



IssuesLetter

System Benefits Charge

Cost-effective electricity conservation, the development of renewable resources, programs for low-income electric customers and supportive research and development have been an integral part of the services delivered by most electric utilities. Without some mechanism to preserve these desirable features of the current electric utility system, they are becoming inadvertent casualties of the uncertainty of the future of the industry. A system benefits charge may be the best way to fund these services both now and in any competitive future that may arise.

Why Do Regulators Need To Worry About System Benefits?

Electric utilities provide a number of vital services beyond the generation and delivery of kWhs. The reduction of long-run resource costs through energy conservation and the development of renewable resources represent important utility investments that many states have made over the past fifteen years. Over an even longer time period, the provision of services to low-income customers such as special payment plans, cautious winter disconnection policies and home weatherization services and research and development (R&D) activities have been an integral part of electric utility services. Collectively the benefits of these services amount to millions of dollars of efficiency savings, a cleaner environment and the assurance of universal electric service, an essential part of today's life and the economy.

In yesterday's fully regulated industry, these benefits were fairly easy to deliver. But in a competitive electricity market, their continuation is not a given particularly if a competitor can gain an economic advantage by not including one or more of these services.

Why Are These Services At Risk?

The competitive generation markets envisioned by most proponents of restructuring exchanges cost recovery for power plants from cost-of-service to market prices. It replaces utility obligation to build or buy power supplies to minimize long-term costs (15 to 30 year planning horizons) with obligations based on spot markets and short-term contracts (one month to five years) with customers or distribution utilities.

This type of market increases the risk and hence decreases the likely investment in capital intensive, long-lived resources such as renewables and energy efficiency. It also means that expenditures on R&D (because they have an inherently long payback period) and expenditures on low-income services have a much smaller chance of being provided in an unregulated world. Even if through careful shaping of market structures the continuation of some or all of these services is assured, many are already being scaled back and, in some cases, eliminated in the current transition from regulation to markets. Utilities fear that every dollar spent on these services will probably not be recovered or will certainly place them at a competitive disadvantage in the future.

No matter how well these services might be delivered in a mature market, the transition period poses a most serious challenge. Looking past the transition period, hopes are high that newly competitive electric markets will deliver both well-established and new services at the lowest possible prices. The general experience with the deregulation of other major U.S. industries such as telecommunications, gas and airlines gives grounds for both hope and pessimism. Electricity markets, for instance, are no more likely than any of these industries to deliver low-income services since these services offer no profit-making opportunities. Non-utility energy conservation, on the other hand, has long been available to customers, but the market has often failed. In fact, it could fairly be said that it was this failure on the part of consumer markets to deliver cost-effective energy conservation that left such a large resource available for utility development in the first place.

Markets for renewable resources may emerge in retail competition as individual customers are given the opportunity to make resource decisions. How much energy conservation and renewable resources competitive markets will deliver is unclear, but it is fair to predict that a market focused on short-term, spot prices will choose fewer cost-effective energy efficiency and renewable resources than would a long-run, cost-minimizing resource plan for a monopoly utility.

As regulators have already learned with the deregulation of many telecommunication services, the transition period to fully functioning competitive markets can be long and uneven. Action needs to be taken now to assure the long period of uncertainty and transition does not erode these services.

The System Benefits Charge: Preserving Benefits In Today's Structure...And Into The Future

Adopting a system benefits charge today--no matter what regulatory or restructuring course a state ultimately takes--makes sense for two reasons. First a charge can assure that services are funded in a way consistent with a competitive future. Because it essentially re-classifies costs that are currently in rates, it can provide the current level of public benefits while markets are given a chance to develop. Second, industry change will move along more swiftly if the public is assured that important benefits are not at risk.

Like electric companies, regulated telephone companies had a history of providing societal benefits such as universal service for low-income and physically-impaired customers, and, more recently, 911 emergency calling; a service which has much more to do with health and safety than with telephone access. Providing these services in a competitive environment meant funding them in ways in which all consumers paid but which did not tilt the competitive playing field. To fund these, today's bills (regardless of the service provider) include a charge of around three percent.

This same approach, at a charge of three to five percent, can be extended to the electric industry. The size of the charge can be adjusted as it becomes clearer what market forces will provide.

The balance of this Issuesletter looks at how to create a fair and effective system charge that preserves today's benefits without interfering with the development of tomorrow's markets.

What Are The Essential Characteristics?

A system benefits charge can come in many shapes or forms and under a variety of names including wires charge, access charge, universal service charge or distribution charge. Whatever the form or name, two features are essential to making it work. It must be both non-bypassable and competitively neutral. Placing a charge on the use of the distribution system (with distribution defined broadly to include both high and low voltage end use consumers) answers both concerns.

It is non-bypassable because the distribution system, for the foreseeable future, will remain a monopoly and will be needed to deliver electricity to virtually every consumer. This includes large industrial customers who obtain high voltage electricity, customers who have municipalized and customers who self generate. Even self-generating customers are included because nearly all of them connect to the distribution system to receive supplementary or back up power. The charge is competitively neutral because all sellers are treated equally. With the same charge levied on customers no matter who supplies the power (or on suppliers regardless of who they sell to), users cannot bypass their share simply by choosing another provider.

This approach to paying for system benefits is also how utilities' allowable stranded costs should be recovered. In both cases, the goal is to structure the charge so that the desired revenues are generated without encouraging customers to make uneconomic purchasing decisions or be the basis for choosing one supplier over another. The major difference is that system benefits charges are relatively small and fund the ongoing delivery of essential services and new efficient resource investments while a much higher--as high as 50 percent of rates in some territories--stranded cost recovery merely allocates the sunk costs of investments which were, in retrospect, too expensive.

Another advantage of a distribution-level system benefits charge is that states have the authority to impose them. Despite a continued blurry distinction between state and federal jurisdiction over aspects of restructuring and competition, the Federal Energy Regulatory Commission (FERC) has acknowledged state ratemaking authority over distribution services. FERC's Mega-NOPR on Open Access of Transmission and Stranded Costs specifically notes in two places the states' reserved authority to impose a charge for stranded benefits on local distribution facilities. Not yet finalized, however, is a precise definition of distribution services. Because a system benefits charge must be non-bypassable to be effective, local distribution facilities must either be defined in a way that includes all sales to end users, regardless of voltage level, or FERC-approved charges must mirror state imposed system benefits charges.

How Large Should The Charge Be?

A combination of policy making, resource planning and seeing what the market will do will be used to set a spending level adequate to deliver a reasonable amount of cost-effective energy efficiency, renewable resources, R&D and low-income services. A first step in deciding the right amount of funding is to tally how much is currently being spent to deliver these benefits. Levels in most states range from one to five percent of the average bill. While current spending is a good place to start, if it turns out that markets deliver these services at reasonable levels or that the services are provided through other means (such as tax dollars), the benefits charge can be reduced accordingly. If, though, markets or other means never adequately deliver these services

(as is likely to be the case for low-income services), the benefits charge can continue without interfering with the markets that do develop.

Structuring The System Benefits Charge

Because these costs are currently being recovered in rates, to the extent that the charge closely resembles existing rate design, there will be little change in equity and efficiency. Keeping the charge in sync with existing cost allocations should enhance public acceptability.

In most jurisdictions, the costs of services to be included in a benefits charge are collected on a volumetric basis--generally a charge per kWh but occasionally on a kW basis. Changing this to a fixed charge per customer substantially changes existing cost allocation and means that smaller customers would be expected to pay a larger percentage than they currently do. This shift would not go unnoticed.

There is a range of legitimate opinions and concerns on this subject. Proponents of volumetric charges contend that energy efficiency and renewable resources predominantly deliver energy and capacity and hence should be charged on a volumetric basis, just like energy and capacity costs. Those favoring a fixed charge argue that fixed customer charges are not bypassable by those who lower their energy consumption. They also assert that any usage charge in excess of marginal costs will distort the price signal and diminish the overall efficiency of consumption.

The choice between volumetric and fixed costs need not be an all or nothing decision. The telecommunications industry, where both approaches have been used at the same time, again serves as a useful model. In considering a melding of both approaches in the electric industry, it would be possible to levy a fixed charge for all customers based upon a minimum standard of use, say 250 kWh, and a per kWh charge for all use above that level. To assure acceptance, care must be taken to make sure that any change from the existing cost allocation occurs at a slow enough pace.

Most discussions assume that the system benefits charge is collected directly from end users. Satisfying the non-bypassable and competitively neutral requirements, however, can be met by imposing the charge on generators who use the distribution system to reach their customers. How generators decide to reflect these costs in their charges will be dictated by market conditions.

Another consideration is whether the system benefits charge should appear as a separate item on the customer's bill. Listing a separate charge on the bill for any item draws attention and, often, opposition. This is true even if the amount is relatively small. Whether to break out costs should be decided as part of an overall effort to develop the information needed to support customer

Washington Water Power

Washington Water Power (WWP) received approval from the Washington Utilities and Transportation Commission and the Idaho PUC in 1994 and 1995 for a two-year experimental system benefits charge, called a rate rider, to provide stable, predictable funding for DSM.

The charge applies to WWP's electricity and natural gas sales and is assessed by customer class. There is a 1.55 percent increase for electricity customers, a 0.55 percent increase for gas customers in Washington and a 0.6 percent increase for gas customers in Idaho. The lower gas assessment matches gas revenues with planned gas DSM expenditures. Actual charges for electricity range from .046¢ to .108¢ per kWh and .097¢ to .197¢ per therm for gas customers. The charges will yield an annual average of \$4.7 million for electric DSM and \$426,000 for gas DSM. All DSM expenditures funded through this mechanism are subject to a prudence review at WWP's next general rate case.

choice. Listing benefits charges is at most a small part of the overall information that might be important to break out on the customer bill. It is probably more important for bills to reflect other larger categories of cost such as transmission and distribution costs and recoverable uneconomic costs.

Who Manages The Money And Provides The Services?

Once money is collected via a system benefits charge, there are a number of places--ranging from the utility to a non-profit or governmental entity--where it can be managed. Dollars will be most successfully spent if there is as little conflict as possible between the purpose of the particular benefit being funded and the interest of the managing organization. For instance, the profits of utilities with an unregulated generation arm will hinge on the market price of electricity. Because energy efficiency by reducing demand also reduces market price, the utility will have scant interest in investing in energy conservation. In contrast, the same utility may have no such conflict in providing services to low-income customers.

If the utility interest is at odds with the delivery of a particular service, the choices are regulatory or placing the responsibility for managing funds in the hands of an independent agency. Regardless of who hold the funds, a market means, such as competitive bidding, should be favored to decide who provides the services. Innovative approaches will be sought for the delivery of low-income and R&D services.

National And International Examples Of System Benefits Charge

There is a small but clearly growing consensus as to the merits of electric utility system benefits charges in the United States. Both Washington State and Idaho Commissions have approved a system benefits charge to fund DSM for Washington Water Power. In Arizona, utility regulators implemented a system benefits charge for Arizona Public Service Company. The California Commission, which has introduced the most complete visions of retail competition to date has, in both the majority and minority views, preserved funding for public policy goals using non-bypassable charges. Two quite similar Statements of Principles have emerged from Rhode Island and Massachusetts collaboratives on electric industry restructuring which recommend a "non-bypassable, non-discriminatory" charge to fund existing special rates; payment programs and protections regarding customer service and shut offs for low-income customers; cost-effective energy efficiency investments; and programs for renewable resources. These Statements of Principles are under consideration by both commissions. Finally, Wisconsin Electric Power has suggested a system benefits charge as part of the transition to a restructured industry.

There has been a longer history of system benefits charges in Europe. The City of Oslo, Norway and Oslo Energi levied a volumetric charge beginning in 1982 to establish a capital pool for

Arizona Public Service Company

The Arizona Corporation Commission approved a settlement agreement between the Arizona Public Service Company (APS) and other parties that established spending targets for renewable resources and DSM programs for each of three years beginning November 1994. APS must file an implementation plan that requires Commission approval and will recover costs through the Energy Efficiency and Solar Energy Fund (EEASE Fund). The EEASE Fund is created by the application of a system benefits charge based on kWh sales, with annual spending targets beginning at \$10 million and increasing yearly through the first four years. Of the spending targets, at least \$9 million over a three year period must be spent on renewables.

loans to make investments in energy efficiency. The fund became self-sufficient, and the charge was discontinued after ten years once \$149 million was raised. Today, loans from the revolving fund have been made to over 20,000 customers, from all customer classes. The United Kingdom is using a system benefits charge to fund energy efficiency and renewable energy development

Conclusion

The system benefits charge is a simple mechanism to continue funding important public benefits that are at risk today due to the uncertainty surrounding the restructuring of the electric utility industry. System benefits charges can be implemented relatively quickly and easily.

Implementation now preserves benefits while giving regulators time to assess what services are effectively produced through competitive electric markets. System benefits charges that are non-bypassable and competitively neutral will also fit well with any of the competitive industry models discussed here and abroad. There are helpful U.S. and international models to serve as examples for creating and structuring this charge. Finally, removing the risk restructuring places on these benefits will allow all stakeholders to engage in more productive dialogue.

Additional Information

Short briefs describing the benefits charges used by Washington Water Power, Arizona Public Service, Oslo, Norway and the U.K. can be obtained by calling RAP. Also, a longer paper detailing the U.K. experience with energy efficiency following privatization, [*Energy Efficiency in the United Kingdom*](#), authored by Ed Holt, is available.

United Kingdom Energy Saving Trust And Renewable Acquisition

The UK government has two system benefits charges. One, levied to help the UK meet its Rio Convention commitment to reduce greenhouse gases, supports energy efficiency, and the other finances renewable resource development.

For energy efficiency, a fixed system benefit charge of £1 (\$1.60) per year is assessed on all franchise customers of distribution utilities. Franchise customers are residential and small commercial customers with a demand less than 100 kW. For an average user, the £1 charge is equivalent to 0.0337¢/kWh or a 0.3 percent increase on an average rate of 12¢ per kWh. Each of the

distribution utilities receive energy savings targets and an allowance to implement programs to meet targets. A government corporation, the Energy Saving Trust, was set up to determine targets, allot monies and oversee utility performance. The Trust reviews the programs proposed by the utilities, verifies the saving estimates and tracks fund allocation to each utility to insure that savings are achieved within budget.

Five percent of the Non-Fossil Fuel Obligation funds renewable resource development. (The remaining 95 percent supports existing nuclear investments.) The charge is based upon the difference between average pool prices and actual resource costs. The target for renewables is 1500 MW by 2000. As of 1994, 1200 MW were approved for purchase.

Summary of NARUC Resolution on Competition, the Public Interest and Potentially Stranded Benefits

...WHEREAS, the laws and traditions of electric utility regulation have long recognized the electric industry as a critical element of national infrastructure greatly affected with the public interest; and

WHEREAS, the franchise system of regulation has encouraged electric utilities, pursuant to state laws, to secure important public benefits in the provision of utility services, including:

- system reliability and fuel diversity;
- responsible management of the environmental impacts of electric generation;
- the promotion of systematic investment in energy efficiency, thus improving the nation's energy security and lowering energy costs to the nation's economy;
- innovative rate designs that have served national and state objectives in such areas as rate stability, equity, economic development, and meeting the specific needs of low-income customers;
- a system of support for research and development for the electric industry; and
- investments in commercialization strategies to speed growth in markets for renewable energy technologies;...

WHEREAS, these widespread public benefits could be undetermined or lost unless integrated into new proposals which are being developed for a more competitive marketplace; and

WHEREAS, it is the responsibility of state and federal electric utility regulators to assure that these vital public benefits are not "stranded," but are well served in new electric industry structures and in the transition to them;...

Now therefore be it

RESOLVED by the National Association of Regulatory Utility Commissioners at its 106th Annual Convention in Reno, Nevada, that a fundamental responsibility of state and federal electric utility regulators in this transition period is to assure that vital public interest and established public benefits will be preserved in any restructuring of the electric utility industry;...and be it further

RESOLVED that, in their individual deliberations over the restructuring of the electric industry, state and federal regulators are encouraged to establish the criteria by which alternative proposals are to be judged, and that these criteria should include: reliability and fuel diversity, environmental protection, energy efficiency, equity, economic development, the needs of low-income customers, and research and development;...

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