The Future? Let's Take a Step Back Here

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ABSTRACT

There is a tendency to address going-forward energy efficiency and "taking it to scale" by starting with what we do now and tweaking that: program designs, strategies, EM&V, cost-effectiveness, utility (dis)incentives. Recent history has proven this type of thinking simply does not work – specific program goals are starting to be missed and progress toward state policy targets (i.e., "15 by 15" and "20 by 20") is of concern. Why? "Fueling the future" is a macro question we tend to approach in more of a micro way. It is perhaps too symptom-oriented, dooming progress to be incremental at best, to take on the future in this way. It is time to step back, to start from the start and treat energy efficiency planning holistically.

This paper will initiate exploration of the higher level question of macro-goals and begin to explore the related synthesis of multiple policy and economic objectives as they relate to energy efficiency. Key questions include:

- What is a one sentence statement of the (single, main) goal of ratepayer investment in energy efficiency for the 21st century?
- How do energy, environmental, economic and social policy intersect at this nexus known as energy efficiency?
- What are the implications for energy efficiency planning, policy, regulation and strategy?
- What are roles of/impacts on utilities?

Although intended to be a provocative, philosophical discussion-starter, the author will provide "light" review of current experience and suggest some perhaps radical quantitative and qualitative directions, with no presumption or assertion of being correct.

Introduction

"New rate constructs and business models for utilities should be explored because, 'the way we've done it in the past ain't going to work for tomorrow.'" This paraphrase and quote of Lauren Azar, from the February 13, 2012 issue of Platts Electric Utility Week (EUW, 2) represents a summary theme for exploring the question of "Fueling Our Future" with energy efficiency. The era of politics as usual, agendas as usual, alliances as usual and assumptions and methods as usual must end in order to go to the next level with energy efficiency. We are perhaps at a crossroads that will leave us damned to incremental gains and improvements or liberated to broad transformation of markets and mindsets that will allow significant efficiency gains. Referring to Azar's comments again, she states: "the future vision is a '100% holistically designed system'" (EUW, 2). Which way will we go?

The reality seems to be that the populations of utility EE staff, non-utility EE program administrator staff, EE policy/regulatory consultants, advocates, the evaluation community, and policy/regulatory staffs at the state and federal level (together, "the EE community") are all remarkably busy in this day and time "getting the stuff out the door" so to speak. This is a most

dangerous situation because the marketplace for EE and energy in general is rapidly changing and the policy drivers of the various stakeholders to this complex system we know as "ratepayer funded energy efficiency" generally are not. The time is perhaps running out for the EE community to take a step back and overhaul the endeavor in order to maximize the opportunity to fuel the future with EE. Some might say the time is now to "rebuild the car even as we are driving 65 miles per hour."

Fueling our future with Energy Efficiency ("EE") requires nothing short of encouraging the ACEEE Summer Study audience and the EE community as a whole to start over from the beginning, at the highest levels of considering terms, stakeholders, goals and objectives. The statement used in describing the 2012 Summer Study is an accurate one:

> Well integrated government and utility programs, codes and standards, technologies, integrated design processes, operation practices and financing sources need to be further developed and cost-effectively implemented, while addressing behavioral factors and workforce development needs. A new generation of multi-disciplinary practitioners, researchers, and policymakers needs to be educated and quickly deployed to solve the closely-coupled energy efficiency and climate problems that we face (ACEEE).

As we, as a community, jump into this mission, however, the realities of the markets, the utilities and the politics scream loudly for a well vetted, holistic treatment that starts at the start in order to attempt to chart a course toward "fueling our future with EE. That is the endeavor of this paper.

Markets: What is Energy Efficiency?

When we get beyond the oft-stated definition of energy efficiency as "doing more with less or the same amount of energy," what is EE? The EE community does itself a disservice to rely upon this simple definition because it is too abstract. Even extending the answer to the concept of the "negawatt" or energy resources not consumed does not do justice to the question at the level we need to approach it today. Rather, if we are to fuel the future with EE, the time is now to redefine energy efficiency itself in order to refocus the discussion. For purposes of this paper, a working definition is:

> Energy Efficiency is the pursuit of macroeconomic gain from within the complex market of energy-consuming products, services and behaviors that, itself, operates within an equally complex marketplace of unregulated and regulated businesses, both of which being influenced by an even more complex system (or loosely another "market") of political stakeholders.

There is much to be wrestled with, including this definition itself, even as the exploration starts.

Supply and Demand

Stripping everything else away, a pure micro-economic picture of the EE market is perhaps a good place to start. If there were no regulated utilities involved and if there were no

policy, regulatory and political influences, what is EE? This leads us to the first part of the proposed definition: "the complex market of products, services and behaviors operating within a…marketplace of unregulated…businesses." Classical micro-economic economic theory then becomes applicable where supply, demand and the related issues of production and consumption theory describe the operation of the market and the equilibrium or market-clearing price and quantity. Here again and right from the start a fundamental concept and issue is left off the table. Why do consumers buy (demand) in the first place? It is a straightforward matter to understand that in general the higher the price, the more will be produced (supply) and the lower the price the more will be consumed (demand). In economics-speak, all other things equal, there is a functional relationship between price and quantity. This relationship is a direct one with respect to the supply curve and inverse with respect to the demand curve.

Changes in Supply & Demand versus Changes in Quantities Demanded or Supplied

Fueling the future with energy efficiency requires shifting these supply and demand curves so that more is produced and more is demanded at all levels of price. The objective of EE should be to, at the same level of prices, shift market equilibrium upward. This suggests shifts in the "all other things" being held equal: both the underlying cost structures and a critical concept called "consumer utility" which identifies the origin of demand for a product or service, or the choice of a behavior, as being related to satisfaction of some want or need. It is a very different matter when only one or neither of the functional relationships (curves) change and the market moves along an existing curve. In these instances either the consumer utility is unchanged so increases in quantities demanded must be driven only by a lower price, or the underlying costs of production are unchanged so increases in quantities supplied must be driven by some non-price source of revenue, or both.

Accepting that the supply and demand curves or functions themselves have to change, the challenge becomes to sort through how EE can affect such shifts. On the production (supply) side the goal must be to change the entire structural system underlying costs either by innovation or economies of scale. On the demand side the goal must be to change this abstract concept of consumer utility so that consumers want or need more; this is arguably at the core of the definition of marketing. The current system of ratepayer energy efficiency is *generally* driven by cost-effectiveness tests, constructs of attribution of savings and methods of evaluation that do not value investments in innovation, economies of scale, or changing consumer utility that drive the desired shifts in the supply and demand relationships. For example, on the demand side cost-effectiveness or regulatory review should value and endorse efforts that bring about the kinds of shifts in consumer utility that will make EE inherently attractive to consumers. On the supply side, EE investments that lack "instant gratification" in the form of increased numbers of "widgets" are needed. In economic terms, ratepayer energy efficiency needs to stop being restricted to moving along existing supply or demand curves and instead seek to shift the curves themselves.

BUILDING BLOCK #1: How do we focus on energy efficiency programming that changes the functional relationships underlying supply and demand as opposed to manipulating prices to drive short-term reactions?

EE and the Utility Business

Having addressed the concepts of the "EE market" it is essential to turn to the most direct source of intervention into the market: the utility. Whether the utility administers the ratepayer funded efficiency program or not it is the utility that has the closest and most direct relationship with the consumer and, arguably, has the most at stake with respect to such programs. It is essential but seemingly lost at times that by definition utilities are a business. The ability of utilities to more than cover costs either via revenue or avoidance of expenses is critical. This fact makes the discussion of ratepayer funded energy efficiency a discussion of utility ratemaking, plain and simple. At the National Electricity Forum this issue is at the heart of Lauren Azar's comment, that "new rate constructs and business models for utilities should be explored" (EUW, 2). The EE community does itself and all stakeholders a disservice by sometimes not acknowledging that the EE discussion is at the same time a ratemaking discussion.

What is a utility rate? The understanding of utility rates is often over-complicated. A utility rate is simply a price that is set through a regulatory process charged with ensuring that price is "just and reasonable." Utility rates are that set of prices which provides the utility the ability to cover its costs and make some level of profit that the regulatory process deems appropriate. Whether the rate is set based upon a "traditional cost of service" regulatory model or a "progressive" regulatory model, one thing is certain: every utility rate is a simply the division of a sum of dollars by a sum of energy. It is what goes into those sums, and why, that becomes an issue. Mathematically it is unavoidable that when the sum of dollars to be collected increases and/or the sum of energy delivered decreases, the rate goes up.

What does this mean for purposes of the discussion of ratepayer energy efficiency policy?

1. If an efficiency investment (cost) creates positive net revenue for a utility, the utility will tend to embrace it.
2. If an efficiency investment creates negative net revenue for a utility, then the utility is obligated to undertake whatever course(s) of action it has available to make itself and its investors whole.

The long, protracted battles and the expensive processes related to developing ratepayer energy efficiency budgets based upon energy savings due to the programs and valuing them based upon a defined set of avoided costs may well overcomplicate the discussion as well. Could not assessment of the appropriateness of a ratepayer investment in energy efficiency boil down to two questions:

1. Did the utility and its investors come out financially neutral or ahead?
2. Did the ratepayer come out financially neutral or ahead?

Although we indeed address these questions in the current EE regulatory process, we do so with a level of analytic rigor, contention and cost that seems disproportionate to the cost of the energy production and delivery system overall. A simple solution seems to be needed.

BUILDING BLOCK #2: How can we establish energy efficiency programming that leaves the utility, the investor and the ratepayer unharmed or ahead?

Ratepayer Funded Energy Efficiency Policy, Regulation and Administration

Understanding the concept of the EE market and a bit about the utility business, how do EE policy, regulation and administration work today? In exploring how energy efficiency policy and regulation work in various states the 2011 ACEEE State Energy Efficiency Scorecard (Sciortino) rankings will be noted in parenthesis as the state is introduced.

The Collaborative Utility Model

Massachusetts (#1), California (#2) and Connecticut (T-#8) are three prominent places where the regulation of ratepayer energy efficiency is said to have substantially evolved from a fully adjudicated, contested process to a stakeholder collaborative process that develops consensus plans for final approval by the utility regulator. In these states the various policy areas and constituencies come together on a Board, a Council, or a formal process authorized by state legislation to develop, with the utilities who will ultimately implement, annual or multi-year energy efficiency plans. Stakeholders to this process generally include the state energy office, attorney general and/or ratepayer advocate, environmental regulator, business community and low income advocacy agencies or entities. The utility regulator tends to have an arm's length, observer relationship to the collaborative so they can maintain a semblance of objectivity. The utility is usually a non-voting participant, limited to informing and influencing. The processes are public in an effort to maintain transparency. The processes are intended to allow ideas to originate with the stakeholders and be vetted, shaped and negotiated such that consensus regarding cost-effectiveness, program design, budgets and evaluation emerges. The consensus plans are submitted to the regulator so that a relatively quick and non-contentious review of "just and reasonable" with respect to rates can occur by looking at the economics, the utility incentive structure (if any) and the cost-recovery. There are several points to keep in my mind when considering this model:

- Common understandings of the parties regarding the underlying statutes and policies are essential;
- Over-arching state policy goals related to renewable and energy efficiency portfolios, such as "an X% reduction in consumption by YYYY year" or "X% renewable energy by YYYY year" may or may not be reasonably achievable given the constraints of existing program design and approval frameworks;
- The regional generation and transmission markets and the planning processes and methods of the regional transmission organizations (ISO, RTO) must be taken into account;
- There is risk of abdication of stakeholder roles and authority to external players such as the consulting community;
- Dwight Eisenhower's "Beware the Military-Industrial Complex" speech can become instructive with respect to the impact of mutual self-interest of parties to the process; and
- There can be a lack of clarity regarding the scope and roles of, and the boundaries between, the collaborative processes and the regulator.

The Third Party Administrator Models

Throughout the country there are various models in which the collection of energy efficiency monies remains the role of the utility but the administration of them and the delivery of programs fall upon some third party. There appear at least three different variants of this model:

- The Oregon (#4)/Maine (#12) model of placing thing funds in an independent, incorporated Trust
- The Vermont (#5) and District of Columbia (#22) model of the Efficiency Utility
- The New York (#3) model of a state Authority

Within these models there are more or less related approaches, including in Wisconsin (#16) and New Jersey (#15) for example. Regardless of the particular model, each of the third party approaches shares at least three core features:

1. The gas and electric utility provide funding but do not administer
2. The entity is governed by a board comprised of a diverse stakeholder and policy perspective
3. The entity remains accountable to the utility regulatory commission

Theoretically this model removes the influence of the utility disincentive regarding energy efficiency and replaces it with a more objective view of efficiency as a resource within the state's overall energy portfolio. Again there are several points to keep in my mind when considering this model:

- The utility role continues to be significant by virtue of their relationship to and knowledge of the customer base;
- There is some risk of lack of utility enthusiasm (i.e., support) for the programs and no "skin in the game;"
- Administrators do not themselves have "ownership" of utility billing/customer data;
- An understanding of the EE "system" is essential for the strategic leadership and governance team of the third party administrator; and
- Competition between utilities and third party entities in energy services programming can emerge.

Fully Adjudicated Utility Model

The majority of states, including most of those that are new to ratepayer funded energy efficiency or are significantly ramping up, regulate efficiency programs through traditional, fully adjudicated filings and hearing processes within the utility regulatory commission. While some states such as Missouri (T-#44[1]) are moving toward development of programs and flings collaboratively as they ramp-up, the end product remains a full-blown hearing process.

[1] Missouri is currently ramping up significantly as compliance with the Missouri Energy Efficiency Investment Act is enacted.

Although there can be no doubt that the scrutiny and the record associated with fully adjudicated processes are strong, there are points to keep in my mind when considering this model:

- Time and expense associated with the process can be large;
- The ability to think "out of the box" may be hindered by the rigidity of the process;
- There tends to be a distrustful or even confrontational tone to formal proceedings;
- There tends to be a risk of "meeting the floor" of what's required by the letter of the law rather than "reaching for the ceiling" of what is necessary and possible; and
- Flexibility to change as markets dictate is often limited.

Portfolio Standards and Legislative Mandates

While the processes and administration models related to the public utility regulatory commission are important, these work within the direction established by state level energy policy and various regulatory constructs. In order to suggest possible direction and best practices it is critical to explore how these models and processes function given the higher-level constructs and goals in place. At the highest level the driver of most energy efficiency programming is some combination of administrative and/or legislative mandates. Most states now have either a hard-mandate to procure "all cost-effective energy efficiency," for example in Massachusetts (SB 2768), a loading order (e.g., California's first fuel), or on the opposite end of the spectrum a defined funding cap such as Pennsylvania's 2% of revenue (Act 129). Similarly most states have high level energy efficiency goals related primarily to climate change planning such as "15 by 15" in Maryland (#10) (SB 205) which says that by 2015 there must be a 15% reduction in energy use versus 2007 levels. Still other states such as Michigan (T-#17) have legislation (Act 295) requiring integrated resource planning ("optimization" in Michigan's case) that seeks to consider energy efficiency on par with traditional supply resources as utilities develop their resource portfolios and plans. Each of these high-level constraints shapes energy efficiency planning and budget levels significantly, for example:

- Spending caps necessarily limit the ability to achieve load reductions and force "cream-skimming"
- All cost-effective efficiency mandates for motion toward benefit-cost ratios equal to 1.0
- Integrated resource management processes suggest efficiency spending levels determined by "true" avoided and avoidable costs

All of the standards and mandates are volatile and change with the political winds as FERC Chair Philip Moehler points out: "Be careful about 'public policy' assumptions…markets and laws can change" (EUW, 8). Current evidence of the dynamic nature of these high-level policy goals can be seen as states, for example Vermont, wrestle with proposals to change or eliminate energy efficiency and/or clean energy goals altogether due to the economic and market challenges they bring.

Ratemaking, Cost Recovery and Utility Incentives

Recall that regardless of what entity administers ratepayer funded energy efficiency the utility, by definition, is compelled to be made whole and provide a return to its investors. The

way in which the utility's rates are made, the mechanisms by which energy efficiency costs are recovered for customers, and whether and how a return on the energy efficiency investment is earned are all foundational questions that drive much of the overall energy efficiency planning and regulation processes. Recalling that a utility rate is simply a matter of dividing some dollars by some number of units of energy, the fact is that energy efficiency impacts both the numerator and the denominator. Energy efficiency is a cost that drives up the numerator and a tool to reduce units of energy delivered, thus driving down the denominator. Whether the ratemaking model is a cost-of-service approach that sets rates based upon forecasted revenue requirement and sales that then vary, or a decoupled approach that fixes the revenue requirement and allows rates to fluctuate with sales, energy efficiency equals higher rates. On the specific question of how these higher costs are recovered there are any number of tariff riders, decimals and regulatory asset approaches but two fundamental questions become: 1) Who pays what percentage of the total, and 2) Are costs recovered concurrently or retroactively? These are generally contentious and complex issues. Finally, there is the question of making the utility whole and/or providing a return on energy efficiency investment. The utility must seek to at a minimum cover its cost of service, including that amount it invests in energy efficiency, and to provide a return to its investors. In establishing the amount the utility recovers, through whatever means, at least two key questions emerge: 1) Does the model provide rewards for good performance and/or penalties for poor performance? 2) Does the model adequately recognize and address the combination of sales erosion and increased costs? Beyond just the energy efficiency regulatory process, utilities can and in fact must utilize the generally expensive and time-consuming process of undertaking a rate case if these cost-recovery amounts and methods fail to meet the financial needs of the utility as a business.

BUILDING BLOCK #3: What are the optimal approaches to portfolio administration; administrative law; synthesis of state energy and climate goals with energy efficiency; and ratemaking treatment of energy efficiency spending?

Beyond Energy: EE as a Policy Nexus

With the utilities introduced as regulated entities; various regulatory issues and models identified; and the concept and nature of energy efficiency as a set of markets established, the questions and impacts of differing levels of energy policy and the various policy and tactical objectives other than energy and their influence on energy efficiency policy and regulation must be explored. At the highest level there are multiple policy and regulation issues at the international, federal, state and local levels. Each issue within each level has associated with it multiple sets of stakeholders, each with their own agenda. Many of the stakeholder groups of importance to the process are represented at ACEEE events such as the Summer Study, however, there are numerous state and local agencies and entities as well as any number of more grassroots stakeholders involved in any given issue at any given time. In the interest of time and space coverage of specific issues, discussion of agencies and entities must be limited so the focus will be on a few critical state and federal policy issues, discussed in such a way as to inform understanding of the whole.

Federal and Regional Energy Issues

Although energy efficiency is primarily regulated at the state level, it is impacted greatly by energy efficiency activity at the national level and energy planning at the regional level. Internationally many of the lighting, appliance and electronics products focused on in the U.S. are also an energy efficiency focus elsewhere, particularly Europe and Canada, so U.S. policies (e.g., standards and rating systems) should ideally complement or at least not undermine the relevant policy aspects of these countries and vice versa. For example, the ENERGY STAR label is designed to lead the national market to a place where roughly the top 1/3 of products in terms of efficiency qualify, yet in many states (and other countries) the saturation of ENERGY STAR (or equivalent) products is high enough that they correctly demand a focus on even higher levels of efficiency. Similarly national model building codes and federal minimum efficiency standards may or may not complement state-level energy efficiency activity depending on the relative maturity of policy and markets in that state. In particular with respect to standards, it is not permissible for states to set standards that exceed federal minimums without a waiver and if energy efficiency policy activity and market maturity is such that a higher standard is warranted, rather than lock in efficiency gains in that state a federal standard may well establish an artificially low floor. At the regional level, the regional generation and transmission markets (ISOs, RTOs) in many parts of the country establish markets for transmission and generation that may or may not be consistent with the individual state policies. For example, an RTO's view of efficiency as a resource may well be very different than a state's given concepts such as reliability, dispatch and net versus gross savings. As a result, the resource planning done at a regional level may be calling for a different amount of supply side resources than the state-level integrated resource plan. Similarly RTO-driven demand response programs sometimes bring rules and processes that are challenging for individual states to synch-up with as they develop their efficiency and demand response portfolios through the regulatory process. Market confusion and/or dilution of impacts occur when the various EE and related energy policy do not align.

Social Policy

Energy efficiency is often not appreciated as being a key element of social policy (and vice versa) both at the national and state level, however it undoubtedly is. Issues in the social policy realm relate primarily to the low income sector of the residential utility market. For example, among the federal policy areas in play are those of HUD, DOE and EPA[2]. HUD's rules related to financing and refinancing multifamily properties utilizing federal funds, which is the majority of the larger income-eligible multifamily market, have considerable focus on efficiency, utility costs and capital improvements to the building stock. DOE's low income weatherization funding is all about energy efficiency improvements. EPA's administration of the ENERGY STAR brand and DOE's administration of related technical aspects of it overlap into both the HUD and low income weatherization areas. Oftentimes DOE, HUD, ENERGY STAR and individual state models do not align at all, creating significant market barriers and challenges. At the state level social policy issues bring in consumer advocates, energy offices, and low income advocacies to influence the structure of ratepayer-funded programs in terms of

[2] Other issues and entities in the EE-social policy realm include asbestos abatement, tax policy, financing for EE activities, and even FEMP.

the distribution of budgets across utility rate classes and bill impacts. In some states the issues of the relationship between EE and utility bill arrearage, forgiveness and shut-off policy all come into play as well. In short, social policy tends to bring multiple and often conflicting sets of rules or guidelines and introduce numerous issues other than energy efficiency into the regulation of ratepayer funded energy efficiency.

Economic Development

In recent years the relationship between ratepayer energy efficiency programs and economic development has been elevated in importance. This issue brings departments of education and training and economic development at the state and federal level into the mix. Issues here are often under-recognized or under-appreciated in terms of their impact on the regulation of ratepayer funded energy efficiency. Quantifying the business and jobs impact of ratepayer funded energy efficiency is an expensive and inexact science. Similarly, but often not recognized, the issue of job training brings with it numerous issues related to defining jobs, skills and training requirements. Economic development spans not only job-training and employment with respect to directly related employment such as the building trades and weatherization technicians but also the attraction and retention of businesses in general at the state level since utility rates and efficiency programs are part and parcel of what drives the overall costs of running a business. As with direct employment, determining the relationship between utility costs, efficiency programs and business (re)location decision making is at best an inexact science. Although reasonable to consider, injecting economic development issues and metrics into the regulation of energy efficiency complicates the matter and adds a dimension beyond the primary issue of energy efficiency.

Environmental Policy

Energy efficiency and environmental policy have, it seems, had a close relationship for some time. However, this is not simply an EPA and state department of environment issue by any means. Certainly high profile issues around power plant emissions such SO_x, NO_x and greenhouse gasses are driven by the environmental regulator, but there are additional issues around siting facilities, land use, eminent domain, and electromagnetic frequencies (EMF) that bring in other entities and agencies down to and importantly including local governments and grassroots organizations. Once again the objectives, agendas and metrics related to environmental policy may or may not be appropriate to discuss within the context of energy efficiency regulation but, regardless, to quantify these within the discussion as a "hard" element of the energy and energy efficiency discussion may not be so easy or appropriate, and once again adds a layer of complexity and arguably distraction.

BUILDING BLOCK #4: What is appropriate scope of energy efficiency as a policy tool and what is the appropriate role of the policy stakeholders in the process regulating ratepayer funded energy efficiency?

Putting it all Together: Toward an EE Goal

When multiple policy issues, objectives and agendas collide at the location of one policy issue, objective and agendas, that one policy issue becomes unavoidably complex and

understandably "messy." Recalling the initial "Key Questions" articulated in the Abstract and circling back to the "BUILDING BLOCKS" above can lead us to refocus the discussion on the model or set of models related to regulated, ratepayer funded energy efficiency. Let us revisit those "building block" questions:

1. How do we focus on energy efficiency programming that changes the functional relationships underlying supply and demand as opposed to manipulating prices to drive short-term reactions?
2. How can we establish energy efficiency programming that leaves the utility, the investor and the ratepayer unharmed or ahead?
3. What are the optimal approaches to portfolio administration; administrative law; synthesis of state energy and climate goals with energy efficiency; and ratemaking treatment of energy efficiency spending?
4. What is appropriate scope of energy efficiency as a policy tool and what is the appropriate role of the policy stakeholders in the process regulating ratepayer funded energy efficiency?

Thinking through the initial discussion of supply and demand suggests that sustainable energy efficiency through market transformation is less about influencing price and more about investing ratepayer energy efficiency dollars into those activities that will impact the costs of production and the concept of consumer utility. Quite simply, neither of these efforts can be measured by looking at program costs, consumer costs and energy savings because, by inference, these are the stuff of measuring the success of manipulating prices in the short-term. Rather, in order to impact the underlying functional relationships associated with supply and demand the ratepayer energy efficiency investment must be focused on research, innovation, and non-price marketing. *This suggests that cost-effectiveness tests such as the TRC may be entirely the wrong approach to measuring the value and prudence of energy efficiency investments and that production metrics and consumer survey-related metrics may be more appropriate.*

Establishment of energy efficiency programming to leave utilities, investors and ratepayers ahead is conceptually simple, but politically difficult. Utilities and investors come out ahead when costs are recovered and a return is allowed. Ratepayers, as a proxy for society as a whole, come out ahead when the overall costs of energy are lower. The politically challenging issues here are obviously that some stakeholders decry any reward or "windfall" to the utility and some stakeholders focus their assessment of ratepayer impacts on rates rather than bills. Regardless of the process, which is the subject of the next question, a starting point must be commitment to allow the business of the utility to be recognized as a legitimate business with legitimate objectives and constraints, and to focus on bills or costs not rates. *This suggests that observation of whether utilities achieve their financial targets and whether aggregate state energy spending (normalized to be sure for variables such as population, weather and business activity) declines are appropriate metrics.*

Turning to the matter of approaches brings another set of challenges. Considering that the top-scoring states in the ACEEE scorecard include both utility administration and third party administration models leads to a conclusion that the best practices related to energy efficiency policy and regulation have less to do with the administrator and more to do with execution and administrative law. Continuing to look at the ACEEE scorecard suggests that collaborative approaches leading to consensus or majority-endorsed filings with the utility regulatory

commission are preferable to fully adjudicated, contested proceedings but with the caveat that the utility regulatory agency must truly cede some of its role and limit the scope of their review (see next paragraph) so that lengthy and difficult (and thus costly) collaborative process outputs do not get, in effect, re-litigated or re-negotiated. Ratemaking treatment is a difficult issue to wrestle with as far as best practices are concerned, however it is logical to conclude that breaking the dependency of utilities on sales to yield pure revenue (profit) and minimizing both carrying and regulatory costs should be goals. *Utility rates of return and overall costs of energy can serve as indicators of what could be termed "administrative efficiency," as could tracking of utility carrying costs and the costs of all parties as they relate to portfolio and program development and approval processes.*

The last question is perhaps the most likely to generate controversy. Rephrasing the question more provocatively implies a conclusion in and of itself: Is the regulation of ratepayer funded energy efficiency a matter of energy policy or multiple policies of which energy is one? Since ratepayer funded energy efficiency appropriately is in most cases ultimately authorized and monitored by the public utility commission and in most cases the public utility commission is statutorily charted to ensure "just and reasonable" utility rates, aren't we asking too much when we attempt to address multiple policy areas and issues? Aren't many current state processes and models mixing not only policy apples and oranges but an entire fruit salad? *Translating the goals of ratepayer funded EE programming (above) into the multiple policy issues and areas currently embedded in the discussion in many states necessarily requires the utility regulatory commission to attempt or claim to quantify so many non-energy issues and elements that the costs of doing so become inordinately high and the accuracy and relevance to energy policy and pricing become suspect.* In the end, this is what forces use of metrics such as the TRC and measurement of the inputs to it, and prevent us from addressing the functional supply and demand relationships we should focus on.

From the resolution of these "building block" questions, the ultimate objective of answering the following (from the abstract): "What is a one sentence statement of the (single, main) goal of ratepayer investment in energy efficiency for the 21st century?" emerges and perhaps allows us to establish the beginnings of a new pathway forward. At the macro-level, perhaps the goal should, therefore, be stated as follows:

> **Undertake ratepayer funded EE that maximizes benefits to society from sustainable market interventions that can measured by evolving consumer utility related to energy efficiency, costs of production related to energy efficiency, the financial impact on utilities and ratepayers (society) as a whole, and that anecdotally supports other public policy goals.**

References

[EUW] *Electric Utility Week*, February 13, 2012

Michael Sciortino, et al., *The 2011 State Energy Efficiency Scorecard*. ACEEE-E115. Washington, D.C.: American Council for an Energy Efficient Economy.

[ACEEE] American Council for an Energy Efficient Economy, http://www.aceee.org/conferences/2012/ssb. Washington, D.C.: American Council for an Energy Efficient Economy.

[SB 2768] Massachusetts Legislature General Laws Chapter 169. http://www.malegislature.gov/Laws/SessionLaws/Acts/2008/Chapter169. Boston, MA: Massachusetts Legislature.

[Act 129] Pennsylvania General Assembly - House Bill 2200 ("Act 129"). http://www.puc.state.pa.us/electric/pdf/Act129/HB2200-Act129_Bill.pdf. Harrisburg, PA: Pennsylvania General Assembly.

[SB 205] Maryland General Assembly – Senate Bill 205. http://mlis.state.md.us/2008rs/billfile/sb0205.htm. Annapolis, MD: Maryland General Assembly.

[Act 295] Michigan Legislature Act 295 of 2008. http://www.legislature.mi.gov/(S(31hae2bxnsvixiruss1jtg45))/mileg.aspx?page=GetObject&objectname=mcl-Act-295-of-2008. Lansing, MI: Michigan Legislature.