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IMPROVING PERFORMANCE IN PUBLICLY-OWNED UTILITIES

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EXECUTIVE SUMMARY

Modern performance-management practices can—and should—be applied to public and private utilities alike, especially given the fast-evolving market forces facing the electricity sector today. This paper examines case studies of publicly-owned utilities (POUs) that have taken steps to improve performance. These utilities are adapting to today's market forces to optimize the electric system and maximize customer value. The cases in this paper focus on large, relatively well-resourced municipal utilities (munis) and public utility districts, but many of the lessons and recommendations from these cases likely apply to many models of public power.

This paper lays out a series of steps that POUs and their boards can take to improve performance. The first step is to take "no regrets" actions: POUs should engage diverse perspectives (customers and other local interests) to put a fine point on customer- and policy-priorities, and should regularly set quantifiable performance metrics to track and improve utility performance against those priorities. Then, POUs can use Integrated Resource Plans to ensure performance goals work together effectively over time. The second step is to explore changes to POU governance in order to further drive performance and help utility governing boards translate the public interest into clear strategic direction. Finally, the third step—an option if POU performance remains unsatisfactory in a particular category—is to consider revenue structure changes that can foster improved performance.

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[1] The authors would like to thank Carl Linvill, Eric Gimon, Robbie Orvis, and Monica Dean for their valuable input on this piece.

Each of these steps is illustrated by several case studies, which are intended to provide a set of options for POUs, governing boards, and customer-owners to consider if they want to better align POU performance with customer needs and public policy priorities.

INTRODUCTION

Public priorities for the electricity sector have shifted in recent years as rapid technological development enables a cleaner, more affordable, reliable, and safe electric system – but many utilities are not keeping pace.

Market forces are precipitously changing the role of utilities. Private companies are offering customers more choices and control over their electricity, through energy efficient products and services, demand management, self-generation like rooftop solar, smart electric vehicle chargers, and on-site storage. At the same time, the role of cost-effective utility-scale wind and solar is growing,[2] as costs have plummeted in the last five years.[3] New technologies and new grid configurations can increasingly deliver on traditional goals like affordability, reliability, clean energy, safety, and universal service. As a consequence of these new market forces and new options, the institutions governing the electricity system must too evolve.

How utilities and their regulators and boards keep up with changing customer values and technologies depends on the utility ownership model. For a majority of electricity consumers, private companies (investor-owned utilities, or IOUs) provide electricity service. The public utilities commissions that regulate IOUs can use performance-based regulation (sometimes called results- or outcomes-based regulation) to align IOU incentives with customer value. Performance-based regulation of IOUs uses financial rewards and penalties for achievement of public policy outcomes in the electricity sector.[4]

A quarter of Americans are served by publicly-owned utilities (POUs). Unlike IOUs, which are ultimately motivated by profits and shareholder value, POUs are non-profit entities that are often owned by customers themselves, directly connected to public policy, and governed democratically. These utilities must also adapt to new customer demands and market forces, and this transition is just as challenging for public utility management and boards as it is for their IOU counterparts. The American Public Power Association's (APPA) and the National Rural

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[2] Binz, Ron & Ron Lehr, *How Renewable Energy Can Save Utilities Money*, UtilityDive, August 10, 2015. <http://www.utilitydive.com/news/how-renewable-energy-can-save-utilities-money/403657>

[3] See Bollinger, Mark & Joachim See, *Utility-Scale Solar 2014: An Empirical Analysis of Project Cost, Performance, and Pricing Trends in the United States*, Lawrence Berkeley National Laboratory, Sept. 2015.

[4] Resources for IOU performance-based regulation include: Regulatory Assistance Project, *Performance-Based Regulation for Distribution Utilities*, 2000; Ron Lehr, *Utility and Regulatory Models for the Modern Era*, America's Power Plan, 2013; Sonia Aggarwal and Eddie Burgess, *New Regulatory Models*, Western Interstate Energy Board, 2014; David Malkin and Paul Centolella, *Results-Based Regulation: A Modern Approach to Modernize the Grid*, GE Digital Energy and Analysis Group, 2014; Melissa Whited, Tim Woolf, and Alice Napoleon, *Utility Performance Incentive Mechanisms*, Synapse, 2015; Steve Kihm, Ron Lehr, Sonia Aggarwal, and Eddie Burgess, *You Get What You Pay For: Moving toward Value in Utility Compensation*, 2015.

Electric Cooperative Association's (NRECA) submissions to the 51st State process both describe important ways to balance the trade-offs between modern power sector goals.[5]

This paper builds on that work by focusing on a series of steps that POUs and their boards can take to improve performance, starting with no-regrets actions and ending with several more drastic measures that some regions have chosen to take. Each step includes illustrative case studies, which focus on large, relatively well-resourced munis and public utility districts, but many of the lessons and recommendations from these cases likely apply to the other models of public power. This paper focuses on high-level performance management, but other changes (e.g., rate design) may also be important levers for improving POU performance.

PERFORMANCE MANAGEMENT IN PUBLICLY-OWNED UTILITIES

WHAT MAKES A PUBLICLY OWNED UTILITY?

POUs represent approximately 25 percent of U.S. customers and sales,[6] but their governance and ownership structures are as diverse as their constituencies,[7] which range from large cities to sparsely populated rural areas. Nonetheless, POUs can be broken into three main categories:

- Public utility districts (PUDs) are utility-only government agencies that either belong to existing government or form a jurisdiction to provide utility service.
- Municipal utilities (munis) are owned by a city and governed either by a city council or an appointed board.
- Cooperatives (co-ops) are private, non-profit entities owned by their customers and governed democratically by a customer-elected board, typically in rural areas. Though co-ops are often not treated as "publicly owned" utilities, here we include them in our scope of POUs, since both are owned and governed by their customers.[8]

Though they have diverse governance structures, POUs possess many commonalities that justify examining them together. First, POUs can be pulled in many directions that go beyond strict utility concerns, including stimulating local economic development and even collecting new revenue for municipal funds or co-op dividends. Extra revenue, if present, is usually reinvested in electricity infrastructure, but POU governing bodies may also choose to redistribute extra revenue as a dividend to customer-owners or transfer it into the general municipal fund. A

[5] America Public Power Association, *APPA's 51st State Proposal*, 2015; National Rural Electric Cooperative Association, *The 51st State: A Cooperative Path to a Sustainable Future,* 2015.

[6] American Public Power Association, *U.S. Electric Utility Industry Statistics*, 2015. http://www.publicpower.org/files/PDFs/USElectricUtilityIndustryStatistics.pdf

[7] For example, just within munis and PUDs, at least six organizational and governance models exist: utilities operating as city departments, municipal utilities reporting to a city council, independent city agencies, city-owned corporations, municipal utility districts, and joint power agencies. Baer, Walter et al., *Governance in a Changing Market: The Los Angeles Dept. of Water and Power*, RAND, prepared for LADWP, 2001, at 23-34.

[8] Regulatory Assistance Project, *Electricity Regulation in the U.S.: A Guide*, March 2011, at 9-10.

second challenge is staffing and capacity; many POUs represent small jurisdictions and don't have the financial and technical resources to stay current with new technologies or broader market trends. Many of these utilities also serve multiple functions in addition to electricity distribution, such as water distribution, further straining their resources.[9]

Because of these pressures and resource limitations, performance management has the potential to improve POUs' ability to deliver customer value and take advantage of the most cost-effective, reliable, clean, and safe energy options.

THREE BASIC STEPS FOR PUBLIC POWER PERFORMANCE MANAGEMENT

From the case studies that follow, three basic steps emerge to improve performance in public power utilities. Of course, all three steps will not be necessary in every case, but all POUs could benefit from the first step.

1. Take "no regrets" actions. Principles include:
    - Convene diverse perspectives (from customers and other local interests) to define top-line goals for the electricity system. Develop a list of performance metrics that reflect those goals.
    - Require utility management to regularly report performance against those metrics publicly. Simply beginning to measure performance can reveal substantial opportunities for savings.
    - Encourage utilities to integrate performance goals and metrics into public integrated resource plans, and continuously update those plans to reflect changing market conditions and public priorities.
2. Explore evolutions in governance. Principles include:
    - Clarify the board's purpose in setting performance targets for the utility; clearly draw the line between board decisions and utility management decisions.
    - Establish a schedule for periodic board review of utility performance metrics.
    - Define standards and actions required for board excellence, focusing on outcomes that indicate effective governance. Incorporate periodic self-evaluation into routine activities of governing boards and utility executives.
3. If performance lags, consider more drastic measures. Options include:
    - Consider decoupling public utility revenue from volumetric sales as a way to reduce financial uncertainty and drive energy efficiency.
    - Consider linking a share of employee compensation to utility performance.
    - Consider spinning off utility functions that continually underperform into separate, non-profit entities.

[9] For instance, out of the 50 largest POUs – 29 also serve as the water dept. See American Public Power Association, *100 Largest Public Power Utilities by Electric Customers Served*, 2013. WEB: https://www.publicpower.org/files/PDFs/100LargestPublicPowerUtilitiesbyElectricCustomersServed.pdf.

The case studies that follow provide concrete, detailed examples of how seven different utilities and their boards considered and undertook these steps. Data and performance outcomes is also included here for those programs that report such information. Each case study is accompanied by summary principles to help utility managers and their governing boards succeed with performance management.

CASE STUDIES ON PUBLICLY-OWNED UTILITY PERFORMANCE

STEP ONE: TAKE "NO REGRETS" ACTIONS

There are a few very low-cost, "no regrets" steps that POUs can take today: collect diverse perspectives (from customers and other local interests), work with them to define the outcomes they want, and develop repeatable metrics to measure performance in those outcome categories. Sometimes simply beginning to measure performance regularly can drive improvements.[10] No doubt, this takes some work upfront, but experience has shown programs that clearly define and regularly measure performance lead to more efficient operations and help utilities and their boards adapt to changing technologies, market forces, and customer preferences.

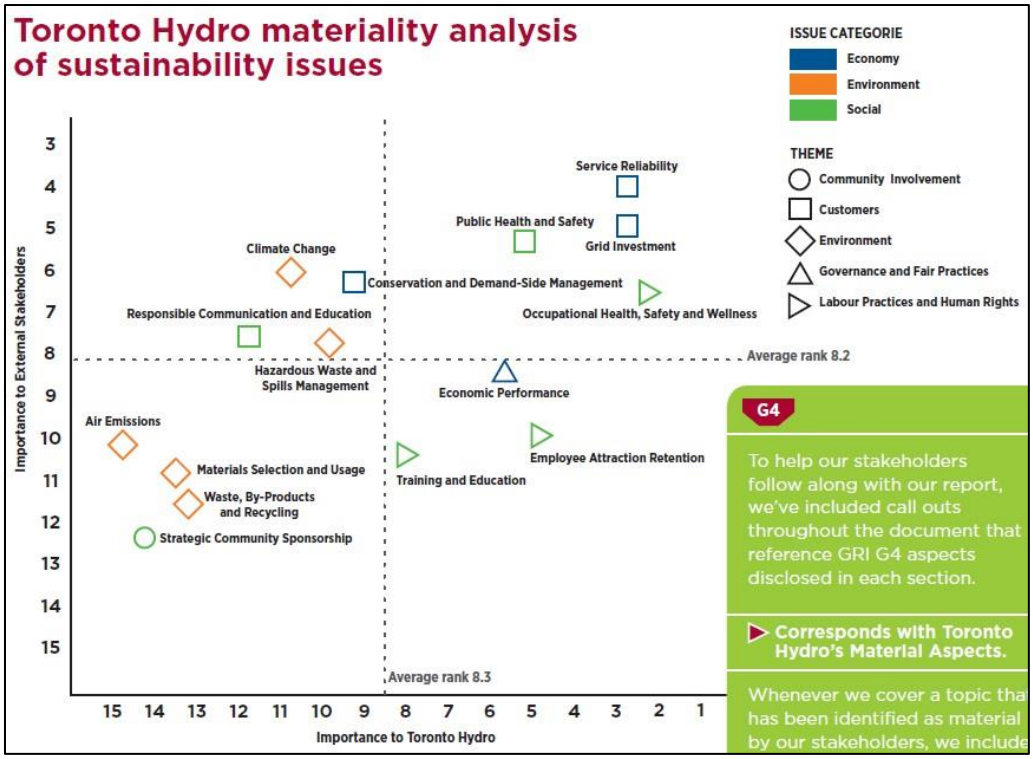
I. Toronto Hydro – Engage local interests, define goals, begin measurement.

Toronto Hydro is a municipal utility, owned by the city of Toronto. The utility serves more than 700,000 customers, with a peak load of 4,273 MW in 2014. Toronto Hydro has made continuous improvement a central part of its model, and has taken "no regrets" steps to drive performance.[11]

For Toronto Hydro, the first step toward improving performance was engaging folks representing a diverse set of local interests to define top-line goals and prioritize performance outcomes for utility management. Toronto Hydro surveyed the perspectives of the City of Toronto, customers, contractors, suppliers, industry associations, public interest organizations, government, academia, and employees. Once the utility determined how these local interests valued and prioritized various performance characteristics, Toronto Hydro could compare how much each performance characteristic was valued by utility management as compared to other surveyed local interests. The result helped local interests and utility management get on the same page about their goals and priorities for the utility system.

[10] See PacifiCorp case study in Aggarwal and Burgess, *New Regulatory Models*, Western Interstate Energy Board, 2014.

[11] Toronto Hydro, *Corporate Responsibility Report 2014*, Message from the Chair of the Board and the President and CEO, 2014.



Building on that initial assessment, Toronto Hydro now tracks performance on an ongoing basis. Since 2014, the Ontario Energy Board has required[12] Toronto Hydro and other utilities in Ontario to compile performance "scorecards" that track metrics for utility performance in four categories: customer focus, operational effectiveness, public policy responsiveness, and financial performance.[13] The scorecard then indicates (where applicable) whether target performance levels have been achieved and whether the utility is continuously improving. For example, the scorecard for 2013 shows that Toronto's winter reliability was poor in 2013 (likely due to the 2013-2014 polar vortex), but its service quality and customer satisfaction have improved every year since 2009.

These performance measurements have resulted in better transparency and better understanding of local priorities, refocusing utility management on continuous improvement in the categories its customers care most about. For example, to enhance affordability, Toronto Hydro indicated it would start econometric benchmarking.[14] The benchmarking efforts will also

[12] Ontario Energy Board, *Renewed Regulatory Framework for Electricity Distributors: A Performance-Based Approach*, Oct. 18, 2012.

[13] See Appendix I for additional detail. Scorecard – Toronto Hydro Electric System Limited, Sept. 24, 2014, available at http://ontarioenergyboard.ca/documents/scorecard/2013/Scorecard%20-%20Toronto%20Hydro-Electric%20System%20Limited.pdf.

[14] Fenrick, Steve & Lullit Getachew, *Econometric Benchmarking of Toronto Hydro's Historical and Projected Total Cost and Reliability Levels*, Power System Engineering, Inc., Sept. 19, 2014. Report was offered as evidence in Toronto Hydro's 2015 Rate Case, available at https://www.torontohydro.com/sites/electricsystem/Documents/CIR2015/EB-2014-0116_THESL_CIR_Exh1B_20150115.pdf.

help assess which features of Toronto Hydro's business have the greatest impact on cost and reliability performance in order to improve future planning.

So far, it is not clear whether performance will continue to improve in the long run because the utility has only reported most of these metrics for one to three years. But it is clear that these measures have improved transparency and relations with local parties, and have refocused utility management on performance.

PRINCIPLES

Convene diverse perspectives to define top-line goals for the electricity sector.

- ✓ Toronto Hydro surveyed customers and other local interest groups including the City of Toronto, industry peers, customers, contractors, suppliers, industry associations, public interest organizations, government, academia, and employees to define top-line goals and prioritize performance outcomes.

Develop metrics for those performance areas that can be impartially measured.

- ✓ The Ontario Energy Board specified four key areas for performance improvement and included specific metrics of performance that are relatively easy to measure and verify. (See Appendix I for specific examples of these metrics.)

Require utility management to regularly report performance against those metrics to increase transparency and assess need for further action.

- ✓ The Ontario Energy Board required Toronto Hydro to measure its performance in key areas and annually report its performance in a public, standardized "scorecard" format.

II. Austin Energy – Build performance metrics into Integrated Resource Plans (part A).

In addition to using basic performance metrics,[15] Austin Energy engages in long-term integrated resource planning (IRP) to optimize the system around its performance goals for reliability, cost, and environmental performance.[16] Through its "Resource, Generation, and Climate Protection Plan," Austin Energy considers multiple scenarios to meet greenhouse gas reduction targets and measures costs against the City Council's goal to keep annual rate increases below two percent.[17] As a result, the utility has the tools necessary to meet the City Council's environmental performance goals while balancing affordability goals for electricity service.

In 2014, the Austin City Council adopted Resolution 157, which set a 50 percent renewable energy goal for 2020, a 65 percent renewable energy goal for 2025, and several capacity targets for solar, wind, and storage, forcing Austin Energy to update its ten-year plan.[18] The Resolution

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[15] See, e.g., Austin Energy, *Annual Performance Report: Year End September 2013*, July 2014.

[16] *Austin Energy Resource, Generation and Climate Protection Plan to 2025: An Update of the 2020 Plan*, Dec. 2014. Available at https://austinenergy.com/wps/wcm/connect/461827d4-e46e-4ba8-acf5-e8b0716261de/aeResourceGenerationClimateProtectionPlan2025.pdf?MOD=AJPERES.

[17] Ibid. at 2.

[18] Austin City Council Resolution No. 20140828-157, August 28. 2014.

also stated that the utility should comply only if it could prevent annual rate increases in excess of two percent. Austin Energy's first analysis found that the capacity and renewable energy goals from Resolution 157 would raise rates by an average of six percent annually, three times the affordability target set by the Council.[19] In response, Austin Energy proposed a less ambitious "500+" plan that saved customers $145 million over the same period but only reached 50 percent renewables by 2025. This IRP process identified a solid compromise with the City Council, consumer groups, and environmental advocates.

After the utility shared the results of several scenarios, the City Council adopted Austin Energy's revised proposal, which included several innovative mechanisms: 900-1,000 megawatts (MW) of demand response and energy efficiency, reverse auctions to minimize the costs and risks of power purchasing agreements for new renewable power plants, and ongoing assessment of potential to expand storage and local solar photovoltaics as costs fall.[20] Because of its transparent, performance-oriented IRP process, Austin Energy was able to improve environmental performance and affordability at once, and successfully integrate the public interest into its long-term resource planning.

III. CPS Energy – Build performance metrics into Integrated Resource Plans (part B).

Just 80 miles away from Austin in San Antonio, CPS Energy has another innovative approach to including performance goals in integrated planning. CPS Energy is a municipally-owned gas and electric utility that serves more than a million customers, and ranks as the fourth largest public power electric utility in the U.S. by total generation. In response to City Council requests, and in line with the CPS Energy Strategic Plan, in 2009 CPS Energy developed the Save for Tomorrow Energy Plan ("STEP"). STEP is a demand-side management program to encourage customers to improve the energy efficiency of their homes, buildings and processes, resulting in energy and cost savings.[21]

STEP sought to save enough energy to allow CPS Energy to delay building its next power plant – the cost of which was estimated to "easily top $1 billion."[22] Using the cost of a new plant as its baseline, CPS Energy proposed to spend $849 million[23] to scale up energy efficiency and demand response measures, which CPS estimated as providing a combined benefit-cost ratio of 150

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[19] Austin Energy, Financial Analysis of Generation Task Force Report and Resolution 20140828-157, Presentation to the Austin City Council, September 24, 2014, at slide 15. WEB: https://austinenergy.com/wps/wcm/connect/6da41ab9-c424-4a8d-8300-0aa8147472ff/AustinEnergyAnalysisOfResolution157-9-24-2014.pdf?MOD=AJPERES.

[20] Ibid. at 3-4.

[21] San Antonio City Council, *Authorizing the Funding of the CPS Energy Consideration and Sustainability STEP Program through an Adjustment in the Fuel Surcharge,* Ordinance No. 2009-05-21-0399, May 21, 2009.

[22] CPS Energy Annual Report, Fiscal Year 2014, at 6.

[23] Ibid.

percent.[24] To date, STEP has saved almost 350 MW of peak demand,[25] and requires CPS Energy to report the progress of the program each quarter and assess the need for adjustments.

While not as broad as the Austin Energy climate planning process, CPS Energy's STEP program demonstrates the performance benefits of examining demand-side management as an alternative to supply-side investments in a public IRP process.

PRINCIPLES

Encourage utilities to integrate performance goals and metrics into public integrated resource plans.

- ✓ Austin City Council provided clear high-level performance targets, and Austin Energy used its "Resource, Generation and Climate Protection Plan" to balance environmental performance, affordability, and reliability.
- ✓ CPS Energy used its "Save for Tomorrow Energy Plan" to avoid the costs of a new power plant by using cheaper demand-side resources. Integrated resource planning and clear performance metrics allowed the utility to design a program that saved customers money while improving environmental performance and system flexibility.

Continuously update integrated resource plans to adapt to reflect changing market conditions and public priorities.

- ✓ Austin Energy updates its plan every two years.
- ✓ CPS Energy reports the progress of the STEP program every quarter and reassesses its allocation of resources on an ongoing basis.

STEP TWO: EXPLORE EVOLUTIONS IN GOVERNANCE

I. SMUD – Focus board attention on performance, and clearly delineate decision-making responsibilities.

The Sacramento Municipal Utility District (SMUD) provides electricity service to 1.46 million customers within a 900-square-mile territory that includes Sacramento and surrounding areas. As a municipal utility, SMUD is governed by a seven-member Board of Directors selected by the voters to serve staggered four-year terms. The SMUD Board of Directors determines policy and appoints the general manager, who is responsible for SMUD's day-to-day operations.

In 2002, SMUD's board had become disconnected from utility executives' decision-making process.[26] To remedy this disconnect and improve board governance, the board and executive

[24] Frontier Associates, *Evaluation, Measurement & Verification of CPS Energy's FY 2015 DSM Programs*, June 2015, at 7. The STEP Program requires quarterly reporting to the City Council and performance is independently measured by a third-party.
[25] CPS Energy Annual Report, Fiscal Year 2014, at 6.
[26] Eric Douglas, *Improving Public Utility Governance: A Case Study: The Sacramento Municipal Utility District*, Leading Resources, Inc., 2015.

team recognized that the board needed to redefine its role and clarify its strategic direction while giving the utility executives sufficient leeway to accomplish the city's goals.

To ensure board activities supported utility performance, the SMUD board implemented twelve "Governance Process Policies" that required the board to set and measure utility performance.[27] The new policies also explicitly directed the board to focus on "SMUD's intended impacts outside the organization, not on the administrative or programmatic means of achieving those effects." In essence, this clarified that the board should focus on defining high-level outcomes for the utility, and utility executives should be free to decide how to accomplish those high-level objectives.[28] This more clearly drew the line between board decisions and utility management decisions.

As a result, SMUD's board consistently reports utility performance in its annual report and regularly revises its goals in response to its customer-owners' priorities, strengthening the link between public policy, customer demand, and utility priorities. According to SMUD's annual report, this has helped make SMUD California's top-rated electric utility in customer satisfaction, while beating comparable utilities on average residential electric bills and keeping pace with state renewable energy targets.[29] At the same time, self-evaluations by the board and utility management team indicate that effectiveness of the board increased dramatically from 2002-2012.[30]

As an example of how this has improved performance and enabled the utility to stay abreast of market trends, the board adopted the following policy language in 2012: "SMUD shall integrate emerging technologies into SMUD's customer offerings in a way that balances risk and opportunity in order to benefit our community." Since 2012, SMUD has been an industry leader

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[27] See, e.g., SMUD Board Policy GP-1, "Purpose of the Board," Adopted Dec. 19, 2002, https://www.smud.org/assets/documents/pdf/GP-1.pdf. The first three enumerated purposes of the SMUD board focus on performance: "The purpose of the Board of Directors is to: Identify and define the purpose, values and vision of SMUD, along with the *quantitative and qualitative results* that SMUD is to achieve, and communicate them in the form of policy; Identify and define those *results or conditions* of SMUD that are acceptable and not acceptable to the Board and communicate them in the form of policy; *Monitor the organization's performance* against the results that the Board has established for the SMUD." (emphasis added).

[28] SMUD Board Policy GP-2, "Governance Focus", Adopted Dec. 19, 2002, Revised May 17, 2012, https://www.smud.org/assets/documents/pdf/GP-2.pdf.

[29] SMUD 2014 Annual Report, available at https://www.smud.org/assets/documents/pdf/2014-annual-report.pdf.

[30] Eric Douglas, *Improving Public Utility Governance: A Case Study: The Sacramento Municipal Utility District*, Leading Resources, Inc., 2015, at 35-37. The categories examined included the strategic vision, analysis and judgment of the board, productiveness of communication, decisiveness, governance, roles and responsibilities, effectiveness of meetings, and building and maintaining relationships between the board and executives. Each saw marked improvement in the 10 years since the 2002 implementation of governance policies.

on technology integration, piloting new time-of-use pricing with programmable thermostats,[31] and integrating customer-sited storage-plus-solar systems and smart homes into its operations.[32]

PRINCIPLES

Clarify the board's purpose in setting performance targets for the utility; clearly draw the line between board decisions and utility management decisions.

- ✓ In 2002, SMUD's board enacted 12 "Governance Process Policies" that focused board attention on setting and measuring high-level performance goals, and clearly delineated board decisions versus utility management decisions.

Establish a schedule for periodic board review of utility performance metrics.

- ✓ SMUD's board reviews and reports on performance metrics annually.

II. Energy Northwest – Enhance performance of the board itself.

Energy Northwest is a joint action agency that represents 27 small PUDs and munis in Washington state who jointly own four large generating facilities including a 1,190 MW nuclear plant. Oversight of Energy Northwest operations is provided by an 11-member executive board and a board of directors composed of one representative from each member utility.

Recognizing similar challenges in board-executive relations that SMUD identified in 2002,[33] Energy Northwest initiated governance reform in 2014 with an even greater emphasis on board excellence and performance as a means to improve utility responsiveness to the priorities of its customer-owners. Energy Northwest's "Excellence in Governance" model has board members adopt a series of pledges for performance,[34] including specific actions that define the role of the board (which includes providing the utility with clear performance goals and high-level strategic direction).

The greatest innovation of the Excellence in Governance model is a requirement for the board to look inward and assess its own performance, holding fellow board members accountable. The board measures its performance by asking a series of questions along the lines of, "did we stick by our commitments and focus on the right things?" The board now focuses on self-improvements such as board education, meeting effectiveness, and clarity of strategic direction.[35] The board can then "be its own toughest critic by identifying and examining lessons

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[31] See generally, Walton, Robert, *SMUD: Time-of-use is the future of rate design*, UtilityDive, May 13, 2015. http://www.utilitydive.com/news/smud-time-of-use-is-the-future-of-rate-design/397098/.

[32] See Sacramento Municipal Utility District, *SMUD – Photovoltaic and Smart Grid Pilot at Anatolia*, prepared for the California Energy Commission, March 2015. http://www.energy.ca.gov/2015publications/CEC-500-2015-047/CEC-500-2015-047.pdf.

[33] See Energy Northwest, Excellence in Governance, WEB: https://www.energy-northwest.com/whoweare/leadership/Pages/Excellence-in-Governance.aspx.

[34] Energy Northwest, *Executive Board Policies: Excellence in Governance*, 2014.

[35] See Appendix I for sample self-evaluation survey questions.

learned and incorporating those lessons, as applicable, into board processes." This also provides a framework for customer-owners to critically examine the effectiveness of its democratically elected board members.

The result is that the board has the ability to measure its performance over time and aim for continuous improvement. It's still early in Energy Northwest's program, but if SMUD's improvements are any indication, a high-performing board is likely to beget a high-performing utility.

PRINCIPLES

Define standards and actions required for board excellence, focusing on outcomes that indicate effective governance.

- ✓ In 2014, Energy Northwest implemented its Excellence in Governance model, which defines metrics for excellent board performance and requires continuous measurement and self-assessment.

Incorporate periodic self-evaluation into routine activities of governing boards and utility executives.

- ✓ Energy Northwest requires its board to undergo annual self-evaluations that help to quantify board performance and hold board members assess and improve their effectiveness.

OPTIONAL STEP THREE: CONSIDER MORE DRASTIC MEASURES

I. Southern California – Revenue decoupling can improve financial performance and efficiency.

Despite uncontested benefits for customers, energy efficiency can be difficult to get right. In traditional POUs and IOUs alike, energy efficiency can lead to revenue shortfalls. For POUs, missed revenue targets could impair credit ratings if uncorrected. As a result, some POUs are challenged to balance financial stability with energy efficiency programs.

"Decoupling" a POU's revenue from its sales volume is a solution designed to remove the disincentive for energy efficiency by aligning financial performance with efficiency. Decoupling adds the amount by which revenue fell short in a previous year to the next year's revenue target, so the utility collects its full projected revenue target. Decoupling guarantees that the utility will recover all of its projected revenue no matter how much energy efficiency erodes sales volume, mitigating the risk of revenue shortfall.

Two munis in Southern California – Los Angeles Department of Water and Power (LADWP) and Glendale Water and Power (GWP) – have applied decoupling to improve finances and maintain public support for energy efficiency programs. LADWP is a large muni that serves 1.4 million customers, and GWP is a smaller muni serving 30,000 customers. LADWP's decoupling

mechanism takes the difference between its projected revenue and actual revenue in the previous year, and includes it in customer bills as a part of a "variable cost adjustment" component of rates. GWP includes a "revenue decoupling charge" separate from other charges twice each year that is calculated the same way.[36]

As a result, both utilities have improved their financial performance and ability to attract low-cost capital. Under the decoupling structure, LADWP and GWP executives spend fewer resources on predicting weather and modeling energy efficiency, leaving resources for other programs.[37] For example, GWP can use its cash reserves to cover any revenue shortfalls, simplifying accounting. Decoupling has been noted positively by the utilities' bond rating institutions; a 2013 Fitch bond rating noted that the revenue stability provided by decoupling positively impacted LADWP's rating.[38] Because of these positive results, LADWP's board has proposed to permanently adopt decoupling.[39] In both LADWP and GWP, decoupling has helped to increase revenue certainty, freeing up resources for other activities, improving financial stability, and supporting energy efficiency performance.

OPTION

Consider decoupling public utility revenue from volumetric sales as a way to reduce financial uncertainty and drive energy efficiency.

- ✓ Two munis in Southern California implemented revenue decoupling and improved efficiency of financial management, improved bond ratings, and supported energy efficiency.

II. Vermont Efficiency Investment Corporation – a third-party nonprofit model

Vermont Efficiency Investment Corporation (VEIC) is a non-profit energy efficiency administrator contracted by Vermont's energy efficiency utility (Efficiency Vermont) to serve both POUs and IOUs in achieving Vermont's efficiency goals. The success of VEIC sheds light on two additional options for POUs (and their governing boards) looking to take more drastic actions to drive performance. First, VEIC uses a performance-based employee compensation structure. And second, VEIC represents one model for how a narrowly focused, non-profit, third-party administrator can deliver remarkable performance on delivering new electricity services for publicly-owned utilities.

Since 2000, VEIC has saved customers 13.7 million megawatt-hours (MWh), meeting 13.3 percent of Vermont's overall energy demand with efficiency. In 2014, every dollar VEIC invested

[36] For more detailed explanation, see Xue, Lisa, Dyan Sullivan, Jeffery Peltola, Lon Peters, & Phil Leiber, *Decoupling for Municipally Owned Utilities: Innovation in Southern California*, Electricity Journal, Vol. 27, Issue 3, April 2014.

[37] Ibid at 4.

[38] Ibid at 4-5.

[39] Kishler, Martin et al., *Municipal Utility Energy Efficiency: Successful Examples around the Nation*, American Council for an Energy-Efficient Economy, Nov. 2015. GWP's decoupling mechanism was already permanent.

in efficiency resulted in returns of $2.60.[40] According to the American Council for an Energy Efficient Economy, Vermont ranks third best of all 50 states in overall energy efficiency performance.[41] These high returns at a modest cost are due in part to sophisticated customer outreach, identification of the best opportunities for saving, and performance-based compensation that incents innovative approaches to achieve VEIC's goals.

VEIC's performance goals are set by the Vermont Public Service Board (VPSB) and tied to compensation; up to three percent of the utility's revenue is ultimately at risk. Specifically, there is a performance assessment every three years, and a consultation between VEIC, the VPSB, and other interested parties in the region to set quantitative performance indicators. VPSB measures nine main metrics that are tied directly to overall utility compensation, which the non-profit entity passes through directly to its employees. There are also an additional 12 minimum performance requirements, which have associated financial penalties on the utility as a whole.[42] The chart below provides an example of how the metrics are measured and awards set:

Performance Indicator	Base Award Amount[a]	% of 100% Target Achieved	Total Award Amount
1. Annual Incremental MWh Savings	$826,666	105%	$986,829
2. Total Resource Benefits	$303,921	93%	$516,478
3. Summer Peak Demand Savings	$243,137	86%	$348,442
4a. Summer Peak Demand Savings in St. Albans	$136,765	116%	$226,140
4b. Summer Peak Demand Savings in Susie Wilson Road	$106,372	104%	$237,622

[40] Vermont Energy Investment Corp., "About Us", visited Oct. 30, 2015, https://www.efficiencyvermont.com/About-Us.

[41] American Council for an Energy Efficient Economy, "State Scorecard Rank", visited Nov. 3, 2015, http://database.aceee.org/state-scorecard-rank.

[42] Vermont Public Service Board, *Order Re Efficiency Vermont 2014 Savings Verification and 2012-2014 Performance Award*, Docket no. EEU-2015-03, July 29, 2015.

5. Business Comprehensiveness	$121,568	125%	$161,569
6. Market Transformation Residential	$36,471	91%	$57,578
7. Market Transformation Commercial	$72,941	127%	$147,941
	Total Electric		**$2,682,599**
1. Annual Incremental MMBtu Savings	$259,425	109%	$337,923
2. Residential Comprehensiveness	$86,475	100.5%	$87,945
	Total Thermal[b]		**$404,700**
	TOTAL		**$3,087,299**

[a] Base performance award is achieved by meeting the minimum target level. Performance award amounts are scaled up further by meeting the 100% target level and exceeding the 100% target level.
[b] The thermal portion of VEIC's performance award is capped at $404,700.

This approach has resulted in continuous improvement of energy efficiency in Vermont. VEIC gives a few reasons why a non-profit entity (similar in many ways to a POU) will improve performance if some revenue (in VEIC's case, 2-3 percent) is tied to performance. According to VEIC, tying revenue to performance helps:

1. increase cash reserves, improving the credit rating and keeping costs of debt low;
2. mitigate risks during economic downturn; and
3. maintain a culture of continuous improvement and competition.[43]

Because VEIC passes through some of the performance incentive to its employees, VEIC has high employee retention rates, a culture of high performance, and has been listed several times as one of the "best places to work" by Vermont Business Magazine.[44] In an era of aging workforce, VEIC maintains that these attractive compensation structures and a positive corporate culture help to retain employees and attract talent, reinforcing high performance.[45] For POUs looking to create a culture of continuous improvement and bolster financial performance, VEIC's compensation structure is an interesting option to consider.

For POUs that hope to explore new organizational models that take advantage of emerging market trends and evolving customer demand, VEIC provides an interesting option. In fact, many of the utilities served by VEIC are munis and co-ops. If less drastic measures such as those described in the first two steps have failed to elicit the performance demanded by customer-owners, utility governing boards could turn to non-profit third-parties to handle a subset of utility functions. The VEIC model of a non-profit third party still fits with the public power mandate to put customers first, respond to local concerns, and maintain ownership in the public sphere.

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[43] Vermont Energy Investment Corporation, *Budget and Savings Recommendations Compensation Structure*, *Budget Performance Period 2015-2017*, 2015, at 6. Available at http://psb.vermont.gov/sites/psb/files/projects/EEU/drp2013/6.%20VEIC%20Compensation%20Structure.pdf.
[44] Ibid. at 13.
[45] Ibid.

OPTIONS

Consider linking a share of employee compensation to utility performance, fostering a culture of continuous improvement, improving accountability, and align utility operations with customer value.

- ✓ VEIC increases revenue by maximizing energy efficiency performance in nine key areas. Due in part to performance-based employee compensation and consistent high performance, VEIC has been named one of the best places to work in Vermont five years in a row, making it easier to attract and retain talented employees.

If new a new business model or performance goal is outside the expertise of utility management, consider spinning off certain utility functions into separate, non-profit entities.

- ✓ VEIC has improved energy efficiency performance for many munis and coops. It focuses solely on energy efficiency and is bound by the performance metrics determined by its regulators. Vermont now is among the top three states in energy efficiency.

CONCLUSION

The customer-owners and municipal boards of publicly-owned utilities are in a unique position to define what constitutes excellent performance. What do customer-owners and the officials who represent them value most? And how do those values align with what the utility is delivering? The art of utility governance comes in weighing the relative importance of values that may pull utilities in divergent directions, and translating important priorities into clear direction for utility management.

It's clear from these case studies that the first step for any POU, or any utility for that matter, is to engage a diverse set of local interests to get a clear picture of the outcomes they want from the electricity system, and how they rank those priorities. For example, how much of a premium are customers willing to pay for additional reliability assurances, a bigger set of customer choices, or rapid decarbonization? Toronto Hydro's thorough survey of local entities provides one great example of how to clarify performance objectives, but there are countless others following suit. To set clear performance goals, utility boards must have clear direction from their constituents.

Next, consistently setting, measuring, and updating quantitative performance metrics should be a central feature of any POU management program. For small utilities this can be a relatively large lift, but even the simplest goals are useful places to start orienting utility operation around increasing customer value. SMUD, Toronto Hydro, Austin Energy, CPS Energy, VEIC, and Energy Northwest all regularly measure performance and each has seen marked improvement as a

result. A 2015 "handbook" from Synapse Energy Economics[46] has an initial list of metrics for many performance goals, which can help utility governors begin to measure progress.

Integrated resource planning is another useful tool that helps many utilities plan out how to meet performance goals that may have some tension between them, and may even pull in opposite directions. Austin Energy was able to save money while meeting some of the country's most ambitious decarbonization goals. CPS Energy was able to craft a plan to integrate more customer choice and demand-side technologies, and save customers money by avoiding investment in a costly new coal plant. Integrating all quantitative metrics into IRP processes is a "no regrets" step that enables utilities to find innovative ways to meet performance goals.

Governance reforms can also help. SMUD's 2002 governance reforms showed that board policies, bylaws, etc. that redefine the board's role as outcome-focused rather than operations-focused can help provide clearer direction to utility management, and improve performance. Focusing board attention on reexamining and updating performance metrics ensures that the board helps support continuous improvement. Some POU managers may want to go further and require board self-evaluations. These programs can provide the board with a basis to evaluate its own performance over time and identify areas of weakness and strength.

Finally, if utility governing boards are interested in keeping utility management focused on its core strengths, they can consider revenue decoupling or performance-based compensation for employees. For some, revenue decoupling may be enough, particularly if the performance issue stems from energy efficiency or unpredictable revenue. In the case of VEIC, a non-profit subcontractor, performance-based employee compensation has led to industry-leading performance on energy efficiency, financial strength, and a culture of continuous improvement. Another useful, but more drastic, option to consider is using a third-party when utility performance is lagging in a particular area. In most cases, this may not be a good fit. But if certain underperforming functions are easily split from the POU itself, and a new non-profit entity is narrowly focused on a particular performance area, this spin-off model may be a useful experimental option.

As a way to start down the path toward better performance,[47] POUs, their customer-owners, and their boards can consider the steps laid out in this paper:

1. Take "no regrets" actions. Principles include:
    - Convene a wide range of diverse perspectives (from customers and other local interests) to define top-line goals for the electricity system. Develop a list of performance metrics that reflect those goals.

[46] Melissa Whited, Tim Woolf, and Alice Napoleon*, Utility Performance Incentive Mechanisms*, Synapse, March 2015.

[47] Of course, these steps and design principles represent only a part of what it takes to effectively manage a publicly-owned utility. Future work in this area could explore rate design, go deeper into financial performance of POUs, or further explore governance structures.

- Require utility management to regularly report performance against those metrics publicly. Simply beginning to measure performance can reveal substantial opportunities for savings
- Encourage utilities to integrate performance goals and metrics into public integrated resource plans, and continuously update those plans to reflect changing market conditions and public priorities.

2. Explore evolutions in governance. Principles include:
    - Clarify the board's purpose in setting performance targets for the utility; clearly draw the line between board decisions and utility management decisions.
    - Establish a schedule for periodic board review of utility performance metrics.
    - Define standards and actions required for board excellence, focusing on outcomes that indicate effective governance. Incorporate periodic self-evaluation into routine activities of governing boards and utility executives.
3. If performance lags, consider more drastic measures. Options include:
    - Consider decoupling public utility revenue from volumetric sales as a way to reduce financial uncertainty and drive energy efficiency.
    - Consider linking a share of employee compensation to utility performance.
    - Consider spinning off utility functions that continually underperform into separate, non-profit entities.

APPENDIX I – CASE STUDY MATERIALS

TORONTO HYDRO ANNUAL SCORECARD - 2014

Scorecard - Toronto Hydro-Electric System Limited

9/24/2014

Performance Outcomes	Performance Categories	Measures	2009	2010	2011	2012	2013	Trend	Target: Industry	Target: Distributor
Customer Focus Services are provided in a manner that responds to identified customer preferences.	Service Quality	New Residential/Small Business Services Connected on Time	96.60%	96.20%	94.00%	92.50%	94.20%	down	90.00%	
		Scheduled Appointments Met On Time	99.70%	99.90%	99.60%	99.30%	99.60%	down	90.00%	
		Telephone Calls Answered On Time	83.70%	69.90%	72.70%	76.90%	82.00%	up	65.00%	
	Customer Satisfaction	First Contact Resolution					77%			
		Billing Accuracy					96.6%			
		Customer Satisfaction Survey Results								
Operational Effectiveness Continuous improvement in productivity and cost performance is achieved; and distributors deliver on system reliability and quality objectives.	Safety	Public Safety [measure to be determined]								
	System Reliability	Average Number of Hours that Power to a Customer is Interrupted	2.76	1.19	1.38	1.46	17.81	up		at least within 1.19 - 2.76
		Average Number of Times that Power to a Customer is Interrupted	1.71	1.54	1.48	1.47	2.39	up		at least within 1.47 - 1.71
	Asset Management	Distribution System Plan Implementation Progress					105%			
	Cost Control	Efficiency Assessment				5	5			
		Total Cost per Customer [1]	$821	$885	$951	$900	$924			
		Total Cost per Km of Line [1]	$57,785	$62,061	$67,015	$65,273	$66,793			
Public Policy Responsiveness Distributors deliver on obligations mandated by government (e.g., in legislation and in regulatory requirements imposed further to Ministerial directives to the Board).	Conservation & Demand Management	Net Annual Peak Demand Savings (Percent of target achieved) [2]			17.00%	21.00%	32.70%			286.27MW
		Net Cumulative Energy Savings (Percent of target achieved)			52.00%	78.00%	99.80%			1,303.99GWh
	Connection of Renewable Generation	Renewable Generation Connection Impact Assessments Completed On Time		90.32%	70.11%	90.79%	100.00%			
		New Micro-embedded Generation Facilities Connected On Time					100.00%		90.00%	
Financial Performance Financial viability is maintained; and savings from operational effectiveness are sustainable.	Financial Ratios	Liquidity: Current Ratio (Current Assets/Current Liabilities)	0.69	1.05	1.26	0.59	0.80			
		Leverage: Total Debt (includes short-term and long-term debt) to Equity Ratio	1.40	1.52	1.43	1.37	1.34			
		Profitability: Regulatory Return on Equity – Deemed (included in rates)			9.58%	9.58%	9.58%			
		Profitability: Regulatory Return on Equity – Achieved			9.73%	7.62%	7.10%			

Notes:
1. These figures were generated by the Board based on the total cost benchmarking analysis conducted by Pacific Economics Group Research, LLC and based on the distributor's annual reported information.
2. The Conservation & Demand Management net annual peak demand savings do not include any persisting peak demand savings from the previous years.

Legend:
- up
- down
- flat
- target met
- target not met

Source: Toronto Hydro, 2014.

Executive Board Excellence in Governance

-Board Effectiveness-

Overall Board Effectiveness Review

👍	👎	Attributes: Do we...	Guiding Principle
		Board Obligations to Excellence	
		Strive for Excellence	Strategic, Intrusive, Accountable Leadership
		Comply with Statutory and Regulatory Duties	Accountable
		Set Strategic Direction and Outcomes	Strategic
		Fulfill Fiduciary Responsibilities	Accountable
		Provide Resources	Accountable

👍	👎	Attributes: Do we...	Guiding Principle
		Assure Effective Management	Intrusive
		Engage and Be Accountable to Stakeholders	Accountable
		Board Member Actions for Excellence	
		Place Highest Priority on Public Health and Safety	Strategic, Accountable
		Provide Clear, Majority Based Direction	Intrusive
		Demonstrate Integrity and Ethical Conduct	Accountable
		Communicate Honestly and Directly	Intrusive
		Be Accountable for Board Decisions	Accountable
		Be Fully Engaged in Board Activities	Accountable
		Use Resources Cost Effectively	Accountable
		Obtain Diverse Independent Assessments of Performance	Strategic, Intrusive

		Board Enablers of Excellence	
		Critical Board Self Evaluation	Accountable
		Define Board Purpose, Policies and Procedures	Strategic
		Define CEO/Board Working Relationship	Accountable
		Effective Performance Management	Intrusive
		Comprehensive Board Education and Development	Intrusive
		Periodic Facility Visits	Intrusive

Source: Energy Northwest 2014.