Performance-based regulatory strategies to accelerate beneficial electrification

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Key takeaways

- States are increasingly required to advance beneficial electrification, and policy changes like performance-based regulation (PBR) can help.
- Using PBR shifts the regulatory focus toward long-term, societal benefits.
- PBR can align societal goals with the utility's business goals. For example, beneficial electrification can achieve societal goals like reducing carbon while also meeting utility goals.
- Even if PBR isn't feasible now, utilities can take small steps to support beneficial electrification and pursue larger regulatory reforms.

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Beneficial electrification can be one of the primary ways to reach aggressive carbon-reduction goals while keeping energy costs down for utility customers.

Utilities have a role in electrification, but their goals often don't align with society's best interest. Electrification initiatives that focus solely on increasing load or utility revenue are difficult to claim as beneficial because focusing only on the economic benefits of electrification could:

- Put upward pressure on rates

- Increase free-ridership
- Increase inequity in programs
- Reduce energy reliability
- Increase greenhouse gas (GHG) emissions

Is performance-based regulation the future of the utility business model?

On Wednesday, April 27, 2022, we held a webinar where we explained how PBR can help utilities meet complex societal goals while delivering value to shareholders.

Watch the recording

If done correctly, utilities' beneficial-electrification initiatives can reduce carbon, improve grid management and efficiency, and lower customer costs.

Utilities can encourage regulatory changes that support beneficial electrification by quantifying holistic benefits for the environment, grid, and their customers.

With PBR, utilities can be rewarded for quantifying and advancing these societally beneficial outcomes. Moving toward PBR comes with a range of options, and utilities can apply the approach broadly or selectively in areas like beneficial electrification.

Societal goals for regulation may include:

- Increasing electric system reliability
- Reducing carbon
- Putting downward pressure on rates through grid optimization
- Deferring infrastructure investments through efficiency and demand-side management programs
- Providing equitable access to the benefits of energy programs and electricity

None of these goals directly require utilities to increase or decrease demand. The question becomes, *How can regulation motivate regulated utilities in a way that also benefits society?*

Regulatory reform isn't a one-size-fits-all solution, and the answer to this question will vary by jurisdiction. Regulators, utilities, environmental organizations, low-income advocacy groups, solution providers, consumers, and businesses will have to determine the best goals for each region.

To help these parties set goals and make plans, this report details PBR approaches in the US, but the principles apply to Canada too. It also gives a roadmap for how utilities can create increasingly strong business cases, incorporate more-appropriate cost-effectiveness tools, and drive a more supportive regulatory environment for beneficial electrification.

State mandates to advance beneficial electrification

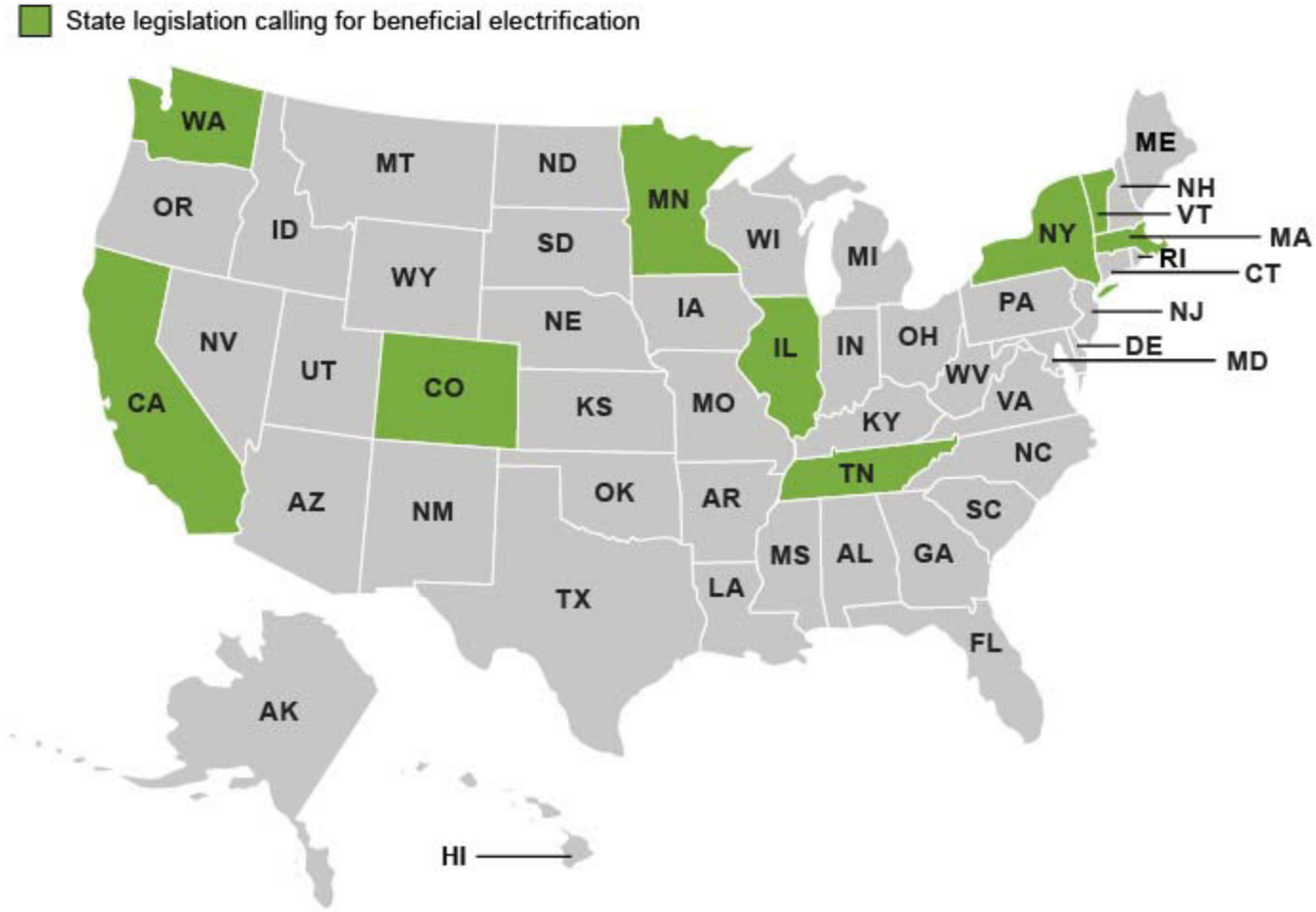
Most states and provinces don't mandate beneficial electrification in the same way they mandate energy efficiency. And while many investor-owned utilities have shareholder incentives or earnings adjustments for their efficiency portfolios, they haven't yet applied those mechanisms to beneficial-

electrification initiatives.

But states are starting to write beneficial electrification into policies. Using ACEEE's 2020 report State Policies and Rules to Enable Beneficial Electrification in Buildings through Fuel Switching (PDF) and our own research, we identified nine states with policies that directly encourage electrification (**figure 1**).

Figure 1: States with beneficial-electrification mandates

In 2021, state legislatures in Illinois, Minnesota, Colorado, and Washington implemented new laws that support beneficial electrification. To read more about the 2021 mandates, see Colorado Senate Bill 21-246, Illinois's Energy Transition Act (PDF), Minnesota's Energy Conservation and Optimization (ECO) Act, and the Washington Climate Commitment Act (PDF).



How to rethink the utility incentive structure with PBR

Utilities and regulators are increasingly juggling economic, environmental, and societal priorities. There are three strategic questions a utility can ask itself to decide whether it should pursue new regulatory frameworks:

- What outcomes are regulators trying to achieve?
- Are utility incentives aligned with these goals?
- Do current regulations impede progress toward the goals?

In some cases, cost-based regulation can conflict with achieving the shared benefits from electrification. If utilities aren't incentivized to achieve these shared goals, they'll continue to prioritize investing in infrastructure over modern solutions such as distributed energy resources (DERs) or transportation electrification. PBR can help utilities meet these complex societal goals while delivering value to shareholders.

An explanation of PBR

Capital-intensive investments aren't always the most beneficial for customers, society, or the grid. Instead of rewarding utilities for electricity sales and capital investments, PBR ties utilities' profit to their performance toward meeting societal, high-level goals.

It does this by rewarding the utility for meeting or exceeding specific and measurable goals, such as:

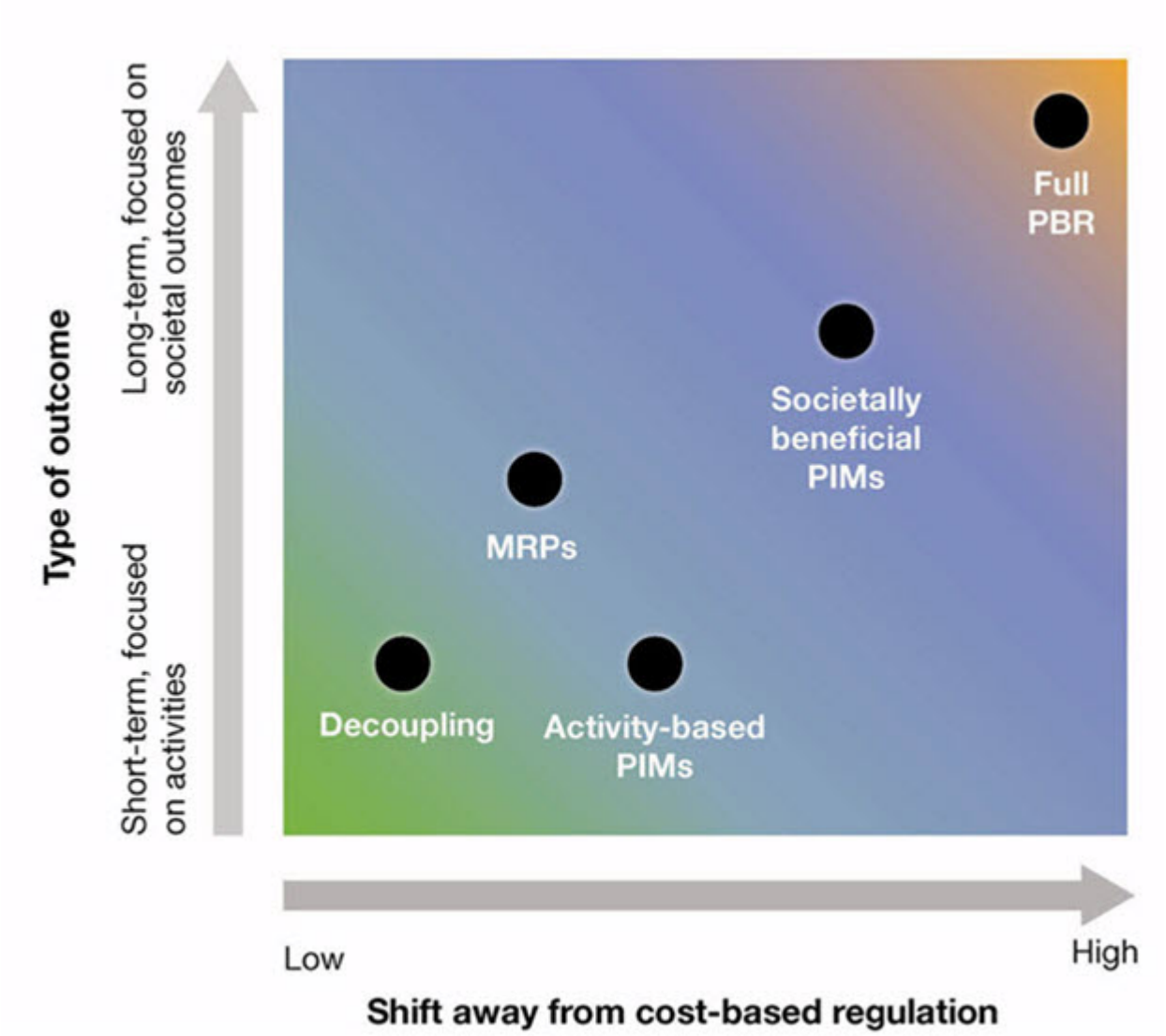
- Reducing carbon
- Keeping rates below a threshold
- Increasing financial benefits to customers, relevant workforces, and the economy

PBR systems can have several different elements that work in tandem to change utility motivations (**figure 2**). Some of the core components are performance incentive mechanisms (PIMs), multiyear rate plans (MRPs), and revenue or profit adjustments.

A utility may choose to adopt many of these elements and focus on high-level, societal outcomes (full PBR) or mix and match the elements that work best for its unique circumstance (partial PBR). For example, the Lawrence Berkeley National Laboratory report Performance-Based Regulation in a High Distributed Energy Resources Future (PDF) outlines six possible PBR scenarios to increase adoption of DERs.

Figure 2: How PBR components contribute to shifting utility goals

This diagram shows how different elements of PBR compare to each other based on the desired outcomes and the departure from cost-based regulation. Some components such as activity-focused PIMs or MRPs can shift the utility's focus slightly. Full PBR incorporates several of these components and ties the utility business model to PIMs that achieve high-level societal outcomes.



© E Source. **Note:** MRPs = multiyear rate plans; PBR = performance-based regulation; PIMs = performance incentive mechanisms.

PIMs. PIMs set the targets, metrics, and financial incentives for progress toward clearly defined goals. They can apply to traditional goals such as reliability and safety or incentivize performance on emerging policy goals like electrification of buildings and vehicles, avoided carbon emissions, and peak demand reductions.

Although PBR is a broad tool, the PIMs define specific, quantifiable goals and make sure that utilities get rewarded for achieving these goals. PIMs can set goals for high-level, societal benefit or they can focus on program- or activity-oriented goals like enrolling a certain number of customers in a program.

The PIMs need to be specific enough for the utility to attribute its efforts without unintentionally stifling progress or innovation. If a metric is too high-level, it might not be clear how to measure impact and determine whether the utility deserves to be rewarded for the progress. Examples of outcomes that PIMs could incentivize include:

- Peak demand reduction
- Accelerated interconnection processes for new energy resources

- Optimized EV charging
- EV charging infrastructure deployment and operation
- Improved customer service and energy equity outcomes

MRPs. MRPs extend the time between rate cases to multiple years, giving the utility more opportunity to improve performance. This reduces the regulatory burden and gives the utility more flexibility to achieve innovative targets.

Learn more about revenue decoupling

There are currently 24 states with decoupling policies in place. The Center for Climate and Energy Solutions has a map of decoupling policies in the US.

Revenue and profit adjustments. These adjustments make sure utilities can get financially compensated for meeting goals.

Decoupling is an example adjustment that breaks the tie between revenue and sales. Decoupled utilities receive stable revenue at an amount set by the regulator, allowing them to pursue efficiencies and encourage energy conservation without losing revenue.

Many utilities that pursue PBR use decoupling, but alternative revenue and profit adjustment mechanisms can also give positive incentives for achieving goals outside of energy efficiency. Alternative mechanisms include rate-of-return adders or shared-savings mechanisms, which let the utility share savings with customers.

An example of PBR

In Hawaii, market conditions, legislative ambition, and regulatory vision all led to the state adopting PBR. As Dan Cross-Call, a former principal at Rocky Mountain Institute (RMI), explains:

> The PUC needed to deliver on strong direction from legislators, but there was also a strong sense of responsibility and purpose around changing the industry.

Even in jurisdictions where regulators don't have a similar vision, PBR can give utilities an opportunity to align with overarching regulatory goals. Cross-Call says:

> PIMs can … address emergent outcomes that need attention, including incentivizing outcomes that wouldn't necessarily be addressed under traditional operations.

DERs increase. Hawaii has historically had the highest electricity rates in the US. A high reliance on imported petroleum for electricity generation has led to prices three times the national average. As a result, the utilities and customers moved toward rooftop solar and grid-scale renewable electricity.

The press release Solar Energy Hits New Milestone in Hawaii details Hawaii's major clean energy

accomplishment: more than 1,000 megawatts (MW) of solar energy integrated into the grid.

This progress hasn't been driven by market conditions alone. The Hawaii Clean Energy Initiative set an ambitious legislative mandate to achieve 100% renewable electricity by 2045. Legislators, regulators, and stakeholders in Hawaii recognized that meeting these goals would require a reform of the utility business model, starting with approving decoupling in 2010.

Learn more about Hawaii's clean energy transition

RMI has served as an adviser to the State of Hawaii Public Utilities Commission (PUC) since 2017. In 2020 it published the report Powering Paradise: How Hawaii Is Leaving Fossil Fuels and Forging a Path to a 100% Clean Energy Economy, which includes a comprehensive review of Hawaii's progress.

Decoupling and audits were first steps. "Decoupling was a big first step" says commissioner James Griffin, chair of the Hawaii PUC, "but the final result came from a long progression of legislation, commission decisions, and industry events. It was a 10-year evolution of the regulatory construct."

According to former public utility commissioner Karl R. Rábago, auditing programs and operations is a valuable tool for utilities getting started with PBR:

> Hawaii's audit identified operational headroom that created immediate savings opportunities and allowed them to feel safe going into PBR. This gave them more comfort while trying to earn the initial performance incentives.

PIMs helped the utility expand goals. In June 2021, the Hawaii PUC approved new PIMs for utilities. The PUC worked with stakeholders to choose the PIMs that reward utilities for exemplary performance toward goals involving DERs, low-income customers, and renewable energy. Check out the Hawaii PUC press release Hawaii PUC Approves Portfolio of Performance Mechanisms for Hawaiian Electric (PDF) for details on the new PIMs.

Thoughtful regulatory reform is critical. For Griffin, an important takeaway from Hawaii is that "[f]ull-blown reform might not be the right place to start. You need lots of time to lay the groundwork and thoroughly understand all the options and their impact."

Despite this, Griffin doesn't want other utilities and regulators to be afraid to try something new: "There can be a lot of trepidation and uncertainty about overhauling the regulatory framework, but it's still something to explore and be bold with."

How PBR can advance beneficial electrification

Despite the societal benefits of beneficial electrification, traditional regulatory policies don't incentivize utilities to work toward that goal. PBR redefines what determines a utility's performance, making it possible to reward utilities for advancing beneficial electrification.

Stakeholder-led reform in Minnesota

Learn more about beneficial electrification

Our white paper The electrification framework that benefits customers, the grid, and the planet explains beneficial electrification in detail and gives advice for developing a beneficial electrification strategy.

In Minnesota, stakeholders led the evolution to PBR over more than a decade. The commission and its stakeholders developed a custom regulatory approach, guided by related legislation. In 2007, the Next Generation Energy Act required utilities to incorporate shared-savings mechanisms for energy efficiency. It also established decoupling and a minimum spending percentage on energy efficiency, demand-side management, and renewable energy. After that, legislation directed the Minnesota Public Utilities Commission (MPUC) to perform a Utility Rates Study (PDF) in 2009 and authorized MRPs in 2011.

According to Doug Scott, vice president of electricity and efficiency at the energy consultancy Great Plains Institute, the stakeholders wanted to advance ambitious state energy and environment goals: "The idea for PBR came from an organic, positive environment as opposed to a negative and reactive one," says Scott. "There was a mindset of acknowledging that the world is changing and exploring how the utility business model could change to meet that."

In 2014, Great Plains Institute started the e21 Initiative to make sure that any future utility regulation framework would align with the public interest. From 2014 to 2018, e21 led a group of more than 30 stakeholders through discussions on changing the utility business model. Multiple recommendations came out of this stakeholder engagement, starting with an extension of the MRP to five years, which was then reflected in legislation and ultimately approved by the PUC.

Learn more about Minnesota's stakeholder engagement process

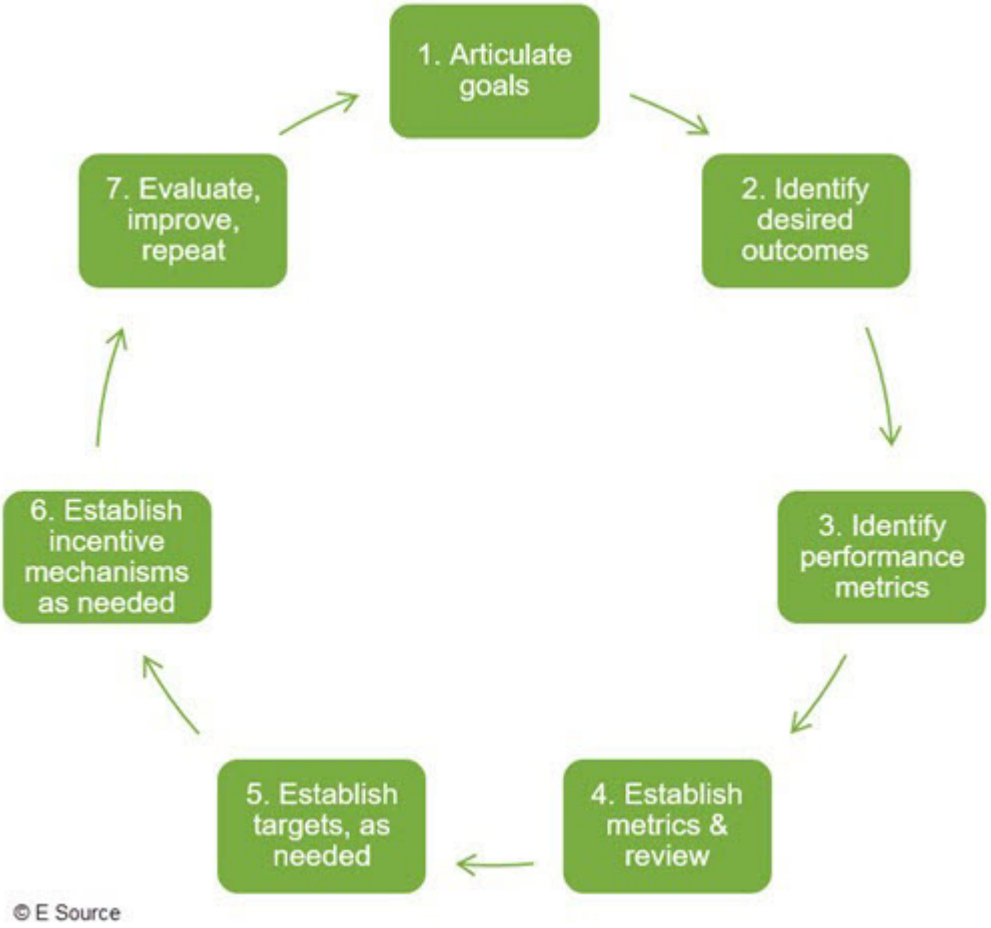
The e21 Initiative continues to play an important role in discussions on aligning utility performance with public policy goals in Minnesota. The report Performance-Based Regulation in Minnesota: A Decade of Progress outlines the stakeholder process and results in detail.

Xcel Energy Minnesota included a set of PIMs in its 2015 filing that, according to the documentation, prompted the MPUC to open a separate proceeding "to evaluate Xcel's proposed metrics, craft additional metrics, and consider whether to tie any financial penalties or incentives" to the utility's performance.

This started a series of roundtables with e21 participants to build a detailed process to choose and evaluate PIMs (**figure 3**). "Minnesota got the process right," says Scott. "Even though it took a long time, they're set up for success."

Figure 3: Minnesota's seven-step goal-focused process for developing PIMs

This process, which uses a framework proposed by the Office of the Auditor General, helps Xcel Energy Minnesota strategically choose and evaluate its goals.



According to Scott, "It's important to have PUCs and utilities invested in the process. The stakeholder group stayed engaged and motivated throughout, and this allowed it to gain credibility with the commission and the state."

Rábago also reinforced the importance of a goal-focused process:

> It's important to start with an assessment of local policy. You use that to inform which impacts you want to assess (and how to assess them), and this clears the obstacles to create appropriate incentives and penalties.

The process in Minnesota is ongoing. In April of 2021, Xcel Energy filed its 2020 Annual Report Performance Metrics and Incentives based on the 28 metrics approved by the commission. Several of these new metrics will allow Xcel Energy to capture the full benefits of electrification. The new metrics include:

- Carbon intensity (emissions per megawatt-hour [MWh])
- Carbon dioxide (CO_2) emissions avoided by the electrification of transportation, buildings,

agriculture, and other sectors
- Percent of residential EV charging load occurring off-peak
- Demand response capacity available and called (MW and MWh per year)

Other jurisdictions using PBR to advance beneficial electrification

Regulatory reforms that include components of PBR are becoming increasingly common as states continue to adopt ambitious and multifaceted climate goals (**figure 4**).

Figure 4: Policy changes that use PBR tools to advance beneficial electrification

North Carolina, Illinois, and New York have legislated the use of PBR elements to support beneficial-electrification efforts. Each state is adopting different components of PBR to meet the goals and outcomes specific to the jurisdiction.

State	Legislation	Summary
Illinois	Senate Bill 2408 (The Energy Transition Act)	• Defines a goal of 100% clean energy by 2050, including fossil-fuel generation phaseout and EV adoption goals • Directs the commission to pursue significant utility business model reforms through a "comprehensive performance-based regulation framework"
New York	Earning Adjustment Mechanisms (Case 19-E-0378, Appendix X) (PDF)	• Utilities are proposing PIMs to satisfy New York's Reforming the Energy Vision (REV) strategy • The PIMs (called earnings adjustment mechanisms) incentivize progress in seven areas including beneficial electrification and DERs
North Carolina	House Bill 951 (PDF)	• Includes a goal of carbon neutrality in the electricity sector by 2050 • Authorizes filing and approval of PBRs that include decoupling, PIMs, and an MRP framework • Commission will consider whether PBRs encourage DERs, beneficial electrification, and equity

Notes: DERs= distributed energy resources; MRP = multiyear rate plan; PBR = performance-based regulation; PIM = performance incentive mechanism. © E Source

How to design a roadmap for a new regulatory framework

While a utility can't change its regulatory model unilaterally or overnight and fully adopt PBR, taking small steps can pave the path for larger reforms down the road.

Start small

Utilities can use PBR tools on a small scale to support beneficial-electrification initiatives. For example, Minnesota's e21 Initiative Phase II Report (PDF) explains how the state considered everything from adding performance incentives onto its cost-of-service model to comprehensive reform.

Several of our interviewees said that applying bite-sized pieces of PBR can be an effective approach and could work well with beneficial-electrification initiatives.

“Full utility reform isn’t always essential to achieve a utility’s beneficial-electrification goals,” says Cross-Call. He suggests stepping back and identifying the barriers to implementation in your area:

> Ask yourself the question, *What are the roadblocks to getting there?* Identify the top two or three, and then consider what reforms might address those.

Scott suggests that utilities experiment with using transportation or building efficiency as test options. He also stresses that regulatory reform doesn’t have to be holistic right away:

> It’s okay to not think about PBR as holistically as places like New York or Hawaii. It’s not a one-size-fits-all solution, and allowing states to see what pieces fit them best makes a lot of sense.

As utilities explore their options with PBR, they could consider using elements of PBR and using PBR in one portfolio.

Using elements of PBR. Several states are starting by implementing elements of PBR in a traditional cost-of-service framework:

- North Carolina started with a shared savings mechanism that incentivized performance in energy efficiency and demand-side management, according to the state’s Performance Based Regulation Study Group Work Products (PDF). It explores more PBR elements in House Bill 951 (PDF).
- Illinois had a performance-based rate and PIMs before taking on more elements of PBR in the 2021 Senate Bill 2408.
- Michigan operates under a traditional utility regulation model with elements of PBR. Public Act 295 let the commission set financial incentives for utilities that exceeded energy savings targets, as explained in Performance-Based Regulation Options: White Paper for the Michigan Public Service Commission (PDF).
- Pepco’s Multi-Year Plan page outlines why the utility proposed an MRP as an exploration of PBR. The plan also includes PIMs.

Using PBR in one portfolio. PBR can also be used to target a specific policy or portfolio component like beneficial electrification, even without extra incentives or goals. The Michigan Public Service Commission white paper highlights several ways utilities and regulators can use PBR and PIMs in specific, emerging areas like electrification. Some examples of this bite-sized approach include:

- The New York State Department of Public Service has an earnings adjustment mechanism specifically for DERs, which encourages utilities to pursue beneficial electrification.
- National Grid Massachusetts proposed a transportation electrification performance goal.
- Colorado’s Senate Bill 21-246 (PDF) is exploring how performance incentives can help advance beneficial electrification.

These changes help utilities recover their costs and earn performance-based incentives for exceeding beneficial electrification or emissions-reduction targets.

Build a business and regulatory case for electrification

Pursuing regulatory reform can take several years, so it's important that utilities find a way to start electrification initiatives in the meantime. This will require utilities to work with regulators to redesign cost-effectiveness tools that better reflect the value of electrification.

Non-energy benefits are an important part of the equation, but it's imperative for utilities, regulators, and stakeholders to develop tools that can assign a value to these benefits and compare them fairly to the costs.

Moving away from kilowatt-hour. Measuring kWh savings isn't the most effective strategy for measuring the impact of beneficial electrification. Luckily, there are other ways to measure the impacts. And the right strategy will vary by utility.

Measuring kWh savings isn't the most effective strategy for measuring the impact of beneficial electrification.

A few utilities have switched from kWh to million Btu (MMBtu) as the primary reporting metric. According to a 2020 Evaluation of PSEG Long Island Energy Efficiency Programs (PDF), the switch lets them pursue beneficial-electrification measures that increase electricity consumption but lower overall energy use and emissions. And a 2020 North Carolina Energy Regulatory Process packet (PDF) also mentions that using Btu as the core metric would "give credit for electrification."

But switching to MMBtu can have drawbacks. It doesn't differentiate the impacts based on the generation mix of the grid, which may determine whether an electrification project is beneficial. Using MMBtu might also create challenges if natural gas prices are high or if the grid is significantly less carbon intensive.

Energy Efficiency Resource Standards (EERSs) can be another way to support beneficial electrification.

EERSs are policies that require utilities to achieve specified energy savings. In the US, 27 states have implemented some form of EERS as of 2019. According to ACEEE's Next-Generation Energy Efficiency Resource Standards (PDF) report, states are beginning to reexamine their EERSs in response to four key policy drivers: decarbonization, cost, equity, and grid value. States exploring how EERSs can evolve have taken three main approaches. They can set:

- Resource-specific goals for energy savings (typically MWh, therms, or peak MW).
- An overarching fuel-neutral goal for a portfolio, measured in Btu savings, or avoided GHG and CO_2-equivalent emissions.
- Multiple goals that may combine resource-specific and fuel-neutral goals. This approach could include non-energy goals like customer service and equity.

States that include beneficial electrification in their EERSs

According to ACEEE's report, EERSs with multiple goals can enable both energy efficiency and beneficial electrification, particularly if they include a fuel-neutral goal and allow fuel-switching. Goals that allow fuel-switching can help beneficial electrification by letting utilities prioritize the highest-potential GHG savings opportunities regardless of fuel type.

Examples of states that are reworking their EERSs in ways that could support beneficial electrification are:

- New York has an overarching fuel-neutral savings goal, resource-specific goals for electric and gas, and a goal for heat-pump savings.
- Massachusetts has overarching goals for lifetime MMBtu savings, CO_2-equivalent reductions, and net economic benefits. There are resource-specific goals for electric, natural gas, and peak demand savings.
- Hawaii has resource-specific goals and is considering goals for fossil-fuel reductions, CO_2-equivalent reductions, and cumulative persisting electricity and peak demand savings.

Using cost-benefit analyses that reflect goals and priorities. Utilities without societal or resource cost-effectiveness tests can use GHG adders to support carbon reduction. Adders are multipliers that let you estimate net benefits without doing substantial analysis to monetize the value of a benefit.

Another way to create a stronger incentive for electrification is by incorporating societal metrics like the social cost of carbon (SCC), which accounts for the damage resulting from emitted carbon, into cost-effectiveness tools.

Using the SCC rewards utilities for delivering electrification programs that displace carbon-intensive fuels. Chris Porter, a director at National Grid, discussed this change at E Source Forum 2021. He shared that accounting for SCC is shifting the focus to beneficial electrification. He added that using SCC let the utility focus on "displacing fuels for heating" instead of only focusing on MWh demand reductions. This allows the utility to attribute the societal benefit of electrification to its programs.

Learn more about designing cost-effectiveness tests

Our white paper The electrification framework that benefits customers, the grid, and the planet gives a detailed guide on designing cost-effectiveness tests for the needs of a specific jurisdiction.

For information on how to incorporate a resource value test and jurisdictional cost-effectiveness metrics, members of the E Source Demand-Side Management and Technology Assessment services can read the report How non-energy benefits help make programs cost-effective.

Massachusetts and Colorado have legislation that directs program administrators to include the SCC in cost-effectiveness testing. To learn more about how these states apply the SCC, see Massachusetts's press release Governor Baker Signs Climate Legislation to Reduce Greenhouse Gas Emissions, Protect Environmental Justice Communities and Colorado's SB 21-246: Electric Utility to Promote Beneficial Electrification.

Ideally, cost-effectiveness should account for all substantive impacts that are relevant to policy goals, even the impacts that are difficult to quantify and monetize.

Chapter 10 of the National Standard Practice Manual for Benefit-Cost Analysis of Distributed Energy Resources (PDF) describes the benefits and costs that are most relevant for electrification (such as grid resilience, program costs, and emissions reductions). The manual also explains how to address the

challenges with traditional cost-effectiveness testing.

Coordinate regional efforts

In any regulatory environment, advancing electrification initiatives inevitably involves multiple stakeholders from government, industry, and other organizations. Colorado's Senate Bill 21-246 explicitly encourages municipally owned cooperative electric associations and wholesale electric cooperatives to "participate in statewide or regional initiatives" to advance efficient electric technologies.

This partnership allows the utilities to give customers and heat-pump solution providers a consistent experience while working toward electrification policy goals.

Having multiple stakeholders may complicate the initiatives, but New York has shown that partnering with other organizations can be beneficial.

In 2018, the New York Public Service Commission set a goal to save at least 5 trillion Btu through heat pumps and directed utilities to work with the New York State Energy Research & Development Authority (NYSERDA) to prepare filings. NYSERDA had an existing goal to reduce emissions from the heating and cooling sector outlined in its Renewable Heating and Cooling Policy Framework (PDF). The framework allows NYSERDA to work with utilities and energy service companies to pilot third-party ownership and other innovative models under Reforming the Energy Vision (REV).

To reduce participation barriers, the New York Electric Utilities partnered with NYSERDA to codeliver the state-funded NYS Clean Heat Statewide Heat Pump Program. This partnership allows the utilities to give customers and heat-pump solution providers a consistent experience while working toward electrification policy goals outlined by the state. See the program's manual (PDF) for details.

Be creative

Proposing budget flexibility or requesting funding support are creative ways utilities can advance electrification initiatives while working toward larger regulatory reform.

Budget flexibility in Colorado. In its 2021–23 Transportation Electrification Plan (PDF), Xcel Energy Colorado requested the flexibility to move funds within and between portfolios and increase or decrease funding where needed. This flexibility would enable it "to optimize its strategy in real time as it learns about customer preferences and the evolving EV landscape." The commission approved this request and allowed the utility to move up to 50% of the funds budgeted for each year between portfolios.

Additional funding in Massachusetts. The Massachusetts Joint State Wide Electric and Gas Three Year Energy Efficiency Plan (PDF) includes a request for "significant additional funding in the 2022–2024 term" to achieve its electrification goals. This funding would support decarbonization goals and help the utilities address electrification barriers in the commercial and industrial sector.

Asking for funding support may be more palatable to a regulator if it's a short-term step toward a sustainable funding or regulatory model. In Massachusetts, the program administrators expect that the economics will likely start to change in favor of electrification during the 2022–2024 cycle and beyond.

Proposing a funding strategy dedicated to electrification programs has other benefits too. As Porter

explains, funding electrification initiatives through efficiency programs instead of requesting additional funding can cause problems:

> The road to decarbonization is paved with affordable electricity. In order to get customers to act … the economics have to pencil out. By funding those incentives through the electric bill, you degrade the relative economics of electric heating versus other sources of heating and make it more challenging to drive customer adoption of measures.

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- Dan Cross-Call, former principal at RMI and director of market development and regulatory innovation at Uplight
- Doug Scott, vice president for electricity and efficiency at the Great Plains Institute
- James Griffin, former commissioner and chair of the Hawaii PUC

Read more from these experts and see our research featured in the Utility Dive article Upheaval in utility regulation emerging nationally as Hawaii proves a performance-based approach.

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