the impact from the following factors as key to how sector evolves from here:

- **Interest rates:** More than anything, we see the potential for a structurally rising rate environment.
- **Credit spreads:** Amidst the widening of credit across the entire industry and most notably the IPP space (to which merchant renewables draws its strongest parallels), we suspect high yield power debt spreads are increasingly unpalatable. This appears a growing barrier of late.
- **Hedging market:** Just how deep will this be? With substantial new build already under way, we understand discounts to find sustainable hedges are trending towards 10% or wider as counterparty availability becomes scarce.
  - **We see a trend towards bilateral deals.** Among the chief opportunities for both wind and solar alike remains tied to contracting on longer-terms with commercial entities keen to lock in long-term power prices on a term basis.
- **Tax equity limitations?** We continue to perceive a dearth of this capital, particularly with an accelerating in *both* the wind and solar industries simultaneously. We suspect terms will become incrementally onerous, particularly for less known (seasoned) issuers.

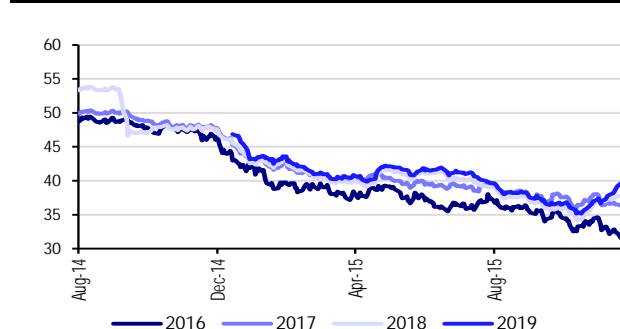
Overall, we believe this does increase the risk of a long-term recovery in the ERCOT market for merchant generators. We continue to see wind as still more broadly 'economic' (and a threat to incumbent generators, particularly with the 20-year extension). Previous deals in Texas for solar have been 20-year PPAs, with terms for financing shorter tenor merchant projects still a bit TBD.

**Figure 3: On peak Spark Spreads @7.2 Heat Rate: ERCOT Houston (\$/MWh)**



Source: Platts

**Figure 4: ON peak Prices: ERCOT West (\$/MWh)**



Source: Platts

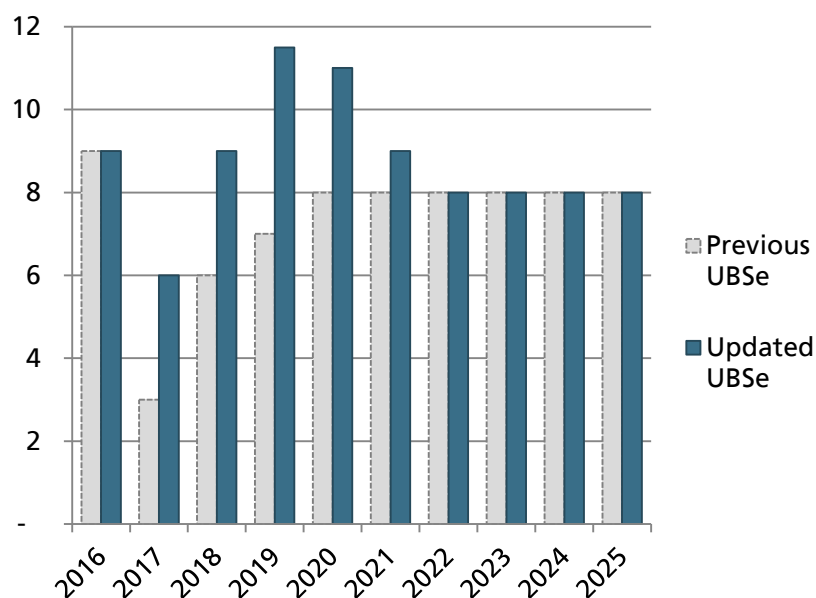
Please refer the link for our note [Merchant Solar Arrives in Texas](#) for details on our prior assessment of SunEdison's latest deal with EFH on solar.

# Revised Renewable Projections

## Updated estimates on solar capacity addition

We are also increasing our estimates on solar capacity post the announcement of ITC extension period by another 5-year. We suspect additional capacity is equal to 3-4GW/yr through the extension period of 2021. We suspect the 2019 period will be the next 'boom' year as procurement steps up into the CPP compliance period.

**Figure 5: Updated projections on Solar (MW)**



Source: Company reports and UBSe

## How much of this is utility vs. commercial vs. residential?

We continue to expect the bulk of growth in 2017 to be principally driven by residential and commercial growth, with utility-scale procurement already largely contemplated for 2016. The question is whether orders will now *shift* from 2016 out to 2017, given potential for cheaper module procurement in a less tight outlook for module supply.

Meanwhile, we expect utility-scale to tick back up in 2018+ onwards, as utilities step up their cycles on Clean Power Plan (CPP) compliance. We expect near-term procurement in 2017 to be primarily driven by Southeast efforts; we suspect FirstSolar will be particularly well positioned to capture from these opportunities given its strategic positioning.

## Contrasting against other updated forecasts

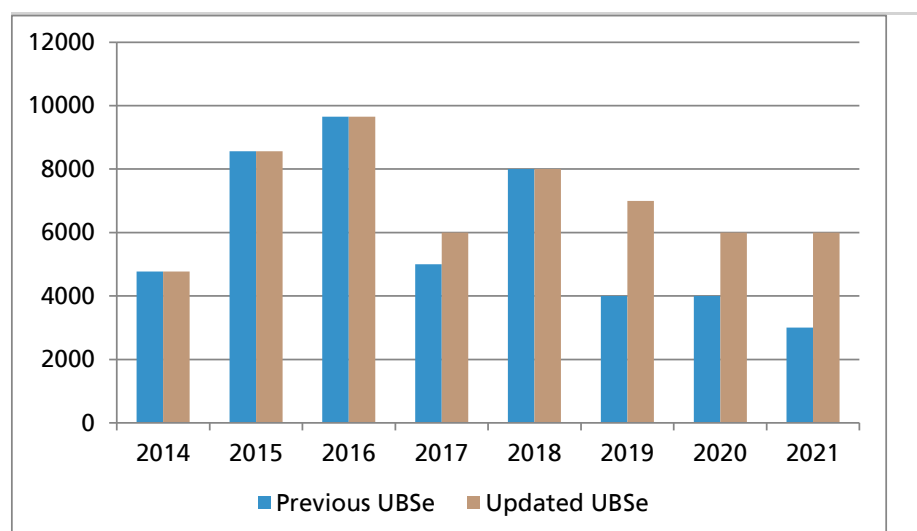
GTM Research estimates that the ITC extension can help solar to reach ~100GW installed by 2020; which can result in ~\$130bn investments out of which ~\$40bn can be directly attributed to the passage of the extensions.

## Updating estimates on wind projections too

We also include our revised wind procurement estimates, reflecting the five-year PTC deal. While we had already reflected our projections for a 2-year extension of the PTC, however procurement is stretched out vs. our prior projections through the 2019-2021 period. *We emphasize while the solar subsidies have garnered substantial attention, quite important too in our view is the meaningful five-year extension achieved in the PTCs.*

- **2018 is the next 'boom' year for wind.** While extended for a 5-year period, we suspect many will be keen to get projects completed and eligible by year-end 2016, with a 2-year extension out to 2018.
- **We suspect more wind will pressure competitive markets.** We believe the extension for the wind PTCs will specifically pressure the ERCOT market the most, with a further impact on the MISO market as well. We continue to expect the 'fuel for steel' trade will persist for across a variety of Midwest utilities.
- **Improving technology too.** While this is perhaps obvious in the context of the solar industry, we emphasize the wind will continue to see improving capacity factors (with potential for upwards of 60% capacity factors in coming years) as lower wind speeds are captured by longer and taller turbine blades.
- **Who benefits?** In the US, its primarily NEE, but also SUNE, and the other wind manufactures and European diversified utilities. We note few other publically traded utilities have meaningful development exposure to wind.
  - What would we expect on NEE's updated guidance? While 2016 should be largely intact, the key benefit should accrue in the form of 2017 and 2018 backlog, adding to confidence in executing at the upper end of its 6-8% EPS range. We suspect financing needs will also be biased upwards, but further asset sales could still be on the come.

Figure 6: Estimated Wind Capacity Projections - New



Source: Company reports and UBS estimates

**How much will be ratebased?** The key question in the competitive dynamic we see is just *how much* of contemplated wind will be allocated to utility ratebase development. While the paradigm thus far has focused on 'sharing' the

development opportunity with independent parties (50/50) thus far, the question is whether commissions will increasingly see solar as the '50%' that is ineligible for utilities, allowing them to ratebase a greater portion of the opportunity themselves. Regardless, we believe tax credits continue to provide a meaningful barrier to entry.

## PATH Deal: Reviewing the New Subsidies

The omnibus spending bill passed by Congress as part of the PATH deal includes extensions to the production and investment tax credits that are applicable to wind, solar and other renewable power projects. The wind PTC has been retroactively re-instated and extended 5 years, and so has the ability to elect the ITC in lieu of the PTC – each is subject to a phase out, discussed in more detail below. The expiration date for the ITC for solar has been extended by 5 years, subject to a phase out and also includes changes in the methodology for qualifying. The PTC and ITC for certain other renewable energy facilities have also be reinstated; and has extended bonus depreciation through 2019.

### Wind PTC: projects commenced before 2020 eligible for 10yr PTC

Projects which commence construction before 2017 can be eligible for 100% PTC; that said; any wind facility that commences construction prior to Jan 1, 2020 can also qualify for the 10 year PTC credit, but subject to the phased reduction shown in the table below. Wind can be completed 2yrs later (this effectively makes it equivalent to ITC out to 2020) – so although sponsors need to maintain continuous construction, the sponsor's compliance with this requirement will not be scrutinized if the project is placed into service within 2yrs following the deadline for commencing construction. So, as an example, as long as a project commences construction in 2016, it can get 100% PTC, even if it the project is operational by 2018. The ability of any PTC-eligible wind project to claim the 30% ITC in lieu of the PTC has also been extended. Projects that commence construction prior to January 1, 2017 may claim the full amount of the ITC, but subject to the same phased reduction as available to the ITC (discussed in more detail below).

Commence construction language effectively pushed out maturities by 2-years

Figure 7: PTC ramp down schedule

Commence Construction	PTC % (per MWh output)	~PTC Nominal (\$/MWh)
2015	100	23
2016	100	23
2017	80	18
2018	60	14
2019	40	9

Source: SNL, Chadbourne & Parke

## Solar ITC: drop to 10% postponed till 2022

The ITC is now subject to a phased step down starting January 1, 2020, with the drop to 10% now postponed till Jan 1, 2022 – so projects that commence construction prior to Jan 1, 2020 will qualify for the full 30% ITC. We show the full phase-down schedule in the table below. Critically, the eligibility deadline has also been changed from 'placed in service requirement' to a 'commencement of construction' requirement; however a placed in service deadline ensures that for any project that commences construction any time before Jan 1, 2022, but if it is not operational before Jan 1, 2024, the ITC will be reduced to 10%.

**Figure 8: ITC ramp down schedule**

Commence Construction	ITC % (based on project capital cost)
2015	30
2016	30
2017	30
2018	30
2019	30
2020	26
2021	22
2022 +	10

Source: SNL, Chadbourne & Parke

**We suspect the next 'boom' year will be in ~2019 as CPP procurement accelerations into early action credits beginning in 2020**

## Other renewables

For other renewables, there is also a (limited) extension of the PTC and ITC; specifically a retroactive re-instatement of the PTC (or the ability to elect the ITC in lieu of the PTC) for closed-loop and open-loop biomass, geothermal, landfill gas, qualified hydropower and marine and hydrokinetic renewables - for such qualifying projects, the full amount of the PTC (or ITC in its lieu) will now be available subject to construction commencing before Jan 1, 2017. That said, the 30% ITC for fuel cells is not being extended; and they need to be in service by Dec 2016 to qualify.

## Bonus Depreciation: More Benefits to Renewables

We see this as yet another meaningful uplift for infrastructure businesses, such as renewables. We see the forward visibility on bonus depreciation as incrementally constructive, given past extensions had largely been ex-parte or provided limited forward visibility to drive investment decisions. The 50% bonus depreciation had expired at the end of last year – this is now being extended retroactively to the start of 2015; this will remain at 50% for property placed in service before 2018, and subsequently will be phased down (in line with schedule shown in the table below). For equipment placed in service before 2020, companies can deduct the bonus percentage of the tax basis in the equipment immediately and the remaining basis using normal depreciation schedules. Note that for longer life assets (transmission lines and gas-fired power plants are included in this category), the bonus depreciation is extended for an additional year for property acquired and placed in service before 2021.

- We see bonus depreciation benefits as further incentivizing utilities to pursue third party affiliates where development activities can benefit from these and other tax credits rather than immediately (and formulaically) returning benefits to customers.

Many renewables commentators overlook the benefits from Bonus Depreciation in providing yet further tax benefits

**Figure 9: Bonus depreciation ramp down schedule**

	Depreciation Bonus	Depreciation Bonus for longer-life assets (transmission, gas-fired plants)
2015	50%	50%
2016	50%	50%
2017	50%	50%
2018	40%	50%
2019	30%	40%
2020		30%

Source: SNL, Chadbourne & Parke



Figure 10: Solar &amp; YieldCos Comps Table

	Ticker	Rating	Market Cap. (\$ in millions)	Price 12/21/2015	Price Target	Dividend Yield	P/E Multiple						Earnings Per Share				EV / EBITDA Multiple		
							2013E	2014E	2015E	2016E	2017E	2018E	2015E	2016E	2017E	2018E	2015E	2016E	2017E
SOLARCOs																			
First Solar Inc	FSLR	Neutral	6,615	65.55	58.00	0.00%	17.6	14.4	14.8	16.1	21.9	15.9	4.42	4.07	2.99	4.11	5.6	7.1	6.7
SunPower Corp	SPWR	Neutral	4,096	29.99	31.00	0.00%	18.0	23.3	23.1	16.3	13.2	13.8	1.30	1.84	2.28	2.18	10.5	7.1	6.2
SunEdison Inc.	SUNE	Sell	2,102	6.64	2.00	0.00%	nm	nm	nm	nm	nm	15.0	-1.72	-0.53	-0.33	0.44	26.1	10.1	8.9
Canadian Solar Inc.	CSIQ	Not Rated	1,532	27.40	NA	0.00%	6.7	6.7	10.0	10.0	7.7	na	2.74	2.74	3.55	na	6.1	4.1	na
Hanwha Q Cells Co.	HQCL	Not Rated	2,232	26.84	NA	0.00%	na	nm	34.9	18.8	15.7	na	0.77	1.43	1.71	na	na	na	na
JA Solar Holdings Co.	JASO	Not Rated	500	9.91	NA	0.00%	11.3	10.2	6.3	5.8	5.9	na	1.57	1.71	1.68	na	2.8	2.7	na
JinkoSolar Holding Co.	JKS	Not Rated	873	28.00	NA	0.00%	11.3	11.2	8.7	5.8	5.2	na	3.22	4.80	5.34	na	4.4	4.9	na
Real Goods Solar, Inc.	RGSE	Not Rated	11	0.92	NA	0.00%	nm	nm	nm	na	na	na	-0.78	na	na	na	na	na	na
ReneSola Ltd.	SOL	Not Rated	158	1.82	NA	0.00%	nm	nm	nm	nm	nm	na	-0.19	-0.14	0.00	na	5.0	4.4	na
SolarCityCorp	SCTY	Neutral	5,619	57.58	33.00	0.00%	na	nm	nm	nm	nm	nm	-3.84	-4.28	-2.01	-2.36	-14.2	-26.9	77.0
Average							21.5	19.3	17.3	11.9	14.4	11.6	0.3	0.9	1.1	1.3	5.8	1.7	24.7
	Rating	Market Cap. (\$ in millions)	Price 12/21/2015	Price Target	% Public Float	Dividend Yield (%)						Dividend Growth Rate				EV / EBITDA Multiple			
						2013E	2014E	2015E	2016E	2017E	2018E	2015E	2016E	2017E	2018E	2015E	2016E	2017E	
'PRIMARY' YELDCOs																			
8point3 Energy Partners	CAFD	Neutral	1,122	15.80	11.00	28.1%	na	na	2.71%	5.92%	6.84%	8.10%	na	119%	15%	18%	183.1	21.6	13.6
Hannon Armstrong Sustainable Inf	HASI	Buy	742	19.39	22.00	94.3%	na	5.49%	5.49%	6.23%	7.14%	7.74%	0%	14%	15%	8%	na	na	na
NRG Yield	NYLD.A	Neutral	5,228	13.84	13.00	25.7%	8.67%	5.09%	6.18%	7.37%	8.31%	9.32%	21%	19%	13%	12%	9.4	7.9	7.5
Pattern Energy Group A	PEGI	Not Rated	1,612	21.59	N/A	76.3%	6.65%	6.65%	6.62%	7.50%	8.41%	9.67%	0%	13%	12%	15%	17.7	13.4	11.9
TerraForm Power	TERP	Sell	979	12.23	9.00	78.5%	na	3.32%	11.04%	11.45%	11.45%	11.45%	233%	4%	0%	0%	14.4	9.7	8.0
Tranastila Renewables	RNW-C	Not Rated	1,998	10.47	N/A	37.9%	7.77%	7.77%	7.76%	8.40%	8.77%	8.98%	0%	8%	4%	2%	9.6	9.9	9.2
Average							7.7%	5.1%	6.6%	7.8%	8.5%	9.2%	52.6%	27.2%	10.6%	10.2%	12.1	9.8	8.6
'SECONDARY' YELDCOs																			
Algonquin Power & Utilities Corp.	AQN-C/	Not Rated	2,796	10.93	NA		na	4.28%	4.54%	4.80%	4.46%	4.90%	6%	6%	-7%	10%	10.4	10.6	3.9
Brookfield Renewable Energy Par	BEP.UT	Not Rated	9,845	35.72	NA		na	4.52%	4.82%	5.24%	5.46%	5.74%	7%	9%	4%	5%	11.3	10.9	11.0
Capital Power Corporation	CPX-C/	Not Rated	1,735	17.49	NA		na	8.00%	8.51%	8.97%	8.92%	8.92%	6%	5%	-1%	0%	7.8	7.5	7.2
Capslone Infrastructure Corporatio	CSE-C/	Not Rated	343	3.51	NA		na	8.58%	8.55%	8.26%	na	na	0%	-3%	na	na	11.0	10.6	na
Greencoat UK Wind Plc	UKW-GI	Not Rated	547	1.08	NA		na	5.74%	5.68%	5.82%	5.91%	na	-1%	3%	2%	na	na	na	na
Innergex Renewable Energy Inc.	INE-CA	Not Rated	1,188	11.43	NA		na	5.42%	5.53%	5.82%	na	na	2%	5%	na	na	16.2	11.6	13.3
Renewables Infrastructure Group I	TRIG-G	Not Rated	728	0.99	NA		na	6.24%	6.54%	6.64%	na	na	5%	2%	na	na	na	na	na
Average							NA	6.2%	6.9%	7.4%	7.9%	NA	9.8%	7.0%	2.2%	3.5%	11.0	10.6	9.1
GLOBAL' YELDCOs																			
Abengoa Yield PLC	ABY	Not Rated	1,801	17.98	NA	54.9%	na	6.59%	8.91%	11.23%	13.30%	#N/A	35%	26%	18%	na	8.3	7.3	na
Saeta Yield SA	SAY-ES	Not Rated	710	8.70	NA		na	6.77%	8.74%	9.72%	9.43%	9.31%	29%	11%	-3%	-1%	8.8	8.8	8.5
TerraForm Global	GLBL	Not Rated	903	5.72	NA	71.8%	9.28%	9.28%	19.23%	23.08%	27.69%	33.23%	107%	20%	20%	20%	7.7	4.9	16.3
Average							1782.5%	7.5%	12.3%	14.7%	16.8%	NA	57.1%	19.1%	11.8%	9.4%	8.2	7.0	12.4

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

## **Statement of Risk**

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 Integrations. 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

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### UBS Investment Research: Global Equity Rating Definitions

12-Month Rating	Definition	Coverage <sup>1</sup>	IB Services <sup>2</sup>
Buy	FSR is > 6% above the MRA.	49%	33%
Neutral	FSR is between -6% and 6% of the MRA.	40%	26%
Sell	FSR is > 6% below the MRA.	12%	18%
Short-Term Rating	Definition	Coverage <sup>3</sup>	IB Services <sup>4</sup>
Buy	Stock price expected to rise within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%
Sell	Stock price expected to fall within three months from the time the rating was assigned because of a specific catalyst or event.	less than 1%	less than 1%

Source: UBS. Rating allocations are as of 30 September 2015.

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.

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**UBS Securities LLC:** Julien Dumoulin-Smith; Michael Weinstein; Paul Zimbardo.

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Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
<b>NRG Energy Inc.</b> <sup>7, 16</sup>	NRG.N	Buy	N/A	US\$11.07	21 Dec 2015
<b>SolarCity Corp</b> <sup>16</sup>	SCTY.O	Neutral	N/A	US\$55.09	21 Dec 2015
<b>SunEdison Inc.</b> <sup>13, 16</sup>	SUNE.N	Sell	N/A	US\$6.74	21 Dec 2015
<b>TerraForm Power, Inc.</b> <sup>2, 4, 5, 6, 16</sup>	TERP.O	Sell	N/A	US\$12.45	21 Dec 2015

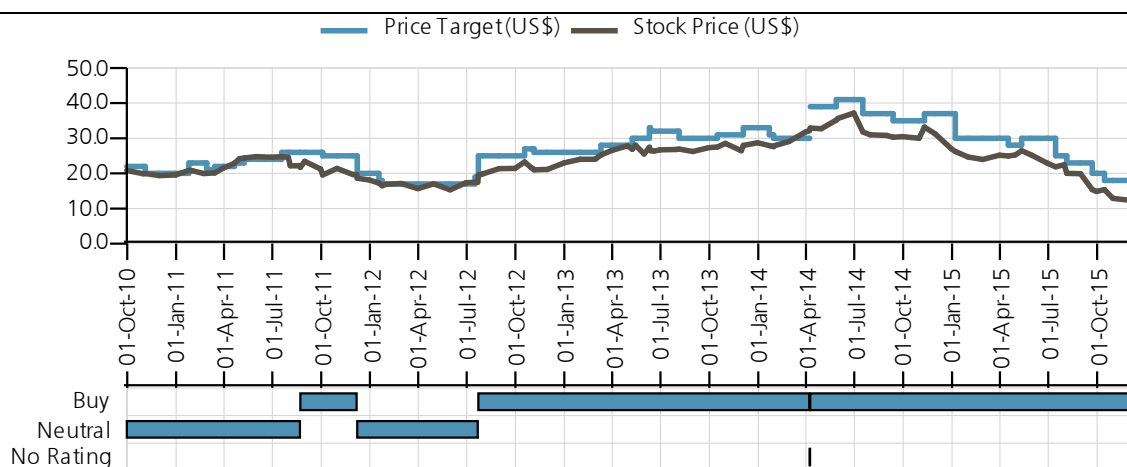
Source: UBS. All prices as of local market close.

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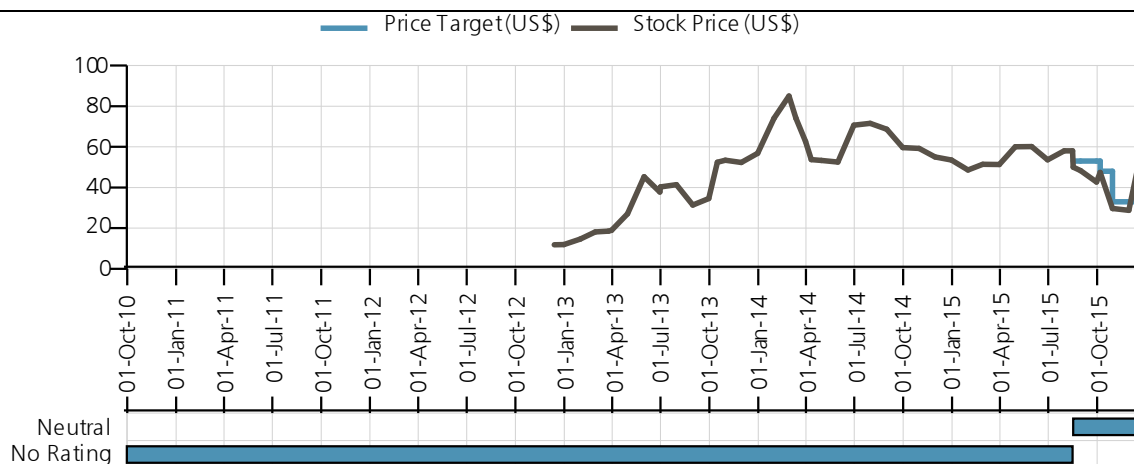
Unless otherwise indicated, please refer to the Valuation and Risk sections within the body of this report.

### NRG Energy Inc. (US\$)



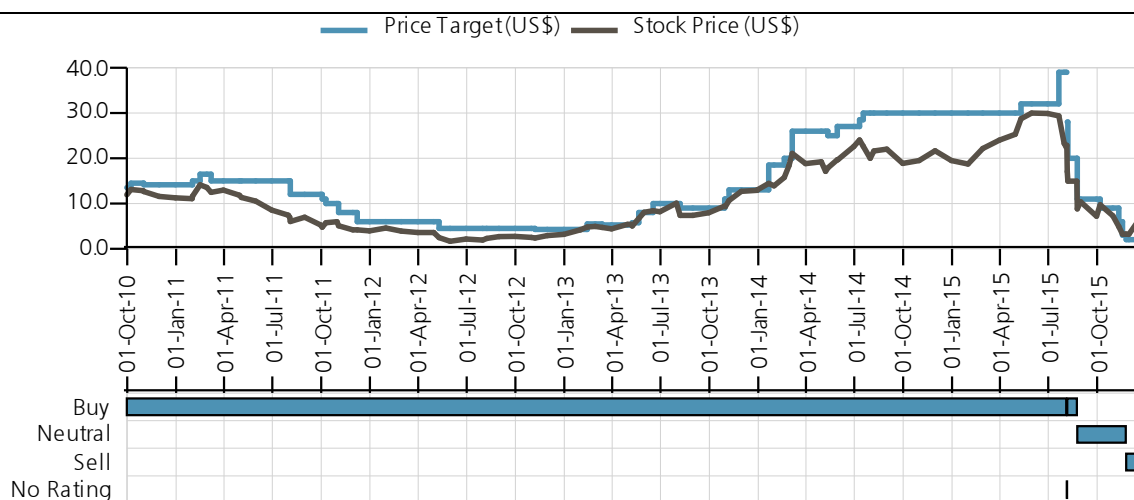
Source: UBS; as of 21 Dec 2015

## SolarCity Corp (US\$)



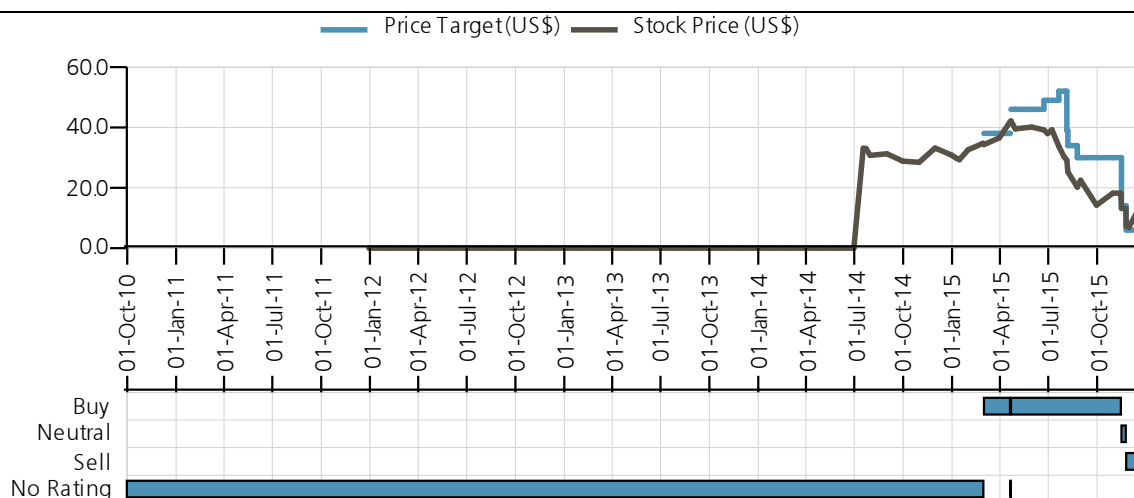
Source: UBS; as of 21 Dec 2015

## SunEdison Inc. (US\$)



Source: UBS; as of 21 Dec 2015

## TerraForm Power, Inc. (US\$)



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