

**WESTERN GOVERNORS' ASSOCIATION
ENERGY EFFICIENT BUILDINGS WORKSHOP**

July 17-18, 2007

*Red Lion Hotel
Denver, Colorado*

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1. OVERVIEW

The Western Governors' Association (WGA) Energy Efficient Buildings Workshop was held on July 17-18, 2007 in Denver, Colorado. The workshop brought together over 125 participants representing a broad range of interests – home builders, developers, manufacturers, consultants, federal, state and local government agencies, legislators, policy makers, utilities, financial institutions, regulators, students, professors, university and school administration officials, interested citizens, consumers and environmental advocates.

The overall objective of the workshop was to promote implementation of energy efficient approaches and mechanisms that contribute 30 percent or greater improvement over the current International Energy Conservation Code (IECC). To achieve this workable goal, participants discussed best practices, tools and incentives for encouraging energy efficient buildings. Legislation and regulatory changes to promote more efficient buildings were identified for policymakers to consider. During breakout sessions, participants worked collaboratively to make recommendations on the steps needed to achieve a greater energy-efficient future.

2. OPENING SPEAKERS

2.1 Pam Inmann, Western Governors' Association

WGA Executive Director Pam Inmann opened the workshop, sharing WGA's objective of leaving the conference with ideas for achieving increases in energy efficiency that are 30% beyond international code. She emphasized that accomplishing this goal will require the cooperation of all sectors and levels of leadership, as well as incentives to accelerate change and allow western states to turn a "mountain of potential" into a "mountain of energy efficiency gains."

2.2 Colorado Governor Bill Ritter

Governor Bill Ritter spoke to meeting participants about Colorado's State Greening Executive Order, which will reduce consumption of energy by 20%, water and paper by 10 %, and petroleum in state vehicles by 25%, by 2020. He also recognized the many other western governors playing a leadership role and pursuing a shared vision in energy efficiency through their own state goals. Governor Ritter highlighted the "New Energy Economy" and the need to include efficiency and renewables with traditional sources of energy such as coal, natural gas and oil, and described energy efficiency is the cheapest source and the best strategy in addressing climate change and meeting growing energy demand.

In response to a question about codifying Colorado's commitment to the WGA energy efficiency goal in an executive order, Governor Ritter said that it is important to measure and accelerate goals, meeting and exceeding objectives and deadlines whenever possible, but there are no current plans to create another executive order. Another participant expressed a concern about a lack of engineering and other technical expertise in states to address energy efficiency needs. Governor Ritter agreed with the need for a state and even national movement to increase science, technology, engineering, and math (STEM) capabilities and skilled workforce through grants and other initiatives, as well as a need for technology transfer from academia and to commercial markets. Finally, when asked for advice on working with state legislatures that are not demonstrating leadership on energy efficiency, Governor Ritter suggested focusing on rural parts of the state. By understanding and providing solutions to address key barriers in rural areas, the executive branch and other state stakeholders can educate the legislature on energy efficiency efforts and demonstrate benefits to their constituents.

2.3 Howard Geller, Southwest Energy Efficiency Project

Mr. Geller outlined key developments in the last six months, including new energy efficiency goals set by governors and energy efficiency components in state climate change plans, and the growth of electric and gas utility demand-side management (DSM) programs. He explained how western states are leading the nation in progress on updated state and local building energy codes, appliance efficiency standards, and building EnergyStar rated new homes. Mr. Geller then outlined energy efficiency legislation, goals, and other initiatives throughout the western states, such as tax credits for builders and consumers, appliance efficiency standards, revolving loan funds, and offsetting anticipated load growth through DSM. He closed by describing the needs of the western regions, including continued expansion of utility DSM programs and performance-based incentives for

shareholders, emphasis on Energy Star and higher standards for new construction, and integration of energy efficiency into state and regional climate strategies.

2.4 Sam Rashkin, Environmental Protection Agency – Energy Star for Homes

Mr. Rashkin described EnergyStar for Homes (www.energystar.gov) and its impact on the \$.5 trillion homebuilding industry, noting that the program will approach one million labeled homes by the end of 2007. He highlighted the importance of having a “sticky message” that responds to consumers’ interests and concerns, such as high energy costs. He noted that technology, such as the infrared camera, could help demonstrate construction features causing energy problems, and encouraged homebuilders to seek market opportunities as more and more homebuyers demand efficient homes. Mr. Rashkin also gave an overview of what has worked with the EnergyStar for Homes program, including lessons learned about builder incentives, training, technical infrastructure, marketing to consumers, and overcoming resistance to change in the field. Mr. Rashkin concluded by sharing his thoughts on next steps for EnergyStar and building efficient homes, including features such as solar orientation, thermal bridging, structured plumbing, and advanced lighting.

In the question and answer session, Mr. Rashkin explained that EnergyStar equipment typically represents the top 20% most efficient equipment of a category that has the same or better performance as standard equipment. For some appliance categories, a larger percent of brands have earned the label over time. He also noted that compact fluorescent lamps (CFLs) have improved, and EnergyStar-labeled CFLs are evaluated for many metrics besides lumens per watt, such as quiet operation when installed in appropriate fixtures.

Responding to a question about factors that drove EnergyStar’s success in markets such as Nevada, where 71% of all new homes qualify for the label, Mr. Geller cited training and coaching for builders, as well as building consumer demand through marketing and education. Mr. Rashkin added that states need a strong champion of the Home Energy Rating System (HERS) structure and for the EnergyStar program. Las Vegas, for example, had a leader that coordinated marketing and activities, such as parades of homes, to raise awareness and consumer demand in the state.

2.5 Eric Borsting, National Association of Homebuilders

Mr. Borsting highlighted the current housing stock, citing an estimate that western states have 22 million homes that were built prior to energy codes. Due to these numbers, he recommended that energy efficiency initiatives include homeowner education and incentives for consumers. While the popularity of energy efficient homes has increased, costs to consumers can depend on technology, climate, qualified contractors, and the scale of the upgrade. He noted that incremental updates can be affordable. His policy recommendations included allowing choice and flexibility rather than mandating a single program within and across regions, and ensuring code enforcement. He shared examples of successful programs, such as the New Mexico Zero Energy Home Program, Build Green Colorado, and Nevada’s Green Building Partnership. Mr. Borsting concluded by stating that building green and building affordable homes should not be mutually exclusive efforts, and urged state and local elected officials to work with builders, utilities, and local government to address the existing housing stock, educate consumers, and partner with state energy offices.

2.6 Kim Calomino, Built Green Colorado

Ms. Calomino spoke about the effectiveness of voluntary, “above code” programs. She explained that changing energy codes have increased uniformity and industry input, advanced building science, and legitimization of energy efficiency as a worthy topic. While codes have encouraged many in the field, she believes that voluntary programs are also needed to take energy efficiency to the next level. Ms. Calomino described Built Green Colorado as a voluntary program supporting broad improvements and innovations in energy efficiency in the homebuilding industry, as well as preparing industry for new regulations and codes such as the IECC. Built Green is an “above code” program, in which members strive for 15% above IECC 2006 based on performance. She believes this and other voluntary programs are successful because they are accessible to builders at all stages of experience with efficiency, allow flexibility in routes to compliance, have industry ownership, foster creativity, and provide marketing assistance. She said that innovation will be ahead of regulation, and promoted tax credits, voluntary programs, consumer and industry education, and partnership with the private sector. She also noted that the remodeling industry should be involved, given the large number of existing homes. To this end she noted the great opportunity EE provided and suggested that a modern day Environmental Service Corps, a hybrid of the Civilian Conservation Corps and Peace Corps, could be mobilized to weatherize, insulate, and dramatically improve the energy performance of the 120 million existing housing units.

In response to a question about the Home Builders Association’s position on legislation to regulate home sizes, Ms. Calomino said that there will always be a demand for homes of different sizes, and her organization would object to government regulation. She did note that some cities have considered or instituted fees or taxes for homes of a certain size.

A workshop participant asked whether the Built Green program includes a follow-up survey with homeowners or otherwise tracks energy use and trends of Built Green homes over time. Ms. Calomino replied that Built Green encourages builders to conduct outreach to gauge customer satisfaction. While Built Green does not track home utility bills or energy use trends, Ms. Calomino has observed a trend in Colorado toward both greater acceptance of international codes, as well as confusion due to a lack of a single state energy code.

Responding to a participant observation that there are many voluntary programs, such as EnergyStar, Leadership in Energy and Environmental Design (LEED), and Built Green, Ms. Calomino said that having many labels can be a stumbling block and leave questions from builders and consumers about which product to choose, while some builders choose to meet many or all standards to appeal to customer demand. Another participant cautioned against a “one size fits all” approach to efficiency labeling or certification, however, noting that some projects may be more cost effective using LEED, while others may be better suited for Built Green or other programs.

3. PANEL PRESENTATIONS

3.1 Innovative Energy Efficiency Programs and Legislation in the Western States

State legislators and energy officials will discuss new legislative proposals that encourage energy efficiency with special focus on the implementation of similar policies and programs in the Western states.

Moderator: Kate Marks – National Conference of State Legislators

- *Jim Ploger, Energy Office, Kansas Corporation Commission*
- *Tom Fitzpatrick, Public Citizen Texas*
- *Karen Fraser, State Senator, Washintgon*
- *Tanya Pullin, State Representative, Kentucky*
- *Valerie Hall, California Energy Commission*

Kate Marks, National Conference of State Legislators, served as moderator. She commented on the impressive work accomplished by the panel representatives, the benefits we have all received from their leadership, and the continued improvements we can expect in the promotion of EE measures.

Jim Ploger, Kansas Energy Office, outlined improvements in energy savings performance that can be made through the Facility Conservation Improvement Program (FCIP). In Kansas the FCIP has served as a state contract that streamlines the process of developing a partnership with a public agency and Energy Service Company (ESCO). This contract helps to lower overhead costs, calculates improvements based on life-cycle costs not just the lowest bid, and allows for a pre-negotiated standardized contract to save time and money. The process includes three basic steps: (1) a preliminary audit or walk-through; (2) an investment grade audit; and (3) an energy performance contract. All contracts include independent third party verification of audit accuracy, technical assistance from the Kansas Energy Office, follow-up including a warranty, and fees on a sliding scale.

Tom Fitzpatrick, Texas State Office of Public Citizen, reviewed an extensive list of bills proposed and passed in the Texas Legislature related to energy efficiency. He highlighted two relatively recent bills, SB 7 an electric deregulation bill passed in 1999 that included a requirement for 10% of energy demand to be met through EE measures, and SB 5, an emission reduction bill passed in 2001 that initiated building energy performance programs. During 2007 the 80th Texas Legislature proposed many EE related bills, though only a few were passed due to a variety of distractions including the announcement by TXU that they intended to build 18 new coal fired plants, then announced they would be purchased. Despite the distractions a number of bills were passed including an omnibus efficiency bill (HB 3693). This legislation mandated schools to reduce consumption by 5% per year for six years, required higher education facilities to use efficient light bulbs, created state agency EE purchasing programs, obligated government entities that pay utility bills to make the data available on a public website, enabled the Conservation Office to update the energy code by rule, created tax code incentives such as a tax holiday for the purchase of EnergyStar products, set a minimum benchmark for utility EE reductions of 15% by 2008 and 20% by 2009 with the PUC developing

appropriate cost recovery factors, and initiated a study to develop a template for EE market transformation products.

Washington State Senator Karen Fraser provided ten examples of energy efficiency innovations undertaken by the State of Washington. She prefaced her remarks by commenting on the importance of EE to help move the United States to a more energy independent future and to continue to address the increasingly important concerns about water scarcity. The ten measures Senator Fraser discussed were: (1) a requirement for state funded buildings to meet green building standards, the first of its kind in the nation; (2) the development of appliance efficiency standards for equipment in commercial buildings, including equipment not covered by federal standards; (3) an increase in EE standards in the state building code; (4) adoption of California auto emission standards by 2009; (5) an initiative establishing a renewable portfolio standard; (6) adoption of a greenhouse gas reduction program; (7) encouragement of EE innovation by joining the Western Regional Climate Action Initiative; (8) passage of legislation and incentive programs to diversity transportation fuels and technology, (9) creation of an incentive payment programs of up to \$2,000 per year to those who generate their own wind, solar, or bio-gas based electricity, and (10) a number of local solutions to fill the federal leadership vacuum on issues such as global climate change and greenhouse gas emissions.

Kentucky State Representative Tanya Pullin provided an overview of her efforts to champion EE legislation. She discussed the development of a cabinet level agency to address energy issues and the creation of a comprehensive energy strategy for Kentucky. She counseled that an energy strategy was more successful than specific policy recommendations because the strategy, intentionally vague, had a longer shelf life and could serve as guidance for more specific policy recommendations. Representative Pullin also detailed her efforts to pass a bill that incentivized in-house energy meters as a way to empower consumers to have more information and inform their actions. She found that the instant feedback from the meters was a valuable tool, the message that ‘a penny per hour matters’ resonated, and her constituents want to be empowered to change their behavior, they just want to know what to do. She concluded with the comments that when thinking about EE measures, “We’re not doing this for the next election, we are doing this for the next generation.”

Valerie Hall from the California Energy Commission concluded the panel. Ms. Hall began by reiterating the importance of EE to meet our growing energy needs. She indicated that a mixture of standards and incentives interacting together was necessary to achieve the promise of EE. Standards and mandates could set bold goals, benchmarking, and standards for new buildings. Technical assistance and incentives, such as appliance and equipment rebates or new construction programs, can help create movement towards the goals outlined. Ms. Hall also described how EE programs could be more successful if the scope was broadened and combined with other initiatives such as global climate change, water and energy interactions, smart growth. She advised that legislation and program development takes time, requires clear and realistic timeframes, and needs to ensure permanence to make builders invest in the changes necessary. She concluded by describing the need for outreach in partnership with all levels of government and affected clients and on a continuous information delivery basis due to the constantly changing nature of affected and involved individuals.

During the question and answer period one participant noted that the installation of an in-house energy monitoring device, such as a TED, could be more expensive than the amount of energy savings it helped create. This cost was acknowledge, but it was indicated that the Washington

program was to allow utilities to install up to 300 devices and then gather the data to see if it is a feasible idea that can help encourage long term behavioral change. Another participant asked if California was looking to create a mandate for a point of sale (POS) energy audit to provide a home buyer with information on the efficiency of a home. It was clarified that a POS audit is one recommendation still under consideration and reiterated that program delivery and creation of markets has generally been spurred by sensible mandates.

3.2 Going Above and Beyond the Building Codes: The Role of Local Governments and Energy Efficient Homebuilders

Panelists will discuss how local governments and homebuilders can strive to attain a level of energy efficiency in communities that is well beyond current building codes.

Moderator: Tom Plant, Colorado Governor's Energy Office

- *George Burmeister, President, Colorado Energy Group*
- *Thor Peterson, City of Seattle*
- *Gil Rossmiller, Chief Building Official, Parker, CO*
- *Jay Woodward, International Code Council*

Tom Plant with the Colorado Governor's Energy Office served as moderator. He noted how important the conference is generally and specifically for Colorado as more and more people come to live in the state.

George Burmeister, President of the Colorado Energy Group, spoke about the tremendous value of voluntary programs. He suggested that EE for new residential construction is being driven by many issues (e.g., interest in carbon, utilities concerns about peak summer demand, and local level actions). In the Southwest, builders are incorporating EE into their efforts for a range of reasons (e.g., less callback, product differentiation, and economic incentives). His role is to negotiate incentives for California homebuilders with local communities. These included reduced fees/subsidies/deferrals, faster review/plan check, and enhanced public relations. He also works to sell the economic benefits of EE. He shared an overview of the efforts in New Mexico to increase EE in the home construction industry.

Thor Peterson with the City of Seattle described how their integrated strategy to getting high performance buildings on the ground requires a coordinated front. Key tools and approaches included: aligning with on-going initiatives; working to drive demand through increased awareness; building supply through support of increased capacity in the builder community; carefully balancing incentives and requirements; working with other stakeholders; leveraging resources; tracking progress; and practicing adaptive learning.

Gil Rossmiller, Chief Building Officer with the city of Parker, Colorado, described the way Parker brought builder's into compliance with IECC codes and as such, encouraged going "above code." Specific actions included amending the code, then providing training for implementation. Education and information for the builders was of paramount importance as was the City defining the necessary parameters and ongoing inspections to ensure expectations were met.

Jay Woodward with the International Code Council described their adoption of the 2006 building codes. He offered that their overarching thought was to make the codes simple enough such that while there is still more to do for EE, you are able to encourage many jurisdictions to adopt and enforce and thereby make a big difference. While going beyond IECC is important, he suggested you first have to get the basic code adopted and enforced. He felt that savings are going to come primarily from those places where EE was never an issue (as opposed to where it is already an issue). He closed by answering the question of how you convince the jurisdictions to adopt these codes: make it simple so people could understand; explain the benefits to stakeholders (e.g., enforcement; code inspectors, builders); and get jurisdictions to build off of others' successes.

3.3 Removing Impediments for Utilities' Energy Efficiency Programs

Utility representatives will assess regulatory obstacles preventing utilities from producing greater returns on energy efficiency programs and discuss possible ways to overcome them.

Moderator: Ravi Malhotra - iCAST

- *Roger Kranenburg, Edison Electric Institute*
- *Fred Stoffel, Xcel Energy*
- *Robert Balzar, Seattle City Light*

As moderator Ravi Malhotra, iCAST, framed the discussion, adoption of energy efficiency programs by utilities requires finding the right incentives for utilities. Fred Stoffel, representing the utility Xcel Energy, said that enhance energy efficiency is attractive to Xcel as a way to avoid having to build more supply side resources, particularly with the rising cost of new generation. He noted, however, that reduced energy sales represent lost revenue to utilities unless the level of sales is decoupled from the revenues that utilities earn. Regulatory lags that slow recovery of investments also hinder energy efficiency adoption by utilities. Finally, Mr. Stoffel suggested that demand side management (DSM) cannot be applied to all customer classes fully at the same time, so Xcel Energy is looking for its biggest opportunities first.

Roger Kranenburg with Edison Electric Institute (EEI), an organization representing utilities, suggested that energy efficiency adoption depends on people being able to get the same level of satisfaction, such as being able to cool their homes satisfactorily, using less energy. In his opinion, the best approaches for implementing energy efficiency are those that do not require people to change their behavior, such as building codes requiring greater energy efficiency. Mr. Kranenburg also stressed that markets for energy efficiency technology are growing tremendously and the U.S. could capitalize on the opportunity to export U.S. products for these markets. If public policies call for energy efficiency, utilities could be used as a conduit for its implementation. He encouraged taking a wide view of U.S. energy needs, goals, and a variety of generation and efficiency options for achieving those targets.

Robert Balzar, Director of Conservation Resources for Seattle City Light (SCL), a publicly owned utility, has seen documented savings from conservation programs, serving 11% of its total requirements through conservation resources, enough to power 115,000 homes and save \$550 million to customers. The mayor and other state leaders have driven construction of many LEED certified buildings in Seattle, including LEED certified affordable housing. Mr. Balzar said the

bottom line is that where sound business meets strong policy, barriers vanish. Although the city does not have exact numbers on how energy efficiency measures have reduced demand, they have built new power plants at a slower pace in the last few years due to conservation measures.

During the question and answer session, the speakers discussed methods for better grid management such as smart grid technology where there is two-way communication. The speakers cautioned there is a great deal of competition for this new technology and upgrading the system would require a large monetary investment. Strong arguments for how new technology would increase reliability would be needed to justify such investment.

A participant raised a concern about the true costs of energy production not being translated to consumers. In response, a speaker suggested that monetary price must be placed on what is considered valuable and that people will respond accordingly.

3.4 Financing Energy Efficiency in Public Building Projects

Panelists will focus on financing energy efficient public building projects that have the potential to generate enormous savings.

Moderator: Chris Youngs – CitiCapital Energy Finance

- *Don Gilligan, NAESCO*
- *Carl Hurst, Johnson Controls*
- *Roger Flud, TAC Energy Solutions*
- *Tom Fitzpatrick, Public Citizen Texas*

Moderator Chris Youngs, CitiCapital Energy Finance, introduced the panelists and spoke about the great potential for innovative funding mechanisms, such as performance contracting, to generate significant energy savings. Don Gilligan, NAESCO, titled his presentation “Pot of Gold” and described performance contracting as a turnkey or inclusive service with a guarantee to meet a specified energy reduction goal, thereby guaranteeing savings that are more than sufficient to finance the cost of EE improvements. The performance contract is an agreement between a building owner and energy services company (ESCO) and may cover a variety of building measures, such as lighting, heating, air conditioning, ventilation, controls, building envelope, demand response, water, sewer, or renewables. Mr. Gilligan also referenced the EnergyStar Cash Flow Opportunity calculator (http://www.energystar.gov/ia/business/cfo_calculator.xls) calculate the cost of delay, determine timing, amount of purchase and impact of interest rates.

Carl Hurst, Johnson Controls, built upon Mr. Gilligan’s discussion of opportunity cost by explaining rationale for answering the question, why would I borrow money? He detailed the benefit from realizing EE improvement gains and cost savings sooner rather than later and described the opportunity public buildings provided since they have a long life and long term financing (10-30 years) makes a lot of sense. He indicated that current efforts are in the continued development of protocol for measurement and verification of project performance and the International Protocol of Measurement and Verification Procedures (IPMVP) is a good benchmark standard. Mr. Hurst then outlined five steps to ensure a successful performance contract: (1) assess needs and benefits to ensure performance contracting is appropriate; (2) issue an RFQ to select an ESCO; (3) execute an

award contract based on energy-savings opportunities identified by the ESCO; (4) develop an Energy Performance Contract to implement the measures; and (5) monitor long term performance.

Mr. Flud, TAC Energy Solutions, presented statistics demonstrating the positive economic impact of performance contracting. He indicated that interest rates and construction costs are increasing and create a cost for delaying the realization of EE improvements through performance contracts. He recommended a book by David Goldstein, *Saving Energy, Growing Jobs*, and distinguished between savings from shrinking services vs. savings from improved technology, such as those implemented by EE performance contracts. He also reiterated the importance of measurement and verification.

Tom Fitzpatrick, Texas State Office of Public Citizen, detailed many successful performance contracting projects in Texas and reiterated the importance of monitoring and verification and the need to ensure savings from EE measures will continue over the long term and that long term maintenance is included. Contracts could include such projects as, lighting, water system improvements, pumps, motors, HVAC, replacing LED traffic and pedestrian signals, energy management systems, design and engineering. He advised that staff need to be trained on how to properly realize and account for savings. Mr. Fitzpatrick also referenced the importance of developing State Agency Energy Service Performance Contract (ESPC) guidelines and made reference to a Texas example available on the State Energy Conservation Office Website (<http://www.seco.cpa.state.tx.us/>). He reminded participants that the goal was to achieve the best performance and most comfort from a building at the lowest cost.

During the question and answer period it was clarified that performance contracting is available to public and low income housing in addition to a number of agricultural applications, that renewables are eligible and are one of the fastest growing markets, in some states outside tax credits are also available, and the payback periods presented were generally conservative. A question about how an ESCO can guarantee a contract was also answered, as a targeted amount of energy savings is predicted and then verified by IPMVP standards and if there is a discrepancy the ESCO has the responsibility to improve the equipment or cover the shortfall.

4. BREAKOUT SESSIONS

All participants were assigned to one of three small groups (red, green, and blue) for a facilitated discussion in the late morning session on the second day of the workshop. Each of the groups discussed the same questions and the composition of the groups was designed to be equal in number and similar in terms of represented interests.

4.1 Breakout #1 – Advancing Legislation, Building Codes, and Incentives for Housing and Public Buildings

During the first session each group identified barriers to advancing energy efficiency in housing and public buildings to frame a discussion of actions to overcome those barriers. The full list of barriers and actions is listed in the flipchart notes section for each group. Through each group’s discussion, a number of overarching aims emerged that could, if implemented, have a significant impact on the goal or achieving a greater energy-efficiency future.

4.1.1 Red Group – Breakout #1 - Housing

The first overarching aim was the value of making energy use and the benefits of energy efficiency more visible to society. For consumers, this might mean providing more detailed information on energy bills about comparative usage and ways to lower consumption. Consumers might also benefit by receiving more information from home builders or realtors about the energy efficiency of properties that they purchase. Participants also identified educating home builders and realtors and making energy efficiency information available for them to share with consumers as another component.

Participants also identified expanding efforts on existing housing stock as an overarching aim. Voluntary or mandatory home performance audit during home transfers could be utilized to put energy efficiency upgrades into effect. Although the importance of existing housing stock was emphasized, this was not to the exclusion of new home measures. The group noted providing builders with incentives to go beyond code and extending the federal energy efficiency tax credit for new homes as important steps.

Finally, many group members wanted to see clearer market signals communicated through energy pricing and carbon regulation. Participants suggested investing a portion of carbon tax receipts or carbon cap and trade funds into energy efficiency measures.

The group suggested that the WGA can play an important role in implementing these targets. The Governors can not only lead by example, but they can endorse measures like investing carbon funds in energy efficiency and extending the federal energy efficiency tax credit. One participant suggested that WGA could publish an energy efficiency briefing/policy book and another recommended WGA compile best practices to encourage greater consistency among energy efficiency approaches.

The group valued WGA's assistance with keeping the focus and momentum on energy efficiency issues going.

Flipchart Notes – Red Group - Breakout #1 - Housing

Barriers

- Public education
- Lack of common language / terminology
- Lack of common metrics
- Builder education
- Budget constraints
- Public official education
- Too much focus on new construction and not on retrofitting existing buildings
- Not enough federal involvement
- Lack of proactive measures from state and federal government
- Cost of energy too low so price signals are inadequate
- Energy efficiency not perceived as part of energy security
- Rate structures not giving the right price signals
- Energy prices do not reflect true costs
- Not enough awareness of opportunities for upgrading buildings
- Lack of lobbying on energy efficiency (true more at the state than federal level) or need for more balanced lobbying efforts
- Lack of strong goals backed up by portfolio of standards
- Utilities have a disincentive to invest in energy efficiency
- Consumers are not being drawn towards energy efficient products
- Limitations on ability of Agencies to give advice and counsel on energy efficiency
- Lack of transparency at the state level
- Not enough public participation in advocacy for energy efficiency

Actions

- Require more information on utility bills (e.g., comparing energy use to neighbors, ways to lower bills, carbon accounting, etc.)
 - How/Who: Utilities voluntarily or required by legislation
- Make utility program performance open to legislators; possibly open utility bills or provide statistics on averages
- Require school districts to be transparent about energy use; consider how to reduce demand through tools like performance contracts
- Make information available to builders to let consumers make informed decisions
- Look for ways to make energy efficiency more accessible to customers (i.e., more affordable).
 - One possible approach: reducing property taxes on energy efficient homes
- Develop updated codes and ensure they are well enforced
 - How/Who: State and local government
- Provide incentives for going beyond code
- Make it mandatory to have homes for sale go through efficiency upgrades
 - see Berkeley or San Francisco programs
- Put normalized energy use on bills

- Have an energy tax that is reinvested for low income energy efficiency improvements
- Disclose energy costs on home sale; provide options for upgrades that would bring savings; consider performance labels for homes
- Incentivize builders to incorporate energy efficiency measures
- Educate builders on competitive advantage of energy efficiency; help educate sales staff
- Make government incentives consistent over time; consider long term incentives even if smaller size
- Extend the energy tax credit for new homes in the energy bill
- Voluntary audit program (for home performance); consider making audits mandatory for home transfer; use green mortgages to pay for audits?
- Strong messaging campaign about how energy efficiency fits into lifestyle; healthier; greener; cool; patriotic
- State carbon funds – reinvest dollars locally for energy efficiency; governors could endorse this approach; use allocation proceeds in part for energy efficiency measures
- National cap and trade – allocate funds from selling carbon credits to energy efficiency in part; governors could endorse
- Provide a way to compare home efficiency (e.g., benchmarking, and encourage going beyond minimum levels); provide info on what priority upgrades are and the related cost
 - How/Who: HERS raters or other community leaders
- Get realtors involved; make them want to discuss energy use (i.e., use energy efficiency as a selling point); could educate realtors using continuing education programs
- Develop a list of cost effective energy efficiency measures and resulting savings for builders and others to have on hand
- Look for greater use of smart metering; encourage utilities to undertake this effort or go to state energy offices

Urgent

- Public information
- Education (including youth) and marketing
- Existing housing stock
- Forming alliances and using unified messages
- Enforcing updated codes and providing incentives
- Clear market signals (e.g., carbon tax, cap and trade); governors set a goal
- Incentivize through rate structures
- Point of sale information
- Policy briefing document, possibly published by WGA
- Extend federal energy tax credit for new homes; governors could write a letter
- Governors lead by example
- Establish ongoing process to keep the focus and momentum on these issues, e.g. governors convene another summit or ongoing energy efficiency advisory council for governors
- WGA compile best practices to encourage greater consistency

4.1.2 Green Group - Breakout #1 - Housing

The group developed a suggestion that the Western Governor's Association, or another appropriate regional entity, convene a leadership summit of key stakeholders at a high level to better develop the business case for energy efficiency by more specifically defining market based initiatives. The likely stakeholders would include agencies, legislators, builders, associations, universities, financiers, appraisers, and advocates and the idea was to take key ideas from this WGA EE workshop to the next level, establish top-down direction, create commitments, and begin to develop an action plan for implementation. Some suggested initiatives for further development and discussion included reduced interest rate mortgages, reduced insurance costs, reduced hook-up fees, remodeling and retrofitting, or the development of net zero homes. As a next step local government pilots could be developed based on the action planning steps recommended by the market initiative leadership summit.

Education was a topic discussed at great length by participants. Due to the scope of the conversation it was suggested that the development of an education strategy with targets and benchmarks could be another initiative for the aforementioned leadership summit. Potential targets ranged from consumers to build more demand, builders to provide information about EE options and products, lenders who could educate customers about EE benefits at the point of sale, code enforcers to emphasize how EE is related to health and safety, remodelers to address the EE potential improvements of older homes, educators to develop a more comprehensive and detailed K-12 curriculum, and home owners associations and realtors to help make EE a key decision point in home purchase. It was suggested that the establishment of a coordinated research agenda could help identify existing resources and prioritized information needs. It was also suggested that funding for education could help continue to fuel innovation. One cost effective mechanism suggested was hosting science fairs and have sufficient funding to implement the winning ideas. One participant, Bob Balzar with Seattle City Light, committed to hold such a science fair within the next year and report back to the group.

The establishment of strong and coordinated home building codes was also identified as a key action and the uncertainty created by home-rule states was identified as a barrier. It was suggested that a Regional Code Coalition be established to help create uniformity, allow for a sharing opportunity to learn what is working and to promote strategies for encouraging improvements that go beyond code. It was recognized that strategies for uniform code enforcement should also be considered by this body in addition to appropriate education efforts.

The actions and ideas generated by participants included both incentives and mandates. It was generally expressed that efforts to create energy efficiency improvements should include an appropriate mixture of both tools and a market initiative leadership summit could be an appropriate vehicle to make this determination.

Flipchart Notes – Green Group - Breakout #1 - Housing

Barriers

- People making decisions (e.g., in government agencies) are not the ones paying the bills
- Misinformation about up front energy efficiency costs

- Lack of life-cycle accounting
- Those providing energy efficiency products or homes are not marketing-selling the performance
- Bonds are a common mechanism for funding EE improvements but it is a slow process so by the time a measure is financed the cost has increased and there is not enough funding
- Marketing and sales budgets for promoting EE are not sufficient
- Difficult to encourage EE when it is not a financial necessity – it is sometimes not intuitive or a first priority
- Lack of education at many levels especially about first costs
- Complexity of the problem – takes a myriad of approaches at many levels that is difficult to coordinate
- Home rule states – lack of consistent codes
- Lack of understanding – code enforcers prioritize health and safety but do not completely understand how EE measures can significantly improve health and safety
- Voluntary / Regulatory mix – lack of consensus regarding what is a reasonable regulatory minimum and what should be left to voluntary measures

Key Actions

- WGA to host leadership summit to convene key stakeholders to develop the business case for Energy Efficiency, establish top-down direction, establish commitments, and further develop a series of market based initiatives on topics such as:
 - Reduced interest rate mortgages
 - Reduced insurance costs
 - Reduced hook-up fees
 - Remodels and retrofits
 - Development of appropriate education campaign targets, priorities, and benchmarks
- Hold focused conversations to develop consensus on specific topics (e.g., creating net zero homes)
 - Develop local government pilot programs
- Create mandate for most efficient equipment at the state level
 - Use ESCOs
 - Address concern about increased cost
- Organize community forums on EE at the local level
- Develop state legislative directives to help set the context and raise the bar
- Further establish and develop System Benefit Charges (SBCs) on the utility service territory level
- Educate consumers to drive demand
 - Develop consumer education strategies at the federal, state, and municipal level
 - Establish funding for education and public awareness
 - Develop a nationwide education campaign on energy performance
 - Develop a labeling campaign to educate buyers about energy ratings and performance and appropriate comparisons between ‘apples to apples’
 - Make ‘total operating cost’ more comprehensible and available
- Develop a coordinated research agenda
- Establish science fair competitions and create awards sufficient to help implement winning ideas
 - Colorado Energy Science Center as a resource (<http://www.energyscience.org/>)
- Develop initiatives targeted to the younger generation with more comprehensive and detailed curriculum development at the K-12 level

- Use CA and TX state energy office examples
 - Create a state funded mechanism for this curriculum development
- Develop EE training programs geared at improvements in existing homes
 - Target to remodelers
 - Develop point of sale programs
 - Develop public benefits fund
- Require mortgage lender to inform consumers about EE benefits at point of sale
- Develop an education campaign for home owners associations and realtors
- Code enforcement – set a new home benchmark and develop consensus of what EE really is
 - Develop uniform beyond code guidelines
 - Address problem with lack of universal understanding and enforcement
- Develop a Regional Code Coalition
 - Help other states to implement and move beyond IECC
 - Share education efforts
 - Use CA as a starting point/benchmark and customize as appropriate
- Develop state standards (codes) for home-rule states
 - Adopt as design standards
- Encourage all states to adopt the most progressive appliance standards of other states
- Expand and continue to develop tax credits for EE buildings (e.g., LEED or other standards)
- Establish and promote weatherization programs
 - Develop resale requirements
- Expand the Home Energy Rating System (HERS) network
 - Combine with the labeling idea
 - Encourage involvement by National Association of Building Inspectors
 - Encourage utility involvement
 - Develop Technical College Programs
- Develop information network to advance performance contracting and ESCOs
 - Consider model legislation development to be adopted by states
- Create ‘leave something behind conferences’ where every conference contributes to the construction of something tangible such as Habitat for Humanity building construction
- Builder Incentives – less interested in cash incentives - more interested in mechanisms that create reduction in time to sale such as:
 - Plan review time reduction – EE buildings reviewed first
 - Education to build customer demand (sell homes faster)
 - Fee deferral
 - Reduced fees
 - Co-branded public relations work (e.g., builder and energy office)
 - Business energy tax credit (such as just passed in Oregon)

4.1.3 Blue Group - Breakout #1 - Housing

The blue group discussed both barriers and actions to advance energy efficiency through legislation, codes, incentives, and educational efforts (for the full list, please see below). At the conclusion of

their conversation, they identified three actions they believed would have the most impact on achieving a more energy efficient future.

First, many expressed strong support for focusing on existing buildings and housing through energy audits given by the city, utility, home inspector, or third party. They emphasized that audits must be followed up by action to improve on problem areas identified through the inspection. Another method to target existing housing is through real estate transactions, such as a point-of-sale audit and homebuyer education through local building offices.

Many participants also advocated for setting energy performance standards for housing and public buildings. They noted that a standard may need to be mandated by state government leadership, such as through legislation or a governor's executive order. However, implementation of the standard could be through an industry-led program with independent verification.

The group had several ideas on education, outreach, and creating appropriate messages to reach key audiences that can impact energy efficiency. Many participants particularly supported outreach to local building departments and rethinking their role. Participants suggested outreach to inspectors that would demonstrate the benefits of efficiency, illustrating the intent of codes along with alternatives for meeting code while achieving greater efficiency. Outreach should be at the state and county level through local ICC and HBA chapters and their inspector training courses.

In addition to these three key actions above, a group member articulated a role for WGA and governors to provide a consistent, ongoing message about their goals and actions at the state and regional level to advance energy efficiency, showing that it is a priority and urgent issue. Another participant closed the session with a quote from the Iroquois Confederacy and their idea that decisions should be considered for their impact on the seventh generation; he framed energy efficiency as a way to preserve a way of life for this and future generations.

Flipchart Notes – Blue Group - Breakout #1 - Housing

Barriers

- Making the case for energy efficiency with decision-makers
- Least-cost / low bid requirement for government contracts and project
- Code enforcement, particularly funding for enforcement personnel
- Competing priorities – other legislation, etc.
- Home Rule – need to go municipality by municipality
- Higher cost for EE products – need to communicate message about long-term benefits of EE investment
- Banks need to be involved and help finance EE through mortgages
- Education and uniform interpretation of codes
- Disconnect with regulatory community
- Communication with average homeowners
- Performance standard lacking
 - Could be uniformly applied (e.g., European program)
- Utility rate structure
- Finding ways to fund projects
- Institutional issues / inertia

Actions

- Set energy performance standard for housing and public (and private) buildings
 - How/Who: Legislation/mandate from government leadership (executive order or legislation) , plus verification (can be market-driven, with industry lead)
- Focus on existing buildings and housing
 - How/Who: Audits plus action
 - Free inspection from city, with advice on how to improve
 - Utility audit program
 - Point of sale audit with recommendations by home inspector, third party, other
 - How/Who: Homebuyer education from local building office
- Rethink role of local Building Department and codes/inspection process
 - How/Who: Education – show benefits of EE to inspectors; show intent of codes and alternatives for meeting them while achieving more EE
 - How/Who: At the state and county level, start discussion and add to training of inspectors, such as through ICC and HBA trainings
- Code enforcement – education at county/city level
 - How: Educate jurisdictions/councils/commissioners by local ICC chapters (www.coloradochaptericc.org)
 - How: Federal government role, such as DOE's former Builders/Architects training
 - How: Third party inspection
- Incentives for building homes on more efficient scale
 - How: Reduction in permit or plan check costs for homes with EE projects
 - How: Reduction in property taxes for homes with EE upgrades
 - How: Recognition of EE buildings/renovations
 - How: Tax using square footage/sliding scale, per person?
- Recognition for going above code
 - How: ES / Built Green / Other label
 - How: Educate financial institutions re: value of investment
 - How: Universal label might help with recognition
- Reaching/Balancing for lower-income homeowners; rural-urban divide
 - How: Communicate standards to show financial institutions benefits of EE, to encourage loans (new national ANSI standard?)
 - How: Show data to help make the case to financial institutions (e.g., HUD data from CA)
 - How: Energy efficiency mortgages
- Reaching consumers (including those that don't want to pay for EE)
 - How: Educate with focus on health, safety, and comfort (e.g., indoor air quality) – voluntary with manufacturers, builders

4.2 Breakout #2 – Breaking Barriers and Addressing Incentives for Utility Energy Efficiency Programs

4.2.1 Red Group – Breakout #2 – Utility EE Programs

This session focused on approaches to get utilities more involved with energy efficiency efforts. The group noted that utility resistance to energy efficiency stems from the fact that reduced energy consumption translates into lower revenues for utilities under most frameworks today. The group supported decoupling and/or providing incentives so that utilities could not only ‘break even’ from energy efficiency, but potentially increase profitability.

Participants also suggested striving for a greater societal appreciation of energy efficiency as part of the energy supply. One way to do this would be inclusion of energy efficiency in state renewable portfolio standards (RPS). In most states, a RPS is set by the legislature, so including energy efficiency would be a legislative action.

Finally, participants supported finding ways to fund implementation of energy efficiency measures. Mechanisms might include ‘micro-loans’ for making energy efficiency improvements or pay-as-you-save programs where loans are given for improvements and paid back through savings received.

Flipchart Notes – Red Group – Breakout #2 – Utility EE Programs

Barriers

- Utilities not evaluating demand side programs; tracking KWH per unit over time
- Privacy associated with personal energy bills
- Decoupling and letting demand side management (DSM) be part of the rate base are not utilized to the fullest extent possible
- Meeting long term demand needs not well integrated with DSM; too much focus on supply side (IRP process)
- Utilities not fully incentivized to adopt energy efficiency
- Energy efficiency not being thought of as a supply source
- Unfunded mandates
- Energy efficiency not aggressively included in renewable portfolio standards (RPSs)
- Incentives to commercial building owners not getting to actual ratepayers (applicable to renters as well)
- Energy efficiency not as sexy as renewables
- Rate structure
- Not enough state investment in energy efficiency education
- Difficult to make utilities want to sell less

Actions

- Decoupling
 - Led by PUCs
 - Legislation from states

- Energy agencies lead
- Energy security as a driver
- Energy diversity as a driver
- How to move beyond industrial customers? Consider different requirements for different customer classes
- Include marketing cost
- Allow utilities to make money on energy efficiency
- Include energy efficiency in RPSs or have energy efficiency set aside
 - States legislate
 - Goal is to make energy efficiency part of the energy supply
- Rural electric coops and munis
 - Educate customers
 - Legislature provide direction for DSM programs and energy efficiency goals; think about starting small
 - WGA endorse minimum level to achieve
 - Don't lump together with IOUs
 - Draft specific legislation, separate from IOUs
- Get utilities to evaluate DSM programs and track KWH per unit over time
 - Community focus; provide incentives
 - Help make a business case
- Positive incentives for high performance; additional payment for exceeding goals
 - Legislative direction to PUCs
 - Reward mechanism
- Provide incentives for lowering utility bills through many measures / means
 - Rebate program
 - Bonuses to utility and/or ratepayer
- Weatherization programs
 - Rebates from state for utilities that pay for upgrades
 - Let utilities show positive side
- Showcase Energy Star homes
- National Action Plan for Energy Efficiency – have governors endorse NAPEE recommendations
 - Reflects broad stakeholder support
- Utilities educate customers more
 - Use other revenue streams to fund energy efficiency education, e.g. public land sales revenue
 - Especially reach out to new customers
- Fund incentive changes we want ratepayers to make – loan money for change and let them pay it back
 - Oregon point of sale rebate
 - Pay-as-you-save program; does this require utilities to upgrade software?
- Micro-loans for implementing energy efficiency measures
 - Portion of energy efficiency appliance sales used for loans?
 - Need local investment
 - Local economic benefits possible
- Have legislatures require utilities to make energy efficiency plans

4.2.2 Green Group – Breakout #2 – Utility EE Programs

Participants discussed regulatory barriers that create disincentives for utility energy efficiency programs. They emphasized the need for decoupling, the reduction of regulatory lags, cost recovery, and over prescriptive DSM requirements.

Concerning decoupling, participants suggested an electric rate adjustment mechanism (ERAM) with a total resource cost test. The rates could be adjusted based on DSM efforts allowing for the consideration of environmental benefits. The rate cases could be developed based on future test years and the regulatory lag could be addressed by encouraging PUCs to hold rate cases regularly, such as every two years as in Nevada. In addition to increasing the frequency of rate cases, participants discussed another type of regulator lag related to cost recovery. They suggested that utilities should be able to start charging new rates as a plant is being completed rather than following completion, so they can pay the bill as they go. Participants also suggested that the way utilities are required to account for EE measures and savings is overly prescriptive. They stressed the need for consistent scorekeeping among all utilities, but wanted to make sure the process was simple, accurate and efficient.

Participants conclude the session by prioritizing three actions from the discussion. One was the suggestion that the WGA or some organization such as SWEEP develop an EE program best practices score card to give utilities incentive to efficiently deliver EE programs and data on what programs are working. The second suggestion was for the WGA to develop a resource sharing program that looks at EE programs, materials, and suggestions that are developed around the country to save utilities and state energy offices from re-inventing the wheel. It was suggested that DSIRE has a resource sharing program for renewables that could serve as a model for an EE resource sharing program. Finally participants felt that system benefit charges were an effective and practical way to promote EE programs and develop related marketing and outreach campaigns. The suggested the continued expansion of SBCs, making them more accessible, and using the Oregon Energy Trust as a model.

Flipchart Notes – Green Group – Breakout #2 – Utility EE Programs

Barriers

- Lack of decoupling – rate currently coupled to sales and needs a new denominator
- Overly complex way tracking energy efficiency savings
 - Need “consistent scorekeeping” that is accurate and simple
 - Need to efficiently count savings from EE
- Expense and cost of EE programs are not correlated
 - There is no incentive to be efficient with EE program delivery
- “Regulatory Lag” – can not start charging new rates until a new plant is completed
 - Need to pay the bill as you go
 - Need cost recovery sooner
- Co-ops have the challenge of convincing boards to make EE investments
- Organizational barriers if there are different utilities (e.g., gas and electric in same service territory)
- Regulatory process of only 1-3 years is not enough

- Double dipping (e.g., window upgrades claimed by gas company in winter and electric company in summer)
- Office of Consumers Councils that look to apply DSM everywhere even if it is not feasible or practical
- Lack of cost recovery – timing of cost recovery
- Lack of end user buy-in or involvement
- Need to improve transmission access for renewables

Actions

- Line item rate cases
- Hold a state PUC rate case every 2 years (e.g., Nevada) so there is less regulatory lag
 - Add a 5% kicker on return of capital EE investments
- Have Office of Consumers Councils create appropriate ‘exceptions to fairness rules’ and look at relevant case examples
- Develop a report card analysis of best practices on utility EE programs
 - Report on regular basis
 - Create agreement in correct matrix with CEE and ACEEE
- Separate social and financial issues in evaluation and decision making process
- Develop an electric rate adjustment mechanism (ERAM) with a Total Resource Cost test as a way to help encourage decoupling
 - Adjust rates based on DSM
 - Develop rate cases on future test years – what utilities are going to sell
 - Allow consideration of environmental benefits
- Hold leadership summit to help create 4-7 year EE approved programs
- Encourage more pilot programs to give more data and encourage utility program roll-outs
- Address the problem of different utilities in a service territory
 - Look to Vermont as a example
 - State statewide guidelines with a PUC mandate
- Develop pay-as-you-save energy programs using utilities as a bank and encouraging roll-out through state energy offices
 - Develop a bold initiative
 - Have munis and co-ops participate and control through state office and PUCs
- Further develop and expand system benefit charges (SBCs)
 - Set EE goal and drop SBC when goal is met
 - Look to Connecticut as an example
 - Allocate funding to audits and marketing
- Develop measurement metrics but also have a ‘market transformation category’
- Address the carbon tax question/issue by developing a registry to reward early actors

Prioritized Actions / Next Steps

- Develop EE program best practices report card
 - Who: WGA or SWEEP
- Develop resource sharing programs around the country to save re-inventing the wheel
 - Who: WGA
 - Build upon DSIRE resource sharing program for renewables
- Continue to develop and expand SBCs and make them more accessible

- Use Oregon Energy Trust as a model

4.2.3 Blue Group – Breakout #2 – Utility EE Programs

In discussing barriers and opportunities to advance energy efficiency through utility programs, the blue group focused on cost recovery and return on investment, technology, and education and outreach.

First, participants discussed the need to give utilities a return on investments in energy efficiency programs, services, and technologies that is comparable to their returns on capital investments for projects such as building new infrastructure. The group also supported the idea of “preferential cost recovery,” or giving a greater return on investment for “negawatt” (i.e., kilowatts saved) or “green” watts (i.e., renewable energy or energy efficiency).

The group discussed using energy costs as a driver for energy efficiency, and the need for smart infrastructure to support time-of-use or real-time pricing (such as higher prices during peak daytime demand). Two-way communication between utilities and their customers, with smart meters and eventually smart appliances, can show actual costs to consumers and help them make more informed choices about their energy use.

Participants recognized that both cost recovery and implementation of new technology will have a rate impact, which will need passage by public utility commissions (PUCs). Thus, they strongly recommended outreach to PUCs and state leadership, including governors and state energy offices, to encourage their support of energy efficiency regulations and other measures, as well as a more proactive role in promoting energy efficiency at the state, regional, and national levels.

Flipchart Notes – Blue Group – Breakout #2 – Utility EE Programs

Barriers

- Regulatory attitude
 - Promotes generation
 - Rate recovery needed
 - PUC may not understand benefits of and need for EE
- Rural electric cooperatives limited on generation
 - Buying electricity from a distance is inefficient
- Rate structure
 - Decoupling can also provide disincentives
 - DSM is only a reallocation of funds (no return on investment)
- Lack of national level leadership
- No net metering in SD and other states
- Move volume sales out of rate
- Deregulation / prices fixed
- Regional transmission
- Structure of utilities and staff training/expertise
 - Being ready for next generation of programs, services, and technologies

- Need a way to provide and charge for new kind of service (EE)
- Way to integrate smart grid, and distributed generation for smaller renewables projects
- Stakeholder vs. stockholder (who is utility serving?)
- Clerical overhead for EE programs
- Customer classes with different needs/rates

Solutions/Actions

- CA Model
 - Tiered rates
 - Real-time rates and cost (make price the driver)
- Cost recovery – comparable to capital investment – or preferential cost recovery for “green” watt or “negawatt”
 - Colorado has regulation to ensure same return on investment for efficiency as for generation
- Loading prioritization
 - EE/RE should be used first to meet new demand, before fossil fuels
- Carbon tax/transaction as motivator and challenge – utilities looking for regulatory certainty
- Need smart infrastructure for price to be the driver
 - Need new smart meters / two-way communication
 - Time of day/real-time/peak pricing
 - Also helps with net metering
 - Installing new meters will have rate impact
- Need communication / education of PUC – more proactive role of PUC and State Energy Office
 - Education focus on state level (and national with NARUC)
- Change also needed above the PUC – to drive PUC to be more proactive on EE
- Efficiency VT as example
 - NGO created with legislative, administrative, and regulatory change
 - Conducts EE programs statewide

5. WORKSHOP SUMMARY AND WRAP-UP

Rich Halvey from the Western Governors Association thanked participants for their efforts and committed that ‘this is the beginning not an end.’ The immediate next steps would be the posting of the attendee list and PowerPoint presentations on the WGA website (<http://www.westgov.org/wga/initiatives/cdeac/workshops.htm>). The meeting summary would also be shared with all attendees and the Governors to help them understand the challenges and opportunities participants discussed. The information from the workshops and breakout sessions would also be synthesized into recommendations to be presented to the Governors for further action.

Interested participants were also encouraged to attend to other workshops related to the Clean and Diversified Energy Initiative:

- WGA / NWCC / GEA Summit: Increasing Renewable Energy in the Western Grid
September 27-28, 2007
Ft. Collins, Colorado
- Accelerating Near Zero Emission Coal
October 23-24th
Denver, Colorado