



Revenue Decoupling in the Northeast

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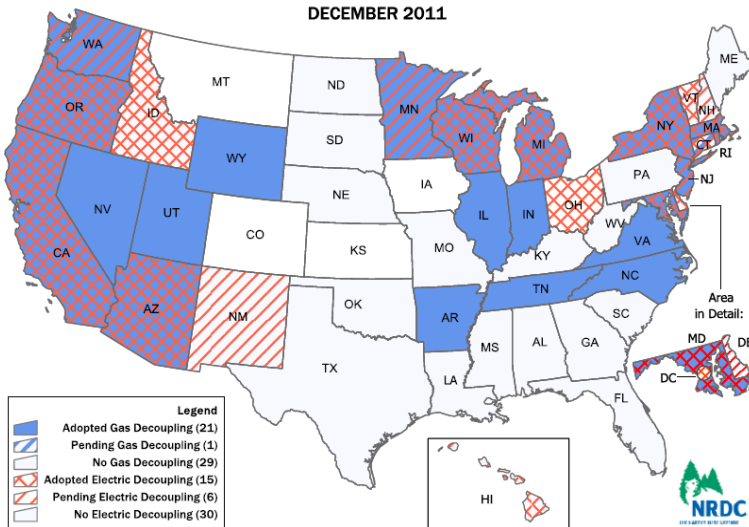
A key ingredient in achieving state energy efficiency targets is aligning the interests of for-profit energy utility companies with the broader public good. This paper delves into the issue of revenue decoupling, a rate mechanism intended to remove the disincentive for utilities to be active leaders in driving energy efficiency programs by untying revenues from the units of energy sold.

What is Revenue Decoupling?

States throughout the Northeast have taken major steps in recent years to meet as much of their energy resources as possible through energy efficiency, with policymakers approving significant increases in investments in programs and ambitious energy savings goals.¹ This shift however, poses a challenge for many utilities, as decreased sales from energy efficiency can undermine the ability to recover fixed costs. This puts the public interest at odds with utilities' financial future. Decoupling has emerged as a popular solution to overcome this challenge, with many of the states in the Northeast region adopting decoupling in one form or another (see map below).

Gas and Electric Decoupling in the US

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Revenue decoupling is a policy mechanism that attempts to solve this dilemma by severing the link between a utility's sale of electricity or gas and its revenues. Under traditional models of utility regulation and rate setting, a utility relies on increased sales of energy to recover the costs it incurs in providing energy to the public, its "revenue requirement."² A state utility regulatory agency assesses all of these costs in periodic rate cases and then calculates the rate that utilities are allowed to charge customers to recover those costs. The traditional formula for determining the rate is: $Rate = Revenue Requirement \div Forecasted Units Sold$.

Source: NRDC, December 2011

For example, if a utility expects to spend \$1 million per year to generate 10 million kWh for its customers, the rate will be set at \$.10/kWh. Actual revenues are then determined by actual sales ($Revenue = Actual Units Sold \times Rate$). The uncertainty created by this formula thus incentivizes a utility to sell as many units of energy as possible in order to recover its based costs and earn a profit. Therefore, successful energy efficiency programs can pose a financial risk to the utility.

¹ For an overview of energy efficiency policy in the Northeast states, see NEEP's Energy Efficiency Policy Snapshot: <http://neep.org/uploads/policy/EE%20Policy%20Snapshot--10.22.11.pdf>.

² A utility's revenue requirement includes fuel costs, building and maintaining transmission and distribution infrastructure, interest payments on capital, and providing their shareholders with a fair rate of return on their investment. Non-fuel costs usually do not vary with sales.

Decoupling Example: Revenue Requirement Calculation	
Expenses	\$100,000,000
Net Equity Investment	\$100,000,000
Allowed Rate of Return	10.00%
Allowed Return	\$10,000,000
Taxes (35% tax rate)	\$15,384,615
Total Revenue Requirement . . .	\$115,384,615
Price Calculation	
Revenue Requirement	\$115,384,615
Actual Sales (kWh)	990,000,000
Decoupling Price (\$/kWh)	\$0.1166
Decoupling Adjustment (\$/kWh) . . .	\$0.0012

Revenue decoupling offers a rate mechanism to detach a utility’s electric or natural gas sales from fixed cost recovery. There are several variations of revenue decoupling mechanisms but they all share the same basic framework – utilities can recover an allowed amount of revenue regardless of changes in sales volume. While traditional regulation sets rates and allows revenues to vary with consumption, decoupling reverses this, setting revenues and then allowing rates to change with consumption. Under decoupling, regulators first determine a utility’s allowed revenues. A target revenue level can be linked to a factor other than sales, such as the number of customers or inflation and productivity. Then there are rate adjustments, or “true-ups,” regularly to reflect the difference between actual revenues and the targeted level of revenue (see the example to the left).

Source: Regulatory Assistance Project (RAP), “Revenue Regulation and Decoupling,” August 2011, p. 4.

The rate formula is roughly: $Rate = Allowed\ Revenues \div Actual\ Units\ Sold$. Sales higher than allowed revenues would lower rates, while sales above the revenues would adjust rates upward. A functioning decoupling mechanism allows utilities to become indifferent to fluctuations in sales and not be harmed by robust efficiency programs. Decoupling also preserves the customer’s financial incentive to save energy by retaining volumetric energy charges. Customers who use less energy would see lower their energy bills and vice-versa.

Revenue Decoupling Mechanisms

Achieving revenue decoupling requires that a state regulatory agency approves a revenue decoupling mechanism (RDM) for utilities within its jurisdiction as part of a rate case. While there is significant variation between each state’s RDM, there are generally three approaches to decoupling:

- Under **full decoupling**, a utility’s allow revenue remains constant despite any deviation in actual sales from projected sales. If expected sales drop because of efficiency improvements, a utility’s revenue will be adjusted upwards or downwards to match its pre-set revenue requirement.
- With **partial decoupling**, only a portion of a utility’s revenues are insulated from variations in sales from target levels. If a utility’s sales do not reach the projected level, the utility will be granted a partial true-up. For example, 75 percent of the revenue shortfall could be recoverable under a partial decoupling scheme. It is important to note that partial decoupling does not entirely sever the link between sales and revenue.
- **Limited decoupling** looks at the specific cause of the loss of sales. Utilities can receive a true up only if their lost sales result from a specific cause such as efficiency, weather or economic factors. Like partial decoupling, limited decoupling does not break the link between sales and revenue, can be difficult to administer, and may create disincentives for non-utility energy savings programs, such as enhanced energy codes and appliance standards.

Shareholder Performance Incentives and All Cost-Effective Efficiency

While decoupling can remove the major disincentive for utilities to engage in efficiency, it does not create an incentive for the utilities to implement efficiency programs. Investor-owned utilities will typically earn returns for investments in supply side resources — generation, transmission and distribution — but not for efficiency. To counter the gravitational pull away from efficiency and toward investment in supply side resources, state regulators have put shareholder performance incentives (SPI) in place to render investments in efficiency profitable. To receive an SPI, a utility must meet certain savings targets and performance metrics determined as part of their energy efficiency program plans.

An additional policy measure to steer utilities towards adopting efficiency measures is to mandate that utilities procure all energy efficiency less than and up to the cost of new power generation.³ This approach treats energy efficiency as a resource that must be tapped before investing in new supply-side resources. With decoupling, SPI, and an all cost effective efficiency mandate in place, shareholder and utility interests in efficiency can be fully aligned.

Conclusion

Revenue decoupling, while not a silver bullet, can be an important tool in state energy policies. By removing utility incentives to boost electric and gas sales, decoupling helps align a utility's financial interests with the public's interest in energy savings. Accordingly, NEEP supports efforts by Northeast state to implement decoupling in future rate cases in order to support their larger energy and environmental policy goals.

We hope this brief can be of assistance to states seeking to implement decoupling. The final two sections seek to provide insights for policymakers considering decoupling in the future, as follows:

First, what do states with decoupling in place have to say about their experiences? In order to shed light on this question, NEEP sat down with former state utility regulators to discuss their decisions for and against revenue decoupling.

Second, how have states in this region implemented decoupling? Approaches vary widely across the states and between different utilities. The table on page six, "States at a Glance," lists how the Northeast states have gone about decoupling and which utilities currently have mechanisms in place.

Keep Reading...

On the following pages you'll find:

- Insights from two former state regulators;
- Table of state decoupling policies; and,
- More resources!

³ Information on major state energy efficiency policies can be located in the "State Activities" section of the NEEP Policy Outreach and Analysis site: <http://neep.org/public-policy/1/78/Policy-Outreach-Analysis>.

Insider Views: Former State Regulators Discuss Pros and Cons of Decoupling

Massachusetts: Decoupling Key to Energy and Environmental Programs

Tim Woolf, former commissioner, Massachusetts Department of Public Utilities (DPU)

Under Governor Deval Patrick, Massachusetts has launched one of the most aggressive energy efficiency and clean energy efforts in the nation. Tim Woolf played a major role in shaping energy efficiency policy during his tenure as a commissioner at the Massachusetts Department of Public Utilities (DPU) from 2007-2010. Woolf noted that this shift in policymaking required as a change in traditional ratemaking practices. "We knew there was going to be a huge push for expanding energy efficiency programs. It was clear to me that one of the policies to make that happen, all around not just from government & utilities was to put decoupling in place," Woolf said.

The DPU investigated revenue decoupling for utilities in [DPU 07-50](#), finding that that such a policy would "provide distribution companies with better financial incentives to pursue a cleaner, more efficient energy future." Since that time, the commission has approved revenue decoupling for most of the state's electric and gas utilities. In a conversation with NEEP, Woolf focused on three benefits to adopting revenue decoupling:

#1: Decoupling Better Aligns Utility Financial Incentive with State Interests in Reducing Energy Use and Meeting Environmental Goals

Woolf believes that decoupling is important to aligning utilities' financial interests with clean energy programs, particularly in states with aggressive climate change mitigation programs. "On the concept of climate change, I see decoupling as absolutely essential," Woolf argues. The reason: if we are to reach emission reduction goals electric loads need to drop, which under traditional ratemaking threatens a utility's bottom line. "There's no way to achieve an 80 percent reduction in CO2 emissions by 2050 if utility loads continue to grow," Woolf says. "Regardless of how you do it, loads will need to be reduced. For that to happen, under current ratemaking system, utilities would be under significant financial pressure or have a rate case every year or two years." Decoupling presents a way for utilities to remain financially viable with declining sales without frequent rate cases.

#2: Decoupling Can Lead to a Shift in Utility Culture in Support of Efficiency

Woolf believes that decoupling can shift how utilities view energy efficiency and other demand-side resources. While less tangible, he sees decoupling as part of a shift in utility culture over time away from a focus on sales and more towards energy service. How can the impact of decoupling on utility priorities be tracked? "You'll be able to see it in the numbers," Woolf says. "Keep your eye on Massachusetts. If you see Massachusetts continuing to be a leader in efficiency savings, not just expenditures, that tells you something."

#3: Decoupling Can be in Customers' Best Interest

A broad range of stakeholders in Massachusetts have supported revenue decoupling for utilities. But many consumer advocates remain skeptical, expecting that decoupling will harm ratepayers. "A lot of consumer advocates see decoupling as an anathema, but that is based on a very narrow view of decoupling," Woolf says. He sees the need for a more productive dialogue between energy efficiency advocates and consumer advocates. This starts with a discussion about the impact of efficiency on energy prices and bills. It should also include a discussion of the benefits that all customers experience from energy efficiency, especially in a carbon-constrained world where efficiency can replace more expensive options to reduce CO2 emissions. If Woolf is right, we may see utility regulators and consumer advocates warm up to decoupling in the future.

Maine as a Cautionary Tale

Sharon Reishus, former chair, Maine Public Utilities Commission (PUC)

Not every state is as enthusiastic about the benefits of revenue decoupling as Massachusetts. Maine was one of the first states in the Northeast to put a decoupling mechanism in place in the early 1990s: Central Maine Power's Electricity Rate Adjustment Mechanism (ERAM). Sharon Reishus, the former head of the Maine Public Utilities Commission (PUC) and a long-time ratepayer advocate, has been on the frontlines of utility regulation and clean energy programs in Maine over the last two decades. Reishus is a strong supporter of energy efficiency programs, having overseen the creation of the new Efficiency Maine Trust. When discussing Maine's experience with decoupling, however, she doesn't mince words. "ERAM was a disaster, no doubt about it," said Reishus. While she isn't outright opposed to revenue decoupling, she warns states to proceed with caution.

#1: Decoupling is Complex

Revenue decoupling aims to sever utility cost recovery from sales, but Reishus says that policymakers must understand that it is a "complicated, technical ratemaking issue and finding very simple ways to clearly and fairly discuss it is very hard to do." First, a well-designed decoupling mechanism must account for a variety of complex factors that isolate the impact that energy efficiency programs have on sales. "How do you design a decoupling mechanism that overcomes the enormous shadow that the economy and weather play in the ultimate revenues that are collected by utilities?" Reishus asked. "I don't know how you do it." Some argue, for example, that decoupling itself was not a failure in Maine, but rather the ERAM was poorly created. Reishus is skeptical that it would have made a difference. "If ERAM is more complicated, it makes it harder to sell and harder to assess." This requires experienced and sophisticated staff that may not be available in all jurisdictions.

Regardless of its merits, revenue decoupling often faces stiff political opposition. It can be challenging to communicate the benefits of mechanisms to the general public. "It's tough to put in place a mechanism that helps the utilities bottom line," she admits. "It appears like a giveaway," Reishus says. Putting a decoupling mechanism in place would thus require support from political leaders and outreach to help the public understand the changes.

#2: Decoupling Doesn't Guarantee Program Success

Policymakers should not oversell the benefits of decoupling. "Decoupling is not a magic bullet" for those looking to create robust energy savings programs, Reishus contends. States must consider the role of their electric and gas utilities. If the utilities don't have a role in energy efficiency programs, it may not be appropriate. "All decoupling does is remove the link between profitability and sales. It is now particularly pointless in Maine because the energy efficiency programs are split off from the utilities." The unsatisfactory experience with utility programs and decoupling was in fact one of the reasons that the utilities no longer run the efficiency programs. "Under ERAM, there was a massive building up of money owed to Central Maine Power that did not seem connected to energy efficiency gains. As everyone's fortunes in the state were falling, CMP continued to collect even more revenue." she recalls.

#3: Robust Efficiency Budgets and Real Time Pricing May Work Better

Reishus believes that there is a better alternative for states who want to achieve real energy savings: robust efficiency investments and real time pricing. Even for states with utility-delivered programs, Reishus views decoupling as a roundabout way of making things happen. "I am a much bigger fan of trying to do direct spending for efficiency programs that you have. Whether through SBC or incentives for the utilities, it strikes me that there are more direct ways to encourage efficiency than decoupling," said Reishus. She also believes that providing price signals to customers can also be more helpful. "People will engage in efficiency because they understand use of electricity and underlying costs." The reason simple: investments and prices are "much easier to explain to people" than decoupling. If decoupling mechanisms disappointment, states just might take her counsel.

STATES AT A GLANCE*

State	Status of Decoupling or Incentives	Description Of Decoupling Policy or Mechanism	Utilities with Decoupling
Connecticut	<ul style="list-style-type: none"> • Decoupling enabled • Choice of RDM • SPI up to 8% of electric program budgets 	By statute, all utilities must include a decoupling proposal in their rate cases. The type of decoupling is assigned on a utility-by-utility basis. However, CT has not fully implemented decoupling, as CL&P was denied approval for its electric RDM and none of the natural gas utilities have RDMs.	<ul style="list-style-type: none"> • United Illuminating (pilot): Docket No. 08-07-04RE03
Delaware	<ul style="list-style-type: none"> • Decoupling enabled but not in place • SPI not enabled 	The PSC has created a framework for revenue decoupling for Delmarva Power and Chesapeake Bay Gas based on a modified fixed variable rate design (see Docket 09-276T/Order 8011). No company-specific RDM has been approved at this time.	
District of Columbia	<ul style="list-style-type: none"> • Decoupling enabled for utilities • Revenue per customer RDM for electric, called a “bill stabilization adjustment” • SPI up to 4% of program budget for SEU 	D.C.’s efficiency programs are operated by a third-party contractor as the Sustainable Energy Utility (SEU) . The PSC approved a revenue per customer RDM with quarterly true-ups for PEPCO, but denied a similar RDM for Washington Gas Light.	<ul style="list-style-type: none"> • PEPCO: FC 1053-E-549/Order No. 15556
Maine	<ul style="list-style-type: none"> • Decoupling and SPI enabled but not in place 	Statute allows for decoupling and performance incentives but the PUC decided not to pursue a policy of decoupling, though they would not necessarily prevent individual utilities from filing a RDM.	
Maryland	<ul style="list-style-type: none"> • Decoupling enabled • SPI enabled but not in place • Revenue per customer RDM called a “bill stabilization adjustment” 	Decoupling has been in place since 2005 in various forms. Revenue per customer decoupling with annual true-ups exists for most of the investor-owned utilities in Maryland.	<ul style="list-style-type: none"> • BGE-Electric and Gas: Rider 25 and Case 8780/Order No. 74047 • Delmarva: Case 9093/Order No. 81518 • PEPCO: Case 9092/Order No. 81517 • Washington Gas Light: Case 8990/Order No. 80130

State	Status of Decoupling or Incentives	Description Of Decoupling Policy or Mechanism	Utilities with Decoupling
Massachusetts	<ul style="list-style-type: none"> • Both decoupling and SPI enabled • Electric Utilities: revenue per class RDM • Gas Utilities: revenue per customer RDM • SPI up to 5% of program budgets 	The DPU requires all utilities to include decoupling proposals in each rate case. Revenue targets have been set either on a per class or per customer basis. The DPU expects all utilities to have fully operational decoupling plans by 2012.	<ul style="list-style-type: none"> • National Grid-Electric and Gas: DPU 09-39 and DPU 10-55 • Bay State Gas: DPU 09-30 • Unitil-Electric and Gas: DPU 11-01 and 11-02 • WMECO: DPU 10-70 • NE Gas: DPU 10-114
New Hampshire	<ul style="list-style-type: none"> • Decoupling enabled but not in place • SPI between 8-12% of program budgets 	The NH PUC concluded in 2009 that existing rate mechanisms are a barrier to energy efficiency. The PUC gives utilities the opportunity to decouple but the state has not provided a clear mandate and there has been little advancement towards decoupling.	
New Jersey	<ul style="list-style-type: none"> • Decoupling enabled but in place only for gas utilities • Limited per class RDMs, called a “conservation incentive program” • SPI enabled but not in place 	Statute enables utilities to decouple. The BPU has approved limited, per-class RDMs for certain gas utilities that allow recovery related to loss revenue because of efficiency programs. No RDMS are in place for the electric utilities.	<ul style="list-style-type: none"> • Atlantic City Electric (deferred): Docket No. ER 09080664 • New Jersey Natural Gas: Docket No. GR05121020 • South Jersey Gas: Docket No. GR05121019
New York	<ul style="list-style-type: none"> • Both decoupling and SPI enabled • Electric Utilities: revenue per class RDM • Gas Utilities: revenue per customer RDM • SPI up to 12% of program budget 	Since 2007, electric and gas utilities must file proposals for true-up based decoupling mechanisms in ongoing and new rate cases. Shareholder performance incentives are in place but may be subject to revision or repeal.	<ul style="list-style-type: none"> • Central Hudson- Electric and Gas: Cases 09-E-0588 and 09-G-0589 • Consolidated Edison- Electric and Gas: Cases 09-E-0428 and 09-G-0795 • Corning Gas: Case 08-G-1137 • National Fuel Gas: Case 07-G-0141 • National Grid- Electric and Gas: Cases 10-E-0050 and 08-G-0609 • NYSEG-Electric and Gas: Cases 09-E-0715 and

State	Status of Decoupling or Incentives	Description Of Decoupling Policy or Mechanism	Utilities with Decoupling
			09-G-0716 <ul style="list-style-type: none"> • Orange and Rockland-Electric and Gas: Cases 07-E-0949 and 08-G-1398 • RGE-Electric and Gas: Cases 09-E-0717 and 09-G-0718
Pennsylvania	<ul style="list-style-type: none"> • Neither decoupling nor SPI enabled 		
Rhode Island	<ul style="list-style-type: none"> • Both decoupling and SPI enabled • Revenue-per-customer RDM • SPI up to 4.4% of program budget for both electric and natural gas 	Statute requires utilities to file decoupling proposals. The RI PUC approved National Grid’s revenue per customer RDMs for its electric and natural gas service.	<ul style="list-style-type: none"> • National Grid Electric and Gas: Docket 4206
Vermont	<ul style="list-style-type: none"> • Both decoupling and SPI enabled • Partial RDM called “alternative regulation plans” • SPI up to 4.1% of program budget 	Vermont’s efficiency program is operated by a third-party contractor as Efficiency Vermont which is eligible to receive performance incentives. The PSB has approved partial decoupling for a number of utilities known as “alternative regulation plans.”	<ul style="list-style-type: none"> • Central Vermont Power Systems: Docket 7627 • Green Mountain Power: Docket 7585 • Vermont Gas: Docket 7537

**Note: This chart includes only utilities that have decoupling orders in place. It is not a list of the status of all utilities in the Northeast/Mid-Atlantic. A special thanks to Adam Cooper of the Edison Foundation, Greg Cunningham of CLF, Joyce Kung of ENE, Courtney Lane of PennFuture, Luis Martinez of NRDC, Jeremy McDiarmid of ENE, Jackson Morris of PACE, and Tom Noyes of Delaware Natural Resources and Environmental Control (DNREC) for their able assistance in putting this together.*

More Information

1. Regulatory Assistance Project, "Revenue Regulation and Decoupling: A Guide to Theory and Application," August 2011, available at <http://www.raponline.org/featured-work/utility-business-models-providing-incentives-for-energy-savings>
2. Institute for Electric Efficiency, "State Electric Efficiency Regulatory Frameworks," June 2011, available at http://www.edisonfoundation.net/iee/issueBriefs/IEE_StateRegulatoryFrame_0611.pdf
3. EPA, "Aligning Utility Incentives with Investment in Energy Efficiency," November 2007, available at <http://www.epa.gov/cleanenergy/documents/suca/incentives.pdf>
4. Environment Northeast, "Utility Incentive Reform: Decoupling" online at <http://www.env-ne.org/projects/open/p/id/357/program/Energy>

[Northeast Energy Efficiency Partnerships](#) (NEEP) is a nonprofit organization accelerating the efficient use of energy efficiency in homes, buildings and industry across the Northeast U.S. through regionally coordinated programs and policies.

Please reach out to NEEP's Policy Outreach and Analysis team if you have any questions about this or other energy efficiency policy issues!

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