

Bill Impacts of Energy Efficiency Programs

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Minnesota Policy Overview

- The Conservation Improvement process and incentive evaluation is governed by the theory that long term net benefits of conservation outweigh the immediate rate impact of conservation programs and the cost of incentives (and decoupling).
- The legislature has, in effect, used the same theory in determining spending requirements and energy savings goals that emphasize conservation of energy without requiring a specific evaluation of immediate ratepayer impacts.

Minnesota Energy Efficiency Legislation - 2007

- Next Generation Energy Act-2007
- Converts Conservation Improvement Program (CIP) from “spending” to “savings”
- Energy Savings Goals-1.5 percent of gross retail energy sales annually beginning in 2010.
 - It is to be accomplished through conservation programs, rate design and “other methods”
 - It requires an inventory of most effective conservation programs and technologies to guide utilities
 - It allows for the award of grants for R&D that identify new energy conservation technologies and strategies

Next Generation Energy Act— Cont'd

- Requires the PUC to establish criteria and standards for decoupling
 - Authorizes pilot programs for up to 3 years
 - Commission has recently approved decoupling pilot program for Center Point Energy, a gas utility.
- Establishes greenhouse gas emissions goal 15% below 2005 baseline by 2015
 - 30% below by 2025
 - 80% below by 2050
- Requires PCA and DOC to develop a plan by which to achieve these goals.
 - Agencies have initiated stakeholder process to look at all strategies including Energy Efficiency

How Minnesota Estimates Costs and Benefits

- In Minnesota, all conservation projects pass the Societal Test and the Revenue Requirements (aka “Utility”) test.
 - They provide energy services at a lower cost than supply-side resources
 - Because the utility (and thus, society) has lower costs, then, collectively, a utility’s customer bills will be lower.

The Rate Impact Test

- The rate impact test compares the present value of utility costs avoided through energy conservation investments (e.g. investments in distribution, transmission and generation) to the net present value of the reduction in revenues due to energy conservation.
 - If the Net Present Value of avoided costs is less than the net present value of revenue increases, then a project does not pass the Ratepayer Impact test and it is assumed that rates will be higher than if the energy conservation investments were not made.
 - In general, common belief is that increased investments in EE may lead to higher rates than if energy conservation had not been implemented, but *lower overall bills*.

The Ratepayer Impact Test, Con't

- Using the ratepayer impact test alone indicates that many conservation programs can lead to higher rates than if the conservation projects did not occur.
 - The rate impact for electric utilities is sometimes higher than for natural gas utilities.
 - Sales per customer are increasing for all classes of electric utilities, but declining for natural gas utilities.
 - Increase in the use of electronic devices such as DVRs, computers, office equipment and gaming devices means that electric utilities' sales per customer are increasing.
 - They are increasing more than we are saving, and thus have the opposite impact on rates. This is not true for natural gas utilities

Limitations of the Ratepayer Impact Test

- The Ratepayer Impact Test does not currently account for the potential for greenhouse gas regulations, a potential internal cost for utilities that energy conservation will help avoid in the same way as conservation avoids investments in infrastructure.
 - The Ratepayer Impact Test provides a low estimate of the net present value of bill reductions due to energy conservation
 - The estimate is low because a rate of return would also be added to the avoided costs to arrive at the rate (and thus bill) that customers would face.

Societal Test

- The Societal Test examines the net impact that a conservation program or project has on society overall. The test combines the impact on the utility, program participants, and non-participating ratepayers. It also includes environmental benefits.

Minnesota Relies Heavily on the Societal Perspective

- When reviewing and assessing each utility's overall conservation program and individual projects, Minnesota relies heavily on the societal test. With the exception of project targeted exclusively for low-income household and projects that have an indirect impact on energy savings, regulators generally require project to have societal benefits that outweigh its societal costs. This is reasonable because Minnesota has the goal of serving the overall public interest—not the interest of one particular segment of society, such as utilities, program participants, or other ratepayers.

Transparency in the Process

- Stakeholders need to know the impacts of the conservation investments. Thus, they need to be made aware of the net benefits, and the potential rate impacts.
- When evaluating a new financial incentive in Minnesota, the following information was provided. It's not a rate impact, but is a calculation of dividing total energy conservation and incentive costs by total sales:

Impacts of Conservation Investments

Conservation=0.7% of Retail Sales
Conservation / Incentive / Combined

Electric Utilities (Cost per kWh)

Costs	Costs	Costs
\$ 0.0012	\$ 0.0003	\$ 0.0015

Gas Utilities (Cost per MCF)

\$ 0.12	\$0.02	\$0.14
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Conservation=0.7 of Retail Sales
Conservation/ Incentive/ Combined

Electric Utilities (Cost per kWh)

Costs	Costs	Costs
\$ 0.0024	\$ 0.0014	\$ 0.0038

Gas Utilities (Cost per MCF)

\$0.26	\$0.08	\$0.34
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2008 Utility Net Benefits Due to CIP Investments

Electric/Gas Utilities	Net Present Value
Minnesota Power	\$ 18,669,840
IPL Electric	\$ 3,529,313
Otter Tail Power	\$ 9,976,111
Xcel Electric	<u>\$265,436,020</u>
	• \$297,611,284
Great Plains	\$ 826,754
IPL Gas	\$ 1,321,618
Xcel Gas	\$ 53,103,686
Center Point	\$ 87,095,160
MERC-PNG	\$ 3,698,029
MERC-NMU	<u>\$ 460,448</u>
Total Net Present Value due to 2008 CIP Investments=	• \$ 146,505,695
	\$444,116,979

Total Net Present Value due to 2008 CIP Investments

\$ 444,116,979

- What this means is that although some customers may face higher rates, conservation investments result in a huge *reduction in overall costs* for Minnesota

Equity

- Minnesota ensures that all customers have a chance to lower their bills through energy conservation by making sure that all end-uses and all customer classes are covered
- Low-income customers have subsidized energy conservation programs. Also, a lot of stimulus money is being used to weatherize low-income homes.

Conclusions

- The best way to ensure that all customer have a chance to minimize their bills is by ensuring that energy conservation projects (and changes to building codes, etc.) benefit *all* customer classes. In addition, customer groups like low-income customers need to be subsidized to ensure that they can lower their bills, and not have their bills potentially increase due to conservation investments.