American Council for an Energy-Efficient Economy

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One of a Series of ACEEE White Papers on the Role of Energy Efficiency in Electric Utility Restructuring

Preserving Public Benefits under Electric Restructuring:The Importance of a Federal Role

Background: What Are Public Benefits?

Historically, regulated electric utility companies have provided a number of energy related public services beyond simply supplying electricity. Such services have included: bill payment assistance and energy conservation measures for low-income households; energy efficiency programs for residential and business customers; pilot programs and other efforts to promote renewable energy resources; and R&D efforts to foster the development of new energy supply and delivery technologies. The term "public benefits" has been coined to describe these corollary benefits of a regulated utility system.

Why Should They be Provided Through the Utility System?

There have been several important rationales for providing these benefits through the regulated utility system. First and foremost, efforts such as energy efficiency programs have the ability to reduce customer bills and lower total system costs for meeting their energy service needs. That is because it is often cheaper to save electricity through efficiency than it is to build and operate a power plant (and in some cases energy efficiency can be cheaper than just the cost of additional transmission and distribution equipment needed to meet load growth). Also, by lowering customer demand, energy efficiency programs have the ability to help hold down electricity price spikes during periods of high system demand, thereby benefitting all customers.

Second, energy efficiency helps improve the reliability of the electric system by reducing customer demand at peak periods, thereby easing the stress on overloaded generation, transmission, and distribution systems. This also benefits all customers of the electric system by reducing the incidence of voltage reductions (brownouts) and service interruptions (blackouts).

Third, it is important to remember that electricity is not just another commodity: it is a critical public good, essential for sustaining life in modern society. This fact is the cornerstone of the concept of "universal service," and underlies the historical involvement of regulated utilities in programs to help keep electricity affordable and available for low-income households and rural customers. (The recognition of this "public interest" role of utilities is illustrated by the universal service provisions that have been applied by federal law to the telephone industry.)

Finally, from the practical perspective, utilities have many institutional advantages that make them well situated to be responsible for these types of public benefit programs. Chief among these are the utilities' expert knowledge of energy-related matters and their close and longstanding relationships with energy users (i.e., their customers). This has put utilities in a good position to effectively deliver these public benefit programs, and historically they have had considerable success at these efforts.[1]

Why is a Federal Role Justified?

In addition to the obvious national interest in an affordable and reliable electric system, the production of electricity carries with it an enormous amount of social costs that are not reflected in the price of electricity itself. Principal among these "externalities" are the environmental impacts from electricity production. Electricity generation accounts for about one-quarter of U.S. nitrogen oxide and mercury emissions, more than one-third of carbon dioxide emissions, and nearly two-thirds of sulfur dioxide emissions.[2] Beyond environmental concerns, there are also other social costs from electricity production, such as those associated with power plant siting, resource depletion, the economic impacts of energy imports, and the national defense costs associated with protecting foreign energy sources.

Overall, the recognition of these various societal costs of energy production and consumption has resulted in a clear national policy, spanning several decades and at least five presidencies, to support efforts to promote energy efficiency and "renewable" energy resources.

Utility companies have long been an important instrument in implementing that policy. Indeed, there are compelling reasons, both philosophical and pragmatic, why utility companies have been seen as an appropriate institution through which to achieve these societal benefits. Philosophically, addressing these societal objectives through the utility system is consistent with the reality that electricity is an essential public good, something inseparably associated with the public interest. Electricity has never been a mere private market issue. There is a long history of federal governmental support to help assure that the nation has safe, reliable, and affordable electric service.[3] Furthermore, with the increasing "regionalization" of the electricity market (e.g., regional transmission operators, regional power supply markets, regional reliability issues, etc.), individual states are less well-suited to address these issues alone, and a federal role is critical.

Finally, having the federal government encourage the pursuit of these public benefit programs through utilities is also consistent with the conservative economic principle of attaching the responsibility for social costs as close as possible to the cause of those costs. (In this case, for example, that principle suggests it would be very appropriate to assign expenditures intended to mitigate the societal costs of electricity production to the electricity delivery system itself, rather than to general tax revenues.)

The Problem: Why Restructuring Threatens Public Benefits

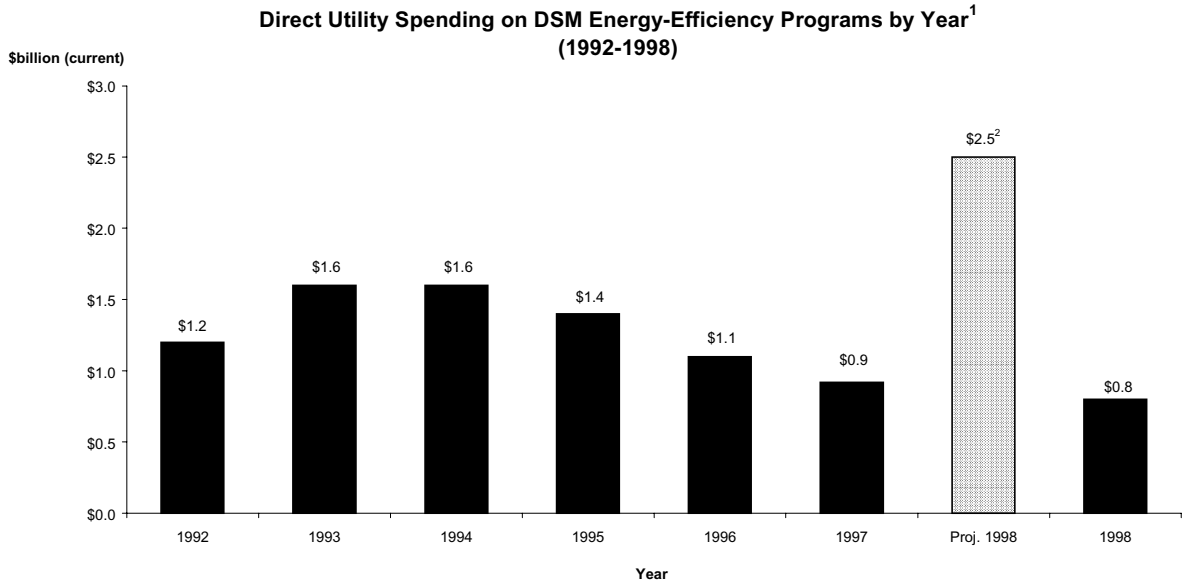
Absent other mitigating actions, the move to a "restructured" electric industry brings with it some very serious threats to the viability of the previously described types of public benefits. These threats stem from two fundamental sources: philosophical and economic.

Philosophy of deregulation. A significant element in the push toward restructuring the electric industry is the philosophical belief in deregulation in general. The philosophy of deregulation, in its simplest form, eschews government/regulatory mandates of all types. Public benefits programs are criticized as "social programs" that have no place in the electric industry, and the argument is made that if energy efficiency and renewable energy are good things, the market will provide them.

The lengthy rebuttal to those assertions is to recite all the research on market barriers, explaining why the "market" fails to result in cost-effective energy efficiency and renewable energy being achieved. Some prominent examples are the shortage of consumer information about energy efficiency options, the lack of easy access to high-efficiency equipment in the market, the financial barrier presented by the higher up-front cost of high-efficiency options (even though that higher cost is more than recovered over time in energy savings), and the problem of "3rd party decision-making" (i.e., the fact that building and equipment decisions are often made by parties that do not pay the utility bills for operating those buildings and equipment —and thus have little incentive to choose high-efficiency products). Others have explained those factors in great detail,[4] so this document will not get into that discussion. The easiest rebuttal is to just point out that the social costs of energy production (discussed above) still exist in a restructured market, as does the societal interest in promoting energy efficiency and renewable energy.

Economics of deregulation. A likely much more significant factor in the ultimate behavior of utility companies is the economic signals created by restructuring. Essentially, restructuring creates two fundamental imperatives on the part of utilities: (1) a drive to cut discretionary expenditures in order to reduce costs and rates; and (2) a drive to maximize kilowatt-hour (kWh) sales in order to recover sunk costs and maximize profits. Each of those fundamental objectives are antithetical to the provision of historical public benefit programs.

Regardless of the particular motivating factors, however, the evidence of the adverse effect of restructuring on utility public benefits activity is unmistakable. When electric restructuring emerged on the scene in the mid -1990s, the prior growth in electric utility investments in energy efficiency abruptly reversed course. On a national basis, utility spending on energy efficiency has declined by 50 percent since 1994 (whereas it had been projected to increase by 50 percent).[5] Similarly, utility expenditures on research and development have declined by one-third.[6]



1 The U.S. direct annual utility spending on energy efficiency for 1992 - 1998 is based on data obtained from the Energy Information Administration (EIA), Form EIA-861, "Annual Electric Utility Report" .

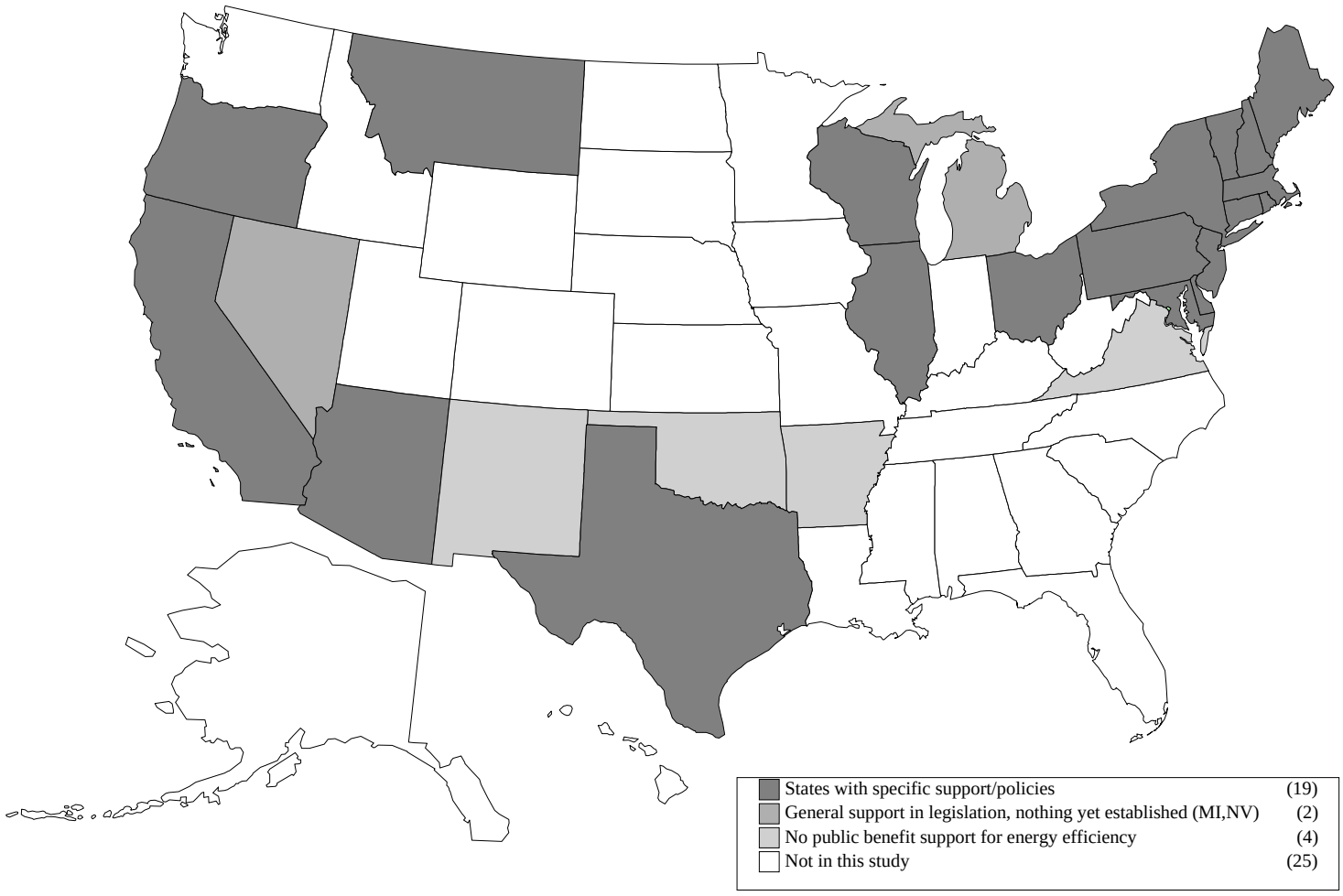
2 As part of the EIA data collection, utilities were asked to project their future spending levels five years out. This is the spending level projected by utilities in 1993, prior to the onset of restructuring.

The Solution: Public Benefits as a Part of Comprehensive Restructuring

Fortunately, most of the states that have proceeded with electric restructuring to date have included specific policy and funding mechanisms (e.g., some type of "public benefits charge") to support various public benefits. Of the 24 states plus the District of Columbia that have either passed legislation or issued regulatory orders to implement restructuring, 18 have included policy requirements to support energy efficiency programs.[7] Sixteen of the 25 jurisdictions have included specific policies supporting renewable energy, either by (1) direct funding support for renewable energy projects or (2) a "renewable portfolio standard" (RPS), whereby electricity suppliers are required to have renewable energy sources comprise some minimum percentage of their overall generation supply, or both.

Lastly, 18 of those jurisdictions include specific funding policies supporting low-income programs (typically some type of bill payment assistance and some support for weatherization or other energy conservation services) in their restructuring legislation and/or regulatory orders.[8]

States with Energy Efficiency Public Benefits



A Good Start, But More Effort Is Needed

Unfortunately, despite some promising successes, the overall record of state-level action on public benefits under restructuring can only be characterized as mixed. Over one-quarter of the states that have restructured have not included any specific policy or funding requirements for these public benefits, and in a number of other states the required spending levels are disappointingly low.

This is clearly an area where federal policy action is warranted and could be very beneficial. Opponents of public benefits funding at the state level argue that raising rates in their state to support these public benefit services puts them at a competitive disadvantage relative to neighboring states. Even though the funding amounts are quite small (e.g., typically only about 1-2 percent of the overall rate, or less) and they would ultimately lead to lower total costs for customer energy needs (because energy efficiency lowers customer bills), the conceptual argument for a lower short-term rate often finds a receptive audience among state policymakers. There is a temptation to become a "free-rider" by keeping one's own rates lower and letting other states pay for the national environmental and energy security benefits these types of programs provide.

A Positive Federal Role

A federal public benefits "matching fund" (such as proposed by Senator Jeffords' S-1369 or Representative Pallone's H.R. 2569) could be used to counteract the barrier of perceived state competitive disadvantage by rewarding states that adopt their own public benefits funding mechanisms with an infusion of matching funds (up to some particular funding level, e.g., 1 or 2 mills per kWh). A sound argument can be made that this would be an appropriate exercise of federal policy action because: (1) it would be consistent with existing federal policy to support such objectives as energy efficiency and renewable energy; (2) there are many electric system costs (e.g., regional pollution effects from power plants) and benefits (lowering peak power prices in a region) that cross state boundaries; and (3) many of the benefits (environmental improvement, reduced energy imports, national security enhancement, etc.) are truly national in scope. States that take action to provide these broad national benefits should be rewarded, not left to suffer a competitive disadvantage relative to states that do nothing. Furthermore, this matching fund approach has the additional advantage of providing broad policy support at the federal level, but allowing states to design the details of their public benefits programs to best suit their individual state circumstances.[9]

What About The Rate Impact?

The direct impact on customers of a federal matching fund charge would be minimal. For example, a one mill charge (i.e., one-tenth of a cent per kWh) would typically amount to only around one percent of the total electric rate. For a typical residential household, that would be less than a dollar per month.

More importantly, these programs would ultimately result in *lower* electric bills. This would be due not only to the direct effects of energy savings and bill reductions for customers who participate in the programs, but also due to the market effects of the programs, which would include: (1) reducing electricity price spikes by lowering demand during critical peak periods; and (2) providing an overall dampening effect on electricity prices by lowering customer demand for electricity in general. In the aggregate, these effects should more than counter-balance the direct costs of the matching fund.[10]

Conclusion

It is crucial that historical electric system public benefits are not sacrificed in the move toward restructuring. Implementing a strong federal public benefits policy and matching fund mechanism would prevent that loss and would result in tens of billions of dollars in consumer electricity cost reductions and hundreds of millions of tons of reduced air pollution emissions from electricity generation.[11] Moreover, the disappointing experience regarding commodity price competition in restructured states to date suggests that support of public benefits might likely be the single component of any federal restructuring legislation that would be most popular with the general public.[12] For all of these reasons, it is time to pass a strong federal public benefits matching fund policy.

Endnotes

This report was authored by Martin Kushler, ACEEE Utility and Public Benefit Program Director, with support from The Energy Foundation.

1. See, for example, Nadel, S. 2000. *Utility Energy Efficiency Programs: A Brief Synopsis of Past and Present Efforts.* Washington, D.C. : American Council for an Energy-Efficient Economy.

2. Wooley, D. 2000. "A Guide to the Clean Air Act for the Renewable Energy Community." *REPP Issue Brief,* February.

3. To list just a few examples: the federal role in the regional power authorities such as Tennessee Valley Authority and Bonneville Power Adminstration; the federal role in both fossil fuel and nuclear power development and in nuclear waste management; the federal role in financing rural electrification; and the federal Low-Income Energy Assistance Program.

4. Golove, W. and J. Eto. 1996. *Market Barriers to Energy Efficiency: A Critical Reappraisal of the Rational for Public Policies to Promote Energy Efficiency.* Prepared for the U.S. Dept. of Energy under Contract No. DE-AC03-76SF00098. Berkeley, Calif.: Lawrence Berkeley Laboratory.

5. Eto, J, C. Goldman, and S. Nadel. 1998. *Ratepayer-Funded Energy Efficiency Programs in a Restructured Electricity Industry: Issues and Options for Regulators and Legislators.* Washington, D.C.: American Council for an Energy Efficient Economy.

6. General Accounting Office. 1996. *Federal Research: Changes in Electricity-Related R&D Funding.* GAO/RCED-96-203. Washington, D.C.: General Accounting Office.

7. Two additional states (Vermont and Wisconsin) have passed legislation to fund statewide energy efficiency public benefit programs without actually restructuring their electric industry.

8. ACEEE maintains on its web site (www.aceee.org) a periodically updated summary table of public benefits policies and funding levels in the various restructured states.

9. For additional arguments in favor of a federal matching fund and a discussion of how such a mechanism could be implemented, see Cowart, R. 1997. "Restructuring and the Public Good: Creating a National System Benefit Trust." *The Electricity Journal*, April: 52-57.

10. Indeed, a good case can be made that one major factor contributing to the severe summer electricity price spikes being seen in many regions of the country in the past 2 years has been the dramatic decline in utility demand-side management (DSM) programs over the prior 5 years, resulting in higher than expected demand growth and upward price pressure.

11. Nadel, S. 1999. *Analysis of Energy Savings from the Administration's Public Benefit Fund Proposal*. www.aceee.org/briefs/pbf.htm. Washington, D.C.: American Council for an Energy-Efficient Economy.

12. Survey research has repeatedly shown that energy efficiency and environmental protection are very positively regarded by the general public. For example, see Kushler, M. 1998. "Restructuring and Customer Choice: Vox Populi or Dictum Dictatorium." *The Electricity Journal*, January/February 11 (1): 30-36.

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