

# All of the Above: One Way State Regulatory Frameworks Impact the Utility of the Future

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“Over the next decade, regulation will have to provide a way for utilities to achieve new corporate and policy goals that meet the needs of their customers. That means meeting the traditional goals of providing safe, reliable, and affordable electricity, as well as the new goals of providing even cleaner electricity and individualized customer services, while also integrating and connecting more distributed energy resources and devices.”<sup>1</sup>

As our country—and the world, as a whole<sup>2</sup>—focuses on decarbonizing the economy, a central question is what will happen to electricity rates as fossil fuels decline.<sup>3</sup> The United States has seen significant gains in utility-scale solar and rooftop PVs, large gains in wind, and a shift from coal to natural gas.<sup>4</sup> And, so far, this decarbonization has not led to higher wholesale electricity prices in many places; in fact, wholesale prices have declined, largely due to low natural gas prices. But that did not translate into lower retail prices everywhere. In MISO,<sup>5</sup> for example, the difference is stark: while wholesale prices dropped in the past decade, retail prices actually climbed 17%.<sup>6</sup> According to federal statistics, the average price of electricity for residential customers has

jumped 39% since 2004.<sup>7</sup> The reason customers are not seeing retail rate decreases corresponding to decreasing wholesale rates is because of heavy capital spending by utilities.<sup>8</sup> An increasing amount of this spending is on electric transmission and distribution infrastructure, rather than on new electric generation.<sup>9</sup>

Continued increased capital spending is a change from what the electricity industry forecasted just two years ago. In October 2013, Moody’s forecasted the “planned capital expenditures of U.S. regulated utilities will peak this year [2013] and in 2014, then fall in 2015.”<sup>10</sup> This was due to the completion of new generation and environmental control projects.<sup>11</sup> However, as of February 2016, the Edison Electric Institute (“EEI”) expects its members—who control 70% of the U.S. electric market—to spend more than \$300 billion over the next three years to enhance the grid and bring on new generation.<sup>12</sup>

As noted by Thomas R. Kuhn, President of EEI, in a presentation for Wall Street analysts, “[o]ur industry spent \$108.6 billion in total capital expenditures in 2015, according to projections, which would set a fourth consecutive annual record. This level of investment is more than twice what it was a decade ago.”<sup>13</sup> Investments are going to transmission and distribution: In 2014, “investor-owned electric utilities and stand-alone transmission companies invested a record \$42 billion in transmission and distribution infrastructure.”<sup>14</sup> Electric transmission and distribution is also increasing the percentage of the capital allocated across all utilities, increas-

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1. Thomas R. Kuhn et al., *The Promise of Tomorrow: Electric Power Industry Outlook*, EDISON ELECTRIC INST.’S 2016 WALL STREET BRIEFING 12 (Feb. 10, 2016), [http://www.eei.org/resourcesandmedia/industrydataanalysis/industry-financialanalysis/Documents/Wall\\_Street\\_Briefing.pdf](http://www.eei.org/resourcesandmedia/industrydataanalysis/industry-financialanalysis/Documents/Wall_Street_Briefing.pdf).
2. Pamela Falk, *U.S. Joins 174 Nations to Sign Hard-Won Climate Pact*, CBS NEWS (Apr. 22, 2016, 9:54 AM), <http://www.cbsnews.com/news/us-climate-pact-un-signing-ceremony-paris-agreement-cop21/>.
3. Katherine Tweed, *US Power Costs Falling With Low-Carbon Energy: “We’ve Entered a New Era.”* GREENTECH MEDIA (Feb. 8, 2016) [hereinafter *US Power Costs Falling*], [http://www.greentechmedia.com/articles/read/US-Power-Costs-Falling-With-Decarbonization?utm\\_source=Daily&utm\\_medium=Newsletter&utm\\_campaign=GTMDaily](http://www.greentechmedia.com/articles/read/US-Power-Costs-Falling-With-Decarbonization?utm_source=Daily&utm_medium=Newsletter&utm_campaign=GTMDaily).
4. *Id.*
5. “MISO” is the Midcontinent Independent System Operator, which performs grid management across all or parts of fifteen U.S. states and the province of Manitoba. *About Us*, MISO ENERGY, <https://www.misoenergy.org/AboutUs/Pages/AboutUs.aspx> (last visited Apr. 25, 2016).
6. *US Power Costs Falling*, *supra* note 3, at 3.

7. Rebecca Smith, *Capital Spending Soars at U.S. Utilities*, MARKET WATCH (Apr. 20, 2015, 6:06 PM), <http://www.marketwatch.com/story/capital-spending-soars-at-us-utilities-2015-04-20>.
8. *Id.*
9. Lillian Federico, *Themes in Energy Utility Regulation*, REG. RES. ASSOCS.: REG. FOCUS 2 (Feb. 3, 2016).
10. Press Release, Moody’s Investors Service, Inc., *Moody’s: Capital Expenditures of US Regulated Utilities to Fall in 2015 and Beyond* (Oct. 22, 2013), [https://www.moody.com/research/Moodys-Capital-expenditures-of-US-regulated-utilities-to-fall-in--PR\\_284956](https://www.moody.com/research/Moodys-Capital-expenditures-of-US-regulated-utilities-to-fall-in--PR_284956).
11. *Id.*
12. Kuhn et al., *supra* note 1, at 3.
13. *Id.* at 2. As Kuhn stated in his opening remarks, “[I]nvestor-owned electric utilities are investing more than \$20 billion per year in the distribution grid alone.” *Id.* at 4.
14. *Id.* at 11.

ing from 41% in 2012 to an expected 50% in 2017.<sup>15</sup> Independent analyses show this trend as well, with one focused on the top twenty-five major power companies finding the majority of utilities plan to increase capital expenditures in 2016, mainly to drive earnings per share growth in the future as new assets are placed into service.<sup>16</sup>

This capital spend is especially interesting as economic growth has become decoupled from electricity load growth.<sup>17</sup> While “the U.S. economy has grown 10[%] since 2007, [ ] energy consumption has fallen by 2.4[%]” and this trend is continuing; “[in] 2015, electric load growth was less than 1[%], but last year’s GDP is projected at 2.4[%].”<sup>18</sup>

This Article will analyze the growth in capital asset spending by utilities through the lens of one particular regulatory policy shift and one utility ratemaking: the Consolidated Edison (“ConEd”) general ratemaking filed in January 2016, and how it implicates and does—or does not—implement the goals of New York’s Reforming the Energy Vision (“REV”) regulatory process. After a short discussion of REV, the Article will examine details of the rate case, determine what those details tell us about how the utility plans to move forward, and what lessons can be learned as other utilities, public utility commissions, and citizens transition to the utility of the future.

## I. The New York Example

The situation in New York is similar to the story nationally: “While wholesale prices were down as much as 36[%] in New York in the past decade, retail prices were down only about 16[%] in the state.”<sup>19</sup> However, even with this decrease in average retail prices, annual load growth in the period 2005 to 2014 was slightly negative, and the New York Independent System Operator expects no annual electric growth between 2015 and 2025.<sup>20</sup> At the same time, the state of New York’s GDP has increased from \$1.024 trillion in 2005 to \$1.385 trillion in 2014.<sup>21</sup>

Additionally, ConEd’s capital spend budgets have been increasing, mirroring what is happening at the national level. In ConEd’s preceding ratemaking, electric capital expenditures were targeted at \$1.487 billion in 2014, increasing to \$1.708 billion in 2015.<sup>22</sup>

### A. Current Incentives

Even before the current REV process, the New York Public Service Commission (“PSC”) was interested in reliability, stabilizing customer bills, and minimizing the negative impacts of regulatory decisions on customers.<sup>23</sup> The PSC has also implemented penalties related to service quality and customer service by creating minimum performance levels for both the frequency and duration of service interruptions.<sup>24</sup> Utility performance is compared with the Reliability Performance Mechanisms (“RPMs”) (established in the utility’s rate case).<sup>25</sup> The RPMs “are designed such that companies are subjected to negative revenue adjustments for failing to meet electric reliability targets.”<sup>26</sup> The 2014 assessment indicated that ConEd did not meet its network duration target, resulting in the company being “[s]ubjected to a negative revenue adjustment of \$5 million for not meeting the RPM target.”<sup>27</sup> Yet, the 2013 assessment by the Department of Public Service Staff on reliability showed that all utilities, including ConEd, met their RPM targets.<sup>28</sup> ConEd also did not meet all metrics for 2011, costing approximately \$14 million.<sup>29</sup> In 2007, ConEd was also subject to a negative rate adjustment of \$9 million for not meeting RPM targets.<sup>30</sup> This is far less,

“2014”).

15. *From Growth to Modernization: The Changing Capital Focus of the US Utility Sector*, DELOITTE: CTR. FOR ENERGY SOLS. 3 fig. 2 (2016), [www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-er-from-growth-to-modernization.pdf](http://www2.deloitte.com/content/dam/Deloitte/us/Documents/energy-resources/us-er-from-growth-to-modernization.pdf).

16. Sheharyar Khan, *Utilities Boosting CapEx as Stepping Stone to EPS Growth*, SNL FIN. 1 (Apr. 19, 2016 9:42 AM), <https://www.snl.com/Interactivex/article.aspx?ID=35890410&kPLT=2>. Consolidated Edison is ranked fourth when sorted by “[p]lanned CapEx growth 2015–2016 (%)” at 35.99%. *Id.*

17. *US Power Costs Falling*, *supra* note 3.

18. *Id.*

19. *Id.*

20. See N.Y. INDEP. SYS. OPERATOR, 2015 LOAD & CAPACITY DATA: GOLD BOOK 9 (Apr. 2016) [hereinafter GOLD BOOK], [http://www.nyiso.com/public/webdocs/markets\\_operations/services/planning/Documents\\_and\\_Resources/Planning\\_Data\\_and\\_Reference\\_Docs/Data\\_and\\_Reference\\_Docs/2015%20Load%20%20Capacity%20Data%20Report\\_Revised.pdf](http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2015%20Load%20%20Capacity%20Data%20Report_Revised.pdf).

21. *Regional Data*, BUREAU OF ECON. ANALYSIS, U.S. DEP’T. OF COM., <http://www.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1> (select in table “ANNUAL GROSS DOMESTIC PRODUCT (GDP) BY STATE”; select “GDP in current dollars”; select “NAICS (1997 forward)”; select “All Industries”; select “New York” & “Levels”; then select “2005” &

22. Rob Schain, *Final Report, New York, Consolidated Edison of New York, Electric, Gas, and Steam Rate Plans Approved Following Settlement*, REG. RES. ASSOCS.: REG. FOCUS 3 (Feb. 28, 2014). This included about \$180 million for storm hardening in 2014 and an additional \$278 million in 2015. *Id.* ConEd also recovered \$247 million related to costs associated with Superstorm Sandy and another \$78 million related to other storms. *Id.*

23. Lisa Fontanella, *New York Regulatory Review*, REG. RES. ASSOCS.: REG. FOCUS 3 (Feb. 11, 2016) (“The PSC has a history of using deferrals and other accounting measures in rate cases in order to mitigate the bill impact of approved revenue requirement increases, and to allow the utilities’ to maintain earnings when faced with increases in certain expenses during the course of a multi-year rate plan.”).

24. *Id.* at 11.

25. N.Y. STATE DEP’T OF PUB. SERV., 2013 ELECTRIC RELIABILITY PERFORMANCE REPORT 1 (June 26, 2014), [https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/d82a200687d96d3985257687006f39ca/\\$FILE/Service%20Reliability%20Report%202013.pdf](https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/d82a200687d96d3985257687006f39ca/$FILE/Service%20Reliability%20Report%202013.pdf).

26. *Id.*

27. N.Y. STATE DEP’T OF PUB. SERV., 2014 ELECTRIC RELIABILITY PERFORMANCE REPORT 10 (June 17, 2015), <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B8F62E3C4-DCE7-4EDE-B860-019ED141C828%7D>.

28. 2013 ELECTRIC RELIABILITY PERFORMANCE REPORT, *supra* note 25, at 1–2.

29. N.Y. STATE DEP’T OF PUB. SERV., 2011 ELECTRIC RELIABILITY PERFORMANCE REPORT 6 (June 28, 2012), <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId=%7B6D246921-BCD4-40A3-A99F-D0B4A77B9D2D%7D>.

30. N.Y. STATE DEP’T OF PUB. SERV., 2007 ELECTRIC RELIABILITY PERFORMANCE REPORT 6 (Sept. 17, 2008), [http://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/Web/CBEB3C9FCC1FADDD852574C90058004E/\\$File/301A\\_2007\\_Electric\\_Reliability\\_Report.pdf?OpenElement](http://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/Web/CBEB3C9FCC1FADDD852574C90058004E/$File/301A_2007_Electric_Reliability_Report.pdf?OpenElement).

however, than it could have been; the maximum penalty is \$112 million.<sup>31</sup>

On the positive side, while ConEd's electric rate case incorporates a 9.2% return on equity ("ROE"),<sup>32</sup> ConEd keeps all earnings up to 9.8% ROE.<sup>33</sup> From 9.8% to 10.45% ROE, earnings are shared equally between ratepayers and shareholders.<sup>34</sup>

## B. Reforming the Energy Vision ("REV")

In addition to other regulatory changes in New York,<sup>35</sup> REV is designed to "build a clean, resilient, and affordable energy system for all New Yorkers."<sup>36</sup> The REV process is turning out to be incredibly complex. REV will look at both incentives used in setting rates, including "Input Versus Outcome-Based Ratemaking," and "Rate Design."<sup>37</sup> The goal is "to create excellent, innovative companies."<sup>38</sup> REV has six fundamental policy goals: enhanced customer knowledge<sup>39</sup>

and tools that will support effective management of their total energy bill; market animation and leverage of ratepayer contributions; system-wide efficiency; fuel and resource diversity; system reliability and resiliency; and reduction of carbon emissions.<sup>40</sup>

The PSC intends to reach these goals by splitting the proceeding into two tracks. In an order issued on February 26, 2015, Track 1 adopted the framework and an implementation plan to create distribution system platform providers ("DSP"), including naming the incumbent utilities as the DSPs. The DSPs are tasked with: integrating all energy resources into utility planning and operations, including energy efficiency, demand reduction, and distributed energy resources ("DER"); reducing cost to customers; upgrading systems; and providing a platform to accommodate DERs.<sup>41</sup> Because New York is a deregulated market, utilities are limited in when they can own generation, and REV generally keeps this constraint.<sup>42</sup>

Track 2, which some expect to be even more contentious,<sup>43</sup> will address ratemaking and incentives, including what penalties or incentives need to be included in rate cases and how those should be measured, and the financial stability of the incumbent utilities.<sup>44</sup> The hope is also that, with the increased planning requirement, utility capital investment will be moderated rather than continuing to increase.<sup>45</sup>

## II. ConEd's 2016 General Rate Case

Consolidated Edison ("ConEd") serves 3.3 million accounts, comprising around 9 million customers, in and around New York City. ConEd claims they "operate[] one of the most complex electric power systems in the world. It is also the world's most reliable."<sup>46</sup> However, this reliability comes at a cost: per customer, "[f]rom 1998 to 2008, Con Edison has maintained net distribution plant at levels approximately 40% to 100% greater than the median for New York utilities."<sup>47</sup>

At least some of this capital spend is required to meet increasing peak demand. ConEd's 2010 long range supply plan forecasts 15,925 MW of electric peak demand in 2030.<sup>48</sup> According to the assumptions of the Long Range

31. Fontanella, *supra* note 23, at 11. The penalties are assessed based on "company revenues and historical reliability performances." *Id.*

32. *Return on Equity—ROE*, INVESTOPEDIA, <http://www.investopedia.com/terms/r/returnonequity.asp> (last visited Apr. 28, 2016) (defining "return on equity" as "the amount of net income returned as a percentage of shareholders equity"). REV is a "comprehensive energy strategy for New York. REV helps consumers make more informed energy choices, develop new energy products and services, and protect the environment while creating new jobs and economic opportunity throughout the State." REV's 2030 goals include: 1) a 40% reduction in greenhouse gas emissions from 1990 levels; 2) a mandate for 50% of New York's electricity to be generated from renewable sources; and 3) a 23% reduction in energy consumption of buildings from 2012 levels. *See* Reforming the Energy Vision (REV), N.Y. STATE, <http://rev.ny.gov/> (last visited Nov. 17, 2016).

33. Schain, *supra* note 22.

34. *Id.* Between 10.45% and 10.95%, ratepayers keep 75% of the savings, and shareholders earn 25%. Above 10.95%, ratepayers keep 90% of the savings, and shareholders earn 10%. *Id.*

35. REV does not include, for example, Governor Cuomo's plan to get 50% of electric generation from renewable sources by 2030. Instead, that goal builds on REV. Courtney Fairbrother & Dan Cross-Call, *New York Just Proposed Its Plan to Reach 50% Renewables*, ROCKY MT. INST.: OUTLET (Feb. 3, 2016), [http://blog.rmi.org/blog\\_2016\\_02\\_03\\_new\\_york\\_just\\_proposed\\_its\\_plan\\_to\\_reach\\_50\\_percent\\_renewables](http://blog.rmi.org/blog_2016_02_03_new_york_just_proposed_its_plan_to_reach_50_percent_renewables).

36. *DPS—Reforming the Energy Vision: ABOUT THE INITIATIVE*, N.Y. STATE DEPT OF PUB. SERV. (Jan. 28, 2016, 3:52 PM), <http://www3.dps.ny.gov/W/PSCWeb.nsf/All/CC4F2EFA3A23551585257DEA007DCE2?OpenDocument>.

37. N.Y. STATE DEPT OF PUB. SERV., CASE 14-M-0101, REFORMING THE ENERGY VISION: STAFF REPORT AND PROPOSAL 51–52, 58 (2014), [http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/26be8a93967e604785257cc40066b91a/\\$FILE/ATTK0J3L.pdf/Reforming%20The%20Energy%20Vision%20\(REV\)%20REPORT%204.25.%2014.pdf](http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/26be8a93967e604785257cc40066b91a/$FILE/ATTK0J3L.pdf/Reforming%20The%20Energy%20Vision%20(REV)%20REPORT%204.25.%2014.pdf).

38. Bentham Paulos, *Regulating the Utility of the Future: Implications for the Grid Edge*, GREENTECH MEDIA 62 (Jan. 2015), <http://www.greentechmedia.com/research/report/regulating-the-utility-of-the-future>.

39. In discussing REV with the public, staff starts with the mission of providing affordable, safe, secure, and reliable access across utility sectors while protecting the environment. Focusing on the customer experience, staff acknowledges electricity and information currently flows in one direction only, from the utility to the consumer, with information only on a monthly basis, and with electricity provided on aging infrastructure. With increasing bills, customers are worried about affordability, reliability and resiliency, while the current regulatory framework produces disincentives around innovation and the development of new technologies. Staff stresses that new technology will provide customer opportunities in distributed generation, reducing the need for infrastructure investment, will improve efficiency, and enable a new marketplace for consumer options. While referencing the proposed market structure, the materials focus on enabling customer participation and that customers will get paid as electricity producers. *Reforming the Energy Vision: What It Means to Energy Consumers*, N.Y. STATE DEPT OF PUB. SERV. (2015), <http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/26be8a9>

3967e604785257cc40066b91a/\$FILE/88708408.pdf/NEW%20REV%20FEB%202015.pdf.

40. Paulos, *supra* note 38.

41. Fontanella, *supra* note 23, at 6.

42. Exceptions are made for low-income residents not being served by other market participants.

43. Not to say that REV has been quiet up until this point. The docket has 6703 filing and comments as of October 22, 2016.

44. Fontanella, *supra* note 23, at 6–7.

45. Peter H. Kind, *Pathway to a 21st Century Utility*, CERES 19 (Nov. 2015), [http://www.ceres.org/resources/reports/pathway-to-a-21st-century-electric-utility/at\\_download/file](http://www.ceres.org/resources/reports/pathway-to-a-21st-century-electric-utility/at_download/file) ("By realizing efficiency and system-load optimization, and considering tools such as the UK's Totex . . . , we should be able to moderate capital investment levels.")

46. *Facts & Background*, CONEDISON, [http://www.coned.com/newsroom/information\\_facts.asp#electric](http://www.coned.com/newsroom/information_facts.asp#electric) (last visited Apr. 28, 2016).

47. *Electric System Long Range Plan 2010–2030*, CONEDISON 48 (Dec. 2010), <http://www.coned.com/publicissues/PDF/Electric%20System%20Long%20Range%20Plan%20December%202010%20Final.pdf>.

48. *Id.* at 57.

Plan of 2015, the current peak was 13,775 MW, with the expectation to increase to 14,350 MW in 2020 and 15,050 MW by 2025.<sup>49</sup> In the 2016 electric rate case filing, when asked about load growth going forward, ConEd's response was that "while the overall rate of growth in system peak demand is lower than in recent system forecasts," there are still pockets of significant forecasted load growth.<sup>50</sup>

The forecasted electric demands in the 2016 filing do not include any reduction associated with general REV initiatives, only planned reductions in load due to energy efficiency, already-existing demand management, and targeted demand-side management, such as the Brooklyn Queens Demand Management Program ("BQDM").<sup>51</sup> The load forecast does have an adjustment for solar generation.<sup>52</sup>

On the topic of incentives, ConEd proposed several positive Earnings Incentive Mechanisms ("EIMs") in the 2016 electric rate case filing, including one regarding reliability.<sup>53</sup> Two others deal with interconnection and implementation of "Green Button Connect My Data,"<sup>54</sup> both of which arguably help implement REV rather than tie to standard operations.<sup>55</sup>

In total, ConEd has requested an additional revenue recovery of \$482 million annually over the current rate case, \$140 million of which is for new infrastructure and other plant additions in the 2016 electric rate case filing.<sup>56</sup> This revenue requirement also includes \$22 million associated with REV demonstration projects, REV enablement projects, and the BQDM project.<sup>57</sup>

## A. Standard Operations (Non-REV)

Focusing on capital infrastructure, which is the primary driver for rate increases, the current level of spending is above what ConEd had previously forecasted, again mirroring the national trend of record capital spending. ConEd's Electric System Long Range Plan, submitted in December 2010, noted that the company's mission is "to deliver safe and reliable electric service to customers in a cost effective, environmentally responsible, and innovative way."<sup>58</sup> At that point, ConEd expected to invest \$28.6 billion in capital infrastructure over the period 2010-2030, averaging \$1.36 billion a year.<sup>59</sup> While ConEd evaluated holding rates to the projected level of inflation, the company ultimately rejected this option, as it would have required a 50% cut in capital expenditures.<sup>60</sup> Interestingly, none of this capital spending was on new transmission; ConEd noted, "there are no transmission projects that currently appear to be needed for reliability or economic reasons."<sup>61</sup>

In the 2016 electric rate case filing, the expected electric capital forecast for 2016 has increased to \$1.857 billion, and will further increase to \$1.959 billion in 2017.<sup>62</sup> Total capital expenditures—across the entire system of electric, gas, and steam—are expected to be \$2.884 billion.<sup>63</sup> In the 2016 electric rate case filing, executives stated that the key capital projects included in the filing are: (1) Advanced Metering Infrastructure ("AMI"), colloquially known as smart meters; (2) system expansion and new business; (3) managing risk and reliability; and (4) component replacement.<sup>64</sup> "These investments provide multiple benefits to customers that justify the investments being proposed, including the ability to view energy usage in detail and control consumption, increased reliability, more efficient use of the electric system, effective management of new infrastructure costs by deferral and the use of customer-sited solutions, and other alternatives that allow management of load growth."<sup>65</sup> While none of these are being tied to REV from a cost perspective, capital spend—like the \$1.3 billion being spent implementing AMI<sup>66</sup>—is influenced by, and approved because of, the REV proceeding.<sup>67</sup>

49. *2015 Long Range Plan Assumptions*, CONEDISON (2015), [http://www.coned.com/tp/Assumptions\\_for\\_2015\\_Long\\_Range\\_Plan.pdf](http://www.coned.com/tp/Assumptions_for_2015_Long_Range_Plan.pdf). These are in line with the plan assumptions made in the 2010–2030 electric transmission plan. *Electric System Long Range Plan 2010–2030*, *supra* note 47, at 10.

50. *Direct Testimony of Policy Panel—Electric*, CONEDISON 10–11 (2016) [hereinafter *Direct Testimony—Electric*], <https://www.coned.com/2016-rate-filing/pdf/testimony-exhibits-electric/01-electric-policy-panel-testimony-final.pdf>.

51. Planned reduction in load is due to "impacts of Con Edison's Energy Efficiency Portfolio Standard ("EEPS") programs, Con Edison's Demand Management Program ("DMP"), and the Company's current Targeted DSM program, including the Brooklyn Queens Demand Management Program ("BQDM"). The forecast also includes projected reductions attributable to other energy reduction programs, such as the approved NYSEDA EEPS programs and NYSEDA Clean Energy Fund ("CEF"), as well as NYPA's planned efficiency projects in the Company's service territory." *Electric Forecasting Panel*, CONEDISON 18 (2016), <https://www.coned.com/2016-rate-filing/pdf/testimony-exhibits-electric/08-electric-forecasting-panel-testimony-final.pdf>. However, the energy efficiency forecast was derived using Con Ed's submittal into the REV energy efficiency docket on the efficiency transition implementation plan (ETIP). *Id.* at 19. "The ETIP includes those energy efficiency programs that Con Edison intends to implement in 2016, 2017, and 2018. Forecasted program goals for Con Edison after 2015 are based on the proposed ETIP submitted by Con Edison on July 15, 2015 in Case 15-M-0252, In the Matter of Utility Energy Efficiency Programs." *Id.*

52. *Id.* at 20.

53. *Direct Testimony—Electric*, *supra* note 50, at 43.

54. *Id.* at 43–44.

55. *See id.* at 19–20.

56. *Direct Testimony of Policy Panel—Accounting*, CONEDISON 9 (2016) [hereinafter *Direct Testimony—Accounting*], <https://www.coned.com/2016-rate-filing/pdf/testimony-exhibits-gas/02-accounting-testimony-final.pdf>; *see also Electric Rate Case Exhibits*, CONEDISON Ex. AP-E15 (2016), <https://www.coned.com/2016-rate-filing/pdf/testimony-exhibits-electric/01-accounting-electric-exhibits-ap-e1-ap-e16.pdf>.

57. *Direct Testimony—Accounting*, *supra* note 56, at 11. The REV and BQDM capital projects were also added to net plant projections, as they had not been included previously. *Id.* at 92.

58. *Electric System Long Range Plan 2010–2030*, *supra* note 47, at 7. This document also noted that "[h]istorically, Con Edison developed 10 and 20 year infrastructure plans for its electric distribution and transmission systems, separately. These plans allowed for the system to have sufficient capacity to meet customer energy requirements and were based on stringent design criteria aimed to produce a system that performed very reliably. This Electric System Long Range Plan is a holistic way to effectively integrate transmission and distribution system infrastructure plans with non-infrastructure related elements of our business, such as demand side solutions and renewable resources, into one comprehensive plan." *Id.*

59. *Id.* at 8.

60. *Id.* at 20.

61. *Id.* at 104.

62. *Electric Rate Case Exhibits*, *supra* note 56, Ex. AP-E6.

63. *Direct Testimony—Accounting*, *supra* note 56, at 135; *Electric Rate Case Exhibits*, *supra* note 56, Ex. AP-E13.

64. *Direct Testimony—Electric*, *supra* note 50, at 7.

65. *Id.* at 9. The rate of replacement is between 2% and 3% of the total system. *Id.*

66. Jeff St. John, *Con Ed Makes a Smart Meter Data Deal With New York Customers*, GREENTECH MEDIA (Mar. 23, 2016), <http://www.greentechmedia.com/articles/read/coneds-smart-meter-data-deal-with-new-york-customers>.

67. ConEd first started discussing AMI technology in its 2010 Electric System

It is also possible that future capital spends could still increase. Analysts have noted, “over the last several years the trend has been for forecasted capital expenditures in the two- and three-year period to be somewhat conservative and fall short of actual expenditures.”<sup>68</sup> This is especially true as likely capital expenditures—such as the capital needed for Indian Point contingency plans<sup>69</sup>—are not included in this filing.<sup>70</sup> Therefore, capital expenditures are expected to rise for the foreseeable future.

## B. REV Initiatives

New York’s Reforming the Energy Vision (“REV”) initiative “calls for the elimination of electric peaks, greater distributed generation, and more customer participation in energy markets, and requires utilities to enable those transactions.”<sup>71</sup> As noted above, the PSC has outlined six core policy outcomes it hopes REV will achieve: customer engagement; distributed market animation; system-wide efficiency; fuel and resource diversity; system reliability and resiliency; and carbon reduction.<sup>72</sup> All six regulated utilities in New York have said that they support the REV process and goals.<sup>73</sup>

As noted, ConEd does not classify AMI as a REV initiative in its electric rate case filing. However, it is necessary to obtain the data which makes many of the REV initiatives

possible. New York utilities requested the PSC that they be “assured of cost recovery” for smart meters to “encourage them to move forward with these investments.”<sup>74</sup> Approved by the PSC in March,<sup>75</sup> 2016, ConEd plans to install 4.7 million smart meters to its gas and electric customers.<sup>76</sup> The rollout is expected to take about six years and cost \$1.3 billion.<sup>77</sup> This electric rate case filing also included estimates for costs associated with REV demonstration projects—which ConEd recovers as a surcharge, but cannot be rate-based—and for starting to plan and implement being a DSP.<sup>78</sup> With demo projects, “utilities hope to discover whether customers will buy into a REV future that aims at greener and cheaper power without jeopardizing electric reliability and the utilities’ financial viability.”<sup>79</sup> The cost of the currently-approved REV demonstration projects is \$55.2 million, amortized over 10 years.<sup>80</sup>

Unlike demonstration projects, “non-wires alternatives” can be rate-based.<sup>81</sup> There is general agreement that “non-wires alternatives”—in other words, DER, energy efficiency, peak reduction, storage and other initiatives that do not involve traditional utility capital assets—can be cheaper than large infrastructure projects.<sup>82</sup> ConEd has one of the largest in the country—the Brooklyn Queens Demand Management (“BQDM”) project is designed to defer a \$1 billion substation upgrade, although the question of precisely how long this investment can be put off remains an issue.<sup>83</sup> ConEd had been collecting charges associated with both BQDM and REV demonstration projects through a surcharge; however, the PSC had already ruled that these charges had to transition to a rate base collection scheme in the next electric rate case filing.<sup>84</sup>

Perhaps not surprisingly, given the complexity of what the PSC is attempting to achieve, financial services companies now expect that the REV transformation will “extend well into next decade.”<sup>85</sup> Also, perhaps because of REV, financial analysts do not expect the current ConEd electric rate case request to be decreased, as previous rate cases were.<sup>86</sup> For the reasons below, it is unlikely that the capital spend by utilities—and customer bills—will decrease any sooner without explicit PSC action.

Long Range Plan, indicating then that they intended to pilot and deploy AMI in its service territory, and describing it as a “key enabler.” *Electric System Long Range Plan 2010–2030*, *supra* note 47, at 96–97. However, before REV, they had been unable to obtain regulatory certainty of cost recovery.

68. Federico, *supra* note 9, at 1.

69. Indian Point consists of two nuclear reactors approximately 30 miles north of Manhattan, capable of generating over 2000 MW of electricity. The licenses for the reactors expired in 2013 and 2015. *Indian Point Energy Center*, ENTERGY, [http://www.entropy-nuclear.com/plant\\_information/indian\\_point.aspx](http://www.entropy-nuclear.com/plant_information/indian_point.aspx) (last visited Apr. 28, 2016). License renewals were filed in 2007 with the U.S. Nuclear Regulatory Commission, although there has been no decision yet. *Indian Point Nuclear Generating Unit Nos. 2 and 3—License Renewal Application*, NUCLEAR REG. COMMISSION (Apr. 14, 2016), <http://www.nrc.gov/reactors/operating/licensing/renewal/applications/indian-point.html>. To ensure reliability, even if the reactors are taken off-line, the New York State Public Service Commission approved specific transmission projects to replace 600 MW of the load and programs to decrease 180 MW “through energy efficiency and demand response.” *Indian Point Contingency Plans Move Forward*, N.Y. STATE DEPT OF PUB. SERV. (Oct. 17, 2013), [http://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/web/A0167A43AAA2952585257C07005A9F37/\\$File/pr13076.pdf?OpenElement](http://www3.dps.ny.gov/pscweb/WebFileRoom.nsf/web/A0167A43AAA2952585257C07005A9F37/$File/pr13076.pdf?OpenElement). The State of New York has also said that the plant does not comply with the state’s coastal management program. *New York Expresses Opposition to Relicensing Indian Point as NRC Hears Issues*, PLATTS (Nov. 18, 2015), <http://www.platts.com/latest-news/electric-power/birmingham-alabama/new-york-expresses-opposition-to-relicensing-21495027>.

70. *Direct Testimony—Electric*, *supra* note 50, at 98.

71. Katherine Tweed, *New York Prepares for Millions of Smart Meters Under REV*, GREENTECH MEDIA (Oct. 29, 2015) [hereinafter *New York Prepares Smart Meters*], [http://www.greentechmedia.com/articles/read/new-york-prepares-for-millions-of-smart-meters-under-rev?utm\\_source=Daily&utm\\_medium=News+letter&utm\\_campaign=GTMDaily](http://www.greentechmedia.com/articles/read/new-york-prepares-for-millions-of-smart-meters-under-rev?utm_source=Daily&utm_medium=News+letter&utm_campaign=GTMDaily); see also Edward Klump, “Disruptive Challenges” Author Sees Expanded Role for Utilities, E&E NEWS: ENERGY WIRE, Nov. 9, 2015, <http://www.eenews.net/energywire/2015/11/09/stories/1060027678>.

72. *Policy Management and Regulatory Impact*, CONEDISON, INC., <http://www.conedison.com/ehs/2014-sustainability-report/managing-our-business/policy-management-and-regulatory-impact/> (last visited Apr. 28, 2016).

73. The six are ConEd, Orange and Rockland Utilities, Central Hudson Gas & Electric, Niagara Mohawk Power Corp., New York State Electric & Gas Corp., and Rochester Gas and Electric. Peter Behr, *Power Projects Fire Up N.Y.’s “Reforming the Energy Vision,”* E&E NEWS: ENERGY WIRE, Jan. 19, 2016, <http://www.eenews.net/energywire/2016/01/19/stories/1060030769>.

74. Peter Behr, *Don’t Rush Reform Plan, N.Y. Regulators Are Told*, E&E NEWS: ENERGY WIRE, Dec. 10, 2015, <http://www.eenews.net/energywire/stories/1060029280>.

75. N.Y. Pub. Serv. Comm’n, Order Approving Advanced Metering Infrastructure Business Plan Subject to Conditions, No. 15-E-0050 (Mar. 17, 2016).

76. St. John, *supra* note 66; see also *New York Prepares Smart Meters*, *supra* note 71.

77. *Id.*

78. *Direct Testimony—Electric*, *supra* note 50, at 42.

79. Behr, *supra* note 74.

80. *Direct Testimony—Accounting*, *supra* note 56, at 122.

81. Katherine Tweed, *Demand-Side Resources Can Be Cheaper Than Large Infrastructure Upgrades*, GREENTECH MEDIA (Feb. 17, 2016), [http://www.greentechmedia.com/articles/read/distributed-resources-gain-traction-to-avoid-grid-upgrades?utm\\_source=Daily&utm\\_medium=Newsletter&utm\\_campaign=GTMDaily](http://www.greentechmedia.com/articles/read/distributed-resources-gain-traction-to-avoid-grid-upgrades?utm_source=Daily&utm_medium=Newsletter&utm_campaign=GTMDaily).

82. *Id.*

83. *Id.* As part of REV, each utility had to propose at least one non-wires alternative project.

84. *Direct Testimony—Accounting*, *supra* note 56, at 162.

85. Behr, *supra* note 74.

86. Khan, *supra* note 16.

### III. “All of the Above”

As Peter Kind, one of the nation’s foremost thinkers on the utility of the future has noted, “[t]raditionally, utilities have been motivated to sell electricity, not support reduced consumption or investment.”<sup>87</sup> Others watching the utility industry have recognized that this rate of capital investment—because that is what utilities can increase earnings on—is problematic. For example, Richard Kaufmann, the Energy Czar of New York, has stated that “REV is a big umbrella of things that are integrated. . . . It starts with the observation that business as usual really isn’t working in New York. We have a system that is getting more and more expensive. There are millions of New Yorkers having trouble paying their electricity bills.”<sup>88</sup> Audrey Zibelman, chair of the New York PSC, has stated that “[b]usiness as usual has become unaffordable.”<sup>89</sup> But the question then becomes: where to cut? What to prioritize?

According to surveys conducted by ConEd, what matters most to its customers is reliability.<sup>90</sup> But at what cost? While ConEd posits that “[a]ny significant decline in reliability would pose a high cost to our local businesses,”<sup>91</sup> is the high cost of maintaining that level of reliability more than what it would cost local businesses? Perhaps becoming wise to the pressure that may be coming in terms of cost, New York utilities have requested in a joint filing that the PSC “expressly acknowledge the primary obligation of utilities to provide reliable service.”<sup>92</sup>

As noted above, over the past ten years, the primary driver of utility earnings has been increased rate-based capital spending. Rate-based capital asset increase—especially around transmission and distribution systems—is also what utilities are expecting to use to continue increasing earnings per share going forward. However, a core premise of achieving REV and other programs like REV is that rate-based capital spending has peaked or will peak throughout the shift from rate-based capital to private capital. This will, in turn, allow customer bills to decrease.

Allowing utilities to use an “all of the above” strategy around rate-based capital—where utilities maintain historic levels of capital spending on legacy assets, plus invest in new and emerging capabilities necessary for a modern grid—threatens this shift. Rather than private capital decreasing the need for rate-based assets through the widespread use of DER, an “all of the above” transition policy will ensure that the peak of rate-based capital will not occur for at least another decade. By allowing “all of the above,” we may see a peak of utility capital rate-based around 2025. However, customer bills will be increasing the entire time between now and then, which will only compound other problems. “All of

the above” will not—and cannot—lower customer costs for a significant period of time.

The real question then becomes how PSCs manage the transition. The options become a variety of policy, legal or regulatory changes; some may be more viable for certain markets than others. However, with the exception of the first, they would require PSC to adopt specific policy and regulatory mechanisms that provide guidance to utilities.

#### A. *Implicit Acceptance of “All of the Above”*

PSCs have the option of simply implicitly accepting that an “all of the above” strategy is correct for their utilities. This can take several forms; the most basic is simply saying that the utility needs to do everything—maintain safety and reliability at current levels and under current penalty regimes, increase DER penetration in the system, support renewable energy targets, provide special programs to low income residents, design and implement programs to increase energy efficiency, implement systems to allow customers to control their energy use and self-generate, as the start of a non-exhaustive list—but provide no real guidance as to priorities. Saying everything is important is a good way for utilities to keep doing exactly what they have been doing—and continue adding increasing amounts of utility capital spend to the rate base.

PSCs may initially choose this path because it is the path of least resistance (at least, until customer bills become truly unmanageable). For example, the non-wires alternatives like BQDM being developed in New York will face little resistance from the utilities, because they can still rate base the assets developed to meet the demand, and they will be able to rate base the project eventually constructed when deferral is no longer practicable. This is very different from the REV demonstration projects, which cannot be rate-based. By allowing the utilities to rate-base assets, PSCs lessen potential conflict with the utility.

This is also not only a New York phenomenon.<sup>93</sup> Utilities in other places are also taking an “all of the above” strategy, and often explicitly because it allows them to increase capital spending and grow earnings per share. In early 2015, PSE&G in New Jersey noted that “its five-year capital spending program of \$13 billion is expected to yield a third year of sustained growth in operating earnings. . . . [T]he company expects to spend about \$13 billion in capital investments through 2019, primarily on transmission and other critical infrastructure projects.”<sup>94</sup> They continued:

93. In addition to the New Jersey example, Georgia Power is attempting to get approval to seek licenses for two new nuclear reactors in addition to the ones currently under construction at Vogtle. Kristi E. Swartz, *UTILITIES: Georgia Power Slams Into Public Juggernaut After Drawing Hard Lines on Carbon Rule*, E&E NEWS: ENERGYWIRE, Apr. 21, 2016, <http://www.eenews.net/energywire/2016/04/21/stories/1060036009> (“Like other electric companies, Georgia Power is grappling with—and often fighting—a transition away from traditional centralized power sources to ones distributed throughout the power grid. The company wants to make this shift in a way that keeps the lights on but also maintains its healthy profit margin.”).

94. *PSEG’s Five-Year, \$13 Billion Capital Program Supports Earnings Growth Strategy*, PUB. SERV. ENTER. GRP.: INV’R RELATIONS (Mar. 2, 2015, 9:32 AM), <http://investor.pseg.com/press-release/featured/psegs-five-year-13-billion->

87. Kind, *supra* note 45.

88. Behr, *supra* note 74.

89. Smith, *supra* note 7.

90. *Electric System Long Range Plan 2010–2030*, *supra* note 47, at 8. It also seems to be the most important to ConEd, given how many fewer interruptions it has versus others in New York and nationally. *Id.* at 22.

91. *Id.* at 27.

92. Behr, *supra* note 74.

“PSE&G’s capital spending program resulted in another year of double-digit earnings growth at the utility.”<sup>95</sup> The situation is similar in early 2016: “PSE&G’s current five-year, \$12 billion capital program is expected to provide best-in-class, high single-digit rate base growth through the end of 2020. The potential expansion of existing infrastructure programs could result in additional capital investment of \$2 billion at PSE&G, delivering double-digit growth in rate base through the end of the decade.”<sup>96</sup> Given that PSE&G has not filed for a rate case since 2010 but is allowed to recover additional capital spend for items like storm hardening,<sup>97</sup> the New Jersey Board of Public Utilities is also implicitly allowing an “all of the above” strategy.

However, one outcome of utilities attempting to take an “all of the above” strategy is that utility commissions may allow legacy asset improvements to be recovered or rate-based but disallow strategic investments in the modern grid, because doing both is simply too expensive. In that case, the grid is maintained and utilities may meet current goals, but are not creating the future that many of their customers envision. This is not a good outcome—either for the utilities, who will see customer and load defection once technology allows, or for customers, who will be left with a less resilient, less technologically-advanced but still expensive grid. PSCs will be left attempting to answer why different actions were not taken sooner.

Importantly, the utilities themselves need to recognize that continuing on an implicit “all of the above” strategy has the potential to alienate both ratepayers—their customers—and PSCs in the future. As Lacey notes, “Utilities do need to chart the right strategies right now in order to position themselves for growth in the future . . . Utilities could open up an engaging conversation right now around their expectations and what they want to see in the future.”<sup>98</sup> Without that conversation, bills will continue to increase and customers—and, eventually, PSCs—will become less willing to continue paying the price this strategy entails.

## B. Planning and Other Regulatory Mechanisms

Existing planning processes potentially provide PSCs a second option to actively manage the transition to the future when combined with other regulatory mechanisms, such as incentives, and clear guidance, developed through a meaningful stakeholder engagement process, that limits rate-based capital spending while moving forward with grid enhancements. As recognized by regulators, utilities and other stakeholders, DER will have a major impact on utility planning.<sup>99</sup>

capital-program-supports-earnings-growth-strategy.

95. *Id.*

96. Press Release, Pub. Serv. Enter. Grp., PSEG 5-Year Capital Investment Program Increases to \$16 Billion (Mar. 11, 2016), <https://www.pseg.com/info/media/newsreleases/2016/2016-03-11.jsp#.Vx-70TArLZs>.

97. Federico, *supra* note 9, at 3.

98. Stephen Lacey, *The Future of the Power Sector: What Exactly Is the “Next-Generation” Utility?*, GREENTECH MEDIA (Feb. 8, 2016), [http://www.greentechmedia.com/articles/read/what-exactly-is-the-next-generation-utility?utm\\_source=Daily&utm\\_medium=Newsletter&utm\\_campaign=GTMDaily](http://www.greentechmedia.com/articles/read/what-exactly-is-the-next-generation-utility?utm_source=Daily&utm_medium=Newsletter&utm_campaign=GTMDaily).

99. See generally Tom Osterhus et al., *Growth of Distributed Energy Resources Is*

For the planning process to be the most efficient, DER must be integrated into the utility planning process by utilities. However, especially in cases where utilities cannot own the DER resources, significant hurdles exist in current regulatory frameworks around reliability for this to occur now. Utilities are loathe to assume performance of assets they do not control, especially when performance of those assets—or the lack of performance—could impact the utility’s reliability metrics, and potentially drive penalties.

This is especially true since, in order to plan properly, the guidance provided to utilities has to be around how utilities will be compensated for integrating DER into their grid. This is a very basic decision with wide-ranging consequences: for the utility, for any markets that exist, and for customers. Given how fundamental this discussion needs to be, PSCs should focus on having the discussion in a separate proceeding, which should be managed as a stakeholder engagement process (not a stakeholder management process). In order to provide sufficient support and encouragement to PSCs, utilities and citizens, the process of requiring DER integration should be open, transparent, and meaningfully involve all stakeholders.

While some could argue that dockets around Integrated Resource Plans (“IRP”) serve this need, in many states, IRPs rarely garner many comments and are unlikely to institute the necessary change to policy.<sup>100</sup> IRPs are, generally speaking, a technical review of utility requirements. Rather than come as part of an IRP, how DER will be valued and how utilities and others are compensated, should be an input to the IRP.

For a similar reason—lack of stakeholder involvement—this conversation should not occur within a ratemaking or avoided cost proceeding. Again, the guidance developed in the separate docket should be an input into those proceedings, which provide nominal customer engagement at best.

As has been noted frequently, “[u]tilities do an excellent job of what they are mandated to do—provide safe, reliable and affordable energy.”<sup>101</sup> Another policy option, then, is for PSCs to broaden that mandate. This could occur by PSCs adopting regulatory frameworks that allow utilities to earn incentives for exceeding expectations, rather than using a cost-of-service model.<sup>102</sup> While utilities often request asymmetrical earnings mechanisms—where there

*Transforming the Integrated Resource Planning Process*, INTEGRAL ANALYTICS (July 2015), <http://www.integralanalytics.com/files/documents/Distributed%20Marginal%20Prices%20and%20Cost%20Optimization%20July%202015.pdf>.

100. 2013 IRP docket for the Montana-Dakota Utilities Company, PU-13-887, had a total of one filing. The 2015 IRP docket, PU-15-454, had the same. The 2015 IRP for Kansas City Power & Light, AO-2015-251, had two filings. Even the Green Mountain Power Company in Vermont only had three filings in the docket—PSB VT 8397—requesting approval of their 2014 IRP.

101. Kind, *supra* note 45, at 4.

102. Jeff St. John, *The Future of Utility Business Models, This Time Without Fixed Charges*, GREENTECH MEDIA (Nov. 9, 2015), [http://www.greentechmedia.com/articles/read/The-Future-of-Utility-Business-Models-This-Time-Without-Fixed-Charges?utm\\_source=Daily&utm\\_medium=Newsletter&utm\\_campaign=GTMDaily](http://www.greentechmedia.com/articles/read/The-Future-of-Utility-Business-Models-This-Time-Without-Fixed-Charges?utm_source=Daily&utm_medium=Newsletter&utm_campaign=GTMDaily); see also Heather Payne, *RIO to REV: What U.S. Power Reform Should Learn From the U.K.*, 36 PACE L. REV. 31, 58 (2015).

is only upside—PSCs could potentially include incentives and penalties.

While New York has contemplated partially making the switch from cost-of-service in REV, it has so far not adopted the corresponding feature. In order for this approach to work, utilities must be penalized if they do not meet expectations. Similar to adding non-wires alternatives to the rate base, only having positive earnings mechanisms may ease the transition for utilities but it is potentially more expensive, as there is no way for ratepayers to recoup costs for not meeting expectations. New York may have the luxury of passing on all these costs but not everyone else does.

Additionally, customer advocates may criticize incentives that are simply for utilities doing what they should be doing, and, arguably, what they may be told to do in the future. Once the incentives are in place, it is difficult to remove them.<sup>103</sup>

It is also important to note that more regulators expect third party DER providers to aggregate DER resources in the next five years, not regulated distribution utilities.<sup>104</sup> The fact that, in all likelihood, the incumbent utilities will not be providing these services is exactly why compensation mechanisms need to be set now and set in a manner which actively involves all stakeholders.

Also to smooth the transition to greater DER penetration, the PSC could provide additional DER assumptions that could be used in the planning process. This would certainly be a change from traditional PSC roles; rather than starting with technical assumptions provided by the utility and staff essentially fact-checking them around the potential for DER penetration, load growth, and efficiency, the PSC could provide the values the utility should use around these metrics in its planning. The regulatory framework change that would have to occur is that, since the utility is not putting forth values that it feels it can achieve with its own programs, the PSC and public staff would need to take some ownership and responsibility for the values used. This could take several forms: working with broad stakeholders to design non-utility-sponsored programs to increase uptake of energy efficiency and DER; providing a mechanism to adjust utility programs and spend if the previously-assumed levels of uptake do not occur; and providing guidance, including incentives and penalties outside the traditional regulatory rate case filing process, to ensure that utilities are not obstructionists to getting DER online.

Similar processes do not exist, so PSCs would need to develop something new to enable this to occur. For example, with energy efficiency programs, the PSC is not a required participant, but rather an organization who chides and questions the utility's assumptions but doesn't actually

take any accountability for what those assumptions are—or whether they accurately predict what is going to happen in the future.

While there are examples of utilities using data from government sources, there is no accountability for being incorrect. Load growth projections are a good measure of this and there are many more.<sup>105</sup> In 2007, the NYISO expected electric energy usage to be above 182,000 GWh in 2015.<sup>106</sup> However, the actual energy usage in 2015 was around 160,000 GWh.<sup>107</sup> While it could be uncomfortable, requiring all groups to have some responsibility for outcomes in addition to inputs could lead to more realistic—rather than under or over-estimates—and could better enable the transition to the future.

### C. Risk and Condition-Based Asset Strategy

As one way to move from an “all of the above” strategy but still enable both maintenance of the current system and the build-out of the utility of the future, PSCs could require utilities to implement risk and condition-based asset strategies. This would require utilities to adjust replacement and maintenance spending based on data analytics and performance rather than end-of-life assumptions. Basing decisions on actual performance and the likelihood of failure would enable capital spend to be shifted without impacting reliability.

While asset management programs do exist in many utilities, it is often easier to simply replace a piece of equipment when it gets to the end of its useful life in years. PSCs are hesitant to decline to spend the money for replacements, even when, if judged based on actual condition, some equipment could be productive for years longer. This is because, without better analytics, it is often impossible to determine which replacements will impact reliability and which will not. Better use of data could go a long way toward replacing equipment when it is really at the end of its productive life, rather than on a set schedule regardless of condition. That could shift asset spending from the current grid to infrastructure and systems needed to move into the future.

## IV. Conclusion

As David Crane noted, when he was CEO of NRG, “[s]o we’re in this surreal world where, strategically, no one is

103. Steven P. Croley, *Theories of Regulation: Incorporating the Administrative Process*, 98 COLUM. L. REV. 1, 37 (1998) (noting how regulatory decisions will rarely be reexamined once made).

104. Rick Thompson, *Survey: Regulators Expect 3rd-Party Service Providers to Take Lead in DER Aggregation*, GREENTECH MEDIA (Jan. 8, 2016), [http://www.greentechmedia.com/squared/read/Survey-Regulators-Expect-3rd-Party-Service-Providers-To-Take-Lead-in-DER-A?utm\\_source=Squared&utm\\_medium=WeeklyPromo&utm\\_campaign=GTMSquared](http://www.greentechmedia.com/squared/read/Survey-Regulators-Expect-3rd-Party-Service-Providers-To-Take-Lead-in-DER-A?utm_source=Squared&utm_medium=WeeklyPromo&utm_campaign=GTMSquared).

105. For the many more, see, e.g., Aron Patrick, *Kentucky Coal: Past, Present and Future*, *Kentucky Energy & Environment Cabinet* 42 (Mar. 27, 2014), [http://energy.ky.gov/Programs/Documents/KY\\_Coal\\_Past\\_Present\\_Future\\_03252014.pdf](http://energy.ky.gov/Programs/Documents/KY_Coal_Past_Present_Future_03252014.pdf) (showing EIA natural gas price forecasts and actuals from 1979 to 2013); Jigar Shah, *U.S. Government Finally Responds to Me (and Others) on Renewable Energy Data*, LINKEDIN (Mar. 23, 2016), <https://www.linkedin.com/pulse/us-government-finally-responds-me-others-renewable-energy-jigar-shah>.

106. N.Y. INDEP. SYS. OPERATOR, *POWER TRENDS 2008* at 7 fig. 2.2 (2008) (noting the NYISO 2007 forecast), [http://www.nyiso.com/public/webdocs/media\\_room/publications\\_presentations/Power\\_Trends/Power\\_Trends/nyiso\\_ptrendsfinal08.pdf](http://www.nyiso.com/public/webdocs/media_room/publications_presentations/Power_Trends/Power_Trends/nyiso_ptrendsfinal08.pdf).

107. GOLD BOOK, *supra* note 20, at 2 (Apr. 2016), [http://www.nyiso.com/public/webdocs/markets\\_operations/services/planning/Documents\\_and\\_Resources/Planning\\_Data\\_and\\_Reference\\_Docs/Data\\_and\\_Reference\\_Docs/2015%20Load%20%20Capacity%20Data%20Report\\_Revised.pdf](http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2015%20Load%20%20Capacity%20Data%20Report_Revised.pdf).

challenging us, but people say they hate it, because it's too complicated[.] . . . Well, transformation is complicated.”<sup>108</sup> No one was challenging his vision because he was advocating an “all of the above” strategy that keeps current fossil-fuel and nuclear plants in the money to maintain reliability and, at the same time, starts building renewables to make the transition to the utility of the future. This path also makes perfect sense for utilities, they continue to add capital spend to rate-based assets, increasing the assets they can receive a return on for decades; increase earnings per share for the investor community at the same time; maintain the current system, providing safe and reliable service to rate-payers and meeting the incentives currently in place based

on those metrics; and invest in the infrastructure needed to transition to the future, centered around their vision of what that future will be.

However, PSCs continuing to implicitly agree to utilities proposing capital spending plans which contain “all of the above” do a disservice to utility ratepayers and, eventually, to the utilities themselves. Rather, PSCs should provide guidance, which is developed outside existing planning, ratemaking, IRP or avoided cost proceedings, and through a meaningful stakeholder engagement process, that limits rate-based capital spending while moving forward with grid enhancements that will enable DER penetration.

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108. Julia Pyper, *David Crane's Clean Energy Vision Could Soon Be Sold Off in Pieces*, GREENTECH MEDIA (Dec. 10, 2015), <http://www.greentechmedia.com/articles/read/David-Cranes-Clean-Energy-Vision-Could-Soon-be-Sold-Off-in-Pieces>.