Reinventing Competitive Procurement of Electricity Resources

by Ralph Cavanagh

With an announced intention of investing up to $2 trillion over the next two decades and abundant experience in resource procurement and integration, U.S. utilities could lead a clean energy transition.

A worldwide search is on for affordable low-carbon energy solutions, but looks mostly in the wrong places. We need savvy and credit-worthy institutions capable of choosing among a bewildering array of resource options, building diverse portfolios tailored to local conditions, and integrating elements with widely differing output characteristics, using grids big and responsive enough to accommodate variable demand and generation inexpensively. Wherever feasible, those institutions should be displacing other energy resources with efficiency improvements that offer equivalent or better services at lower cost. Recent candidates for this demanding role include national and local governments, venture capitalists, investment bankers, software engineers and information technologists.

All can contribute, but none come close to replacing properly motivated and financially robust electric utilities. With an announced intention of investing up to $2 trillion over the next two decades and abundant experience in resource procurement and integration, U.S. utilities have no real competitors in leading a clean energy transition. But every state's regulators face significant unfinished business in ensuring that utilities that do this well are financially healthier than those that abdicate their

Ralph Cavanagh *is a senior attorney and co-director of the Natural Resource Defense Council's energy program. He has been a Visiting Professor of Law at Stanford University and UC Berkeley. From 1993-2003 he served as a member of the Secretary of Energy's Advisory Board. The recipient of numerous academic and industry awards, he is a graduate of Yale College and the Yale Law School.*

responsibilities. Too often, such abdication remains both the path of least resistance and lowest financial risk to utilities, despite dismal consequences for customers and environmental quality. To compound the problem, an interminable state-by-state effort to restructure the electric industry reveals no emerging consensus.

This article recommends a way forward that both accommodates diversity in electric utility structure and avoids using national governments to dictate investment decisions. Its overarching theme is reliance on competitive resource procurement by effectively motivated utilities.

I. Why Worry?

Widespread paralysis on domestic energy and climate policy in 2010 may in part reflect a reduced sense of urgency. After years of tight supplies, strained distribution systems and soaring prices, U.S. energy consumption suddenly dropped 7 percent between 2007 and 2009. Compared with 2005, the nation's greenhouse gas emissions were down 10 percent in 2009. In 2008 and 2009, electricity use declined in consecutive years for the first time in memory.[1] Domestic oil use peaked in 2005, and by 2009 annual oil consumption was down by 10 percent. The trend of fossil fuel prices since mid-2008 is generally downward, and reports abound that plentiful natural gas supplies will persist for decades, thanks largely to advances in drilling technology. Worldwide, despite the continued economic surges of giants like China, Brazil and India, total energy use dropped by 1.2 percent in 2008 and another 2.2 percent in 2009.[2] Can't we all just relax for a while? This assumes, of course, that we can instantly forget months of continuously updated images from the most destructive oil spill in U.S. history.

But the latest projections from the U.S. Energy Information Administration nicely frame the case against complacency.[3] EIA sees global energy consumption growing by almost 50 percent over the next quarter century if business as usual is allowed to reassert itself. Greenhouse gas emissions and fossil fuel use would increase at comparable rates. That would make today's dangerous oil dependence much worse and all but eliminate any chance to suspend a uniquely dangerous global experiment with climate disruption. For the U.S., short-term declines in greenhouse gas emissions were driven primarily by an unprecedented 10 percent drop in coal use for electric generation from 2007 to 2009, reflecting sudden shifts in fossil fuel prices and economic conditions that are hardly likely to persist.

II. The Energy Efficiency Imperative

Electricity and natural gas distributed by regulated utilities account for more than half of the global warming pollution associated

[1] U.S. EIA data begin in 1949, although annual totals are reported starting only in 1970. *See* www.eia.doe.gov/aer/pdf/pages/sec8_5.pdf.

[2] *See* U.S. Energy Info. Admin., *International Energy Outlook 2010 – Highlights* (May 25, 2010) (www.eia.doe.gov/oiaf/ieo/highlights.html).

[3] U.S. Energy Info. Admin., *International Energy Outlook 2010* (www.eia.doe.gov/oiaf/ieo/index.html).

with U.S. fossil fuel consumption. Electricity generation alone accounts for approximately 40 percent of U.S. emissions, and its rate of growth from 1990-2005 was more than double that for the rest of the economy. Utilities also are by far the nation's largest investors in energy technology and infrastructure; electric utilities alone plan to commit $1.5 to $2 trillion over the next two decades, exceeding analogous federal expenditures by an order of magnitude.[4] Where those dollars go will help determine long-term U.S. economic and environmental performance.

Decades of evidence now argue for increased allocations to electricity resources with low costs, no fuel needs and no harmful emissions. In a comprehensive assessment of cost-effective domestic energy efficiency opportunities, McKinsey & Company identified potential ten-year savings of $1.2 trillion in U.S. utility bills.[5] MacArthur laureate David Goldstein believes that aggressive efficiency improvements can drive domestic energy consumption down by more than 80 percent within four decades, and that ten trillion dollars in associated savings is a gross underestimate.[6] These projections are buttressed by recent remarkable findings from more than 30 years of utility-sector experience with energy efficiency initiatives:

- From 1980-2008, the Pacific Northwest achieved electricity savings equivalent to five giant coal-fired power plants (almost 4,000 average MW) at an average cost of two cents per kWh, resulting in a cumulative net annual reduction in electricity bills of $2.3 billion/year and in CO_2 emissions of almost 15 million tons/year;[7]
- California's investor-owned utilities recently reported the results of their 2009 efficiency programs, which show a 10 percent increase in annual savings from a record-breaking 2006-2008 program cycle, providing an estimated reduction in CO_2 emissions of more than 1.5 million tons for that year alone. These gains were driven by investments of about $630 million, or 2.5 percent of the utilities' electric revenues, as energy efficiency continued to be the cheapest resource available, costing less than half as much (4 cents) per kWh as supply-side alternatives);[8]

[4] The Brattle Group, *Transforming America's Power Industry: The Investment Challenge 2010-2030* (The Edison Found., Nov. 2008) at 2.

[5] McKinsey & Company, *Unlocking Energy Efficiency in the U.S. Economy* (2009) http://www.mckinsey.com/clientservice/electricpowernaturalgas/us_energy_efficiency/ The assessment includes lighting retrofits, improved heating, ventilation, air conditioning systems, building envelopes, and building control systems; and higher performance for consumer and office electronics and appliances.

[6] *See* David Goldstein, *Invisible Energy*: *Strategies to Rescue the Economy and Save the Planet* (Bay Tree Pub. 2010) at 5 & 128-29.

[7] *See* Northwest Power and Conservation Council, *Energy Efficiency: 30 Years of Smart Energy Choices* (Council Doc. 2010-3, 2010) at 2.

[8] Energy savings, investment and cost-effectiveness data are from the Annual Reports on Energy Efficiency Programs for 2006 through 2009 submitted by Pacific Gas and Electric Co., Southern California Edison, and San Diego Gas and Electric Co. to the California Public Utilities Commission (available at http://eega2006.cpuc.ca.gov/Default.aspx). CO_2 emissions are estimated based on the avoided

- The Lawrence Berkeley National Laboratory concluded in July 2009 that utility investment in energy efficiency nationwide rose by 20 percent in 2008. LBL identified a potential for a further quadrupling by 2020.[9] More recent data from the Consortium for Energy Efficiency indicate that the utility industry accelerated its energy efficiency investment in 2009 by more than one-third, with electric utility expenditures reaching $4.4 billion. Even discounting one-time "stimulus bill" infusions, utility energy efficiency expenditures doubled between 2006 and 2009.[10] Preliminary data suggest continued growth in 2010, yielding an energy efficiency budget for the year of $5.4 billion for the U.S. electricity sector alone. That is still well under two percent of the nation's $350 billion electricity bill, yet the trend is certainly encouraging.[11]

But utility investment in other resources and infrastructure has of late been declining across the United States, despite some highly visible efforts to upgrade grids and add renewable energy capacity. From 2008 to 2009, utilities' capital investment dropped by 11 percent ($10 billion).[12] Any extension of this trend would be terrible news for those who seek decarbonization of the electricity sector, since market realities long ago exploded any prospect of significant generation additions or grid enhancements without long-term financial commitments from utilities.[13]

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emission rate for electric savings of 4.37×10^{-7} million metric tons of CO_2 equivalent per MWh from the California Air Resources Board, *Climate Change Scoping Plan Appendices*, Vol 2: Analysis and Documentation, Dec. 2008, p. I-23, www.arb.ca.gov/cc/scopingplan/document/appendices_volume2.pdf. Electric efficiency program investments for 2009 are estimated from total electric and natural gas efficiency investments, based on the relative investment in electric efficiency to total efficiency investments in 2006 - 2008 on average. Utility electric revenues are from the U.S. Department of Energy, Energy Information Administration, Form EIA-826, Monthly Electric Utility Sales and Revenue Data (2010). The California Energy Commission estimates that electricity from a conventional combined cycle generator cost more than 10 cents/kWh in 2009. California Energy Commission, *Comparative Costs of California Central Station Electricity Generation*, CEC-200-2009-07SF, January 2010, at 3, www.energy.ca.gov/2009publications/CEC-200-2009-017/CEC-200-2009-017-SF.PDF.

[9] G. Barbose, C. Goldman & J. Schlegel, *The Shifting Landscape of Ratepayer Funded Energy Efficiency in the U.S.* (LBNL-2258E, July 2009).

[10] Consortium for Energy Efficiency, *Blazing the Trail: 2009* (CEE Annual Report and Efficiency Program Report, 20-21). Doubling of budgets refers to combined outlays of U.S. electric and gas utilities, which grew from $2.6 billion in 2006 to $5.3 billion in 2009.

[11] Data are from a briefing to EEI's Institute for Electric Efficiency Advisory Group by Marc Hoffman, Executive Director, Consortium for Energy Efficiency (Sept. 9, 2010).

[12] *Frugal Utilities Rise to Top in Annual Financial Ranking*, Pub. Util. Fort., Sept. 2, 2010 (reporting that industry-wide capital expenditures "totaled $83.9 billion in 2009, versus the previous year's expenditure of $93.8 billion").

[13] This does not mean, of course, that utilities need to own the new generation and infrastructure. *See, e.g.*, Am. Wind Energy Ass'n, Wind Energy Weekly, Sept. 10, 2010 (describing a new 260 MW wind project in Goldendale, WA whose financing centers on a commitment by a consortium of southern California utilities to pay for a 20-year block of power representing over 70 percent of the project's expected annual production, with the balance of power to be

III. The Challenge of Chaotic Industry Restructuring

What once looked like an irresistible industry-wide restructuring model for electric utilities has stalled.[14] Enthusiasm for "deregulation" plummeted after the failure of western wholesale markets during 2000-2001, and subsequent episodes of extreme price volatility and highly publicized market manipulation. Some states remain committed to retail competition among electricity providers, maintaining that consumers will benefit by the ability to choose among multiple suppliers. Others seek a system that integrates traditional state-regulated retail electricity service and FERC-regulated wholesale competition. Still other states retain vertically integrated monopolies that look very similar to those that predominated for most of the past century.

In sum, three competing models have emerged:

- Subject to regulation by states or local public power boards, the traditional vertically-integrated electric utility controls generation, transmission, distribution and resource acquisition [e.g., most of the Southeast];
- Wholesale competition is integrated with retail regulation; distribution companies manage diverse retail resource portfolios for all or most customers and meet their generation needs through procurement from competitive wholesale markets, relying on FERC to ensure nondiscriminatory transmission access and on state regulators or local public power boards to assure recovery of prudently incurred resource acquisition costs [e.g., most of the West and Midwest];
- A Regional Transmission Organization (RTO) or Independent System Operator (ISO) controls and operates transmission, distribution is managed by state-regulated distribution companies, and resource acquisition is managed by market participants, with at least some customers relying on retail competitors of utilities to meet their electric service needs [e.g, Texas and most of the Northeast].

A further complicating factor is that federally-owned, publicly-owned and cooperatively-owned utilities (many of which are essentially self-regulated and have responsibilities beyond providing power) play a substantial role in providing electricity in some regions, while they are practically non-existent in others.

None of the models can avoid the question of ultimate responsibility for providing the affordable and reliable electricity supplies that a healthy economy requires. The most competitive models assume that decisions by market participants will ultimately replace resource planning by utilities or regulators. In practice, however, few if any regulated electric distribution companies escape at least residual responsibility for ensuring the adequacy of electricity supplies. Each model preserves a

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purchased by the same utilities "at a formula-based price").

[14] For this section, I owe a substantial debt to my colleagues at the National Commission for Energy Policy, whose reports starting in 2003 include many important insights on the evolution of electricity restructuring. *See* http://www.bipartisanpolicy.org/projects/national-commission-energy-policy.

substantial role for utility-based competitive procurement of electricity resources.

IV. Getting Competitive Resource Procurement Right

I have received repeated variants over the past three decades on the following question (e-mailed most recently to me on August 20, 2010 by a correspondent with the suggestive address of "atomicinsights.com"): *"There are only three choices for reliable power in most of the US - coal, natural gas, and nuclear. Which one does NRDC support? Why?"*

Many people think this way, and a staple of energy and climate policy debates in Congress for decades has been an obsession with single-source solutions, giving way sometimes to an unwillingness to play any favorites whatever. "All of the above" has always been a widely endorsed national energy policy. But the U.S. lacks a national electric utility, and a frightening federal balance sheet means that most new electricity infrastructure will have to be financed by traditional means, supported by the security of customers' utility bills.[15] Moreover, much of the genius in resource procurement is integration of diverse resources in ever-shifting real-time conditions. This kind of expertise is nowhere to be found in the job description of any legislator or regulator. Consider, for example, one major electricity supplier's summary of its 2010 resource plan, which effectively repudiates both single-source and "all of the above" thinking:

> "Most of [our] incremental energy needs for the next several years can be met by meeting [our] conservation targets . . . and relying on short- and mid-term market purchases In addition to relying on conservation, [we] plan to continue to:
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> - "Rely on short- and mid-term wholesale power market purchases.
> - "Facilitate the effective, efficient and reliable integration of renewable resources to [our] system through the efforts of the Wind Integration Team.
> - "Increase transmission grid operating flexibilities, develop Smart Grid technologies and directly involve electricity users through demand response programs.
> - "Track, evaluate and appropriately pursue availability of pumped storage and natural gas-fired resources for seasonal heavy load hour energy and/or balancing reserves."[16]

A. Navigating Industry Restructuring Models

For utility systems with needs like these – which is to say essentially all of them – the rules for cost responsibility and recovery must be clear. For example, when and on what terms may distribution utilities enter into long-term contracts with generation service providers? How will distribution utility responsibilities interact with the opportunities created for competitive retail suppliers in states with retail competition? Who has the

[15] Matters are otherwise, of course, in places like China, France and Russia, where national governments still routinely choose and finance electricity resources.

[16] The supplier in question is the Bonneville Power Administration, which sent out the quoted summary of its resource plan in the form of a mass e-mail communication from John Taves, *BPA Issues Final Resource Plan* (Sept. 13, 2010).

responsibility for identifying needed enhancements to the transmission network? How will transmission providers be paid for securing them, and who will pay?

In states that do not have retail competition, the possibility of its introduction and stranded costs can still deter long-term commitments, even though the alternative – reliance on short-term purchases – exposes consumers to more market volatility and deters investment in new generation and infrastructure. Utilities, regulators and wholesale suppliers alike are struggling with how states can regulate retail electric service provided by companies that operate in wholesale power markets. All lack adequate assurance about the rules that will determine commercial survival and success.

My view is that the various utility models each allow for a durable solution, in the form of competitive resource procurement and integration by regulated electric distribution companies. Energy efficiency should be treated as a resource for this purpose, and regulators' primary aim should be to ensure an acquisition process open to all, with results that minimize the life-cycle cost of reliable electricity service while meeting society's environmental goals. Success is imperiled primarily by three eminently avoidable temptations, which are addressed below.

B. Preventing Governments from Trying to Pick Winners

The mantra of California-style electric industry restructuring circa 1996 was "the genius of the marketplace": neither utilities nor their regulators should choose electricity resources, which would instead emerge in the desired configurations and amounts as a result of individual choices in competitive retail markets.[17] The conspicuous failure of this paradigm, while not yet universally acknowledged, is visible in the failure of competitive retail markets in ensuing years to deliver enduring changes in the electric resource landscape.[18] Significant generation and grid enhancements require that utilities step forward with the necessary long-term commitments.

This may tempt legislators who favor particular resources look for ways to conscript utility bills and dictate utility resource decisions. These have ranged lately from rhetoric about building 100 nuclear plants to guaranteed multi-decade payments for large-scale renewable energy resources at fixed above-market rates, set by governmental fiat rather than competitive procurement.[19]

Regulators' aim should be to ensure an acquisition process open to all, with results that minimize the life-cycle cost of reliable electricity service.

[17] *See, e.g.*, Calif. Pub. Util. Commn, Decision 95-12-063 (Dec. 20, 1995), as modified by Decision 96-01-009 (Jan. 10, 1996), at p. 8.

[18] *See, e.g.,* Nat'l Comm'n on Energy Policy, *Reviving the Electricity Sector* (Fall 2003), at 1 (describing the "challenge in reviving capital flows" in light of the fact that "electric-industry restructuring has derailed"); Electricity Advisory Committee to the U.S. Dept. of Energy, *Keeping the Lights on in a New World* (Jan. 2009).

[19] The call for 100 new nuclear plants appeared prominently, for example, in the energy policy

In urging against such interventions, however well intended, I mean no disparagement of efforts to set performance goals, such as those expressed in terms of cost-effective energy efficiency targets, acquisition rates and production-based incentives for renewable energy, and caps on greenhouse gas emissions. Legislators and regulators have every right to establish such goals and hold utilities accountable. But they should avoid usurping utility management responsibility for minimizing the costs of achieving societal targets, for at least one good reason beyond their obvious lack of expertise: In most instances they cannot be held accountable for ensuing failures, while the utility can and will be.

C. Avoiding Paralysis in the Face of Climate Policy Uncertainty

How can utilities manage long-term resource procurement when they don't know the future cost of greenhouse gas emissions? Hopes have faded that Congress would moot this question in 2010 with comprehensive legislation. But utilities have demonstrated repeatedly that they can build compelling resource portfolios while avoiding long-term commitments to resources that carry with them significant greenhouse gas emissions. One obvious element of that strategy is embodied in a Washington State law that prevents utilities from making long-term financial commitments to baseload fossil-fuel resources with emissions per kWh that exceed those of a high-efficiency natural gas generator.[20] Federal legislators and regulators can and should let carbon price signals inform electricity markets, but in the meantime utilities do not lack for investments that make sense across a wide range of potential outcomes. Leading that list, of course, are the cost-effective energy efficiency improvements that pervade every sector of the economy.[21] Exploiting them requires urgent attention to some unfinished business in utility rate regulation.

D. Removing Stubborn Barriers to Energy Efficiency

More than 30 years ago, state utility regulators began to recognize that traditional utility regulation had to change in order to put energy efficiency opportunities on an equal footing with generation alternatives. Writing for the majority in a 1975 case addressing the revenue needs of the Pacific Gas and Electric Company, Commissioner Leonard Ross anticipated issues with which many states still wrestle today:

agenda for the McCain Presidential campaign in 2008. *See* Nuclear Energy Insight (Nuclear Energy Inst., Oct. 2008) at 3 (noting also that the McCain platform "calls for 45 new nuclear plants to be built by 2030"). For some unpleasant unintended consequences of excessive governmental intervention in renewable and other energy markets, see R. Minder, *As Spain Struggles, Energy Plan Proves Difficult to Agree On*, N. Y. Times (Global Bus., Sept. 22, 2010) .

[20] *See* Revised Code of Washington (RCW), sec. 80.80 *et seq*. California's SB 1368 (2006) embodies the same policy (codified at CA Public Utilities Code section 8340 et seq.).

[21] For illustrative additional resource categories, see the BPA resource plan summarized above, and the Northwest Power and Conservation Council's Sixth Northwest Conservation and Electric Power Plan (2009) (available at http://www.nwcouncil.org/energy/powerplan/6/default.htm).

> We regard conservation as the most important task facing utilities today. Continued growth of energy consumption at the rates we have known in the past would mean even higher rates for customers, multibillion dollar capital requirements for utilities, and unchecked proliferation of power plants . . . . Reducing energy growth in an orderly, intelligent manner is the only long-term solution to the energy crisis.
>
> At present, the financial incentives for utilities are for increased sales, not for conservation. Whatever conservation efforts utilities undertake are the result of good citizenship rather than profit motivation. We applaud these efforts, but we think the task will be better accomplished if financial and civic motivations were not at cross purposes.[22]

Although few if any state utility regulators contest the objective of substituting less costly energy-efficiency savings for more costly alternative energy supplies, most utilities still automatically incur financial harm when electricity and natural gas use decline, and most utilities still are denied any earnings opportunities if they make cost-effective efficiency investments. The result is a broken business model: utilities typically suffer immediate losses with no prospect of gain if they try to help their customers achieve energy savings, through either targeted incentives or support for improved government efficiency standards. In deciding whether to invest in measures that reduce energy sales or more expensive energy resources that support sales growth, the utility starts with an obvious but wholly preventable conflict of interest.

Commissioner Ross and his successors long ago grasped the need to prevent changes in customers' energy use from affecting utilities' financial health. Much of a typical utility's cost of serving customers is independent of energy use (e.g., paying for generation, transmission and distribution equipment that is already installed). Since utilities recover most of their fixed costs of service through charges on electricity and natural gas use, increases or reductions in consumption will affect fixed cost *recovery* even though the costs themselves don't change. Fixing this problem includes making sure that fluctuations in sales (either up or down) do not result in over- or under-recovery of utilities' previously approved fixed costs.

Few state utility regulators would argue the objective of substituting less costly energy-efficiency savings for more costly alternative supplies.

The immediate temptation is to respond by converting fixed costs into fixed charges; this would make the recovery of fixed costs independent of energy sales, but it also would significantly reduce customers' rewards for

[22] California Public Utilities Commn, D. 84902 (September 16, 1975), quoted in B. Barkovitch, *Changing Strategies in Utility Regulation: The Case of Energy Conservation in California* (doctoral dissertation, Univ. of Calif., 1987) at 134-35.

reducing energy use. That is a step in the direction of what might be termed "all you can eat" rates, which reduce or eliminate customers' rewards for saving energy by making the bill largely or wholly independent of total energy consumption. What we need now is not rate designs that encourage electricity waste, but a strong move in the opposite direction to inverted rates, where the rule is "the more you use, the more you pay."

Of course, that means that utilities will go on relying on variable charges to recover all or most authorized fixed costs of service, which on the face of it perpetuates the disincentive for utilities to promote energy efficiency. A straightforward solution, sometimes called "decoupling," is to use small, regular rate adjustments to prevent over- or under-recovery of authorized costs. Thanks to Commissioner Ross and his colleagues, California had such mechanisms in place for both electric and natural gas utilities by 1982.[23]

V. The Rise of Decoupling: A New Regulatory Bargain

A nationwide debate is underway over whether decoupling should become the industry norm. As of September 2010, 20 states had adopted such mechanisms for one or more of their natural gas utilities; the comparable figure for electric utilities was a dozen states plus the District of Columbia. Typically all that these mechanisms require is a simple monthly or annual comparison of authorized and actual fixed-cost revenues, based on readily available retail sales data, followed by small compensatory rate adjustments either up or down, which ensure that the utility keeps no more and no less than what the regulators initially approved.

Although some have worried about the impact of decoupling on electricity and natural gas rates, industry experience shows minimal effects on short-term rates, and adjustments that go in both directions. A comprehensive industry-wide assessment found that, of 88 gas and electric rate adjustments from 2000-2009 under decoupling mechanisms, less than one-seventh involved increases exceeding 3 percent. (Refunds accounted for a much larger fraction.) Typical adjustments in utility bills "amount[ed] to less than $1.50 per month in higher or lower charges for residential gas customers and less than $2.00 per month . . . for residential electric customers."[24] That represents about a dime a day for the average household, which hardly

[23] J. Eto, S. Stoft and T. Belden, *The Theory and Practice of Decoupling* (Lawrence Berkeley Laboratory, LBL-34555, Jan. 1994) at 21. The first formal decoupling proposal appears in testimony filed with the California Public Utilities Commn by William B. Marcus and Dian Grueneich (now a commissioner) in April 1981, as follows: "Total base revenues for forecast sales and base revenues resulting from actual sales would be compared on a quarterly basis.... The resulting undercollection or overcollection would be placed in a balancing account, rates would be adjusted to amortize the balancing account, and the balancing account would accrue interest at the prime rate." W. Marcus, *California Energy Commn Staff Report on PG&E's Financial Needs,* Application No. 60153 (April 21, 1981, Rev'd July 1981) at 55.

[24] P. Lesh, *Rate Impacts and Key Design Elements of Gas and Electric Gas and Utility Decoupling: A Comprehensive Review,* Elec. J. (Oct. 2009) at 67.

seems like dangerous rate volatility, particularly since it sometimes comes in the form of a rebate – and serves only to ensure that the utility recovers no more and no less than the fixed costs of service that regulators have reviewed and approved.

These modest impacts also rebut arguments that decoupling should result in reductions in utilities' return on equity (ROE), based on the claim that decoupling appreciably reduces business risks. No support for this proposition emerges from the early history of revenue decoupling, which first gathered momentum in the late 1980s through forums

It's good not to lose money when you help your customers save energy and reduce pollution, but it's better, for both shareholders and society, if management is rewarded when it succeeds.

and inquiries led by the National Association of Regulatory Utility Commissioners. Ironically, in an early NARUC manual addressing revenue decoupling, and an early NARUC Resolution in Support of Incentives for Electric Utility Least-Cost Planning, return-on-equity issues are addressed solely from the perspective of ensuring that "successful implementation of a utility's least-cost plan is its most profitable course of action."[25] There is no mention of linking revenue decoupling to *reductions* in utilities' authorized return on equity. I can affirm from my own extensive involvement in these early efforts that this would have struck all involved as both counterproductive and counterintuitive.

Recommendations for ROE reductions more recently have been unencumbered by any empirical evidence that revenue decoupling has changed any utility's cost of capital by "reducing risks." These recommendations overlook both what shareholders give up when utilities lose the capacity to profit from electricity sales increases, and what customers stand to gain from accelerated progress in energy efficiency (and protection from higher utility bills linked to extreme weather). Any gains to utilities in the form of insurance against lower sales are offset by reduced opportunities for financial gains when sales increase, and it seems unreasonable to prejudge how that tradeoff might affect the company's overall risk profile and cost of capital.

Fortunately, commissions typically have not linked revenue decoupling to reductions in ROE. Aside from Maryland and the District of Columbia, I am aware of only one downward adjustment associated with revenue decoupling for an electric utility – the 10 basis point (0.1 percent) adjustment for Portland General Electric that the Oregon Public Utility Commission adopted in January 2009 in a severe recession. As to the District of Columbia, although a recent revenue

[25] *See* D. Moskovitz, *Profits and Progress Through Least-Cost Planning* (NARUC, Nov. 1989); the NARUC Resolution dated July 27, 1989 is Appendix C to that document. The document itself is available at http://www.raponline.org/docs/rap_moskovitz_leastcostplanningprofitandprogress_1989_11.pdf.

decoupling order reduced PEPCo's ROE by 50 basis points, it noted that the company's decoupling application did not include any enhanced energy efficiency efforts.[26]

On the other hand, the Maryland Public Service Commission recently ordered a 50 basis point ROE reduction for PEPCo and Delmarva, subsidiaries of PEPCO Holdings, based on contentions that revenue decoupling reduced financial risks for the utility.[27] In these decisions, the Maryland Commission is an outlier among its peers. I hope it will reconsider its policy, particularly given the crucial utility role in achieving new statewide efficiency targets that are among the nation's most aggressive.[28]

Assuming that utility regulators steer clear of Maryland's mistakes, widespread revenue decoupling would eliminate a huge financial disincentive for utilities to promote energy efficiency. However, it does not by itself give utilities an opportunity to share in the benefits of energy efficiency improvements. It's good not to lose money when you help your customers save energy and reduce pollution, but it's even better, for both shareholder and society, if management is rewarded when it succeeds.

To sustain their excellence in efficiency, the investor-owned utilities that deliver three quarters of the nation's electricity and almost all of its natural gas need more than just protection from instant pain. California is one of about a dozen states that have acted to assure that independently verified net energy efficiency savings to customers will also yield a reward for utility shareholders.[29] One option is to allow utilities to earn a rate of return on approved efficiency expenditures that is equal to or greater than the compensation afforded prudent generation or grid investments. My preference, however, is a compensation system tied to verified performance in delivering cost-effective savings to customers, rather than just "tonnage of capital committed."[30]

VI. Conclusion

John Rowe, Exelon's eloquent CEO, has been memorably dismissive of those offering energy solutions that "will scratch any itch you think you have." And the world will always be full of energy theologians who petition policy makers to favor their preferred technology. My case for competitive resource procurement by America's electricity distribution companies is based on a different principle, enunciated decades ago by a regulator who still ranks among the best: "Buy only what you need, and buy it as cheaply as possible."[31] ■

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[26] *See* Pub. Util. Commn of D.C., Case No. 1053, Order No. 15556 (Sept. 28, 2009), at 7.

[27] *See, e.g.*, Order No. 83516 (Aug. 6, 2010) at 55.

[28] The EmPOWER Maryland Energy Efficiency Act of 2008 aims to reduce per capita electricity consumption by 15 percent by the end of 2015, based on a 2007 baseline.

[29] For a compendium of precedents, *see* (http://www.edisonfoundation.net/iee).

[30] I first heard this characteristically vivid comparison from Tom Page, then CEO of San Diego Gas & Electric.

[31] The regulator in question was Chuck Collins, an initial member of the Northwest Power and Conservation Council. For both the Collins and Rowe quotes I rely on long acquaintance and my own memory.