

Consolidated Edison

More Equity Please?

Mgmt issues conservative 2016 guidance below Street

On Feb. 19 ED launched 2016E adj EPS guidance of \$3.85-4.05, slightly down YoY from the robust \$4.08 in 2015A. Even reflecting the impact of bonus depreciation, we see 2016 guidance as conservative with our own revised EPS of \$4.00 reflecting an 8.9% earned ROE at CECONY. Mgmt. states its new guidance range largely reflects the company earnings at 9.0% authorized ROE at CECONY. We note the company has of late been able to earn its ROE suggesting a bias towards the upper half of the 2016 range, if not higher. For example, FY15 adj EPS of \$4.08 was well above the initial \$3.80-\$4.00 guidance provided in Feb 2015, albeit aided by \$0.08 from the Solutions (retail) sub. as well as +\$0.03 in EPS from Steam (recall gas & electric are decoupled).

Equity needs are still real despite bonus depreciation offset; capex peaks in '16

Mgmt expects to need \$280-\$300Mn equity in 2016 (\$200Mn plus DRIP and LT plans at ~\$80-100 Mn). We are particularly surprised by the needs despite the tax benefits afforded by bonus depreciation. The need coincides with a 2016E \$4.15Bn capex plan, meaningfully higher than recent years as investments outside the utility ramp including ~\$1Bn in renewables (with cash ITCs reducing cash needs). We also suspect equity will be used to stabilize the equity ratios as mgmt is presently at 48.9% and is authorized to earn on up to a 50% level. A key regulatory question remains how non-utility segment debt will be imputed into the capital structures of the regulated subsidiaries (management indicated it was approaching the limit – [details here](#)).

Seeking the next round of capex in AMI and more; but will it be allowed?

We see mgmt as busily adding *other* investment opportunities to its core utility efforts, recently adding a stake in the MVP pipeline, a further TX solar project for \$375 Mn, and approval of a \$1.3 Bn smart meter AMI program from the NYPSC (this capex remains reflected already in mgmt's forward looking estimates).

Valuation: Lift PT to \$62; Maintain Sell. Defensive ute at a price; risk is rate case

We have rolled our valuation to 2018E where we continue to use a P/E-based approach with a 5% discount due primarily to the below-average EPS growth and continuing uncertainty around potential penalties for the Harlem explosion. PT change is driven by increase in peer multiple (+\$6) offset by lower ests. (-\$1) and 2018E roll-forward (-\$2).

Equities

Americas
Electric Utilities

12-month rating

Sell

12m price target

US\$62.00
Prior: US\$59.00

Price

US\$71.05

RIC: ED.N BBG: ED US

Trading data and key metrics

52-wk range	US\$73.61-57.21
Market cap.	US\$20.9bn
Shares o/s	294m (COM)
Free float	100%
Avg. daily volume ('000)	724
Avg. daily value (m)	US\$48.3
Common s/h equity (12/16E)	US\$13.8bn
P/BV (12/16E)	1.5x
Net debt / EBITDA (12/16E)	4.0x

EPS (UBS, diluted) (US\$)

	12/16E			
	From	To	% ch	Cons.
Q1E	-	1.27	-	1.28
Q2E	-	0.76	-	0.72
Q3E	-	1.39	-	1.53
Q4E	-	0.58	-	0.58
12/16E	4.02	4.00	-1	4.06
12/17E	4.14	4.07	-2	4.17
12/18E	4.30	4.19	-3	4.32

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

Highlights (US\$m)	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
Revenues	12,354	12,919	12,554	11,883	11,992	12,107	12,372	12,617
EBIT (UBS)	2,244	2,188	2,427	2,467	2,513	2,616	2,738	2,842
Net earnings (UBS)	1,115	1,051	1,193	1,190	1,223	1,266	1,344	1,408
EPS (UBS, diluted) (US\$)	3.79	3.57	4.05	4.00	4.07	4.19	4.43	4.62
DPS (US\$)	2.46	2.52	2.60	2.62	2.64	2.66	2.68	2.70
Net (debt) / cash	(11,751)	(12,292)	(13,330)	(14,837)	(15,620)	(16,367)	(15,800)	(15,037)
Profitability/valuation	12/13	12/14	12/15	12/16E	12/17E	12/18E	12/19E	12/20E
EBIT margin %	18.2	16.9	19.3	20.8	21.0	21.6	22.1	22.5
ROIC (EBIT) %	8.6	8.2	8.6	8.4	8.0	8.0	8.2	8.5
EV/EBITDA (core) x	9.5	9.5	9.5	9.9	9.6	9.1	8.7	8.4
P/E (UBS, diluted) x	15.3	16.1	15.6	17.8	17.5	17.0	16.0	15.4
Equity FCF (UBS) yield %	1.3	3.3	3.8	(0.7)	(0.2)	0.5	7.4	8.3
Net dividend yield %	4.3	4.4	4.1	3.7	3.7	3.7	3.8	3.8

Source: Company accounts, Thomson Reuters, UBS estimates. UBS adjusted EPS is stated before goodwill-related charges and other adjustments for abnormal and economic items at the analysts' judgement. Valuations: based on an average share price that year, (E): based on a share price of US\$71.05 on 19 Feb 2016 11:12 EST

www.ubs.com/investmentresearch

This report has been prepared by UBS Securities LLC. **ANALYST CERTIFICATION AND REQUIRED DISCLOSURES BEGIN ON PAGE 9.** UBS does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Other Recent ConEd Notes

[1/26/2016: What Lies Behind the Defensive Veneer](#)

[10/9/15: Fitting Renewables Into the Mix](#)

[8/13/15: A 'Green' Lining in the Clouds](#)

[5/05/15 Consolidating Edison](#)

[2/24/2015: ROE Risk Remains in Focus](#)

What do we think of shares?

Following the recent macro-driven rally in the utilities sector, we see ConEd as epitomizing the 'defensive play' with outperformance despite concerns over reduced EPS as a result of the bonus depreciation and wider rate case execution risk. While we appreciate successes in recent years in expanding non-utility investments, we see limits. Furthermore local constituents do not appear receptive to ED accelerating utility spending despite the benefits of bonus depreciation – suggesting more limited capex upside in its traditional areas of growth. Rather revisions remain dependent on success in several competitive arenas including two key transmission RFPs (one North-South in NY as well as one East-West). We continue to track reforms in New York but remain sanguine on REV proceedings given the protracted period elapsed already with limited spend materializing; more to the point ED appears challenged to capitalize from the bulk of renewable-related spending. Delineation of capex associated with creating the envisioned 'Distribution Platform' vision for the state remains among the single largest ratebase opportunities beyond the contemplated AMI deployment filing already before the Public Service Commission (PSC) (budgeted at \$1.3Bn—and included in the latest forecast). Lastly, we see risk to pushing forward on meaningful further non-utility investments – at least for the time being – as policies are expected to be reviewed by the NY PSC Staff around utility debt imputation in the capital structure. All around, spend is already reflected with downside risk presented by ROE risk. We believe the current meaningful premium to peers (8%) appears unsustainable in a less defensive environment.

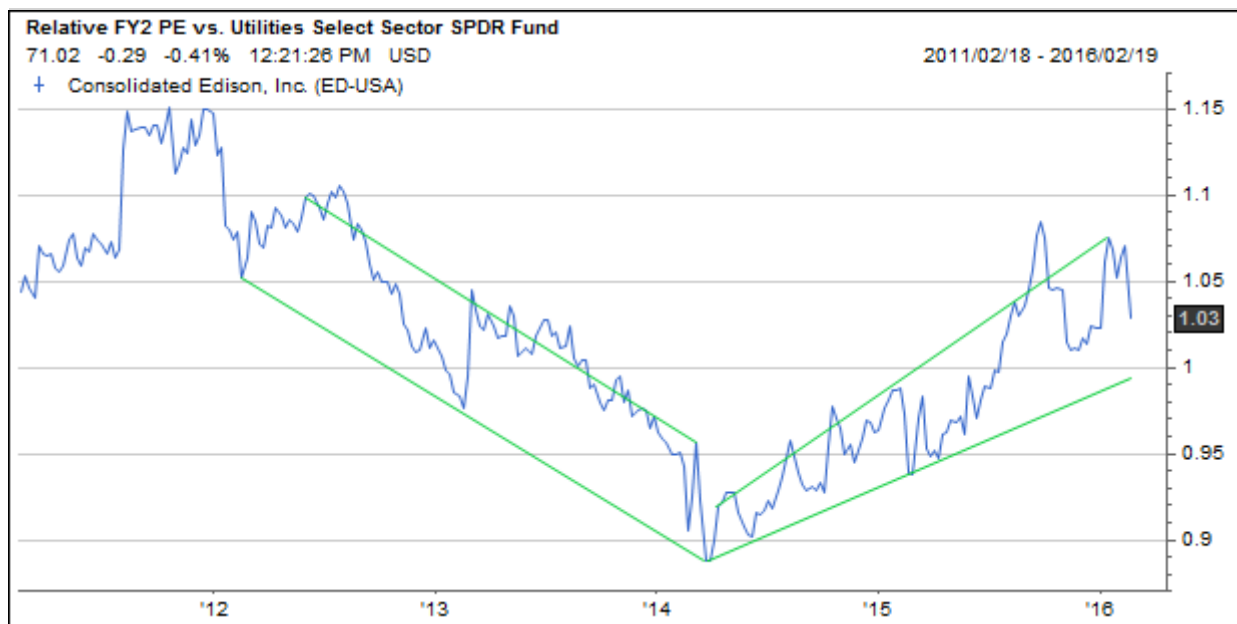
How should shares react to 4Q?

We would expect the weaker 2016 guidance to drive a degree of near-term underperformance in shares. We see the higher capex as tough to interpret given the limited EPS attributable to its non-regulated investments, principally solar.

How has ED traded historically?

To provide context for investors keen to understand ED's defensive characteristics we illustrate its historic premium vs. XLU peers, seeing shares coming back to multi-year highs. The question is can it breakout above this level on a sustainable basis; we suspect not, but see capex variables as the principle driver of whether it can continue its recent outperformance. Further, we see ROE as a key risk of reset downwards in 2016, potentially masking its true premium to peers.

Figure 1: ED Trading Back to Historic Premiums vs. XLU Peers



Source: FactSet

Retail Divestment: Still Waiting

While ED management was successful in selling down the first small PA utility, Pike for \$16Mn, the wider question of a sale of the retail business remains pending. While a sale price is unclear, we note the outsized EPS in 2015 could help boost a sale price. We note recent transactions remains in the ~5x EBITDA range, dilutive to ED assuming continued positive EPS; that said, the limited contribution and volatility introduced into its earnings profile does not fit with the contracted and consistent EPS desired by ConEd investors. We see a sale as readily achievable amidst a perceived ramping in wholesale retail activities by a range of parties with lower wholesale power prices and reduced liquidity impeding prospects to hedge wholesale power.

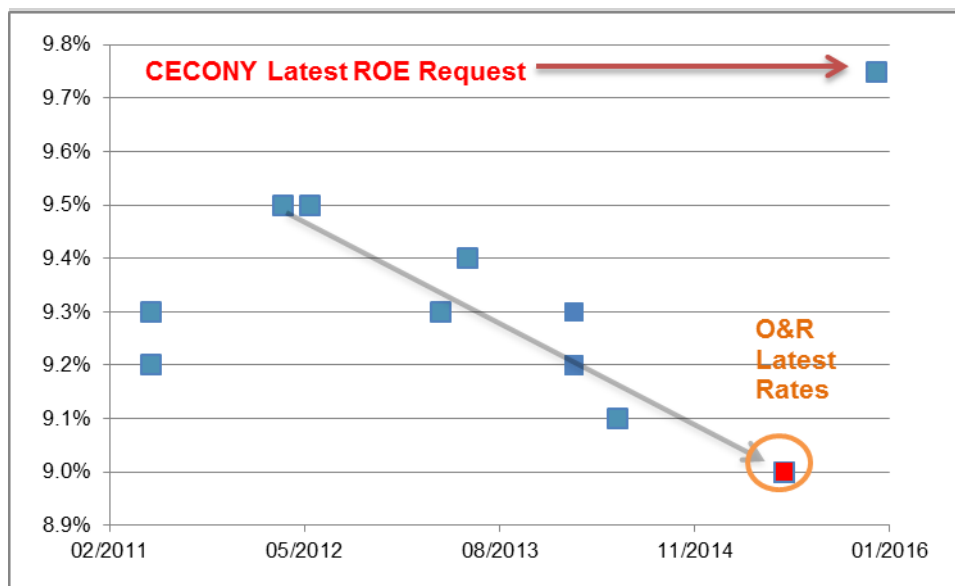
A number of competitive generators have discussed a desire to increase their retail presence to better hedge their volume following reduced liquidity in the commodity markets.

What about the ROE Prospects?

We include ConEd's latest ROE request in its filed rate case relative to recent NY rate case ROE outcome. We emphasize keeping its authorized ROE at 9% would appear a *good* outcome given the wider pressures using the formulaic approach employed by the NY PSC amidst recent low interest rates and high utility valuations; the methodology grabs both metrics, suggesting a mid-to-low 8% ROE.

Further details on our estimate of the NY PSC ROE mark-to-market analysis are available from our January report [*What Lies Behind the Defensive Veneer*](#)

Figure 2: Where will the ROE land? We see risk to the downside



Source: Company Filings and SNL Energy

What do we see in terms of ROE?

We include our latest expectations for earned ROEs by segment below vs historical levels as well as projected ratebase. We note the earned 9.6% ROE in 2015 reflects the maximum CECOnY can earn, with incremental EPS above this level accruing back to customers via a refund. The question remains to what extent the same factors enabling CECOnY to earn 60bp above 9% will recur in 2016 projections, given continued benefits of cost cuts. 2016 was seemingly aided by reduced O&M on the electric side with fewer summer outages due to cooler weather on average. That said, 2017 should recapture much of these savings back into customer rates.

Figure 3: ED Projected Earned ROEs for CECOnY

Regulated Metrics		CECoNY Historical and Projected ROEs					
	2011A	2012A	2013A	2014E	2015E	2016E	2017E
Estimated Rate Base (period end)	20,260	20,624	21,143	22,400	23,600	25,000	25,750
Estimated Rate Base Growth	3.91%	1.80%	2.52%	5.95%	5.36%	5.93%	3.00%
Estimated Rate Base (average)	19,879	20,442	20,884	22,355	23,000	24,300	25,375
Equity Percentage	52.0%	54.0%	50.5%	50.9%	50.9%	50.9%	50.9%
Allowed Equity Ratio			48.0%	48.0%	48.0%	48.0%	48.0%
Effective Equity Ratio				50.0%	50.0%	50.0%	50.0%
ROE Earned - Regulated Basis	9.70%	10.18%	9.34%	9.10%	9.60%	8.82%	8.79%
Electric				9.20%	9.80%		
Gas				7.50%	8.20%		
ROE Earned - SEC Basis	9.80%	9.81%	9.61%				
Authorized ROE	10.00%	10.00%	10.00%	9.22%	9.22%	9.00%	9.00%
Model Earned ROE (Avg. GAAP Equity)	9.57%	9.76%	9.51%	9.55%	9.45%	9.03%	9.09%
ROE Variances						-0.5%	-0.5%
Regulated v SEC Basis	-0.10%	0.37%	-0.27%				
SEC v Allowed Basis	-0.20%	-0.19%	-0.39%				

Source: Company Filings and UBS Estimates

Ratebase Summary

We include a summary of estimate ratebase arising out of CECONY's latest pre-rate case filing. We note the ratebase reflects just a 4% increase from 9/30 2015 through 2017, largely to reflect the impact of bonus depreciation.

Following the initial pre-filing in late January, there have been few developments in the case; resolution remains expected for year-end 2016.

Figure 4: CECONY Average Ratebase Analysis

CECoNY Average Ratebase Analysis				
	9/30/2015	2017	Increase \$	Increase %
Electric	17,544	18,880	1,335	3.0%
Gas	3,873	4,820	947	9.1%
Steam	1,540	1,618	78	2.0%
Total	22,957	25,318	2,360	4.0%
<i>Pre-Rate Case UBSe</i>	25,991			
Estimated EPS Impact at 9% ROE	-\$0.10			

Source: Company Filings, SNL Energy, and UBS Estimates

Shifting Down Estimates

We are tweaking down our estimates a touch further to reflect modestly more equity than we had anticipated (~\$290 Mn in 2016E), greater than previously estimated impact of bonus depreciation, and the latest capex budget, much of which we had visibility into already. In connection with bonus depreciation we have lowered our earned ROE assumptions by 10bp in 2016E-2018E from our prior view. As mentioned, following its recent string of strong ROE performance we view our estimates as on the conservative side. We also note that ED expects to issue \$1.0-\$1.5Bn of long-term utility debt and secured project debt at renewables to meet its significant capex needs (\$4.15Bn) and debt retirements (\$740Mn with \$650Mn at CECONY) in 2016.

Utility debt maturing in 2016:
\$400Mn CECONY at 5.5% (Sept)
\$75Mn O&R at 5.45% (Oct)
\$250Mn CECONY at 5.3% (Dec)

Figure 5: EPS Estimates

Consolidated Edison EPS Ests.	2014	2015	2016E	2017E	2018E
Consolidated Edison of New York	\$3.61	\$3.77	\$3.60	\$3.71	\$3.87
CECONY ROE (UBSe)	9.1%	9.6%	8.8%	8.8%	9.0%
Orange & Rockland (O&R)	\$0.20	\$0.15	\$0.22	\$0.22	\$0.22
Competitive Businesses:					
Con Ed Solutions (Retail)	(\$0.00)	\$0.07	\$0.02	\$0.01	\$0.00
Con Ed Energy (Wholesale)	\$0.05	\$0.03	\$0.02	\$0.00	\$0.00
Con Ed Development (Solar)	\$0.05	\$0.12	\$0.16	\$0.19	\$0.22
Parent and Other	(\$0.02)	(\$0.08)	(\$0.03)	(\$0.06)	(\$0.13)
Consolidated (diluted shares)	\$3.89	\$4.06	\$4.00	\$4.07	\$4.19
% Growth		4%	-2%	2%	3%
Prior estimates		\$3.98	\$4.02	\$4.14	\$4.30
Guidance		\$3.90-\$4.05	\$3.85-\$4.05		
Consensus	\$3.89	\$4.01	\$4.05	\$4.17	\$4.33

Source: Company Filings, FactSet, and UBS Estimates

Valuation: Adjusting Price Target to \$62/sh from \$59

We continue to value ConEd on a forward-P/E basis and we are rolling forward to 2018E from 2017E. Below are factors impacting our change in valuation:

- ~2% Reduction in EPS estimates: **-\$1/sh**
- Rolling valuation year to 2018E from 2017E: **-\$2/sh**
- ~1.5x Increase in the regulated utilities peer multiple: **+\$6/sh**

Figure 6: Updated Consolidated Edison Valuation

Consolidated Edison Valuation			
Regulated 2018 P/E Multiple	15.5x		
	Downside	Base Case	Upside
2018 EPS	\$4.10	\$4.19	\$4.28
x P/E Multiple	15.5x	15.5x	15.5x
Discount	-10%	-5%	5%
Valuation	\$57.00	\$62.00	\$70.00
Assumed CECONY ROE	8.8%	9.0%	9.2%

Source: Company Filings, FactSet, and UBS Estimates

What were earned ROEs?

We show by segment the earned ROEs for 2015, earning above CECONY's 9.0% authorized ROE for the segments.

Figure 7: 2015 ROEs

Segment	ROE	Equity
CECONY		
Elec	9.8%	
Gas	8.2%	
Steam	10.2%	
Overall	9.6%	48.9%
O&R		
Elec	9.6%	
Gas	2.9%	
Rockland	9.8%	
Overall	7.8%	50.1%

Source: Company Filings

Capital Spending Comparison

We include the latest and previous forecasts below. The transmission below is principally the MVP gas pipeline investment, whereas the competitive businesses are principally the solar investments. Recall mgmt amortizes ITC over a period of time rather than recognizing the benefits all in the year when the asset begins commercial operations (more conservative approach).

Figure 8: 2015 10K ConEd Capex Disclosures

Capital Expenditures	2013	2014	2015	2016	2017	2018
ConEd NY	\$2,135	\$2,132	\$2,435	\$2,865	\$2,999	\$2,991
O&R	135	142	160	188	185	184
Total Regulated	2,270	2,274	2,595	3,053	3,184	3,175
Coned Transmission				115	171	179
Competitive Businesses	378	447	823	985	360	360
ConEd Total Capex	\$2,648	\$2,721	\$3,418	\$4,153	\$3,715	\$3,714

Source: Company Filings

The latest forecast is significantly higher than the prior forecast, particularly at the utility. We remind investors that the EPS uplift from the solar projects appears to be minimal according to management's guidance due to the spreading of ITCs mentioned above.

Figure 9: 2014 10K ConEd Capex Disclosures

Capital Expenditures	2013	2014	2015	2016	2017	2018
ConEd NY	\$2,135	\$2,132	\$2,375	\$2,661	\$2,694	\$1,750
O&R	135	142	162	182	177	150
Total Regulated	2,270	2,274	2,537	2,843	2,871	1,900
Competitive Businesses	378	447	835	985	374	374
ConEd Total Capex	\$2,648	\$2,721	\$3,372	\$3,828	\$3,245	\$2,274

Source: Company Filings

Forecast returns

Forecast price appreciation	-12.7%
Forecast dividend yield	3.7%
Forecast stock return	-9.0%
Market return assumption	5.7%
Forecast excess return	-14.7%

Valuation Method and Risk Statement

Risks for Consolidated Edison (ED) include but are not limited to: (1) potential inability to deliver on its capital expenditure program; (2) unfavorable commodity movements; (3) adverse political/legal/regulatory actions; (4) decline in the demand for new wind and solar projects; (5) unfavorable weather and natural resources yield [sun radiance and wind generation]; (6) operational and construction risk; (7) inability to access the capital markets on attractive terms; (9) inability to re-contract assets after contract expiration; (10) declines in customer demand and population; (11) failure to close pending or prospective M&A transactions; (12) natural disasters; (13) losses at the retail marketing segment; (15) change in macroeconomics; and (16) other unforeseen changes.

Valuation is based on a forward P/E methodology.

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.

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.	48%	36%
Neutral	FSR is between -6% and 6% of the MRA.	39%	28%
Sell	FSR is > 6% below the MRA.	12%	22%
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 31 December 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 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; Michael Weinstein; Paul Zimbardo.

Company Disclosures

Company Name	Reuters	12-month rating	Short-term rating	Price	Price date
Consolidated Edison ^{2, 4, 5, 6, 16}	ED.N	Sell	N/A	US\$71.31	18 Feb 2016

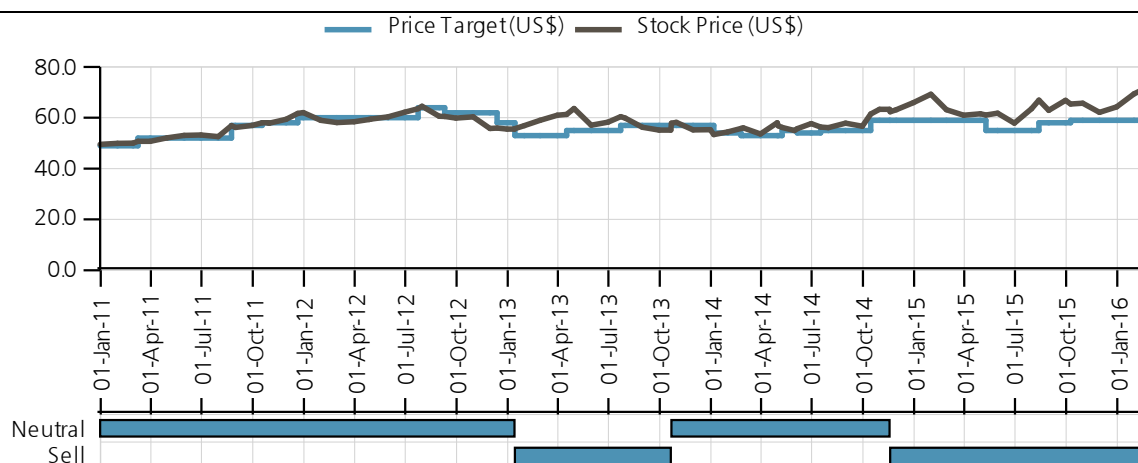
Source: UBS. All prices as of local market close.

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.
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.
6. 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.
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.

Consolidated Edison (US\$)



Source: UBS; as of 18 Feb 2016

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 für 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 (spółka z ograniczoną odpowiedzialnością) Oddział w Polsce regulated by the Polish Financial Supervision Authority. Where an analyst of UBS Limited (spółka z ograniczoną odpowiedzialnością) Oddział w Polsce has contributed to this

document, the document is also deemed to have been prepared by UBS Limited (spółka z ograniczoną odpowiedzialnością) Oddział 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. 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. **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). Clients of UBS Wealth Management Australia Ltd: Distributed by UBS Wealth Management Australia Ltd (Holder of Australian Financial Services License 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. **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 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 specifically prohibits the redistribution of this document in whole or in part without the written permission of UBS and UBS accepts no liability whatsoever for the actions of third parties in this respect. Images may depict objects or elements that are protected by third party copyright, trademarks and other intellectual property rights. © UBS 2016. The key symbol and UBS are among the registered and unregistered trademarks of UBS. All rights reserved.

