US Electric Utilities & IPPS

# Polling regulatory sentiment: inaugural survey

Industry Overview

Bank of America Merrill Lynch

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BofA Analytics
— DATA DRIVEN —

United States
Electric Utilities

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## Our first regulator survey: positive skew to utilities

We launch our first U.S. utility regulator survey, noting that responses were generally in line with what we've observed in our company coverage, with a positive skew on spending, holdco debt and ratemaking mechanisms. To no surprise, responses on ROE (generally trending down or the same) and on capital spending (trending up) line up with existing trends we've observed. Our respondents tended to be neutral on questions about non-traditional rate base assets and performance-based regulation.

## Lots of offsets to lower ROEs: capital spend trending up

Outside of higher capital expenditure expectations, other items of constructive note include respondents' general comfort with debt, high expectations for the use of trackers, and a majority view of constructive regulatory relationships. The use of holdco leverage increasingly is viewed as less punitive by regulators; we flag that the most recent Alliant (LNT) Iowa settlement yielded a non-punitive approach (via double leverage adjustments) for ratemaking. Regulators, however, are still split on the use of performance-based ratemaking.

## Distribution spending strong, but what about generation?

To no surprise, capital spending is generally weighted toward distribution investment with generation taking a back seat. This also goes for non-traditional generation resources such as rooftop solar. Time of use rates and qualifying facilities (QFs) have been a subject of ongoing debate in many jurisdictions, where we see states generally split, also in line with our survey results. Electric vehicle (EV) infrastructure also appears controversial. Not only does our survey show a majority of respondents neutral on these topics, but we note the Kansas Corporation Commission (KCC) recently denied Kansas City Power & Light's (KCP&L) request for recovery on EV spending. With rooftop solar at the heart of the time of use debate, we see EV only widening the discussion among state stakeholders given the wide price range of utility-charging tariff structures.

## What regulated utilities do we like?

Core utilities among our recently launched Buys include AGR, ED, AEP, and XEL. We believe the sector continues to benefit from historically constructive recovery mechanisms around capital deployment. We expect DPS growth to persist in the ~5% range overall, while maintaining consistent payout ratios. We see this survey skewing positive for utilities in general, but specifically for those geared towards renewables and infrastructure spending: LNT, AEP, XEL, AEE, NEE, CMS, and ED, among others.

## Methodology

We asked regulators from all state utility jurisdictions to complete our survey; 42 regulators submitted anonymized responses to an online survey of 12 selection questions and one free-form question. The questions covered topics including ROE trends, alternate ratemaking, and capital spending. The survey results present a window into regulator thinking, but not definitive answers. The respondents were anonymous, so we could not verify diversity of jurisdiction. Additionally, regulators across states are difficult to generalize and often hold a wide array of opinions, so we see this survey as simply a snapshot of select views.



**Refer to important disclosures on page 23 to 27. Analyst Certification on page 22. Price Objective Basis/Risk on page 20.** 11803300

Timestamp: 25 October 2017 01:01AM EDT

## And the moment we've all been waiting for...

This is our first survey of regulator opinions with 42 anonymous respondents across U.S. state jurisdictions. We do not include any specific state references in our questions below, and regulators' views are their own. Respondents were able to suggest topics/questions they are currently tackling in their jurisdictions, included at the end of our survey results.

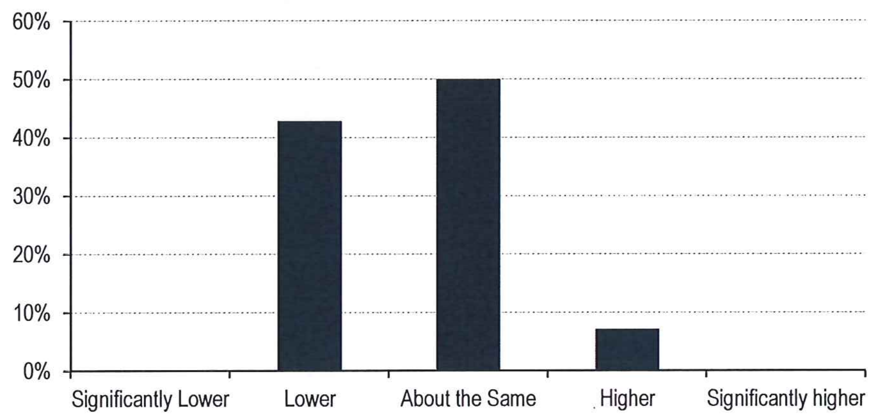
# Responses in line with expectations

## Q: What is the current trend of authorized ROEs?

Half of regulators responded that they believe authorized ROEs will remain about the same and another 40% thought ROEs would trend down. Few said they thought ROEs would increase. None thought there would be any dramatic changes in ROEs in either direction.

We asked this question because authorized ROEs have tracked down steadily, even for the last two decades. This result tends to follow that trend and is a data point to suggest ROEs may continue in the same direction.

**Chart 1: Most respondents believe authorized ROEs will remain about the same or decrease**




Source: BofA Merrill Lynch Global Research

### ROEs continue to decline: Though largely expected by investors

We provide a historical table of authorized ROEs below, noting that authorized ROEs have continued to decline while capital structures have continued to rise. The spread to 10-year U.S. Treasuries has consistently widened as rates have come down over the last 10 years. We highlight that ROEs linked to U.S. Treasuries could offer underwhelming value today, but should offer investors an effective hedge against raising rates in the future. The key name here is AEE.

**Table 1: ROEs have continued to come down, while utilities' capitalization structures have been increasing towards 50/50**

**Natural Gas**

| Date | Return on Equity (%) | Return on Capital (%) | Equity to Cap (%) | ROE Spread to 10YR UST (%) |
|---|---|---|---|---|
| 2016 | 9.54 | 7.54 | 50.06 | 7.27 |
| 2015 | 9.60 | 7.40 | 49.93 | 7.96 |
| 2014 | 9.78 | 7.53 | 51.11 | 7.14 |
| 2013 | 9.68 | 7.67 | 50.60 | 7.69 |
| 2012 | 9.94 | 7.63 | 51.13 | 8.15 |
| 2011 | 9.92 | 8.13 | 52.49 | 6.55 |
| 2010 | 10.15 | NA | 48.70 | 6.56 |
| 2009 | 10.22 | 7.76 | 48.49 | 7.38 |
| 2008 | 10.39 | 8.28 | 50.35 | 6.80 |
| 2007 | 10.22 | 8.69 | 48.47 | 5.42 |
| 2006 | 10.40 | 8.58 | 47.24 | 5.89 |
| 2005 | 10.41 | 8.80 | 48.40 | 6.29 |
| 2004 | 10.63 | 9.15 | 45.81 | 6.50 |
| 2003 | 10.99 | 9.34 | 49.93 | 7.02 |
| 2002 | 11.17 | 9.00 | 48.92 | 6.13 |
| 2001 | 10.96 | NA | 43.96 | 5.85 |
| 2000 | 11.34 | 9.47 | 48.91 | 4.67 |
| 1999 | 10.74 | NA | 49.22 | 6.09 |
| 1998 | 11.51 | 9.77 | 49.50 | 6.00 |
| 1997 | 11.30 | 9.67 | 47.76 | 4.81 |
| 1996 | 11.12 | 9.55 | 47.52 | 5.54 |
| 1995 | 11.44 | 9.61 | 50.15 | 3.85 |
| 1994 | 11.24 | 9.66 | 48.11 | 5.60 |
| 1993 | 11.37 | 9.58 | 46.29 | 5.01 |
| 1992 | 12.02 | 10.36 | 46.65 | 4.74 |
| 1991 | 12.45 | 10.99 | 47.16 | 4.44 |
| 1990 | 12.68 | 10.84 | 47.25 | 4.26 |
| 1989 | 12.87 | 10.95 | 47.64 | 3.89 |
| 1988 | 12.84 | 10.65 | 45.81 | 4.59 |
| 1987 | 12.72 | 10.75 | 45.91 | 5.55 |
| 1986 | 13.46 | 11.03 | 46.06 | 4.41 |
| 1985 | 14.73 | 17.68 | 45.83 | 3.56 |
| 1984 | 15.33 | 11.43 | 42.53 | 3.69 |
| 1983 | 15.25 | 11.39 | 43.26 | 4.44 |
| 1982 | 15.65 | 16.96 | 41.02 | 1.51 |
| 1981 | 15.11 | 11.55 | 40.88 | 2.43 |
| 1980 | 14.05 | 10.44 | 40.53 | 2.92 |
| **Average** | **11.71** | **9.94** | **47.39** | **5.42** |

**Electric**

| *Date* | *Return on Equity (%)* | *Return on Capital (%)* | Equity to Cap (%) | ROE Spread to 10YR UST (%) |
|---|---|---|---|---|
| 2016 | 9.77 | 7.54 | 48.91 | 7.50 |
| 2015 | 9.85 | 7.40 | 49.54 | 8.21 |
| 2014 | 9.91 | 7.68 | 50.28 | 7.27 |
| 2013 | 10.03 | 7.67 | 49.25 | 8.04 |
| 2012 | 10.17 | 7.85 | 50.69 | 8.37 |
| 2011 | 10.29 | 8.13 | 48.26 | 6.92 |
| 2010 | 10.37 | NA | 48.63 | 6.79 |
| 2009 | 10.52 | 8.08 | 48.57 | 7.68 |
| 2008 | 10.41 | 8.47 | 47.94 | 6.81 |
| 2007 | 10.30 | 8.69 | 47.88 | 5.49 |
| 2006 | 10.32 | 8.94 | 48.54 | 5.81 |
| 2005 | 10.51 | 9.04 | 47.34 | 6.38 |
| 2004 | 10.81 | 8.25 | 46.96 | 6.68 |
| 2003 | 10.96 | 9.34 | 49.32 | 7.00 |
| 2002 | 11.21 | 9.26 | 45.94 | 6.18 |
| 2001 | 11.07 | NA | 47.18 | 5.96 |
| 2000 | 11.58 | 9.52 | 49.86 | 4.91 |
| 1999 | 10.72 | NA | 40.60 | 6.07 |
| 1998 | 11.77 | 9.77 | 46.59 | 6.26 |
| 1997 | 11.33 | 9.67 | 48.87 | 4.84 |
| 1996 | 11.40 | 9.55 | 42.35 | 5.82 |
| 1995 | 11.58 | 9.61 | 45.67 | 4.00 |
| 1994 | 11.21 | 9.66 | 44.79 | 5.57 |
| 1993 | 11.46 | 9.87 | 47.32 | 5.10 |
| 1992 | 12.09 | 10.26 | 44.40 | 4.82 |
| 1991 | 12.54 | 10.89 | 43.68 | 4.54 |
| 1990 | 12.70 | 10.75 | 43.12 | 4.28 |
| 1989 | 12.97 | 10.82 | 44.50 | 3.99 |
| 1988 | 12.80 | 10.63 | 42.73 | 4.54 |
| 1987 | 12.98 | 10.67 | 41.06 | 5.80 |
| 1986 | 13.99 | 10.79 | 41.47 | 4.94 |
| 1985 | 15.18 | 11.41 | 40.04 | 4.01 |
| 1984 | 15.34 | 11.57 | 38.74 | 3.69 |
| 1983 | 15.37 | 11.46 | 37.78 | 4.57 |
| 1982 | 15.79 | 15.85 | 37.03 | 1.65 |
| 1981 | 15.22 | 10.93 | 36.03 | 2.54 |
| 1980 | 14.23 | 9.87 | 36.21 | 3.10 |
| **Average** | **11.86** | **9.70** | **45.08** | **5.57** |

Source: BofA Merrill Lynch Global Research, SNL

## Q: Should authorized ROEs be linked to Treasury rates?

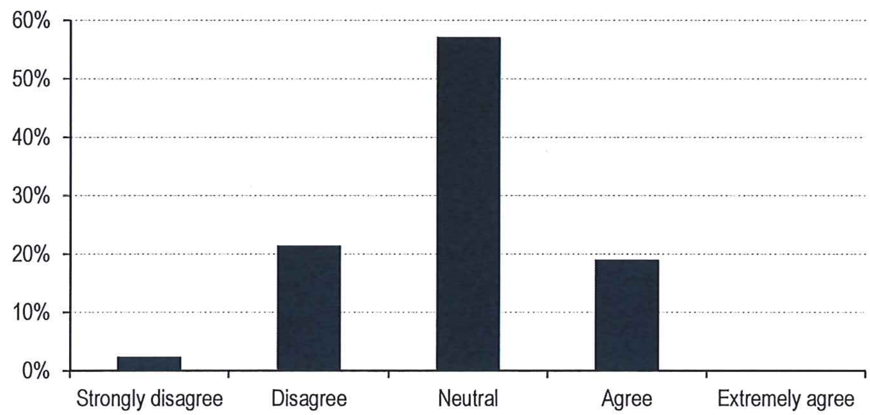
Most respondents provided a neutral opinion on linking authorized ROEs to Treasury rates, with about an even spread of remaining respondents that agreed or disagreed. An outlier of one regulator believed strongly that ROEs should not be linked. This suggests the question is not of paramount importance to current regulators.

We asked this question in the context of some suggestions that ROEs and Treasury rates could be linked to reduce lag and regulatory risk. The result suggests regulators do not feel strongly either way.

### Constructive backdrop for Ameren

ROEs linked to Treasuries are generally positive despite Illinois having amongst the lowest nominal ROEs in the country due to the specific premium to 30-year Treasuries. Many investors view a direct linkage as actually shielding the equities against the current backdrop of rate hike risk. The current method establishes it at 5.8% above 30-year Treasuries (currently at 2.88%), implying an 8.68% ROE today.

**Chart 2: Over half of respondents are neutral on linking ROEs to Treasury rates**




Source: BofA Merrill Lynch Global Research

## Q: Do you see bill inflation as a problem within your jurisdiction?

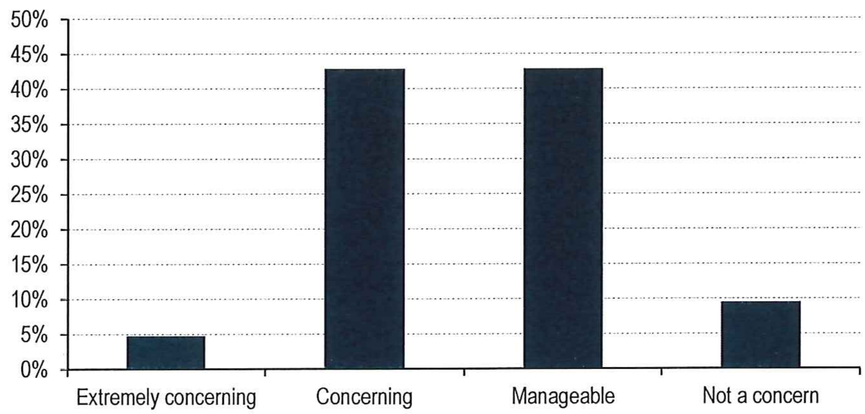
Respondents seem to see bill inflation as either concerning or manageable, with one finding bill inflation to be a severe issue. A minority of respondents outright dismissed bill inflation as an issue, suggesting regulators generally do observe that bill inflation occurs.

We were interested in regulators' perspective on this question as an ongoing industry topic. Concern over bill inflation might translate into less regulatory willingness to increase capital expenditures that cause bill increases.

### Commodity prices a lingering risk

Declines in commodity prices in recent years have enabled substantial headroom in bills. How much longer will this persist as we reach the bottom in the fuel cycle? We believe this is amongst the biggest dormant risks to the sector, threatening to derail future capital spending in a potentially sudden manner.

**Chart 3: About an even split of regulators in our survey find bill inflation concerning or manageable**




Source: BofA Merrill Lynch Global Research

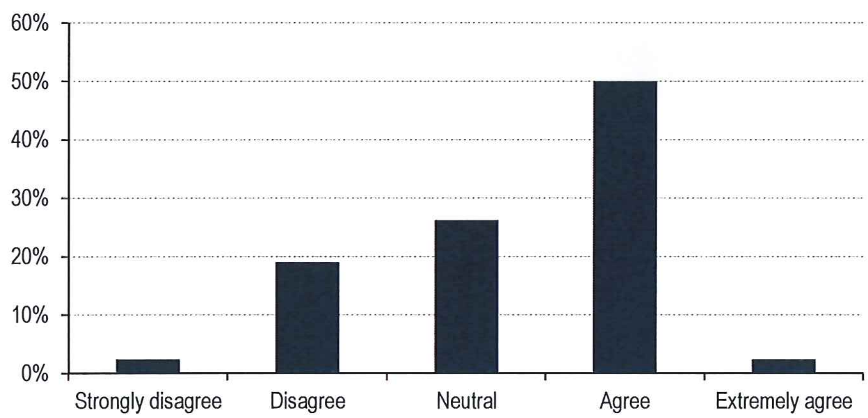
## Q: Do you anticipate an increase in the use of regulatory adjustment components of rate making, such as trackers and riders, in your jurisdiction?

A majority of regulators agree or strongly agree that they are considering regulatory adjusting rate components, followed by one-quarter of respondents that were neutral. A minority disagree. The results suggest a greater interest in using tracker mechanisms that respond better to changing conditions.

The traditional rate case requires utilities to file for rate increases at the commission, a process that requires back and forth on requested numbers, testimony, witnesses, and intervention. The process averages 9 months for historical rate cases, but can extend to years. We asked the question because many utilities and regulators have expressed interest in rates that adjust with less lag and reduce regulatory work. For instance, most utilities have fuel trackers that adjust with fuel prices.

We see this as substantially improving the risk profile of the utility sector. We expect additional legislation and shifts in the regulatory compact adopted by the respective commissions to continue to expedite reinvestment in electric, gas, and water infrastructure. The increased use of riders and trackers for spending allows utilities to obtain immediate rate relief on a host of expense items that otherwise could cause a lag in earned returns. We note GXP/AEE have both been working toward a legislative fix in the Missouri senate to implement a more constructive ratemaking backdrop, which likely would include trackers. For GXP, property taxes have been a large issue causing GMO to under-earn materially.

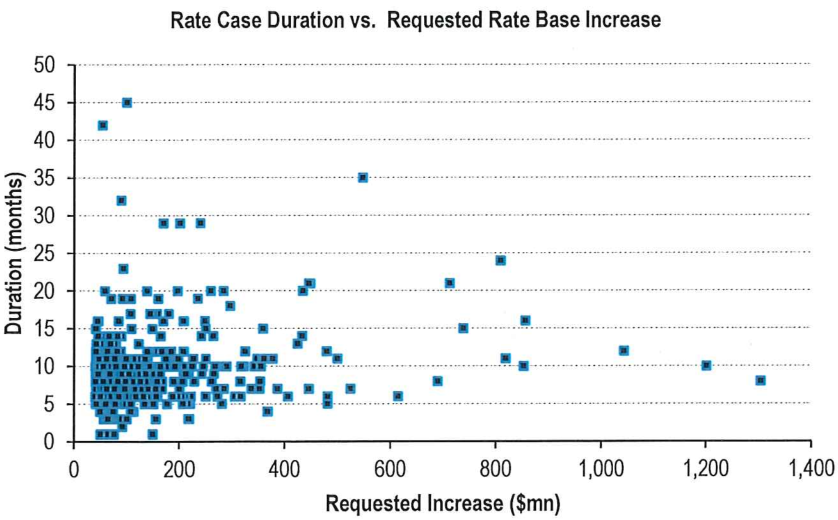
**Chart 4: Majority of regulators in our survey said they are increasing use of regulatory adjusting rate components**




Source: BofA Merrill Lynch Global Research

We include rate case duration vs. requested base rate increases below, noting despite the size of the rate request, the duration of most utility rate cases has only lasted about a year. However, some stretch for years. Increasingly constructive jurisdictions likely allow for settlements that can expedite the timeframe.

**Chart 5: Rate cases average 9 months, but can stretch to years**




Source: BofA Merrill Lynch Global Research, SNL

## Q: Do you anticipate a trend toward performance-based ratemaking mechanisms in your jurisdiction?

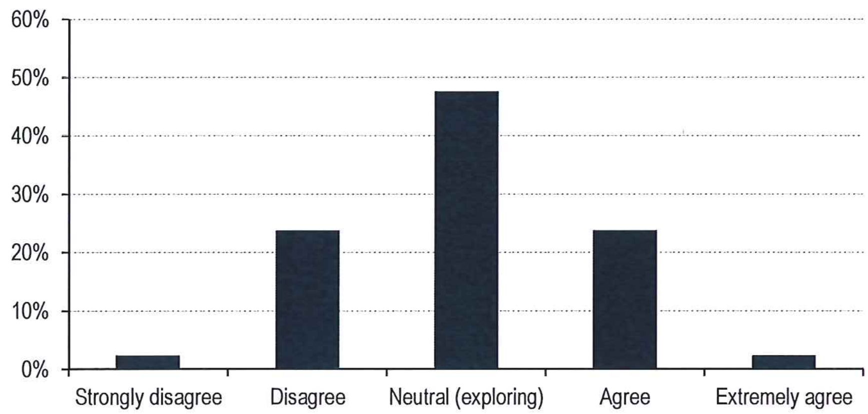
Almost a majority of regulators expressed no opinion on performance-based rate making, followed by generally an even split of respondents that see or don't see such a shift. This suggests regulators at present do not hold strong opinions on performance-based rate making. We asked the question because increasingly we see regulators exploring regulatory mechanisms that incentivize utilities along regulators' policy objectives, including better reliability and customer service, and reduce the disincentive to spend capital on new technologies. The result suggests no widespread major shifts yet.

We see this as an emerging subject, but one that is still ripe for discussion. The "devil is in the details" in implementing these, as specific targets could meaningfully impede the ability to earn authorized ROEs or alternatively allow for outsized earnings relative to targets. Energy efficiency adjustments are a more established example.

### Decoupling normalizes the weather risk

Decoupling mechanisms allow the utility to "shield" itself from weather/load impacts. We see this remaining controversial among utility jurisdictions, but note from an investment perspective, it makes the earning variability easier to forecast. We note large weather swings at POR and SCG, among other names, have added volatility to quarters.

**Chart 6: Most regulators in our survey have mixed feedback on performance-based regulation, with an even split on those agreeing or disagreeing otherwise**



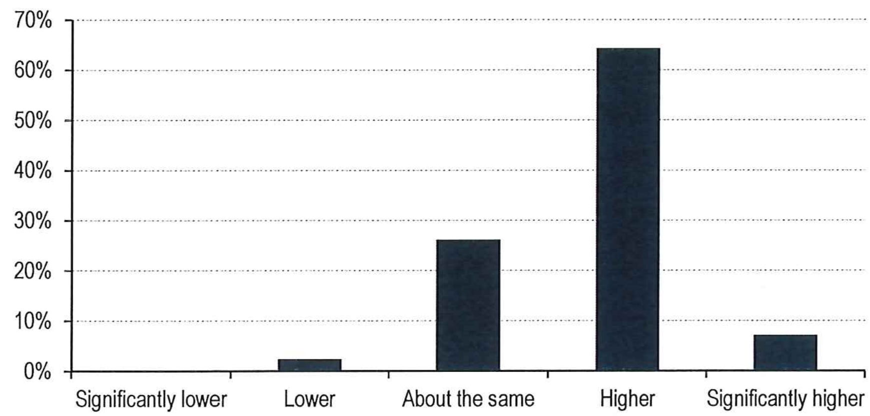

Source: BofA Merrill Lynch Global Research

## Q: Where do you see capital spending in your jurisdiction heading?

Regulators mostly see capital spending increasing. Almost 75% of respondents see capital spending increasing or significantly increasing, and the remaining quarter of respondents see capital spending staying level. One outlier sees capital spending decreasing. This aligns with our observations of continued growth in utility rate bases.

Investors have been concerned before about the risk of slowing total capital spending. Consistently, where slowing was expected, positive revisions for further upward acceleration in utility spending occurred.

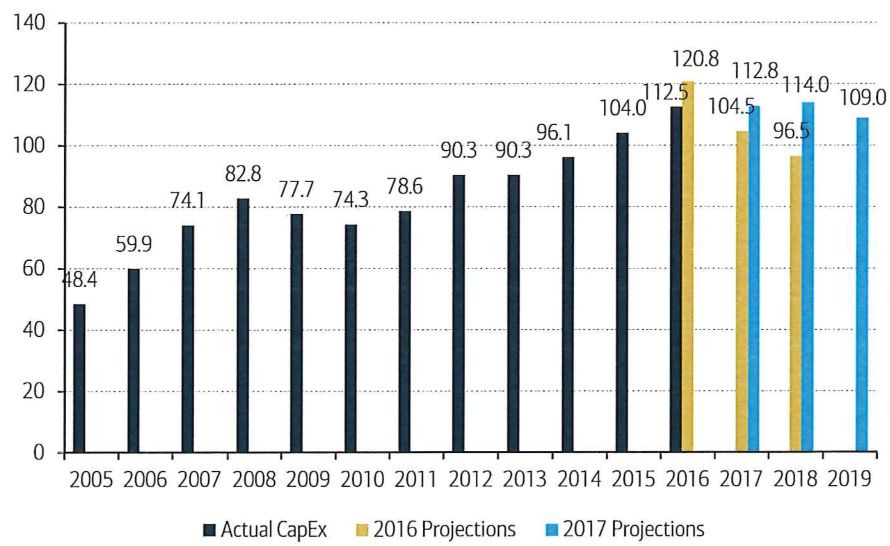
**Chart 7: Most regulators in our survey see capital spending increasing: positive for utilities**




Source: BofA Merrill Lynch Global Research

**This is one of the larger positive data points from the survey.** While ROEs likely are heading lower, more capital spending largely skews positive for the regulated utility group. Regulators' expectations of higher spending demonstrate to us an understanding of their respective jurisdictions' spending needs. It's still unclear to what extent regulators are accepting this spending, which could be challenged in contested rate cases/dockets.

**Chart 8: U.S. utility industry capex ($ bn) continues to grow**

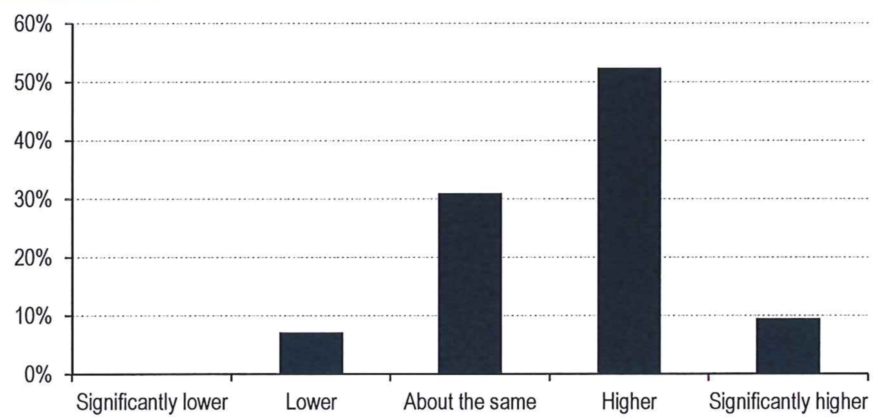



Source: BofA Merrill Lynch Global Research, EEI

## Q: Where do you see capital spending for renewable assets in your jurisdiction heading?

Of the capital spending discussed above, it is likely that some portion of it is in renewables. Most regulators see spending increasing in renewables, with slightly over one-quarter disagreeing. A host of utilities such as American Electric Power (AEP), Xcel Energy (XEL), Ameren (AEE), and Dominion (D) have scaled renewable spending announcements into 3Q17 results; AEE and AEP most recently announced $4bn and $1bn, respectively in wind investments. Alliant (LNT) has ramped wind spending as well, with 300MWs not yet in the plan. The ability for renewable spending to continue post the production/investment tax credits phase-out is still unknown, although continued cost declines as well as state mandates will likely keep this type of spending strong longer term.

**Chart 9: Most regulators in our survey see increasing capital spending on renewables**



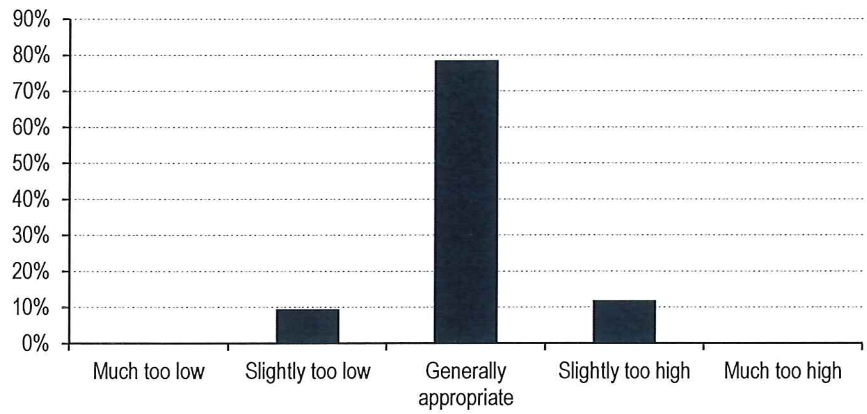

Source: BofA Merrill Lynch Global Research

## Q: Do you see the leverage ratio of utility holding companies as a problem in your jurisdiction?

Regulators are responsible for approving the capital structure of their jurisdictional utilities, which operate often under holding companies outside their jurisdiction. The survey results suggest regulators do not see holding company leverage as a concern for their jurisdictional utilities.

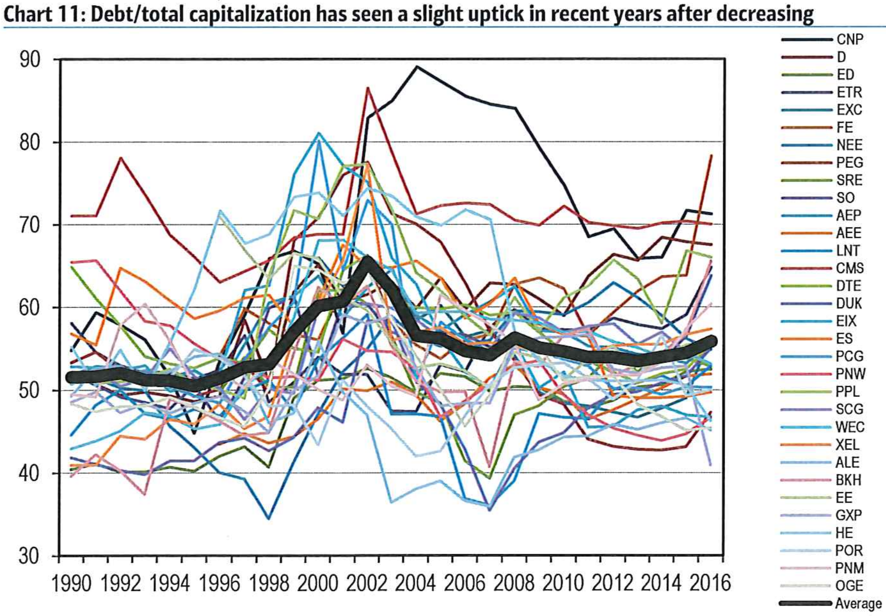
Debt-to-total capitalization ratio of utilities today fall below the historical peak in the early 2000s. The average today hovers around 55% and has seen a slight uptick in the past five years.

**Chart 10: Almost all regulators in our survey see utility holding companies' leverage as appropriate**




Source: BofA Merrill Lynch Global Research

**Chart 11: Debt/total capitalization has seen a slight uptick in recent years after decreasing**



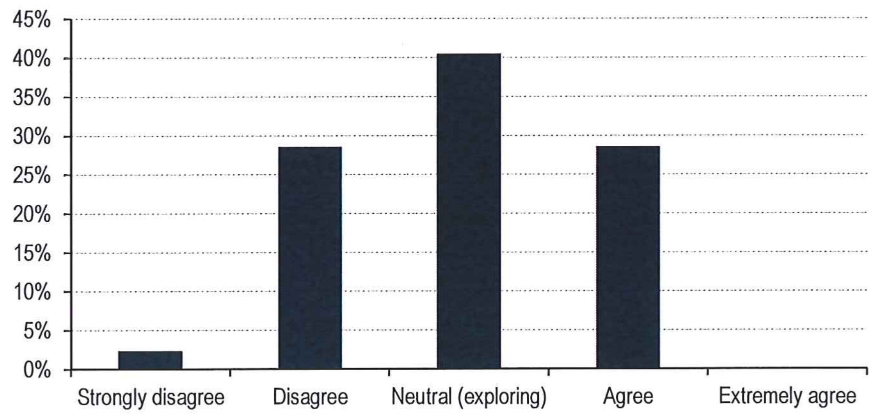

Source: BofA Merrill Lynch Global Research, Bloomberg

## Q: Is there a trend of increased rate basing of non-traditional resources, such as electric vehicle chargers and rooftop solar?

One-quarter of regulators agree that utilities in their jurisdiction are rate basing non-traditional assets. A plurality is neutral and another quarter does not see this trend. We asked the question because of the potential for nascent and growing industries like distributed generation and electric vehicles to add to rate bases through installation of EV chargers and distributed rooftop solar.

Interest in non-traditional resources is often associated with state policy. Bottom line, it all depends where you are.

**Chart 12: A plurality of regulators in our survey were neutral on increased rate basing of non-traditional resources**



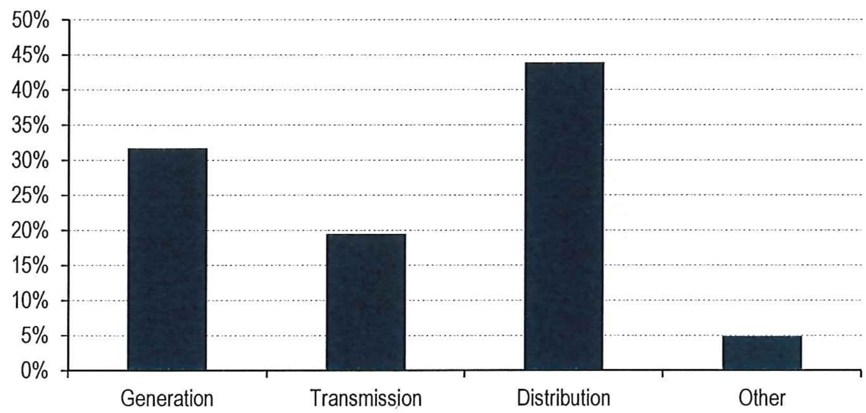

Source: BofA Merrill Lynch Global Research

## Q: Which segment of utility assets is seeing the most investment in your jurisdiction?

Almost half of regulators in our survey said distribution receives the most capital spending, followed by generation and transmission. This is line with trends of an increasing proportion of projected distribution spending, driven by equipment replacement, grid modernization, and reliability concerns. Although the proportion of spending on generation is decreasing, it still composes about the same proportion of spending as distribution.

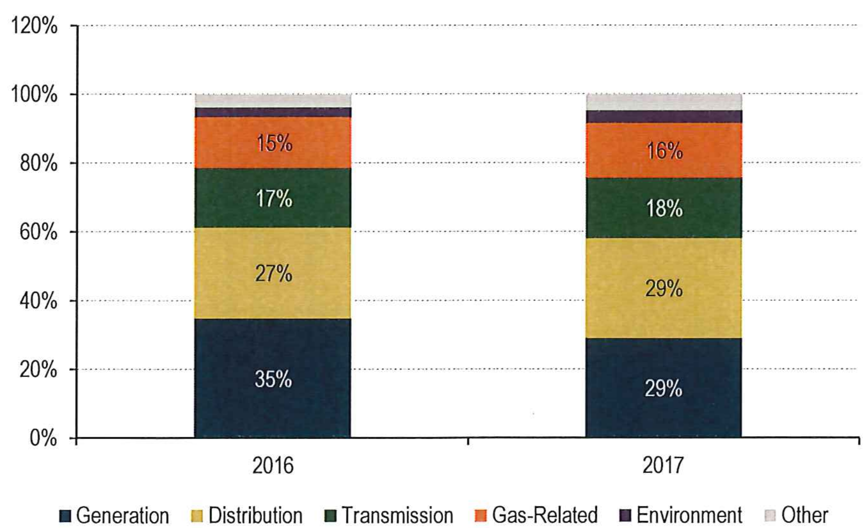
It is key to note the responses in the survey show diversity in jurisdiction. Although an averaging across jurisdictions shows distribution as the highest spending category, less than half of responses indicate as such. About 20% of respondents saw transmission as the area of highest spending in their jurisdiction, and a few responses even indicated some other sector besides generation, transmission, and distribution as the top target area of capital spending.

**Chart 13: Distribution seems to see the most investment, followed by generation**




Source: BofA Merrill Lynch Global Research

**Chart 14: Projected functional capital expenditures by type from EEI**



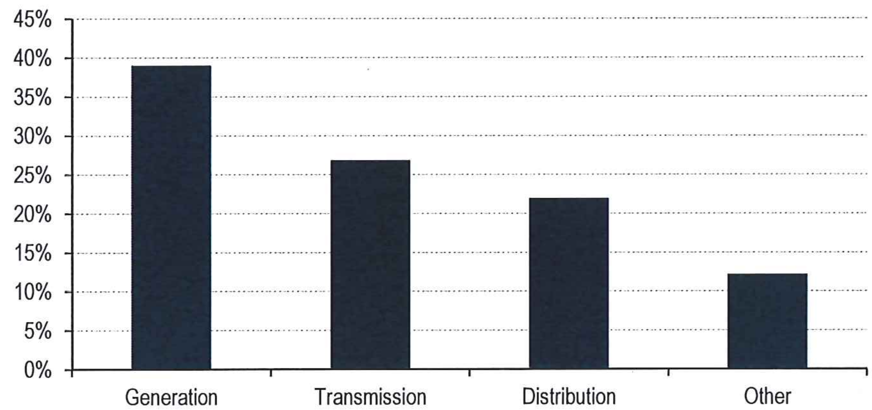

Source: EEI

## Q: Which segment of utility assets is seeing the least investment in your jurisdiction?

A plurality of regulators in our survey saw generation receiving the least amount of capital spending. Conventional generation continues to see a meaningful slowdown without meaningful demand growth. Only in regions with state renewable portfolio standards and/or attractively priced offerings in high resource areas for wind and solar are we continuing to see meaningful further renewables.

This is consistent with a low demand growth backdrop. With the cost of new generation continuously declining, we see the pace of reinvestment here as dictated by outcomes of tax credits and 201 tariffs.

**Chart 15: Generation seems to see the least investment in respondents' jurisdictions**



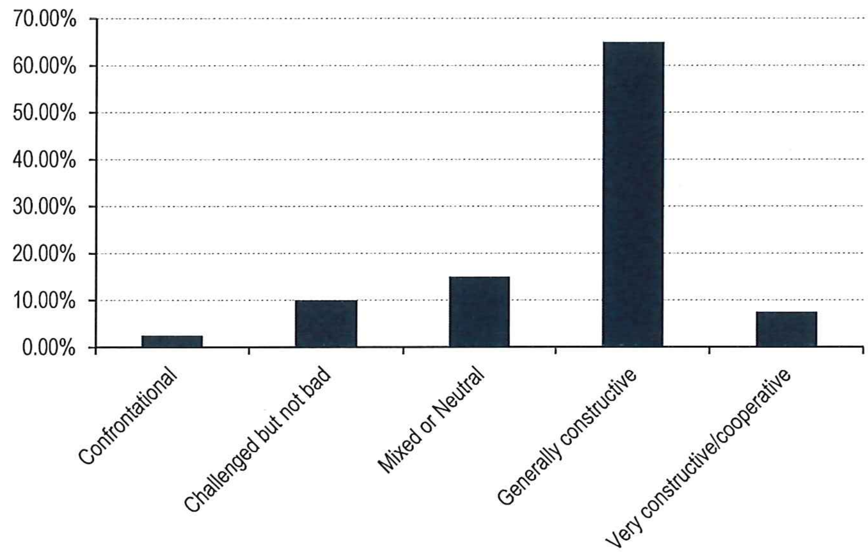

Source: BofA Merrill Lynch Global Research

## Q: How do you view the regulatory relationship with the electric and gas utilities in your jurisdiction?

Most regulators view their relationship with utilities as generally constructive; about 70% responded that their relationship was generally or very cooperative. Broadly, we see this as a positive data point on the positioning of the sector overall. Had we noted concerns in the construct, it could have been negative for authorized ROEs, as regulators would push back on proposed policies and hikes through lower ROEs.

There are a few data points where relationships are less positive, which we find in line with our coverage and of note to watch. We do caution that responses to this question may have caveats, such as self-filtering by respondents or where perception of relationship does not necessarily translate in the result of a rate case. The highest number of respondents skipped this question while most other questions had no skips or just one.

**Chart 16: Regulators in our survey generally see their regulatory relationship as constructive**




Source: BofA Merrill Lynch Global Research

## Q: What issues are most pressing to be aware of in your state?

Respondents had multiple suggestions on topics not addressed in the previous question. Every answer was different, suggesting the wide range of topics regulators are tackling and the variety in utility jurisdictions.

### Concerns raised

- **Fuel diversity:** generation in their states becoming too dependent on natural gas.
- **Renewable resources:** increasing costs to consumers.
- **Nuclear:** progress and cost, among regulators in jurisdictions with ongoing nuclear projects.
- **New regulatory mechanisms:** interest in other regulatory mechanisms and structural changes to utility regulation, representing a shift away from traditional cost-based regulation, beyond performance-based regulation.
- **Reliability:** maintaining reliability and who ultimately is in charge of maintaining it.
- **Natural disasters:** the California wildfires and concern on preventing and recovering from such events.
- **Distributed generation:** figuring out proper compensation for distributed generation and its use, along with other resources such as energy efficiency and storage, in reliability and resilience.
- **PURPA:** whether there was too much qualifying facility (QF) generation receiving regulated prices.
- **Transmission constraints:** insufficient transmission causing congestion and overweighting on utility poles.
- **Utility of the future:** the changing utility business model.
- **Advanced metering infrastructure and data access:** data privacy issues related to deployment of smart meters and other advanced metering infrastructure.
- **Affordability:** maintaining affordability for consumers.
- **Joining organized market:** interest in joining and concern over cost-benefit from respondents from states not in competitive markets.
- **DOE and federal legislation:** the DOE proposed rule and FERC action, as well as federal legislation, including tax reform.
- **Water and wastewater infrastructure:** building out and paying for more water and wastewater infrastructure.

**Table 2: Ongoing rate cases as of October 18, 2017**

| State | Company | Parent co ticker | Docket | Rate case service type | Case type | Rate increase ($M) | Rate change/ revenue (%) | Return on original cost rate (%) | Return on equity (%) | Common equity to total capital (%) | Rate base ($M) | Document filing date | Expected decision date |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| California | Southern California Edison Co. | EIX | A-16-09-001 | Electric | Vertically Integrated | 196.0 | 2.50 | 7.86 | NA | NA | 22,977.99 | 9/1/16 | 12/31/17 |
| Colorado | Public Service Co. of CO | XEL | D-17AL-0363G | Natural Gas | Distribution | 232.9 | NA | 7.49 | 10.00 | 55.25 | 2,434.78 | 6/2/17 | 1/31/18 |
| Colorado | Public Service Co. of CO | XEL | D-17AL-0649E | Electric | Vertically Integrated | 377.9 | 23.50 | 7.55 | 10.00 | 55.25 | 7,396.06 | 10/3/17 | 5/3/18 |
| Hawaii | Hawaiian Electric Co. | HE | D-2016-0328 | Electric | Vertically Integrated | 125.0 | 8.10 | 8.28 | 10.60 | 57.36 | 2,131.35 | 12/16/16 | NA |
| Iowa | Interstate Power & Light Co. | LNT | D-RPU-2017-0001 | Electric | Vertically Integrated | 175.5 | 11.60 | NA | 10.57 | 49.05 | 4,077.52 | 4/3/17 | 12/31/17 |
| Illinois | Commonwealth Edison Co. | EXC | D-17-0196 | Electric | Distribution | 99.9 | 3.60 | 6.47 | 8.40 | 45.89 | 9,661.96 | 4/13/17 | 12/9/17 |
| Illinois | Northern Illinois Gas Co. | SO | D-17-0124 | Natural Gas | Distribution | 196.8 | 31.10 | 8.08 | 10.70 | 54.21 | 2,545.74 | 3/10/17 | 2/28/18 |
| Indiana | Indiana Michigan Power Co. | AEP | Ca-44967 | Electric | Vertically Integrated | 263.2 | 19.74 | 5.88 | 10.60 | 46.46 | 4,185.06 | 7/26/17 | 5/31/18 |
| Indiana | Northern IN Public Svc Co. | NI | Ca-44988 | Natural Gas | Distribution | 143.5 | 22.70 | 6.74 | 10.70 | 46.02 | 1,482.82 | 9/27/17 | 7/24/18 |
| Kentucky | Duke Energy Kentucky Inc. | DUK | C-2017-00321 | Electric | Vertically Integrated | 48.6 | 15.80 | 7.08 | 10.30 | 48.89 | 705.05 | 9/1/17 | 4/30/18 |
| Kentucky | Kentucky Power Co. | AEP | C-2017-00179 | Electric | Vertically Integrated | 60.4 | 10.90 | 6.75 | 10.31 | 41.68 | 1,191.79 | 6/28/17 | 1/31/18 |
| Massachusetts | NSTAR Electric Co. | ES | DPU 17-05 (NSTAR) | Electric | Distribution | 60.2 | 7.00 | 7.61 | 10.50 | 53.37 | 2,734.40 | 1/17/17 | 12/31/17 |
| Maryland | Potomac Electric Power Co. | EXC | C-9443 | Electric | Distribution | 68.6 | 10.10 | 7.74 | 10.10 | 50.15 | 1,693.93 | 3/24/17 | 10/20/17 |
| Michigan | Consumers Energy Co. | CMS | C-U-18322 | Electric | Vertically Integrated | 148.2 | 3.60 | 6.09 | 10.50 | 40.89 | 10,260.36 | 3/31/17 | 3/31/18 |
| Michigan | DTE Electric Co. | DTE | C-U-18255 | Electric | Vertically Integrated | 230.9 | 4.80 | 5.57 | 10.50 | 37.59 | 15,391.34 | 4/19/17 | 4/18/18 |
| Michigan | Indiana Michigan Power Co. | AEP | C-U-18370 | Electric | Vertically Integrated | 51.7 | 17.10 | 6.02 | 10.60 | 36.38 | 1,014.57 | 5/15/17 | 3/15/18 |
| Minnesota | ALLETE (Minnesota Power) | ALE | D-E-015/GR-16-664 | Electric | Vertically Integrated | 49.2 | 7.70 | 7.55 | 10.15 | 53.81 | 2,092.39 | 11/2/16 | 1/31/18 |
| Minnesota | CenterPoint Energy Resources | CNP | D-G-008/GR-17-285 | Natural Gas | Distribution | 56.5 | 6.40 | 7.56 | 10.00 | 52.18 | 1,028.10 | 8/2/17 | 6/1/18 |
| Missouri | Missouri Gas Energy | SR | C-GR-2017-0216 | Natural Gas | Distribution | 50.4 | 25.20 | 7.70 | 10.35 | 57.20 | 792.53 | 4/11/17 | 3/8/18 |
| Missouri | Spire Missouri Inc. | SR | C-GR-2017-0215 | Natural Gas | Distribution | 58.1 | 17.60 | 7.70 | 10.35 | 57.20 | 1,231.67 | 4/11/17 | 3/8/18 |
| North Carolina | Duke Energy Carolinas LLC | DUK | D-E-7, Sub 1146 | Electric | Vertically Integrated | 611.0 | 12.80 | 7.93 | 10.75 | 53.00 | 13,798.20 | 8/25/17 | 3/31/18 |
| North Carolina | Duke Energy Progress LLC | DUK | D-E-2, Sub 1142 | Electric | Vertically Integrated | 477.5 | 14.90 | 7.66 | 10.75 | 53.00 | 8,157.82 | 6/1/17 | 1/31/18 |
| New Jersey | South Jersey Gas Co. | SJI | D-GR-17010071 | Natural Gas | Distribution | 87.7 | 18.45 | 7.66 | 11.00 | 54.24 | 1,635.11 | 1/27/17 | 10/31/17 |
| New Mexico | Public Service Co. of NM | PNM | C-16-00276-UT | Electric | Vertically Integrated | 99.2 | 14.30 | 7.51 | 10.13 | 49.61 | 2,381.20 | 12/7/16 | 12/31/17 |
| New York | Central Hudson Gas & Electric | FTS | C-17-E-0459 | Electric | Distribution | 63.4 | NA | 6.99 | 9.50 | 50.00 | 983.39 | 7/28/17 | 6/30/18 |
| New York | Niagara Mohawk Power Corp. | NG. | C-17-E-0238 | Electric | Distribution | 261.0 | 10.30 | 6.93 | 9.79 | 48.00 | 5,207.22 | 4/28/17 | 3/31/18 |
| New York | Niagara Mohawk Power Corp. | NG. | C-17-G-0239 | Natural Gas | Distribution | 69.7 | 12.30 | 6.93 | 9.79 | 48.00 | 1,222.04 | 4/28/17 | 3/31/18 |
| Ohio | Dayton Power and Light Co. | AES | C-15-1830-EL-AIR | Electric | Distribution | 65.8 | 30.30 | 7.86 | 10.50 | 50.00 | 683.78 | 11/30/15 | NA |
| Oklahoma | Public Service Co. of OK | AEP | Ca-PUD201700151 | Electric | Vertically Integrated | 169.7 | NA | 7.22 | 10.00 | 48.50 | 2,527.47 | 6/30/17 | 6/30/18 |
| Oregon | Portland General Electric Co. | POR | D-UE-319 | Electric | Vertically Integrated | 99.9 | 5.60 | 7.46 | 9.75 | 50.00 | 4,594.05 | 2/28/17 | 12/21/17 |
| Texas | Southwestern Electric Power Co | AEP | D-46449 | Electric | Vertically Integrated | 105.9 | 12.70 | 7.38 | 10.00 | 48.46 | 1,238.89 | 12/16/16 | 10/31/17 |
| Texas | Southwestern Public Service Co | XEL | D-47527 | Electric | Vertically Integrated | 80.9 | 8.70 | 7.91 | 10.25 | 53.97 | 1,887.51 | 8/21/17 | 8/28/18 |
| Virginia | Virginia Natural Gas Inc. | SO | C-PUE-2016-00143 | Natural Gas | Distribution | 44.2 | 19.56 | 7.23 | 10.25 | 48.77 | 750.93 | 3/31/17 | NA |
| Washington | Avista Corp. | AVA | D-UE-170485 | Electric | Vertically Integrated | 89.8 | 18.24 | 7.76 | 9.90 | 50.00 | 1,592.17 | 5/26/17 | 4/26/18 |
| Washington | Puget Sound Energy Inc. | | D-UE-170033 | Electric | Vertically Integrated | 144.0 | 7.00 | 7.74 | 9.80 | 48.50 | 5,097.75 | 1/13/17 | 12/13/17 |

Source: SNL Research Regulatory Associates.

# Appendix

## Survey questions

1. What is the current trend of authorized ROEs?
    a. Significantly Lower
    b. Lower
    c. About the Same
    d. Higher
    e. Significantly higher
2. Should authorized ROEs be linked to Treasury rates?
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Extremely agree
3. Do you see bill inflation as a problem within your jurisdiction?
    a. Extremely concerning
    b. Concerning
    c. Manageable
    d. Not a concern
4. Do you see anticipate an increase in the use of regulatory adjustment components of rate making, such as trackers & riders, in your jurisdiction?
    a. Strongly disagree
    b. Disagree
    c. Neutral
    d. Agree
    e. Extremely agree
5. Do you anticipate a trend toward performance-based rate making mechanisms in your jurisdiction?
    a. Strongly disagree
    b. Disagree
    c. Neutral (exploring)
    d. Agree
    e. Extremely agree
6. Where do you see capital spending in your jurisdiction heading?
    a. Significantly Lower
    b. Lower

c. About the Same

d. Higher

e. Significantly higher

7. Where do you see capital spending for renewable assets in your jurisdiction heading?

    a. Significantly Lower

    b. Lower

    c. About the Same

    d. Higher

    e. Significantly higher

8. Do you see the leverage ratio of utility holding companies as a problem in your jurisdiction?

    a. Much too low

    b. Slightly too low

    c. Generally appropriate

    d. Slightly too high

    e. Much too high

9. Is there a trend of increased rate basing of nontraditional resources, such as electric vehicle chargers and rooftop solar?

    a. Strongly disagree

    b. Disagree

    c. Neutral (exploring)

    d. Agree

    e. Extremely agree

10. Which segment of Utility assets is seeing the most investment in your jurisdiction?

    a. Generation

    b. Transmission

    c. Distribution

    d. Other

11. Which segment of Utility assets is seeing the least investment in your jurisdiction?

    a. Generation

    b. Transmission

    c. Distribution

    d. Other

12. How do you view the regulatory relationship with the electric and gas utilities in your jurisdiction?

    a. Confrontational

    b. Challenged but not bad

    c. Mixed or Neutral

    d. Generally constructive

    e. Very constructive/cooperative

13. Free Form: What issues are most pressing to be aware of in your state?

**Table 3: Responses to free form question**

| Respondents | Responses |
|---|---|
| 1 | Public attitude about value/reliance on renewables. Too many believe that renewables could meet the total needs of the state |
| 2 | Net metering, appropriate percentage of renewables |
| 3 | Lack of diversification in generation fuel mix. Becoming too heavily concentrated in natural gas |
| 4 | Cost of renewable resources - increasing the cost to consumers |
| 5 | Whether to join an organized market |
| 6 | Reliability and cost control |
| 7 | Nontraditional means to address structural changes affecting service delivery while accommodating cleaner energy.<br>Review of traditional cost-based vs PBR and other forms of regulation |
| 8 | Looking beyond aspiration to reliable and resilient smartly connected EE, DER, storage, remote variable and community renewable generation, and associated controlling and connectivity resources to delivery safe and reliable electric and natural gas services at reasonable rates, even under multiple contingency conditions, such as could have been associated with west coast fires this year |
| 9 | Overweighting on utility poles, increasing competition for access to poles |
| 10 | Utility of the future discussion |
| 11 | Building nuclear plant |
| 12 | Reliability is whose responsibility? |
| 13 | Compensation for distributed generation. Transmission constraints. Unneeded QF capacity |
| 14 | Distributed generation, affordability |
| 15 | Water and wastewater infrastructure |
| 16 | Legislative, DOE |
| 17 | DER and data access via AMI |

Source: BofA Merrill Lynch Global Research

**Table 4: Stocks mentioned**

| BofAML Ticker | Bloomberg ticker | Company name | Price | Rating |
|---|---|---|---|---|
| AEP | AEP US | American Elec Power | US$ 73.97 | A-1-7 |
| AGR | AGR US | Avangrid | US$ 49.5 | A-1-7 |
| ED | ED US | Consolidated Edison | US$ 85.76 | B-1-7 |
| XEL | XEL US | Xcel Energy | US$ 49.46 | B-1-7 |

Source: BofA Merrill Lynch Global Research

## Price objective basis & risk

### American Electric Power (AEP)

Our price objective of $79 is based on SOTP analysis. We ascribe a peer forward P/E multiple (18x) to its vertically integrated utilities, a 1x premium to its T&D utilities, and a 2x premium for its transmission-only Utilities segments, which is appropriate given varying risk profiles vs. peers. We also ascribe limited value to the remaining Genco valuation ($1/sh, based on $/kw values on the plants in line with appropriate transaction values) and to the nascent renewables business ($2/sh), based on a 3x discount to peer P/E multiple given uncertainty. Finally, $1.5/sh for the $4.5B Wind Catcher project based on 10% ROE discounted back two years at 50% probability due to uncertainty.

Downside risks to our price objective are1) regulatory outcomes are less favorable than expected, which could result in reduced ROE, 2) large capital intensive are subject to delays or cost overruns, which can change the return profile, 3) natural disasters or catastrophic events can affect system reliability and are subject to regulatory cost recovery risk, 4) utilities are subject to interest rate risk to fund their business, which affects cost of capital, 5) commodity risk affects the generation business margins and indirectly affects the regulated business as a pass through cost, 6) consumer advocates are focused on bill inflation, which can affect regulatory outcomes, 7) non-regulated businesses are inherently more risky and subject to execution risk and commodity variation.

**Avangrid (AGR)**
We value AGR on a sum of the parts basis ($52 PO). The NY utilities get a slight (0.5x) discount to the peer group (18x 2019E) P/E multiple due to uncertainty to earn high end of guidance and historic issues, as do AFUDC (lack of clarity). The rest of the utilities garner a peer multiple (18x). We also apply a 10X 2019 EBITDA multiple on the renewables electricity sales earnings (based on comps) but strip out the tax credits/hedge value and apply a DCF (4%, no terminal). We apply an 8x EBITDA multiple for the small thermal assets (based on comps). Lastly, we back out the non-regulated debt at the parent.

Downside risks: 1) Iberdrola controls over 80% of AGR, limiting liquidity and exerting control over AGR's activities. 2) Regulatory relationships and outcomes could deteriorate 3) Existing exposure and likelihood of increasing exposure to the renewables business provides a number of power purchase agreement related risks including direct commodity risk (for the merchant plants), recontracting risk, and tax benefit recovery risk. 4) Lack of adequate riders or capital recovery mechanisms could threaten ROE's 5) The renewables business may not expand as fast as expected or have worse returns. 6) Utilities are affected by interest rate risk, which changes cost of capital 6) Consumer advocates or utility staff could become more or less focused on bill inflation issues that could threaten ROE 7) Any non-regulated business that AGR partakes in is subject to development risk

**Consolidated Edison (ED)**
Our $92 price objective is based on a sum-of-the-parts analysis applying premiums and discounts to the regulated group multiples (21.5x/18.0x for gas/electric respectively). We give a 1x P/E premium to the peer regulated multiple at CECONY given its rate certainty, but also more upside should the company be able to outpace its allowed return in the later years of its three year rate case cycle.

We apply a discounted PE for infrastructure projects given the lack of clarity around the capital structure.

Downside risks: ED, like all utility stocks, is also sensitive to changes in the market level of interest rates. Utilities historically underperform if bond yields rise, and outperform when they fall. Furthermore, ED is a bellwether utility and has historically outperformed during market uncertainty as a large liquid "flight to safety" stock. Further downside risks are the inability to recontract storage, adverse regulatory outcomes, a deteriorating regulatory environment, or unforeseen disasters such as the Harlem gas explosion.

**Xcel Energy Inc (XEL)**

Our PO is $53. We value Xcel Energy using a sum of the parts (SOTP) approach. Given the difference in geography, earnings strength, growth opportunity and risk profile, we divide the segments by subsidiary.

We use 2019E forward P/E multiples to derive a value for the different business segments, including the parent segment. We relied on a peer multiple of 18.0x, in line with current consensus expectations for 2019 forward P/E ratio utilities. We apply a 2x premium to NSPM, NSPW, and PSCo given the favorable regulatory environment in both subsidiaries' jurisdictions, as well as meaningful capex growth. We valued apply an in line multiple for SPS. We see this multiple as appropriate as this subsidiary has meaningful growth opportunities, but suffers from regulatory drag given historical test years, which prevent timely recovery. Downside risks to our investment thesis are interest rate increases, regulatory risk such as lower authorized ROEs or less favorable riders/trackers for renewables and transmission, execution delays, and weather anomalies.

## Analyst Certification

I, Julien Dumoulin-Smith, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

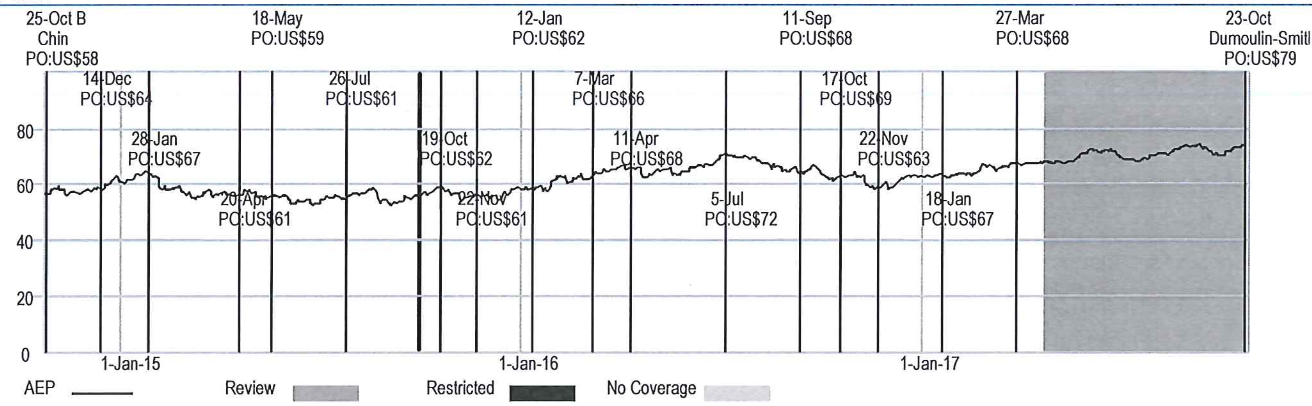
US - Electric Utilities & Alternative Energy Coverage Cluster

| Investment rating | Company | BofA Merrill Lynch ticker | Bloomberg symbol | Analyst |
|---|---|---|---|---|
| BUY | | | | |
| | American Electric Power | AEP | AEP US | Julien Dumoulin-Smith |
| | American Water Works | AWK | AWK US | Julien Dumoulin-Smith |
| | Atlantica Yield | ABY | ABY US | Julien Dumoulin-Smith |
| | Avangrid | AGR | AGR US | Julien Dumoulin-Smith |
| | CMS Energy | CMS | CMS US | Julien Dumoulin-Smith |
| | Consolidated Edison | ED | ED US | Julien Dumoulin-Smith |
| | Dynegy | DYN | DYN US | Julien Dumoulin-Smith |
| | Edison International | EIX | EIX US | Julien Dumoulin-Smith |
| | El Paso Electric Company | EE | EE US | Julien Dumoulin-Smith |
| | Exelon | EXC | EXC US | Julien Dumoulin-Smith |
| | Great Plains Energy Inc | GXP | GXP US | Julien Dumoulin-Smith |
| | NextEra Energy | NEE | NEE US | Julien Dumoulin-Smith |
| | NRG Energy | NRG | NRG US | Julien Dumoulin-Smith |
| | Sempra Energy | SRE | SRE US | Julien Dumoulin-Smith |
| | Vistra Energy | VST | VST US | Julien Dumoulin-Smith |
| | Westar Energy Inc | WR | WR US | Julien Dumoulin-Smith |
| | Xcel Energy Inc | XEL | XEL US | Julien Dumoulin-Smith |
| NEUTRAL | | | | |
| | AES | AES | AES US | Julien Dumoulin-Smith |
| | Alliant Energy Corporation | LNT | LNT US | Julien Dumoulin-Smith |
| | Ameren Corporation | AEE | AEE US | Julien Dumoulin-Smith |
| | CenterPoint Energy | CNP | CNP US | Julien Dumoulin-Smith |
| | Dominion Energy | D | D US | Julien Dumoulin-Smith |
| | Duke Energy | DUK | DUK US | Julien Dumoulin-Smith |
| | Entergy | ETR | ETR US | Julien Dumoulin-Smith |
| | FirstEnergy | FE | FE US | Julien Dumoulin-Smith |
| | NRG Yield | NYLDA | NYLD/A US | Julien Dumoulin-Smith |
| | NRG Yield | NYLD | NYLD US | Julien Dumoulin-Smith |
| | PG&E Corporation | PCG | PCG US | Julien Dumoulin-Smith |
| | Pinnacle West | PNW | PNW US | Julien Dumoulin-Smith |
| | Portland General Electric Company | POR | POR US | Julien Dumoulin-Smith |
| | Public Service Enterprise Group | PEG | PEG US | Julien Dumoulin-Smith |
| | SCANA | SCG | SCG US | Julien Dumoulin-Smith |
| | WEC Energy Group Inc | WEC | WEC US | Julien Dumoulin-Smith |
| UNDERPERFORM | | | | |
| | 8Point3 Energy Partners | CAFD | CAFD US | Julien Dumoulin-Smith |
| | Black Hills Corporation | BKH | BKH US | Julien Dumoulin-Smith |
| | DTE Energy | DTE | DTE US | Julien Dumoulin-Smith |
| | Eversource Energy | ES | ES US | Julien Dumoulin-Smith |
| | Hawaiian Electric Industries | HE | HE US | Julien Dumoulin-Smith |
| | NextEra Energy Partners | NEP | NEP US | Julien Dumoulin-Smith |
| | NorthWestern Corporation | NWE | NWE US | Julien Dumoulin-Smith |
| | OGE Energy Corp | OGE | OGE US | Julien Dumoulin-Smith |
| | Pattern Energy Group | PEGI | PEGI US | Julien Dumoulin-Smith |
| | PNM Resources Inc. | PNM | PNM US | Julien Dumoulin-Smith |
| | Southern Company | SO | SO US | Julien Dumoulin-Smith |
| | Terraform Power | TERP | TERP US | Julien Dumoulin-Smith |

# Disclosures

## Important Disclosures

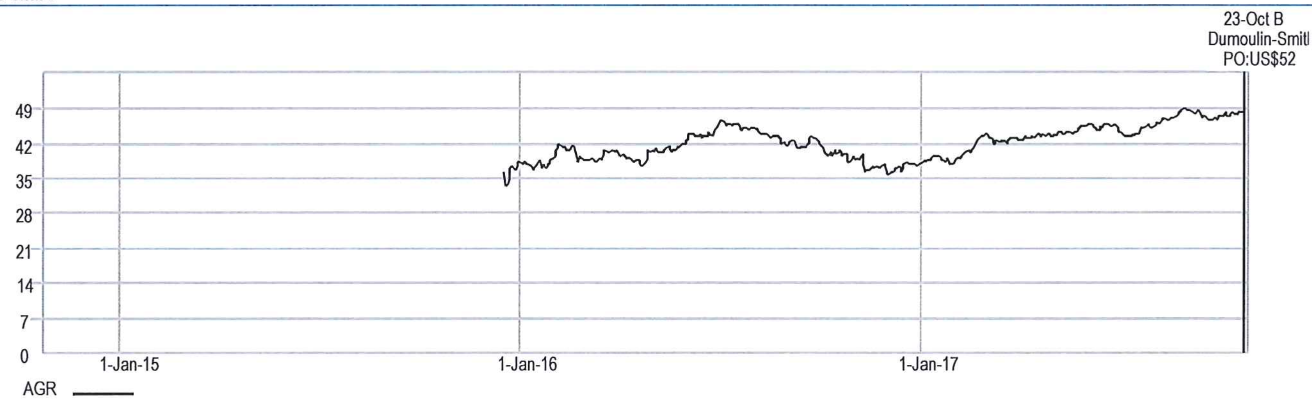
**AEP Price Chart**




B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading 'Fundamental Equity Opinion Key'. Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of September 30, 2017 or such later date as indicated.

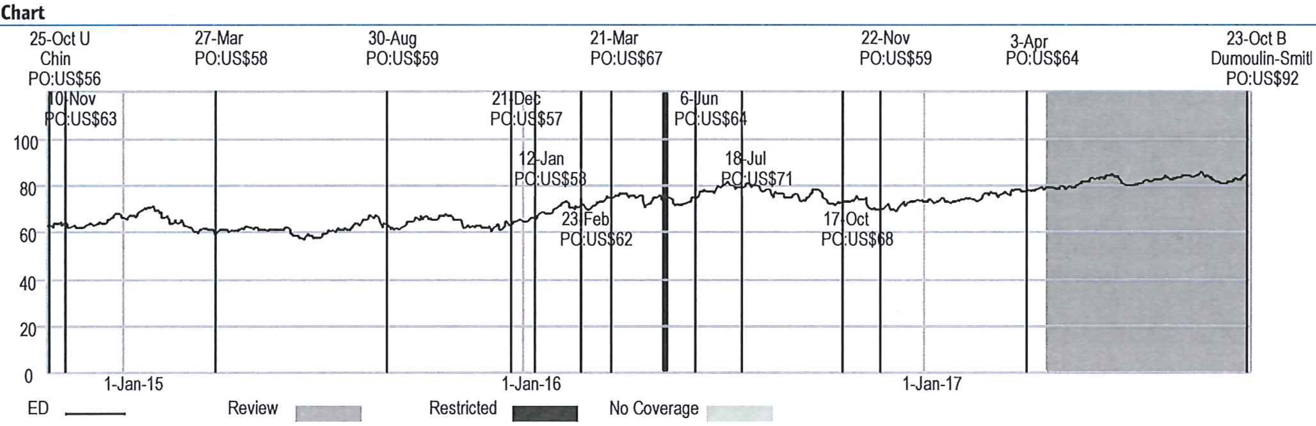
**AGR Price Chart**




B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading 'Fundamental Equity Opinion Key'. Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of September 30, 2017 or such later date as indicated.

**ED Price Chart**




B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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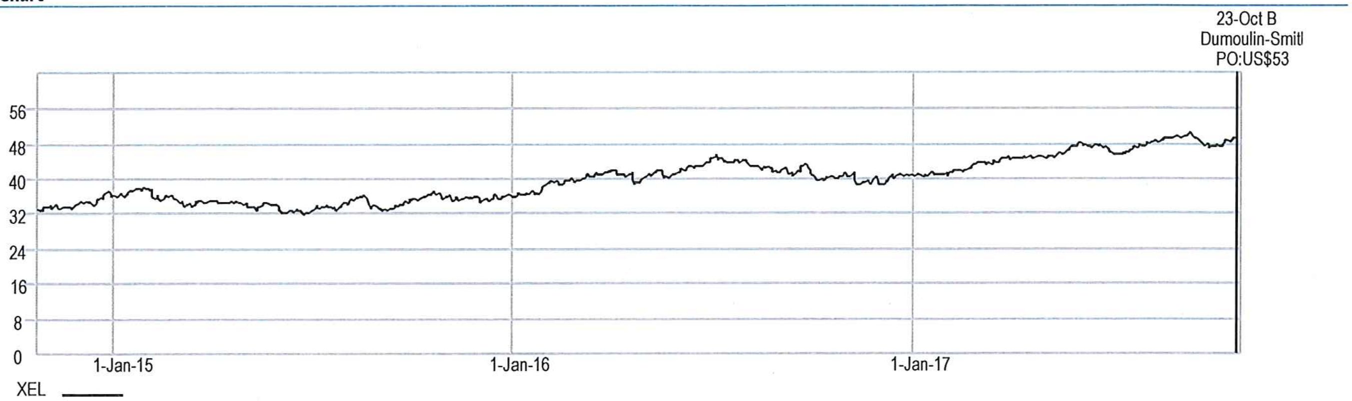
**XEL Price Chart**




B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading 'Fundamental Equity Opinion Key'. Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of September 30, 2017 or such later date as indicated.

**Equity Investment Rating Distribution: Utilities Group (as of 30 Sep 2017)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships* | Count | Percent |
|---|---|---|---|---|---|
| Buy | 49 | 50.00% | Buy | 32 | 65.31% |
| Hold | 24 | 24.49% | Hold | 16 | 66.67% |
| Sell | 25 | 25.51% | Sell | 12 | 48.00% |

**Equity Investment Rating Distribution: Global Group (as of 30 Sep 2017)**

| Coverage Universe | Count | Percent | Inv. Banking Relationships* | Count | Percent |
|---|---|---|---|---|---|
| Buy | 1513 | 51.82% | Buy | 956 | 63.19% |
| Hold | 646 | 22.12% | Hold | 396 | 61.30% |
| Sell | 761 | 26.06% | Sell | 359 | 47.17% |

* Issuers that were investment banking clients of BofA Merrill Lynch or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

**FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. *VOLATILITY RISK RATINGS*, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. *INVESTMENT RATINGS* reflect the analyst's assessment of a stock's: (i) absolute total return potential and (ii) attractiveness for investment relative to other stocks within its *Coverage Cluster* (defined below). There are three investment ratings: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).**

| Investment rating | Total return expectation (within 12-month period of date of initial rating) | Ratings dispersion guidelines for coverage cluster* |
|---|---|---|
| Buy | ≥ 10% | ≤ 70% |
| Neutral | ≥ 0% | ≤ 30% |
| Underperform | N/A | ≥ 20% |

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

***INCOME RATINGS*, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend.** *Coverage Cluster* is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Merrill Lynch report referencing the stock.

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