US Electric Utilities & IPPs
Utilities to Own For a Rainy Day

Equities

Americas
Electric Utilities

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

Michael Weinstein
Associate Analyst
michael.weinstein@ubs.com
+1-212-713 3182

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

Fed steps closer to making its move, how will you react?

On Wednesday 15 of 17 Fed officials said they anticipate increasing interest rates later this year although seemingly the rate of increases will be moderate. As we highlighted yesterday, utilities appear fairly priced with the historical ten-year Treasury correlation indicating -5% relative underperformance based on UBSe 3% YE2016 forecast and from a bond yield standpoint, we see implied upside for utilities at ~11%. Despite the macro factors sending a mixed message, we still see themes and names that we believe are ripe for outperformance. We specifically focus on NextEra Energy (NEE), TECO Energy (TE), and Edison International (EIX) as three equities benefitting from strong stories that should help insulate them from a Federal Reserve storm.

Not all utilities are created equal so pick and choose themes carefully

We continue to view five themes as key: (1) High growth; (2) SMid-caps that are potential M&A targets; (3) ROE tracking mechanisms that can enhance EPS growth for Illinois and California utilities; (4) Structural reforms in state policy; and (5) Power exposure, although we recommend caution. Another growing theme, in our view, is the shift from transmission growth to gas & electric distribution hardening with companies including PEG and PPL proposing large distribution improvement plans for gas and electric, respectively, but this is more of a subset of the high-growth theme.

Recent weakness in NEE, EIX, and TE creates opportunity for attractive entry

All three names have felt pressure from concerns that we believe are unfounded, including lack of renewables pipeline expansion (NEE), penalties and political pushback over SONGS (EIX), or inability to close the Coal transaction (TE). In each of these cases the relative P/Es have fallen to their lowest point since at least mid-2014, in our view presenting the opportunity to add high-quality utility exposure at reasonable prices.

Figure 1: Thematic Ways To Play Utilities

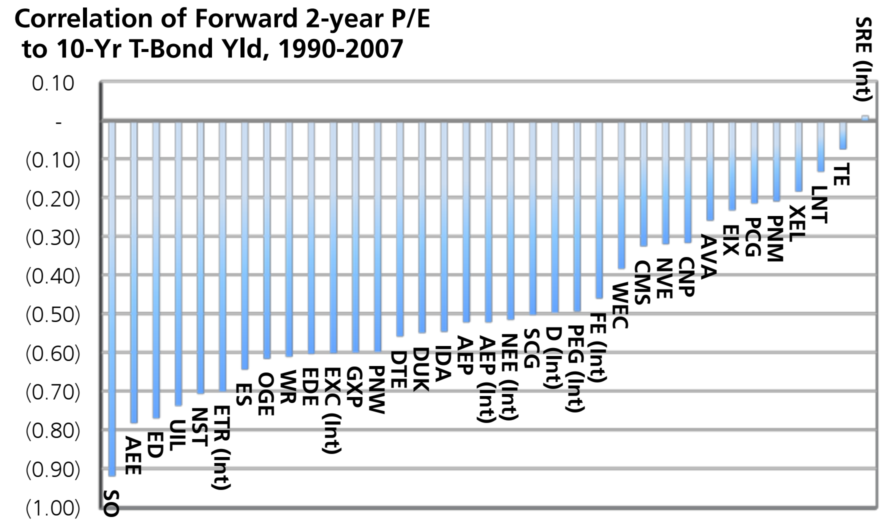
High Growth	• **EIX** • **TE**	Structural Reform	• **EIX** • CMS/DTE
SMid-Cap M&A Targets	• PNW • **TE**	Power / Renewables	• DYN • **NEE**
ROE Trackers	• IL: AEE, EXC • CA: **EIX**, PCG, SRE		

Source: UBS

How to Position Yourself In the Sector

Three of our top picks (NextEra, Edison International, and TECO) have faced weakness as of late and have drawn additional investor interest. We view Edison and TECO in particular as two of the better-positioned names from a thematic standpoint, with inherent factors that help to mitigate concerns of rising interest rates. NextEra also has an above-average growth rate but we highlight the largest Florida utility for its renewables prowess vs other utilities.

Figure 2: Correlation of Forward 2-year P/E to 10-Yr T-Bond Yld, 1990-2007



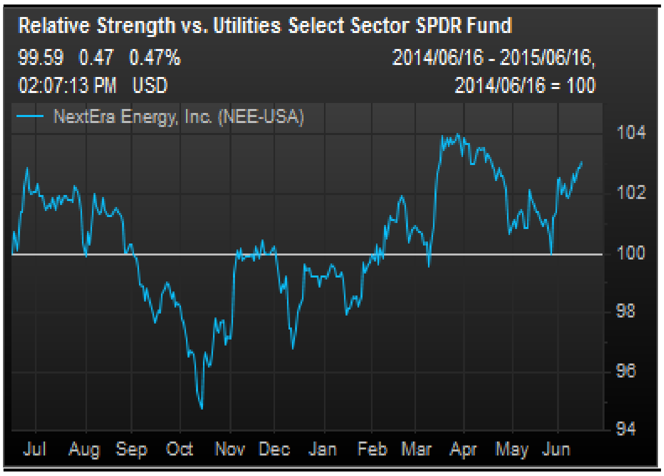
Source: FactSet

Further details are available in our recent report, **'Fighting the Fed'**.

(1) NextEra Energy (NEE): $118 Price Target

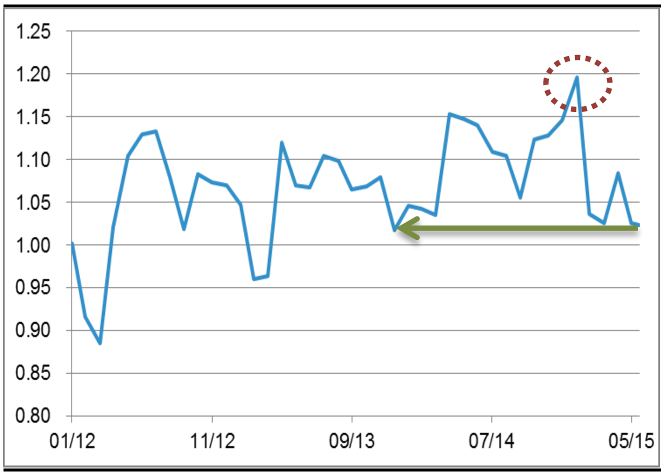
In January NextEra was trading at its largest relative P/E premium vs utilities (120%) but was lagging peers until its March Analyst Day when shares gapped higher. NEE is now trading in line with utilities peers (102% relative P/E), a level that we last touched briefly in December 2013. Over this period the average P/E premium was 107%, indicating to us that investors likely oversold shares, implying ~$5/sh improvement simply from returning to its historical premium. We think P/E is not the most appropriate way to view NEE given the heavy renewables and pipeline but provides a decent proxy for trends. We attribute the recent weakness to concerns that, while relevant, are overblown, in our view.

Figure 3: NEE TTM Relative Performance



Source: FactSet

Figure 4: NEE P/E Relative to Utilities



Source: FactSet

Weighing on the primary debates

(a) Regulated M&A – After Hawaii is Oncor Next?: Investors continue to maintain a negative view of the pending Hawaii Electric transaction given the lack of initial accretion on the price paid. We reiterate that we do not include any incremental from the Hawaiian deal in our valuation as our initial analysis showed approximately breakeven economics. We acknowledge that there are potential upside levers that could improve the upside for the deal, but our bullish viewpoint on NEE is not contingent on improvement in HE.

With respect to Oncor we see this deal as unlikely for NEE. The latest outperformance in the first half of June appears related to Oncor excitement. On June 10, media reports cited NEE as a "frontrunner" in the bankruptcy auction, with EFH possibly naming NEE as the stalking horse bidder (opening bidder to set the floor) in the next few weeks for an 80% stake in Oncor. We also wrote that while a takeover by NEE could be accretive, the lack of a similar tax advantage most likely keeps its bid uncompetitive vs HUNT/HIFR.

We would not rule-out further M&A and see this as one of the clearest avenues for management to deploy its cash from NEP recycling (drop-downs and IDRs). There are three

i. **O&M Synergies:** Management emphasized opportunity to find less efficient utilities, leveraging synergies to improve the earned ROE of any target. Given the wide disparity in the efficiency metrics across utilities of different sizes, we believe NEE could be looking for an opportunity where it can excel in reducing the cost structure.

ii. **Parent re-leveraging:** Any deal would accompany substantial incremental leverage to maximize the value proposition. A primary reason why the HE deal was a share-for-share transaction was a desire to make the transaction tax-free for HE shareholders. NEE could repurchase shares and essentially lever up the deal, a playbook we would expect to see followed in any future NEE transaction.

iii. **Parent credit quality halo:** Secondary effects including supporting the parent credit rating for further infra investments. Mgmt emphasized further regulated acquisitions could allow it to diversify into high-risk infrastructure investments like Gathering & Processing.

(b) Slow development updates: Unlike renewable development peers, NEE is more conservative both operationally and when it comes to sending messages to the Street. Between the Analyst Day and April earnings management converted ~500MW of renewables from its 2015-2018 pipeline forecast into its NEER backlog (to 2.6GW from 2.1GW) with the total origination platform backlog/pipeline midpoint unchanged at 4.9GW. The lack of new pipeline additions is driven by an abundance of caution. Unlike renewable development peers which probability weight opportunities, management opts for a conservative approach. Bottom line, more renewables are coming and we see NextEra as well positioned to capture the opportunities. We see opportunities around Ontario solar, wind, and storage as particularly intriguing.

We acknowledge investor concerns around the lack of incremental renewables pipeline in 2017/2018 but view this as coming in time. This lack of new additions is likely driven by an abundance of caution.

Figure 5: Recent Changes in NEER's Backlog and Pipeline

Update Date	Backlog	2015-2016F	2017-2018F	Total
1Q15	2,616	1,000	1,250	4,866
Investor Day	2,114	1,400	1,350	4,864
Change	502	(400)	(100)	2

Source: Company Filings and UBS Estimates

Looking at NEE through the DevCo valuation of SUNE

In contrast to our valuation for SunEdison, we conservatively do not ascribe a benefit for the developer margin that NEE generates. **Assuming 2.0GW per annum, of development at ~$1.50/watt with a 15% EBITDA margin would imply $5/sh of total value.** Since NEE holds its renewables on its own balance sheet for a longer period of time than solar rivals do, we ascribe an EV / EBITDA multiple on the cash flows rather than an explicit DevCo multiple. Further relative to the $3/sh value we ascribe in our existing SOP for the 'Pipeline', this more solar-oriented valuation would have a further $2/sh uplift on our existing $118/sh target.

Figure 6: How Much Value from DevCo Valuation Approach?

DevCo Margins for NEER		
Annual Build	**2,000**	**MWs**
Build Cost	1,500	$/kW
Total Dev Cost	3,000	
Dev Margin %	15	%
Dev Margin ($ Mn)	450	
EV/EBITDA on DevCo	5	x
Value Uplift	**2,250**	**$ Mn**
Value Uplift per Share	**4.85**	**$/sh**
Dev Pipeline value in our SOP	2.98	
Incremental Value Uplift	1.86	

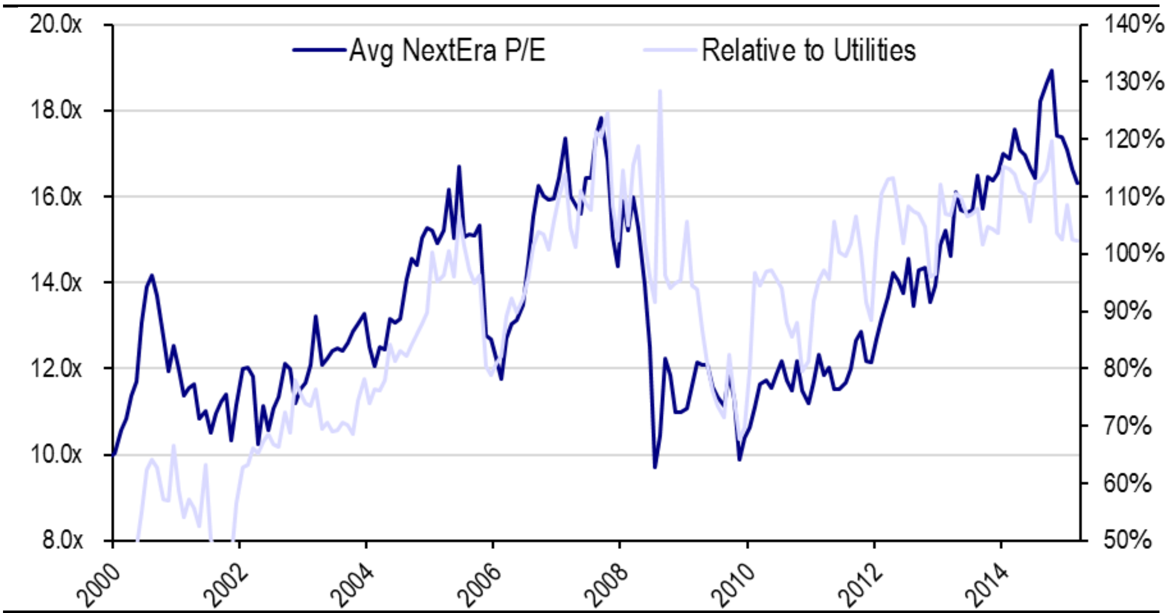
Source: Company reports and UBS estimates

(c) What does the Sunshine state look like beyond 2016? Rate case risk offset by gas ratebasing opportunity: Under the current rate settlement FP&L has a 9.5-11.5% ROE band and has achieved the top-end by utilizing its depreciation reserve, Project Momentum O&M reductions initiatives, and Generation Base Rate Adjustments (GBRA) for plant in-service milestones. NEE achieved this ROE in 2014 and guided to the same ROE in 2015 but tempered expectations for the balance of the rate settlement at 10.5-11.5%. NextEra enjoys a favorable relationship with the Florida PSC but perhaps one of the largest risks to the story relates to what the return profile of FP&L looks like beyond 2016. Every 50bp change in the earned ROE relates to ≈ $0.15EPS and we ascribe a premium valuation to this segment, magnifying the impact of any return reduction.

Although 2017E growth could be a bit weaker than expectations given the potential ROE headwinds, NEE has provided 2018 EPS guidance of $6.50-$7.00.

For context, the average ROE request in pending rate cases is ~10.5% and we anticipate PSC Staff and intervenor pushback given the sharp declines in equity and debt costs of capital lately. Downside towards the national authorized ROE of ~10% suggests a seemingly 'worst case' scenario $7/sh drag; however, there are offsets, primarily regulated returns on gas reserves and solar investments. We anticipate the Florida Public Service Commission (PSC) formalizing guidelines for further natural gas reserve investments in the upcoming months.

Figure 7: Average NextEra P/E and Relative P/E



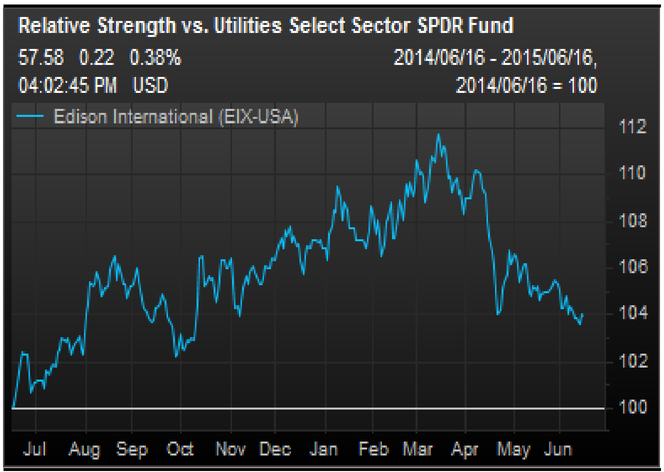
Source: FactSet and UBS Estimates

(2) Edison International (EIX): $70 Price Target

The catalyst underlying Edison International's recent weakness is easy to identify and relates to the ex-parte developments in California. Following our recent meetings in California earlier this month with CPUC Chairman Picker, TURN, ORA, and EIX the message was unambiguously against a reopening of the SONGS settlement. Shares could remain volatile given the rhetoric but we anticipate EIX returning to a premium valuation as investors grow more comfortable with the situation. As we mentioned in our recent **EIX upgrade note**, even the full $648Mn potential fine would trim $1/sh from our valuation.

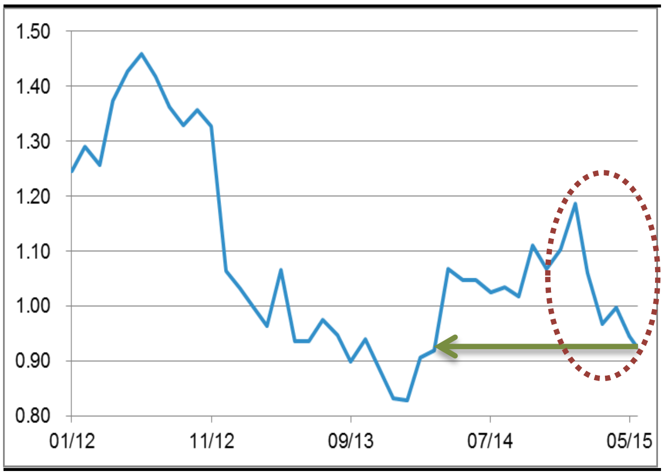
Further details on the latest in California are available in our note **'Calming Concerns on California'**.

Figure 8: EIX TTM Relative Performance



Source: FactSet

Figure 9: EIX P/E Relative to Utilities



Source: FactSet

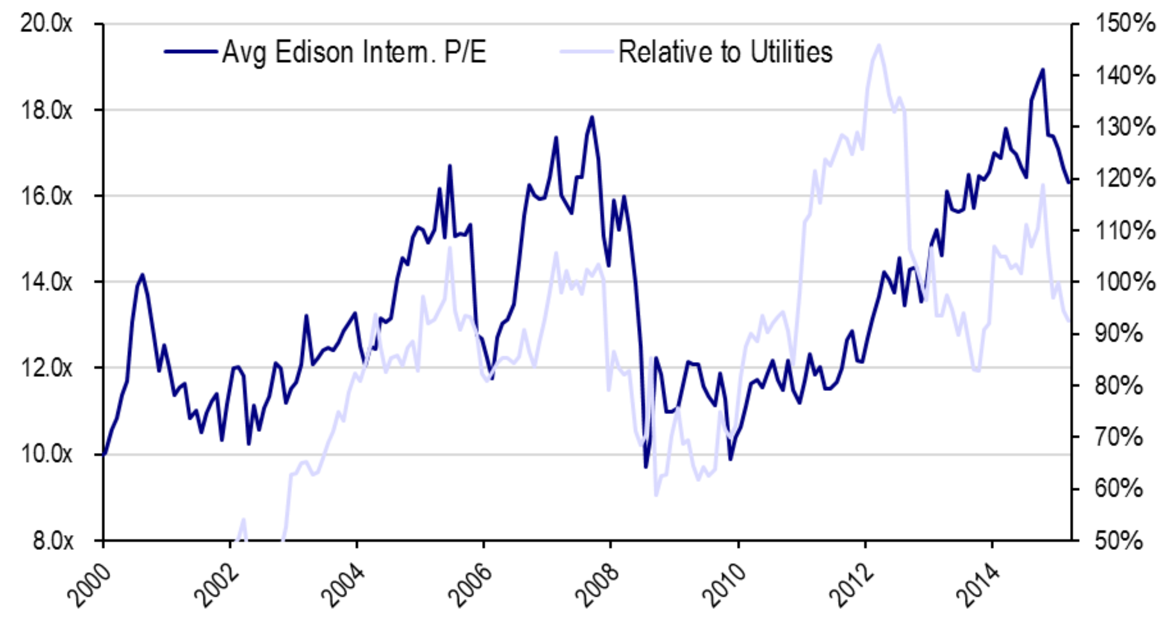
(a) We see little sympathy from Picker for ORA's proposed ex-parte penalty: While ORA and TURN both continue to oppose a reopening of the SONGS settlement, they both support a penalty for EIX's "egregious" violation of ex-parte rules during the negotiations. ORA's requested $648M penalty represents the maximum benefit they believe they could have achieved if they had been given everything they initially asked for in the beginning of the negotiating process. Our impression is that this figure is a vast overreach, especially given that the usual penalty for ex-parte discussion is $50k per instance. We think ORA's argument that a higher figure is warranted because the violations were "especially egregious and may have tainted the outcome" is somewhat belied by ORA's continued support for the outcome in lieu of litigation.

Furthermore, while TURN also supports a penalty of some sort, the organization notably does not stand behind or repeat the $648M figure. In any event, President Picker appeared highly unsympathetic to accusations of ex-parte violations in general, noting that they amount to little more than squabbling among insiders included on the service lists. In our view, the public interest is probably not served terribly well by limiting informal discussion on important topics, especially with industry experts. We think the demands of insiders to be informed of ex-parte communications with other insiders is a broader symptom of distrust of regulators to treat everyone fairly, least of all the ratepaying public they serve. To us, it is this lack of trust that must be resolved and we think

new laws being considered to further limit communications are unlikely to improve either the climate or the ability of California to forge a sensible path forward toward achieving its greenhouse gas reduction goals.

(b) **ROE review likely to be kicked out by 1-year again:** Among the chief recent updates, we sense openness from parties in California to extend once more their current ROE construct for a further year following a similar deal earlier this year. Status quo; the triennial cost of capital case would need to be filed for the three IOUs next April. We see this as having been a growing concern for many investors, seeing this as a key uncertainty on the 2016 calendar. Given the existing band structure in place – and a wider acknowledgement that bond rates have failed to move 'out of bounds' - there was no rush to review the rates.

Figure 10: Average Edison International P/E and Relative P/E



Source: FactSet and UBS Estimates

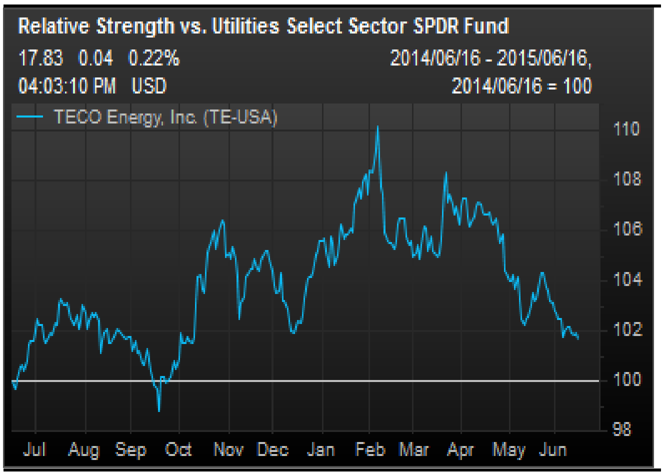
(3) TECO Energy (TE): $22 Price Target

While the underperformance for NextEra and Edison International has been relatively apparent, TECO has lost almost all of its gains with little news. The troubled process to sell TECO Coal has drawn headlines and investor focus but it is ultimately immaterial. As with EIX, TECO is now trading at a discounted relative P/E when we believe it should be trading at a premium: after the coal divestiture is completed, we view this is an above-average growth rate regulated SMid utility with the potential for an acquisition, checking almost all of the boxes for ideal utility exposure in a rising interest rate environment (high parent leverage is a negative).

We suspect re-rating could begin early in 2H with July 3rd firm sale of the coal business without financial close conditions, followed by several capex opportunity updates implicit from NEE's efforts to ratebase gas, add solar, and further around LNG peak shaving in NM in September. The primary risk to our Buy rating relates to the company's relatively higher payout and div yield, at the higher end of the sector in a rising rate environment. We flag its status as a smid-cap, faster-growing

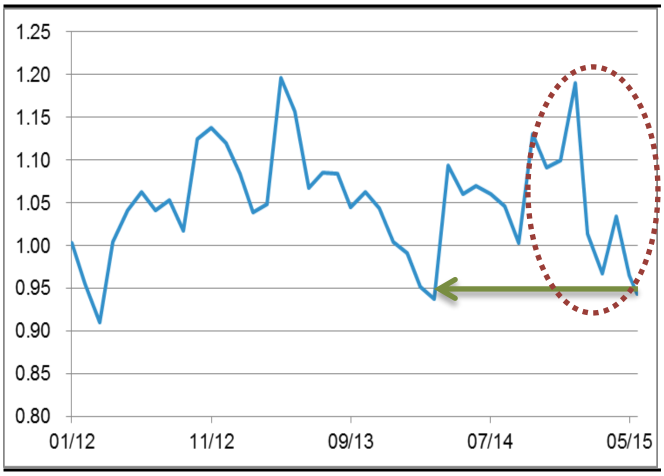
and recent reinitiation of DPS growth after a multi-year hiatus as all positive technical improving its defensive characteristics.

Figure 11: TE TTM Relative Performance



Source: FactSet

Figure 12: TE P/E Relative to Utilities



Source: FactSet

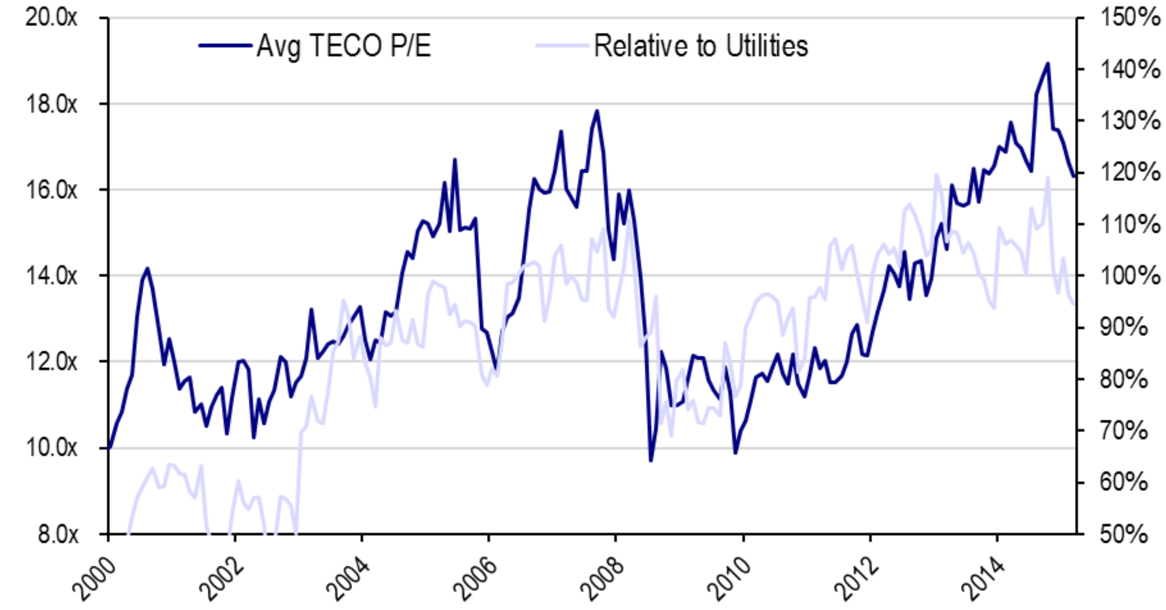
We view the development of a new potential Coal counterparty as a positive but we think the purchase price could very well be below the previous $80Mn deal price.

(a) Moving on to Coal 'Plan B': Last Monday TECO announced that it has signed a non-binding letter of intent with a new potential purchaser of TECO Coal. The agreement with Cambrian Coal (owned by Booth Energy) has not yet been terminated but can be terminated by either TECO or Cambrian with a nominal penalty paid to TECO. The original Cambrian deal was originally announced in October 2014 and was subsequently amended down to $80Mn ($0.34/sh) of base proceeds. Neither the name of the new potential party nor the expected proceeds were disclosed by TECO. Importantly TECO stated that the new potential partner is not expected to need third-party financing like Cambrian did and TECO believes that a deal could close by July 3rd, indicating that additional disclosures could be forthcoming in the near future. This latest development is consistent with TECO's management comments that a 'Plan B' was to work with to work with parties who were previously interested in acquiring the segment (they were recently engaged with upwards of four potential other counterparties on a deal).

No rate cases in foreseeable future

(b) Proactively avoiding rate case risk: Investor attention continues to gravitate to the latest developments on the coal divestiture but in our view the real story investors should be focusing on relates to the Florida and New Mexico rate cases. When we met with management at the AGA Financial Conference last month they appeared confident in their ability to stay-out of rate cases in both jurisdictions. While the settlement precludes any rate hike prior to January 1st, 2018, the latest statements from management suggest it will continue to earn near its authorized ROE for the foreseeable future (seemingly through 2018 and 2019). Bottom line, we expect shares to continue to re-rate around further consolidation in the sector.

Figure 13: Average TECO P/E and Relative P/E



Source: FactSet and UBS Estimates

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 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.

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.

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.	45%	37%
Neutral	FSR is between -6% and 6% of the MRA.	43%	33%
Sell	FSR is > 6% below the MRA.	12%	20%
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.	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 31 March 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.
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 the NASD and NYSE and therefore are not subject to the restrictions contained in the NASD and NYSE rules 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; Michael Weinstein; Paul Zimbardo.

Company Disclosures

Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
Ameren Corp.[16]	AEE.N	Neutral	N/A	US$38.09	17 Jun 2015
CMS Energy Corporation[16]	CMS.N	Buy	N/A	US$32.35	17 Jun 2015
DTE Energy Co.[2, 4, 5, 6a, 16]	DTE.N	Buy	N/A	US$74.98	17 Jun 2015
Dynegy, Inc.[2, 4, 5, 6a, 16]	DYN.N	Buy	N/A	US$33.37	17 Jun 2015
Edison International[2, 4, 6a, 16]	EIX.N	Buy	N/A	US$57.99	17 Jun 2015
Exelon Corp.[4, 5, 6a, 6b, 7, 16]	EXC.N	Neutral	N/A	US$34.18	17 Jun 2015
NextEra Energy[2, 4, 6a, 16]	NEE.N	Buy	N/A	US$100.70	17 Jun 2015
PG&E Corporation[16]	PCG.N	Neutral	N/A	US$50.80	17 Jun 2015
Pinnacle West Capital Co.[6a, 16]	PNW.N	Neutral	N/A	US$57.30	17 Jun 2015
Sempra Energy[2, 4, 5, 16, 18]	SRE.N	Buy	N/A	US$104.37	17 Jun 2015
TECO Energy Inc.[16]	TE.N	Buy	N/A	US$17.97	17 Jun 2015

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.
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 has 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.
18. A U.S.-based global equity strategist, a member of his team, or one of their household members has a long common stock position in Sempra Energy.

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: Publishing Administration.

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

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, the UBS Client Portal and 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.

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.

For access to all available Global Research on UBS Neo and the Client Portal, please contact your UBS sales representative.

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.

Research will initiate, update and cease coverage solely at the discretion of UBS Investment Bank Research Management. The analysis contained in this document is based on numerous assumptions. 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.

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 Italia Sim S.p.A. UBS Italia Sim S.p.A. is regulated by the Bank of Italy and by the Commissione Nazionale per le Società e la Borsa (CONSOB). Where an analyst of UBS Italia Sim S.p.A. has contributed to this document, the document is also deemed to have been prepared by UBS Italia Sim S.p.A. **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. **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. **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) 016/09/2014 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). Clients of UBS Wealth Management Australia Ltd: Distributed by UBS Wealth Management Australia Ltd (Holder of Australian Financial Services Licence No. 231127). 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:** Prepared 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 services. 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. With regard to information on associates, please refer 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