

## MINUTES

### JOINT COMMITTEE ON ENERGY AND ENVIRONMENTAL POLICY

October 28-29, 2009  
Room 143-N—Statehouse

#### Members Present

Senator Carolyn McGinn, Chairperson  
Representative Carl Holmes, Vice-chairperson  
Senator Pat Apple  
Senator Janis Lee  
Senator Roger Reitz  
Representative Mitch Holmes  
Representative Forrest Knox  
Representative Cindy Neighbor  
Representative Tom Sloan  
Representative Vince Wetta

#### Member Absent

Senator Mark Taddiken

#### Staff Present

Mary Galligan, Kansas Legislative Research Department  
Raney Gilliland, Kansas Legislative Research Department  
Cindy Lash, Kansas Legislative Research Department  
Melissa Doebelin, Office of the Revisor of Statutes  
Renaë Hansen, Committee Assistant

**Wednesday, October 28**  
**Morning Session**

Chairperson McGinn called the meeting to order at approximately 9:15 a.m. and briefly reviewed the agenda for the day. She reminded members that October 29 will be the final meeting of the Committee for the Interim Session. She asked members to bring ideas for legislation that the Committee might recommend to the 2010 Legislature.

## Overview of Energy Legislation in Congress

The Chairperson recognized Tamra Spielvogel and Amanda Mason from the National Conference on State Legislatures (NCSL), who spoke to the Committee via phone regarding the pending federal climate and energy legislation. Ms. Spielvogel addressed the impact of the cap and trade provisions as the different bills are currently written. Ms. Mason provided details of the House bills. They provided an overview of the differences between the House and Senate versions of pending legislation.

Ms. Spielvogel described the process of allocating allowances to states and guidelines for energy programs to help low income consumers meet the higher cost of energy under cap and trade requirements. Additionally, she noted language that would give the Federal Energy Regulatory Commission (FERC) more authority for siting of new transmission lines. That language would preempt state transmission siting authority in some instances, giving FERC the ability to establish a national interconnection standard

Ms. Mason spoke about how the comprehensive energy legislation began to take shape. She noted the internet links to the EPA analysis of HR 2454. She noted additional provisions of interest included in some of the bills, including energy efficiency provisions that target manufacturing, consumer products, and building energy efficiency.

Ms Spielvogel and Ms. Mason also spoke to the Committee on other activities that are taking place that will affect energy production pertaining to greenhouse gas emissions ([Attachment 1](#)).

The Committee was also given summaries of the following bills:

- The American Clean Energy and Security Act (HR 2454), ([Attachment 2](#));
- The Clean Energy Jobs and American Power Act ([Attachment 3](#)); and
- The American Clean Energy Leadership Act of 2009 ([Attachment 4](#)).

## Perspectives on Pending Federal Energy Legislation

Electric Utility Perspective - Mark Schreiber presented testimony on behalf of Westar Energy, Kansas Municipal Utilities, Kansas Electric Cooperatives, KEPCo, Midwest Energy, and Kansas City Power and Light (KCP&L). He identified several issues that they think need to be improved in the pending legislation. These include:

- Implementing a price collar or safety valve;
- Allocating needed emissions allowances to utilities;
- Synchronizing green house gas (GHG) emissions reductions with availability of technology;
- Emphasizing research and development on carbon capture and sequestration; and
- Preempting the Clean Air Act for regulating GHG emissions ([Attachment 5](#)).

Business Perspective - Amy Blankenbiller, Kansas Chamber of Commerce, addressed use of a market-based approach to environmental issues. She stated that it would be more beneficial

to make changes to reduce emissions than to create a system to monitor CO<sub>2</sub> emissions. Cap and trade legislation will cause backward movement in productivity and economic development (Attachment 6).

Oil and Gas Producers and Refiners Perspective – Ed Cross, Kansas Independent Oil and Gas Association (KIOGA), described how the pending federal legislation would affect oil and gas producers in Kansas. Mr. Cross noted that the federal oil and gas tax proposals and climate change proposals would have profound negative affects on the oil and gas industry. He noted that the current climate change proposals could cause the cost of gasoline and diesel fuel to rise above \$5.00 a gallon. The Association believes that the federal cap and trade bills would result in less energy for those who need it and more expensive energy for those who can afford it. He noted that if less American energy is produced, the result will be higher prices for consumers, increased reliance on foreign oil, and many fewer jobs for hard-working, middle-class families. He specifically noted that the repeal of current oil and gas tax provisions would have an estimated \$3.9 billion negative impact on the Kansas Economy within four years of enactment. Mr. Cross included several additional supporting articles and documents (Attachment 7).

### **Afternoon Session**

The Chairperson called the meeting back to order at 1:30 p.m. for continuation of comments on federal legislation.

Natural Gas Industry Perspective – Wes Ashton, Black Hills Corporation, described the company's position on proposed climate change legislation and its anticipated impact on the Midwest. Black Hills Corporation supports a reasonable RPS and a diverse energy portfolio that includes coal. In addition, the company believes that the U.S. must be part of a global greenhouse gas emissions reduction initiative, and that greenhouse gas emissions reduction must be nationwide and industry-wide. Mr. Ashton noted that Black Hills believes that the climate change legislation, as proposed, would create a burdensome cost that customers would have to pay, especially in coal-reliant regions like the Midwest. This legislation is a burden to the Midwestern states. He noted that Black Hills Corporation has information on its web page that regarding climate change legislation (Attachment 8).

Consumer Perspective – David Springe, Citizens Utility Ratepayer Board (CURB), stated that CURB believes that, regardless of federal energy legislation, rates for consumers will go up. Additionally, one must assume that consumers have a general concern about climate issues and are willing to invest in some level of capital for clean technologies to reduce CO<sub>2</sub> emissions. He believes that a price cap to protect consumers should be included in any legislation (Attachment 9).

Environmental Perspective – Eileen Horn, Climate and Energy Project (CEP), said that CEP supports a cap and trade system. She noted that many other entities also support a mechanism to control CO<sub>2</sub> emissions. Ms. Horn noted that CEP supports energy efficiency and renewable energy (Attachment 10).

### **Liability Issues Regarding Sequestration of Carbon Dioxide (CO<sub>2</sub>)**

The Chairperson recognized Raney Gilliland, Kansas Legislative Research Department, to provide an overview of the CO<sub>2</sub> storage regulation issue (Attachment 11).

Representative Holmes noted that the intent of the CO<sub>2</sub> storage legislation was that the state not take control of or liability for the CO<sub>2</sub> sequestration facilities.

The Chairperson recognized Melissa Doeblin, Office of the Revisor of Statutes, who presented testimony explaining the Carbon Dioxide Reduction Act, KSA 55-1636 through 55-1640, KSA 79-233, and KSA 79-32,256 (Attachment 12). Additionally, Ms. Doeblin explained the proposed bill, 9rs1181, that the Administrative Rules and Regulations Committee has prepared for legislative consideration in the 2010 session (Attachment 13).

The Chairperson recognized Doug Lewis, Kansas Corporation Commission, for a review of the proposed rules and regulations to implement the Carbon Dioxide Reduction Act. Additionally, he explained the history of the proposed regulations (Attachment 14).

The Chairperson recognized Dr. Lynn Watney and Saibal Bhattacharya, Kansas Geological Survey, for a presentation of information about research in Kansas on CO<sub>2</sub> sequestration. Dr. Watney noted that coal beds, oil and gas fields, and saline aquifers are potential locations for carbon sequestration. He mentioned several projects that currently use carbon sequestration in their processes. Additionally, Mr. Bhattacharya described some new projects that have been funded under the American Reinvestment and Recovery Act of 2009 (ARRA) for research on the potential for containment of injected CO<sub>2</sub>. He explained how these new research processes should work. He described the mechanisms that would keep the CO<sub>2</sub> in the injected spot underground. Mr. Bhattacharya also summarized the procedure for establishing a CO<sub>2</sub> sequestration site and making it operational (Attachment 15).

The Chairperson recognized Tom Day, Kansas Corporation Commission, to present a response from the September meeting (Attachment 16). Included in the document were the following:

- Synopsis of the eligibility requirements which must be met by the State Energy Office to receive ARRA funds;
- Information about the Energy Auditor Scholarships program;
- Information about the Efficiency Kansas program;
- A map showing locations and names of Efficiency Kansas Partner Banks; and
- Energy Efficiency Building Codes Working Group, including the Governors's Assurance to Secretary Steven Chu, U.S. Department of Energy.

Senator McGinn adjourned the meeting at 3:57 p.m. until October 29 at 9:00 a.m.

**Thursday, October 29  
Morning Session**

The Chairperson called the meeting to order at 9:00 a.m.



## **Independent Administrator for Energy Efficiency**

The Chairperson recognized Cindy Lash, Kansas Legislative Research Department, who described the charge from the LCC relating to establishing an independent Energy Efficiency Administrator and review of 2009 SB 284 (Attachment 17).

The Chairperson recognized Lauren Douglass, Kansas Legislative Research Department, to present a review of 2009 SB 284 (Attachment 18). She also summarized the testimony presented on the bill during the 2009 session. Ms. Douglass gave the Committee a brief overview of other states' energy efficiency services. The Committee was also given the fiscal note for the bill (Attachment 19).

### Efficiency Vermont

The Chairperson recognized Scudder Parker, Vermont Energy Investment Corporation, who described how the state of Vermont has structured its energy efficiency program. Mr. Parker noted they implemented a policy that uses a least cost efficiency standard. They work at reducing the cost of energy each year by about 2 percent.

Services are provided through a performance based contract using a three-year target, not just a one year target. Services are marketed by providing training for not only the owner, but for vendors, too. He noted that when you have an efficient program your vendors become the marketers. Their goal is to help the consumer capitalize on all the opportunities that they can. He noted that over the nine years the program has existed, they have experienced negative load growth. He noted that the programs work best if one uses an integrated approach that implements change in a number of areas, *i.e.*, lightbulb change-out, appliance replacement, windows replacement, insulation installation, efficiency in the industrial workplace, and so on. He noted it is more expensive to achieve change in the residential. They have a couple of target industrial areas where they are realizing a higher percentage of energy usage decline.

He stressed that policy helps shape efficiency goals so that there is a clear guideline for implementation. Mr. Parker noted they help customers overcome what might be a barrier in the marketplace to investing in energy efficiency projects. The key to success is involving the contractors in the market place. He included in his testimony two papers entitled: "Taking the Efficiency Utility Model to the Next Level", and "What Does It Take to Turn Load Growth Negative: A View from the Leading Edge" His final suggestion was for the Committee to think about what keeps the customer from saying yes to the program, and give them a performance objective and some flexibility (Attachment 20).

### Testimony by interested parties

The Chairperson recognized Thomas Wright, Chairman, KCC, who described the current energy efficiency and conservation programs implemented by Kansas utilities. Additionally, he presented a staff summary of the KCC's general authority and policy for energy efficiency programs. He noted the KCC will work diligently with the community and industry to make this work. The energy office contact number is: 785.271.3185 (Attachments 21 and 22).

The Chairperson recognized Kevin Bryant, Kansas City Power and Light, who spoke to the Committee about the company's involvement in helping its customers make and implement energy efficiency decisions. The company sees the investment in energy efficiency as another source of energy for them. It may not be an in-the-ground structure, but it helps the company by lowering demand (Attachment 23).

The Chairperson recognized Randy Degenhardt, Westar Energy, who presented testimony in opposition to 2009 SB 284 which would create a third party administrator for energy efficiency programs in the state. Additionally, Mr. Degenhardt described how Westar is working to promote energy efficiency with their customers (Attachment 24).

The Chairperson recognized Matt Daunis, Black Hills Corporation, who described programs the company is implementing. Black Hills strongly supports energy efficiency, but is opposed to 2009 SB 284 in the current form (Attachment 25).

The Chairperson recessed the meeting for lunch at 12 noon.

### **Afternoon Session**

The Chairperson called the meeting back to order at approximately 1:35 p.m.

The Chairperson recognized David Springe, Citizens' Utility Ratepayer Board (CURB), who offered testimony on behalf of AARP which supports the concept embodied in 2009 SB 284. (The AARP representative had to leave the meeting to take Mr. Parker to the Kansas City airport.) Mr. Springe noted that AARP brought Mr. Parker to provide information to the Committee about the Vermont energy efficiency program (Attachment 26).

Mr. Springe also presented testimony on behalf of CURB in support of 2009 SB 284. CURB believes an independent entity is a necessary and important part of the State's energy infrastructure. CURB is interested in having an efficiency program that has efficiency gained in economies of scale, economies of scope, and consistency of message. He also believes that we could build on the work that the KCC is doing to promote the energy efficiency program in Kansas. Kansas needs to have something from the Legislature stating that energy efficiency is a policy the legislature supports, and the State must ensure that the programs are available on a statewide basis (Attachment 27).

The Chairperson recognized Eileen Horn, Climate and Energy Project (CEP) who offered testimony in support of 2009 SB 284. The CEP believes that existing parties can provide good energy efficiency programs and believes a third party provider would be a place for one-stop-shopping for all energy consumers. They support a statewide program that would allow companies that have existing programs to opt out (Attachment 28).

### **Committee Discussion**

The Committee requested several items of information, including:

- Clarification of federal requirements for accepting federal stimulus money for energy and energy efficiency programs, including commitments the state has made regarding use of those funds;
- Suggestions regarding how to extend the KCCs Efficiency Kansas program beyond the availability of ARRA funds;
- Suggestions regarding how to capture the money currently being spent by utilities for energy efficiency;

- Suggestions regarding how to increase the weatherization of homes occupied by recipients of *Low-Income Home Energy Assistance Program* support;
- Suggestions for increasing landlord involvement in energy efficiency programs;
- Suggestions for standardizing utility programs for energy efficiency if there is not an independent energy efficiency administrator;
- Identification of methods for determining the appropriate level of utility funding for energy efficiency with a verifiable means of measuring the savings being achieved;
- Identification of a means of establishing achievable and measurable energy conservation goals and energy demand growth rates;
- Identification of a means of verifying measurements of the benefits of energy efficiency programs so that accurate savings numbers are recorded and can be attributed to the appropriate program/effort; and
- An explanation of how consumer education and buy-in programs will work to modify consumer behavior passively if not directly and the direction being pursued by the KCC to develop and implement programs that will modify consumer behavior regarding energy efficiency.

Finally, the Committee concluded that no recommendation regarding 2009 SB 284, concerning the formation of an independent energy efficiency agency, is necessary at this time. The Committee agreed to let the legislative process work on SB 284 and then see if the bill moves forward.

The Chairperson noted that the requested information should be available at a Committee meeting early during the 2010 Session. She instructed staff to schedule that meeting and to invite the standing committees on utilities and other committees with jurisdiction over energy and environmental policy matters.

The Chairperson adjourned the meeting at 3:10 p.m.

Prepared by Renae Hansen  
Edited by Mary Galligan

Approved by Committee on:

May 7, 2010  
(Date)

Joint Committee on Energy and Environmental Policy  
Attendance for October 28 and 29, 2009

LARRY BEAG  
Matt Casey

Dave Dittmar

Joe Dick

Mark Schreiber

David Springe

JOHN C. BOTTENBERG

Beard Koops

Ken PETERSON

Mary Jane Stankiewicz

Whitney Danner

~~Colin Hansen~~

Scott Jones

Ed Cross

Eileen Horn

Amy Blankenhiller

Nachelle Colomby

Paul Mester

SEAN MILLER

Kimberly Sraty

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KS GAS SERVICE

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Hein Law Firm

KS Petroleum Council

KS Ag Retailers Assoc.

Empire

KMU

KCP

KIOGA

CEP

ILS Chamber

Empire District

CAPITOL STRATEGIES

GSPA

KEPCO

G Wilson

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Tom Day

KCC

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10/29/09

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Tom Wright

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Wes Ashton

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ROB MEALY

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# Comprehensive Climate and Energy Legislation

Presentation to the 2009 Joint Committee on Energy and Environmental Policy, Kansas State Legislature

October 28, 2009

Tamra Spielvogel, Committee Director  
Amanda Mason, Policy Specialist  
National Conference of State Legislatures

## 111th Congress - Landscape Changes

- ◆ House Energy & Commerce Committee
  - Rep. Henry A. Waxman (CA) replaces Rep. John D. Dingell (Mich.) as Chair of the Committee.
  - Rep. Edward J. Markey (MA) replaces Rep. Rick Boucher (VA) as Chair of the Energy and Environment Subcommittee.
- ◆ Senate Energy Committee
  - Sen. Lisa Murkowski (Alaska) takes over as Ranking Member following the retirement of Sen. Pete Domenici (N.M.) last year.

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## Legislation Overview

|   | HR 2454, the American Clean Energy and Security Act of 2009 | S. 1462, American Clean Energy Leadership Act | S. 1733, The Clean Energy Jobs and American Power Act            |
|---|---|---|--|
| Cap-and-Trade Program                                 | X   |   | X  |
| Pre-emption of state Cap-and-Trade Programs           | X   |   | X  |
| State Energy and Environment Development Funds (SEED) | X   |   | X<br>(parallel funding stream without establishing SEED account) |
| State Climate Change Response Accounts (Adaptation)   |   |   | X  |
| Energy Rebate Program                                 | X   |   | X  |
| Renewable Electricity Standard                        | X   | X   |  |
| Transmission Siting and Planning Provisions           | X   | X   |  |
| Distributed Generation Standard                       |   | X   | 3  |

## Cap-and-Trade Overview

- ◆ In establishing a cap-and-trade program Congress is creating a market for CO2 emission allowances.
- ◆ The number of allowances available each year decreases over time, ratcheting up the emissions cap.
- ◆ Allowances are valued depending on the market trading value at time of sale.



## Cap-and-Trade Overview Continued

- ◆ Legislation discusses funding set asides for programs in two ways
  - Percentage of allowances set aside for a group or program in a given year (referenced as a “vintage year”)
  - Allowance proceeds to be distributed to a group or program (assumes a given percentage of allowances is auctioned by the federal government which then distributes the proceeds)
  - Note: For some groups/programs the percentage remains the same over time while others decrease over time

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## Cap-and-Trade Overview Continued

- ◆ Example (House Legislation)
  - For the Support of State Renewable Energy and Energy Efficiency Programs
    - ◆ For vintage years 2012 through 2017, 0.05 percent of the emission allowances established for each year under section 721(a).
  - In 2012 that means states would get 0.05% of 4.627 billion allowances available that year for this program.
    - ◆ This equates to 231,350,000 available to states under this program in 2012.

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## American Clean Energy and Security Act of 2009 (ACES)

- ◆ Sponsored by Chairman Waxman (CA), Energy and Commerce Committee & Chairman Edward J. Markey (MA), Energy and Environment Subcommittee
  - H.R. 2454 introduced May 15<sup>th</sup>
    - ◆ initial draft released by sponsors March 31<sup>st</sup>
  - Committee hearings held May 18th-21st
  - Committee consideration & mark-up May 21st
  - Reported out of Committee by a vote of 33-25 of the Energy & Commerce Committee

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## What Happened Next?

- ◆ ACES referred to 8 subsequent committees of jurisdiction
 

|                                   |                                 |
|-----------------------------------|---------------------------------|
| ◆ Foreign Affairs                 | ◆ Ways & Means                  |
| ◆ Financial Services              | ◆ Education & Labor             |
| ◆ Science & Technology            | ◆ Natural Resources             |
| ◆ Agriculture                     | ◆ Judiciary                     |
| ◆ Transportation & Infrastructure | ◆ Oversight & Government Reform |
- ◆ Speaker set June 19<sup>th</sup> deadline for committee consideration or ceding jurisdiction.
- ◆ House Agriculture Committee actively opposed timeline & legislation as passed by the Energy and Commerce Committee.
- ◆ Following negotiations between Chairman Waxman & Agriculture Chairman Collin Peterson (MN) an agreement is reached, clearing the legislation for floor consideration.

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## June 26, 2009 - House Floor Debate

- ◆ First ever House floor vote on cap-and-trade legislation
- ◆ House Rules Committee Resolution (H. Res. 587)
  - Debate limited to 3 hours plus 1/2 hour for Republican Alternative
- ◆ H.R. 2998 introduced on June 23<sup>rd</sup>, reincorporated into H.R. 2454
- ◆ 221 proposed amendments submitted to the Rules Committee
- ◆ Only 2 Amendments ruled in order
  - 310-page Manager's amendment from Chairman Waxman that includes many provisions negotiated over the past few weeks such as those agreed to with Chairman Peterson (MN)
  - 19-page Republican alternative from Rep. J. Randy Forbes of Virginia

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## House Passes H.R. 2454

- ◆ Legislation Passed by a vote of 219-212
- ◆ 211 Democrats + 8 Republicans vote to adopt
- ◆ 44 Democrats voted against the legislation
- ◆ Republican alternative failed by a vote of 172-256

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## Pre-emption & State Authority Clarification

- ◆ Sec. 335 ("sec. 861") - Prohibits states from implementing or enforcing a GHG emission cap that covers any (federally) capped emissions during the years 2012 through 2017. Clarifies that a cap does not include fleetwide motor vehicle emission requirement or lifecycle fuel standards. This section is "notwithstanding section 116." Sec. 116 allows states to implement more stringent standards at stationary sources, including (per Sec. 334 of this bill) GHG emission controls.
- ◆ Sec. 334 amends Sec. 116 of the Clean Air Act which allows for states to implement more stringent air pollution standards for stationary sources than the federal government to clarify that the phrase "standard or limitation respecting emissions of air pollutants" includes provisions relating to GHG emission controls.
- ◆ Sec. 102 affirms state authority to set rates for sales of renewable electricity produced under a *state-approved* incentive program.

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## Renewable Energy Standard (RES)

- ◆ Creates an integrated energy efficiency and renewable electricity standard starting in 2011.
- ◆ Requires retail electricity suppliers to meet 20% of their electricity demand through renewable energy sources and energy efficiency by 2020.
  - 2012 and 2013: 6%
  - 2014 and 2015: 9.5%
  - 2016 and 2017: 13%
  - 2018 to 2019: 16.5%
  - 2020 through 2039: 20%

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## RES Continued

- ◆ A maximum of 25% of a retailer's combined efficiency and renewable energy target could be met with energy efficiency
- ◆ State governors could petition the Federal Energy Regulatory Commission (FERC) to increase a state's efficiency percentage for retailers up to 40%.
- ◆ A retailer could choose to meet its annual target in whole or part with an alternative compliance payment equal to \$25 per megawatt-hour (inflation-adjusted from a base of 2009) for each megawatt-hour of the target it would not intend to meet with either renewable electricity credits or energy efficiency.

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## State Energy and Environment Development (SEED) Funds

- ◆ Directs DOE to create a program to allow each state energy office to establish SEED Funds.
- ◆ SEED fund to serve as repository for allowances provided to the States.
- ◆ Allowances targeted to support renewable energy and energy efficiency purposes.

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## Allowance Allocation to States

- ◆ Of those allowances set aside for States:
  - 1/3 to be divided equally amongst States
  - 1/3 to be divided amongst States based on population
  - 1/3 to be divided amongst States based on energy consumption
- ◆ Legislation provides boundaries for use of allowances but does not address state legislative authority in making necessary fiscal and policy decisions surrounding the use of allowances.
- ◆ New federal funds can not supplant existing state funding for programs.

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## Energy Rebate Program (ERP) Sec. 431 of the H.R. 2454

- ◆ Energy Rebate Program established to provide support to low-income households facing higher costs
- ◆ States tasked with administering program through direct deposit or the state's Electronic Benefit Transfer (EBT) system.
  - EBT is primarily used by states to administer the Supplemental Nutrition Assistance Program (SNAP, formerly food stamps)
- ◆ Program adopts SNAP eligibility and process rules in an attempt to simplify administration eligibility determination.
- ◆ Potential Unfunded Mandate: New federal benefit administered by states yet legislation provides no funding to cover administrative costs associated with program.

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## Key Agricultural Provisions

- ♦ U.S. Department of Agriculture (USDA) will be exclusively in charge of implementing and operating the agriculture and forestry offset program.
- ♦ The agriculture and forestry sectors will be exempt from the bill's greenhouse gas emission reduction requirements.
- ♦ The definition of renewable biomass has been harmonized with the definition negotiated under the 2008 Farm Bill for private lands, effectively paring back restrictions on biomass as an eligible fuel source for the Renewable Fuel Standard (RFS).

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## Transmission Siting

### Western Interconnect

- New provision included in Manager's Amendment goes beyond original regional planning provisions.
- Provides the Federal Energy Regulatory Commission (FERC) expanded backstop authority for siting interstate power lines in the Western Interconnect when a state does not act.
- Modifies the existing backstop authority granted to FERC in the 2005 Energy Policy Act which limited FERC authority to projects in designated National Interest Energy Transmission Corridors. (Limited to the Eastern Interconnect)

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## Comprehensive Legislation Begins to take Shape in the Senate

- ◆ 2 Separate Committees of Jurisdiction
  - Senate Energy and Natural Resources Committee
  - Senate Environment and Public Works Committee
  
- ◆ 2 Separate bills to be combined into one?
  - Comprehensive Energy Legislation: American Clean Energy Leadership Act of 2009 (ACELA), S. 1462
  - Comprehensive Climate Legislation: Clean Energy Jobs and American Power Act, S. 1733
  - Combined for Senate floor consideration: TBD

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## Boxer/Kerry Climate Change Bill

- ◆ Senator Barbara Boxer (CA), Chairman of the Senate Environment & Public Works Committee, and Massachusetts Senator John Kerry, Chairman of the Senate Foreign Relations Committee, introduce their bill on September 30.
  - Chairman's Mark released on October 23.
- ◆ Hearings Scheduled for October 27<sup>th</sup>, 28<sup>th</sup> & 29<sup>th</sup> in Senator Boxer's Committee, Environment & Public Works.

Senator Boxer's Goal: to have the mark up completed before Thanksgiving

- ◆ She is urging Majority Leader Senator Harry Reid (NV) to require the same from the other committees that have jurisdiction, which are:
  - ◆ Agriculture, Nutrition, & Forestry;
  - ◆ Commerce, Science & Transportation;
  - ◆ Energy & Natural Resources;
  - ◆ Finance; and/or
  - ◆ Foreign Relations.

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## Boxer/Kerry Climate Change Bill: What Comes Next?

- ◆ Prospects for whether the markups will be able to occur as Senator Boxer has planned is still very much up in the air.
- ◆ Republicans on EPW are considering boycotting the markup in order to deny Boxer quorum, thus not allowing a vote to take place.
- ◆ Chairs of other Committees have not signaled yet if they care to take up the legislation this year, or would prefer to take it up next year.

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## EPA Analysis

- ◆ EPA had released its analysis of HR 2454 on June 23, 2009  
[http://energycommerce.house.gov/Press\\_111/20090623/hr2454\\_epaanalysis2.pdf](http://energycommerce.house.gov/Press_111/20090623/hr2454_epaanalysis2.pdf)
- ◆ The EPA released its analysis of S. 1733 on October 23, 2009  
[http://www.epa.gov/climatechange/economics/pdfs/EPA\\_S1733\\_Analysis.pdf](http://www.epa.gov/climatechange/economics/pdfs/EPA_S1733_Analysis.pdf)
- ◆ Republicans unsatisfied with length of Senate analysis
- ◆ Demanding a full EPA analysis of the bill, as well as a Congressional Budget Office analysis.

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## What's Next?

- ◆ Prospects of a climate change bill being finished and signed by President Obama in time for the Copenhagen talks in December are continually dimming (Health Care reform, economy)
- ◆ Senate Majority Leader Harry Reid (Nevada) has stated that he may hold off until 2010 to bring climate change legislation to the Senate floor.
- ◆ If so, some in the Senate are pushing for Reid to bring to the floor energy legislation passed by the Energy & Natural Resources Committee (S. 1462)

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## American Clean Energy Leadership Act of 2009 (ACELA) - S. 1462

- ◆ Based on 11 separate pieces of legislation introduced this Congress.
  - 6 major bills (all with bipartisan sponsorship)
  - 5 other bills with either Republican or Democratic sponsorship
- ◆ Key provisions developed through:
  - 39 bipartisan staff briefings
  - 20 formal hearings
  - 11 open business meetings.

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## Renewable Electricity Standard (RES)

- ◆ Percentage of energy required to be obtained from renewable energy resources or from energy efficiency improvements:

2011-2013.....3%

2014-2016..... 6%

2017-2018..... 9%

2019-2020..... 12%

2021-2039..... 15%

- ◆ Utilities selling less than 4 million megawatt hours per year are exempt.
- ◆ Qualifying Renewables are: wind, solar, ocean, geothermal, biomass, landfill gas, incremental hydropower, hydrokinetic, new hydropower at existing dams with no generation.

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## RES Implementation Questions

- ◆ What are the implications of a dual Renewable Energy Credit (REC) system?
  - If one unit of energy is the basis for issuing a Federal REC and a State REC than the potential exists for double counting.
  - If a state requirement is higher than the federal requirement then in those states a utility may end up with more federal RECs than required for compliance. If those federal RECs are obtained solely for meeting a state requirement but can be sold on the federal market, then the integrity of state programs could be undermined. (This is one example of a possible double counting situation not dealt with in current legislation.)
- ◆ What if the requirements differ between the state and Federal programs?
  - Some state RECs are sold separately (unbundled) from the power generated but if the federal proposal prohibits unbundling, then the federal REC could only be sold to the power purchaser.
  - Who owns the REC? (Some existing power purchasing agreements are silent on REC ownership.)
- ◆ Will there be a new federal tracking system? Will existing state tracking systems be used to implement the federal program? Will there be coordination between separate tracking systems?

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## Transmission Siting

- ◆ Provides new authority to the Federal Energy Regulatory Commission (FERC) regarding the development and coordination of an interconnection-wide transmission plan.
- ◆ Allows States one year from time of filing of a proposal to site a high priority national transmission project.
- ◆ Gives FERC jurisdiction over siting when states have either been unable to site the facility or have denied the application.
- ◆ Jurisdiction is over facilities 345 kilovolts and above that are included in the transmission plan.
- ◆ Gives the Department of the Interior lead agency status for development of records of decision on public lands.
- ◆ FERC must establish, by rule, appropriate methodologies for allocation of costs of high priority national transmission projects.
- ◆ Such methodologies derived from the cost allocation must be just and reasonable and not unduly discriminatory or preferential.

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## Additional Provisions of Interest

- ◆ **Distributed Generation**
  - *Directs FERC to establish a national interconnection standard for small power production facilities (15 kW or less) which would cover nearly all residential-sized distributed generation.*
  - *Pre-empts exits state standards*
- ◆ **Energy Efficiency**
  - *Targets manufacturing, consumer product and building energy efficiency*
  - *Directs the Department of Energy to set energy savings improvement targets for residential and commercial national model building energy codes at 30% in 2010 and 50% after 2016.*
  - *Requires state certification that the State has:*
    - ◆ reviewed model codes,
    - ◆ updated state code provisions, and
    - ◆ achieved compliance with the building codes.

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## House/Senate Differences

- ◆ Pre-emption: Moratorium imposed on state cap-and-trade program is more flexible in Senate bill
- ◆ SEED program from House bill is not established in draft Senate legislation though similar allocation provisions are included.
  - Senate also establishes a new fund for states to support climate change adaptation activities.
- ◆ ERP - to date, draft legislation in Senate does not provide details on how the rebates are to be distributed

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## Regulatory Proposals Unfold

|                            |   |
|----------------------------|---|
| <u>September 30, 2009:</u> | Proposed Greenhouse Gas Permitting Requirements on Large Industrial Facilities                                      |
| <u>September 30, 2009:</u> | Public Comment Requested on Greenhouse Gas Permitting Guidance under Reconsideration                                |
| <u>September 22, 2009:</u> | Final Mandatory Reporting of Greenhouse Gases Rule  |
| <u>September 15, 2009:</u> | EPA and NHTSA Propose National Program to Cut Greenhouse Gas Emissions and Improve Fuel Economy for Cars and Trucks |
| <u>July 23, 2009:</u>      | Waste Energy Recovery Registry  |
| <u>June 30, 2009:</u>      | California Greenhouse Gas Waiver Request  |
| <u>April 17, 2009:</u>     | Greenhouse Gas Endangerment Proposed Findings   |
| <u>May 26, 2009:</u>       | Renewable Fuel Standard 2   |
| <u>July 2008:</u>          | Geologic Sequestration of Carbon Dioxide  |
| <u>July 11, 2008:</u>      | Advance Notice of Proposed Rulemaking: Regulating Greenhouse Gas Emissions under the Clean Air Act                  |

Source: EPA Climate Change Regulatory Initiatives (<http://www.epa.gov/climatechange/initiatives/index.html>)

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## EPA Responds to 2007 Supreme Court Ruling: *Massachusetts v. EPA*

- ◆ Proposed Endangerment and Cause or Contribute Findings for Greenhouse Gases under Section 202(1) of the Clean Air Act
  - Signed on April 17, 2009
  - Published in the Federal Register April 24, 2009
- ◆ 60 day comment period ended on June 23<sup>rd</sup>
- ◆ Administrator Jackson denied request for 60 day extension of the comment period.

More Information: <http://www.epa.gov/climatechange/endangerment.html#action>

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## EPA Proposed Findings under section 202(a) of the Clean Air Act

- ◆ The Administrator is proposing to find that the current and projected concentrations of the mix of six key greenhouse gases—carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>)—in the atmosphere threaten the public health and welfare of current and future generations. This is referred to as the endangerment finding.
- ◆ The Administrator is further proposing to find that the combined emissions of CO<sub>2</sub>, CH<sub>4</sub>, N<sub>2</sub>O, and HFCs from new motor vehicles and motor vehicle engines contribute to the atmospheric concentrations of these key greenhouse gases and hence to the threat of climate change. This is referred to as the cause or contribute finding.

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## EPA Reconsiders CA Waiver Denial

- ◆ January 21- California Air Resources Board requests that EPA reconsider its previous waiver denial.
- ◆ January 26- President Obama signs a Presidential Memorandum directing EPA to assess whether denial of the waiver based on California's application was appropriate in light of the Clear Air Act
- ◆ February 6- EPA announces that it is reconsidering the decision by then-Administrator Stephen Johnson in 2007 to deny the waiver.
- ◆ March 5- Public hearing held on the agency's reconsideration of California's request to regulate greenhouse gases from automobiles
- ◆ Public comment period on the reconsideration closes April 6.

More Information: <http://www.epa.gov/otaq/climate/ca-waiver.htm>

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July 2009

# THE AMERICAN CLEAN ENERGY AND SECURITY ACT (H.R. 2454)

Committee on Energy and Commerce

On June 26, 2009, the U.S. House of Representatives approved H.R. 2454, the American Clean Energy and Security Act, by a vote of 219 to 212. The legislation will create millions of new clean energy jobs, enhance America's energy independence, and protect the environment. The following is a brief summary of H.R. 2454.

Key provisions in the bill:

- Require electric utilities to meet 20% of their electricity demand through renewable energy sources and energy efficiency by 2020.
- Invest in new clean energy technologies and energy efficiency, including energy efficiency and renewable energy (\$90 billion in new investments by 2025), carbon capture and sequestration (\$60 billion), electric and other advanced technology vehicles (\$20 billion), and basic scientific research and development (\$20 billion).
- Establish new energy-saving standards for new buildings and appliances.
- Reduce carbon emissions from major U.S. sources by 17% by 2020 and over 80% by 2050 compared to 2005 levels. Complementary measures in the legislation, such as investments in preventing tropical deforestation, will achieve significant additional reductions in carbon emissions.
- Protect consumers from energy price increases. According to estimates from the Environmental Protection Agency, the reductions in carbon pollution required by the legislation will cost American families less than a postage stamp per day. The Congressional Budget Office (CBO) calculates that the legislation will cost the average household less than 50 cents per day.

Because of its balanced approach, the American Clean Energy and Security Act has received broad support from industry and environmentalists. Passage of the bill in the House was supported by electric utilities, oil companies, car companies, chemical companies, major manufacturers, environmental organizations, efficiency advocates, agricultural interests, labor organizations, and representatives of the faith community, among many others. According to CBO, the legislation meets PAYGO requirements.

## Clean Energy Provisions

**Renewable Electricity Standard.** The American Clean Energy and Security Act (ACES) requires retail electric suppliers to meet a growing percentage of their load with electricity generated from renewable resources and electricity savings. The combined renewable electricity and electricity savings requirement begins at 6% in 2012 and gradually rises to 20% in 2020. At least three quarters (75%) of the requirement must be met by renewable energy, except that upon receiving a petition from the governor, the Federal Energy Regulatory Commission can reduce the renewable requirement to three fifths (60%). In 2020,

Joint Committee on Energy and  
Environmental Policy

Date 28 OCT 2009

Attachment # 2



15% of the electricity load in each state must be met with renewable electricity and 5% with electricity savings. Upon petition by the governor, the renewable requirement can be reduced to 12% and the electricity savings can be increased to 8%.

In addition, the legislation requires the federal government to meet 20% of its energy needs with renewable energy by 2020.

**Investments in Clean Energy.** ACES requires major sources of carbon emissions to obtain a pollution permit called an “allowance” for each ton of carbon dioxide or its equivalent that they emit. Through 2025, 13% of these allowances are allocated to investments in clean energy and energy efficiency. Using EPA estimates of allowance prices, ACES invests roughly \$190 billion through 2025 in clean energy and energy efficiency programs, including: \$90 billion in state programs to promote renewable energy and energy efficiency; \$60 billion in carbon capture and sequestration technologies; \$20 billion in electric and other advanced technology vehicles; and \$20 billion in basic research and development into clean energy and energy efficiency. The investments in carbon capture and sequestration include \$10 billion generated through a small “wires charge” on electricity generated through fossil fuels.

Investments in clean energy continue after 2025, with 5% of allowances being devoted to renewable energy and energy efficiency, 5% to carbon capture and sequestration, and 1.5% to research and development.

**Supporting Private Investment in Clean Energy.** ACES establishes a new Clean Energy Deployment Administration with \$7.5 billion in funding to support private investments in clean energy technologies, including nuclear power. Other provisions promote private investment in clean energy by reforming the existing Title 17 loan guarantee program.

**Modernizing the Electricity Grid.** ACES includes provisions to promote the deployment of smart grid technology and transmission planning and siting. The transmission provisions include federal backstop siting authority in the Western interconnection for transmission lines needed to meet demand for renewable energy.

### **Energy Efficiency Provisions**

**Building Standards.** ACES establishes targets for new standards for building efficiency, requiring new buildings to be 30% more efficient in 2012 and 50% more efficient in 2016. States receive allowances that they can sell to support adoption and enforcement of state energy efficiency codes that meet the new standards. The Department of Energy must provide a federal backstop if a state declines to adopt or enforce compliant codes. ACES also establishes programs to help building owners retrofit existing buildings, replace antiquated mobile homes with energy-efficient models, and improve energy efficiency in multi-family assisted housing projects.

**Appliance Standards.** ACES adopts new efficiency standards for lighting products, commercial furnaces, and other appliances. The legislation also modifies the Energy Department’s appliance standard-setting process to make it more effective.

**Vehicle Standards.** The bill requires EPA to promulgate carbon emission standards for heavy-duty vehicles and off-road vehicles, such as construction equipment, trains, and large ships. ACES also integrates consideration of climate change into the existing transportation planning process to further reduce transportation-related energy consumption.

**Other Efficiency Measures.** ACES contains measures to increase the efficiency of water use and promote energy savings by the federal government and other public institutions. The legislation also creates a new energy efficiency program for small utilities with dedicated funding. Additionally, ACES authorizes a high efficiency gas turbine research program.

### **Global Warming Provisions**

ACES contains three primary programs for reducing dangerous carbon emissions that cause global warming: (1) a cap on large domestic sources of emissions; (2) a program to reduce tropical deforestation; and (3) an offset program. In addition, ACES caps emissions of global warming pollutants that are substitutes for ozone-depleting chemicals, and it requires EPA to set performance standards for some uncapped sources of emissions. Taken together, these programs will reduce carbon emissions by 28% to 33% below 2005 levels by 2020. By 2050, ACES will reduce carbon emissions by 80% below 2005 levels through these programs.

**Capping Carbon Emissions from Large Sources.** Starting in 2012, ACES establishes annual tonnage limits on emissions of carbon and other global warming pollutants from large U.S. sources like electric utilities and oil refiners. Under these limits, carbon pollution from large sources must be reduced by 17% below 2005 levels by 2020 and 83% below 2005 levels by 2050. To achieve these limits, ACES establishes a system of tradable permits called "emission allowances" modeled after the successful Clean Air Act program to prevent acid rain. This market-based approach provides economic incentives for industry to reduce carbon emissions at the lowest cost to the economy.

**Preventing Tropical Deforestation.** ACES directs EPA and the State Department to use 5% of the allowances to secure agreements from developing nations to prevent tropical deforestation. This program will reduce carbon emissions by an additional 10 percentage points below 2005 levels by 2020.

**Emission Offsets.** ACES allows capped sources to increase their carbon emissions if they can obtain offsetting emission reductions from uncapped sources at a lower cost. The legislation allows capped sources to use offsets to acquire up to 2 billion tons of emission credits annually. Half of these credits must come from domestic sources, except that if insufficient domestic offsets are available, up to 1.5 billion tons of emission credits can be obtained from international offset projects. Starting in 2017, ACES requires capped sources to turn in five tons of international offsets to receive four tons of emission credits. This mechanism will reduce carbon emissions by up to an additional five percentage points below 2005 levels by 2020.

ACES contains multiple provisions to ensure the integrity of offsets, including review by an independent scientific panel. Offsets may not be obtained from sources in a foreign nation until the United States has entered into an agreement with the originating nation establishing the terms of the offset program.

**Agricultural Offsets.** ACES directs the Secretary of Agriculture to establish a program governing the generation of offset credits from domestic agricultural and forestry sources. The Secretary must promulgate methodologies for assessing the amount of offset credits, including activity baselines, additionality requirements, quantification methods, and leakage. The legislation also directs the Secretary to establish requirements to account for and address reversals, and it allows for the issuance of term offset credits.

**Cost-Containment Measures.** ACES contains numerous cost-containment measures recommended by an industry-environmental coalition called the U.S. Climate Action Partnership (USCAP). These include unlimited banking, a two-year compliance period (which allows borrowing one year in advance), and a strategic reserve of allowances that are available for auction if allowance prices exceed 160% of their three-year average. The proceeds of any sales from the reserve will be used to acquire additional international offsets, which will replenish the reserve at a low cost and result in additional reductions in carbon emissions. In addition, ACES establishes a minimum floor price for auctioned allowances of \$10 (in 2009 dollars) to provide stability and investment certainty.

**Carbon Capture and Sequestration.** ACES uses a combination of regulatory requirements and financial incentives to ensure that new coal-fired power plants will operate with carbon capture and sequestration (CCS) technology. All new coal plants permitted after 2020 must use CCS when they commence operations. Coal plants permitted between 2015 and 2020 lose eligibility for federal financial assistance if they do not use CCS when they commence operations; if they do not use CCS when they commence operations, they must retrofit CCS by no later than 2025 without federal financial assistance. Coal plants permitted between 2009 and 2015 lose eligibility for federal financial assistance if they do not retrofit CCS within five years after commencing operations; if they do not retrofit CCS by this date, they must retrofit CCS by no later than 2025 without federal financial assistance. The 2025 retrofit deadline is accelerated if four gigawatts of electricity generation is deployed with CCS before 2025; it may also be extended by EPA by up to 18 months on a case-by-case basis.

#### **Allowance Provisions**

ACES requires that major U.S. sources of emissions obtain an allowance for each ton of carbon or its equivalent emitted into the atmosphere. EPA estimates that in 2005 dollars, these allowances will cost \$13 in 2015 and increase to \$26 to \$27 by 2030. These allowance price estimates are consistent with estimates by CBO. CBO projects that allowance prices in 2005 dollars will be \$16 in 2015 and increase to \$36 by 2030. At these allowance prices, the total value of the allowances created under the legislation ranges from roughly \$70 to \$80 billion in 2015 to \$90 to \$120 billion in 2030.

For the period from 2012 through 2025, 55% of the allowances will be used to protect consumers from energy price increases; 19% will be used to assist trade-vulnerable and other industries make the transition to a clean energy economy; 13% will be used to support investments in clean energy and energy efficiency; and 10% will be used for domestic adaptation, worker assistance and training, prevention of deforestation, and international adaptation. The remainder (3% of allowances) will be used to help ensure that ACES is budget neutral.

From the period from 2026 through 2050, up to 58% of the allowances will be used to protect consumers; 19% will be used for domestic adaptation, worker assistance and training, prevention of deforestation, and international adaptation; 12% will be used to support investments in clean energy and energy efficiency; 7% will be used to ensure budget neutrality; and at least 4% will be used to assist trade-vulnerable and other industries.

Under ACES, approximately 80% of allowances are distributed without charge during the early years of the program to ease the transition to a clean energy economy. This transition period starts to phase out after 2025. By 2031, about 70% of the allowances are auctioned.

**Protection of Consumers.** ACES establishes five programs to protect consumers from energy price increases: one for electricity price increases; one for natural gas price increases; one for heating oil price increases; one to protect low- and moderate-income families; and one to provide tax dividends to consumers. In combination, these programs substantially reduce the impact of ACES on American consumers. EPA has estimated that ACES would cost the average household \$80 to \$111 per year, less than a postage stamp per day. According to EPA, families would actually spend less on utility bills in 2020 than they would in the absence of legislation because of the energy efficiency provisions in ACES.

CBO has reached a similar estimate, calculating that that the global warming provisions in legislation will cost the average household just \$175 in 2020. The EPA and CBO estimates do not take into account any of the benefits of preventing global warming, and the CBO estimate does not take into account the considerable savings to households from the bill's energy efficiency provisions.

*Protection from Electricity Price Increases.* Electricity price increases will be regional in nature, with the greatest increases occurring in the coal-dependent regions of the country. To mitigate these price increases, the regulated utilities that distribute electricity to consumers will receive 32% of allowances through 2025 under a formula that distributes half of the allowances based on emissions and half based on electricity generation. These utilities are directed to use these allowances exclusively to keep rates low and, to the extent they use rebates, to do so to the maximum extent practicable by reducing the fixed-rate portion of consumer electricity bills. ACES contains a ratepayer fairness provision that ensures against windfalls by providing that no local distribution company should receive more allowances than necessary to cover its direct and indirect costs.

*Protection from Natural Gas Price Increases.* To mitigate increases in natural gas prices, the regulated utilities that distribute natural gas to consumers will receive 9% of allowances from 2016 through 2025. One-third of these allowances must be used for energy efficiency programs. The remainder must be passed through to consumers through lower prices under provisions similar to those that apply to the regulated electric utilities.

*Protection from Heating Oil Price Increases.* To mitigate increases in home heating oil prices, states will receive 1.6% of allowances through 2025 under a formula based on home heating oil use. These allowances must be used for rebates to consumers and investments in energy efficiency.

*Protection of Low- and Moderate Income Families.* The electricity, natural gas, and heating oil provisions mitigate the costs of ACES on all consumers. In addition, ACES directs that 15% of the allowances be auctioned and the proceeds distributed back to consumers through a combination of refundable tax credits and electronic benefit payments. The Center for Budget and Policy Priorities estimates that these provisions will fully protect the bottom quintile of families and part of the next quintile from any direct or indirect energy price increases.

*Consumer Climate Dividend.* Under ACES, many of the allowance provisions phase out starting in 2026. As these allowance allocations are phased out, ACES directs that the remaining allowances be auctioned and the proceeds distributed to consumers through tax credits.

**Protection of Trade-Vulnerable and Other Industries.** Pursuant to the Inslee-Doyle program, energy-intensive, trade-exposed industries that make products like iron, steel, cement, and paper will receive allowances to cover their increased costs. The number of allowances set aside for this program will equal 15% of the allowances in 2014 and then decrease based on the percent reductions in the carbon emissions cap. These allowances will phase out after 2025 unless the President decides the program is still needed.

The legislation also provides that if the United States does not join a multilateral agreement, a border adjustment for energy-intensive trade-exposed sectors will be available to the President in 2020. The President must receive a joint resolution of Congress in order to waive use of the border adjustment for these sectors.

In addition, oil refiners will receive 2% of allowances starting in 2014 and ending in 2026, and merchant coal producers and electricity producers obligated to supply electricity under long-term contracts will receive 5% of allowances through 2025. The legislation provides an additional 0.25% of allowances for small business refiners from 2014 through 2026.

**Investments in Clean Energy and Energy Efficiency.** States will receive 10% of allowances from 2012 through 2015; 7% of allowances in 2016 and 2017; 6% of allowances from 2018 through 2021; and 5% of allowances thereafter for investments in renewable energy, energy efficiency, and pollution reducing transportation projects. Two percent of allowances from 2014 through 2017 and 5% thereafter will be available to electric utilities to cover the costs of installing and operating carbon capture and sequestration technologies (from 2014 through 2017, a small portion of these allowances will be used to offset the costs to the Treasury of the Carbon Storage Research Corporation, which will invest an additional \$10 billion in carbon capture and sequestration technologies). Three percent of allowances from 2012 through 2017 and 1% of allowances from 2018 through 2025 will be available for investments in electric vehicles and other advanced automobile technology and deployment. One-and-a-half percent of allowances in each year will be allocated to support research and development in advanced clean energy and energy efficiency technologies.

**Domestic Adaptation.** From 2012 through 2021, 2% of allowances will be allocated to prepare the United States to adapt to the impacts of climate change. The amount of allowances allocated for domestic adaptation will increase to 4% from 2022 through 2026 and to 8% thereafter. Half of these allowances will be used for wildlife and natural resource protection and half for other domestic adaptation purposes, including public health.

**Preventing Tropical Deforestation and International Adaptation.** From 2012 through 2025, 5% of allowances will be allocated to prevent tropical deforestation and build capacity to generate international deforestation offsets. The allowances allocated to this program will be reduced to 3% from 2026 through 2030 and to 2% thereafter. From 2012 through 2021, 2% of allowances will be allocated for international adaptation and clean technology transfer. The amount of allowances allocated for these purposes will increase to 4% from 2022 through 2026 and to 8% thereafter. Half of these allowances will be used for adaptation and half for clean technology transfer.

**Worker Assistance and Job Training.** From 2012 through 2021, 0.5% of allowances will be allocated for worker assistance and job training. This amount will increase to 1% thereafter. ACES also provides that 0.75% of allowances for vintage years 2012 and 2013 shall be deposited in a new Energy Efficiency and Renewable Energy Worker Training Fund to ensure adequate funding under the Green Job Acts.

**Supplemental Agriculture and Renewable Energy Incentives.** From 2012 through 2016, 0.28% of allowances will be allocated to the Secretary of Agriculture to support agricultural activities that sequester carbon but may not be eligible for offset credits and to support investments in renewable energy infrastructure.

**Recognition of Early Action.** One percent of allowances in 2012 will be allocated to projects that produced early emission reductions between January 1, 2001, and January 1, 2009.

### **CBO Score**

According to the CBO score of the legislation, ACES meets PAYGO requirements. For scoring purposes, CBO considers the creation of allowances as an increase in revenues and the free distribution of allowances as an offsetting outlay. Using this methodology, CBO estimates that the legislation will raise federal revenues by \$873 billion over ten years and increase direct spending by \$864 billion, resulting in a net \$9 billion reduction in the federal budget deficit.



## A SUMMARY OF THE CLEAN ENERGY JOBS AND AMERICAN POWER ACT

*AS INTRODUCED September 30, 2009*

### SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

This Act may be cited as the “Clean Energy Jobs and American Power Act”.

*Sections 2. Findings.* Describes the impacts of climate change and the benefits of transitioning to a clean energy economy.

*Section 3. Economywide Emission Reduction Goals.* Establishes targets for reducing global warming pollution.

*Section 4. Definitions.*

### DIVISION A—AUTHORIZATIONS FOR POLLUTION REDUCTION, TRANSITION, AND ADAPTATION

*Section 101. Structure of Act.* Describes the authorizations included in the bill, including those that receive an allocation of allowances under Division B.

### TITLE I—GREENHOUSE GAS REDUCTION PROGRAMS

#### **Subtitle A—Clean Transportation**

*Section 111. Emission Standards.* Amends Title VIII of the Clean Air Act to require EPA to establish greenhouse gas emission standards for new heavy-duty vehicles and engines, and for nonroad vehicles and engines.

*Section 112. Greenhouse Gas Emission Reductions Through Transportation Efficiency.* Requires the EPA Administrator, in consultation with the Secretary of Transportation, to establish national greenhouse gas emission reduction goals, as well as standardized emission models and related methodologies to be used by States and metropolitan planning organizations (MPOs).

*Section 113. Transportation Greenhouse Gas Emission Reduction Program Grants.* Requires the Secretary of Transportation to provide grants to States and MPOs to help reduce greenhouse gas emissions from the transportation sector.

*Section 114. SmartWay Transportation Efficiency Program.* Amends Title VIII of the Clean Air Act to expand an existing EPA loan and fuel saving technology deployment program, the SmartWay Transport Partnership, to help American truckers upgrade to more fuel efficient and less polluting vehicles.



## **Subtitle B—Carbon Capture and Sequestration**

*Section 121. National Strategy.* Requires the EPA Administrator, in consultation with the heads of other relevant Federal agencies, to submit to Congress a report setting forth a unified and comprehensive strategy to address the key legal and regulatory barriers to the commercial-scale deployment of carbon capture and storage.

*Section 122. Regulations for Geological Sequestration Sites.* Amends the Clean Air Act to require the Administrator to establish a coordinated approach to the certification and permitting of sites where geologic sequestration of carbon dioxide will occur. Requires the EPA Administrator to promulgate regulations to minimize the risk of escape to the atmosphere of carbon dioxide injected for geologic sequestration and details the requirements of such regulations.

*Section 123. Studies and Reports.* Requires the Administrator to establish a multi-stakeholder task force and conduct a study of the legal framework for geologic sequestration sites and activities.

*Section 124. Performance Standards for Coal-fueled Power Plants.* Amends the Clean Air Act to establish performance standards for new coal-fueled power plants permitted in 2009 or thereafter. Describes eligibility criteria, applicable emission standards, and the schedule upon which such standards must be met. Plants permitted in 2020 or thereafter are required to meet specified standards once they begin operations. Plants permitted from 2009-2020 are required to meet the specified standard within four years after certain technology deployment criteria are met but no later than 2025.

*Section 125. Carbon Capture and Sequestration Demonstration and Early Deployment Program.* Establishes a program for the demonstration and early deployment of carbon capture and sequestration (CCS) technologies. Authorizes fossil fuel-based electricity distribution utilities to hold a referendum on the establishment of a Carbon Storage Research Corporation. If approved by entities representing two-thirds of the nation's fossil fuel-based delivered electricity, the Corporation would be operated as a division or affiliate of the Electric Power Research Institute and would assess fees totaling approximately \$1 billion annually for ten years, to be used by the Corporation to fund the large-scale demonstration of CCS technologies in order to accelerate the commercial availability of those technologies.

## **Subtitle C—Nuclear and Advanced Technologies**

*Section 131. Findings and Policy.* Provides Congressional findings related to the role of nuclear power as an energy source. Establishes a policy of promoting a safe and clean nuclear energy industry, through reductions in financial and technical barriers to construction and operations incentives for the development of a well-trained workforce and the growth of safe domestic nuclear and nuclear-related industries.





*Section 132. Nuclear Worker Training.* Establishes a grant program, administered by EPA, to provide assistance for training of workers that will be essential for the growth of safe domestic nuclear and nuclear-related industries.

*Section 133. Nuclear Safety and Waste Management Programs.* Establishes programs to provide grants and other assistance for research projects that seek to develop new technologies for nuclear waste management.

#### **Subtitle D—Water Efficiency**

*Section 141. WaterSense.* Authorizes EPA's WaterSense program, a voluntary program for labeling water-efficient high-performance products and services. Provides the same type of labeling for water-efficient products and services as currently in place for energy-efficient products under the Energy Star program.

*Section 142. Federal Procurement of Water-efficient Products.* Directs Federal agencies to make cost-effective water-efficient procurement decisions by purchasing WaterSense or Federal Energy Management Program certified products whenever possible.

*Section 143. State Residential Water Efficiency and Conservation Incentives Program.* Authorizes grants to eligible entities for programs offering incentives to consumers who purchase and install water-efficient products and services such as those labeled under WaterSense.

#### **Subtitle E—Miscellaneous**

*Section 151. Office of Consumer Advocacy.* Establishes an Office of Consumer Advocacy within the Federal Energy Regulatory Commission to identify and defend the consumer interest in proceedings before the Commission.

*Section 152. Clean Technology Business Competition Grant Program.* Provides for grants by EPA to nonprofit organizations for competitive programs supporting start-up businesses in the areas of energy efficiency, renewable energy, air quality, water quality and conservation, transportation, smart grid, green buildings, and waste management.

*Section 153. Product Carbon Disclosure Program.* Requires EPA to conduct a study regarding effectiveness of a voluntary product carbon disclosure and labeling program, to implement such a program based on the results of the study, and to report to Congress.

*Section 154. State Recycling Programs.* Requires EPA to establish a state recycling program and develop analyses and methodologies to optimize reductions of greenhouse gas emissions through recycling. Provides that funds distributed by States under the Act to carry out recycling programs be allocated in minimum proportions among county and municipal programs, eligible recycling facilities, and eligible manufacturing facilities.



*Section 155. Supplemental Agriculture and Forestry Greenhouse Gas Reduction and Renewable Energy Program.* Establishes a new program to provide assistance to agriculture and forestry landowners for projects that reduce greenhouse gases or sequester carbon. Establishes a research program for the development and deployment of renewable energy technologies in the agricultural and forestry sectors.

*Section 156. Economic Development Climate Change Fund.* Authorizes the Economic Development Administration to provide up to \$50 million per year in technical assistance and grants for projects that promote green economic development in distressed communities.

*Section 157. Study of Risk-based Programs Addressing Vulnerable Areas.* Requires preparation of a report within two years assessing federal pre-disaster mitigation, emergency response and flood insurance policies and programs that affect areas vulnerable to the impacts of climate change, with strategies and recommendations.

#### **Subtitle F—Energy Efficiency and Renewable Energy**

*Section 161. Renewable Energy.* Directs EPA to establish a program to provide grants and other assistance to renewable energy projects in states with mandatory renewable portfolio standards.

*Section 162. Advanced Biofuels.* Directs EPA to establish a program to provide grants for research and development into advanced biofuels

*Section 163. Energy Efficiency in Building Codes.* Requires the EPA Administrator, or such other agency head as the President designates, to set a national goal for improvement in building energy efficiency, promulgate a rule establishing national energy efficiency building codes for residential and commercial buildings, and regularly report to Congress on progress in improving building efficiency.

*Section 164. Retrofit for Energy and Environmental Performance.* Establishes the Retrofit for Energy and Environmental Performance Program to provide allowances to States to conduct cost-effective building retrofits. Provides that States may use local governments or other agencies or entities to carry out the work and may use flexible forms of financial assistance providing up to 50% of the costs of retrofits, with funding increasing in proportion to efficiency achievement. Provides additional assistance for the retrofitting of historic buildings. Directs the Administrator of EPA to establish standards and guidelines for the program, in consultation with the Secretary of Energy. Requires States to offer preferential access to at least 10% of dedicated program funding to public and assisted housing. Nothing in this section would require a homeowner to audit or retrofit their home to ensure that it meets building code requirements.

#### **Subtitle G—Emission Reductions From Public Transportation Vehicles**

*Sections 171-173.* Amends the Clean Air Act to allow State and local governments to set fuel efficiency standards for emissions from taxi cabs at least as stringent as applicable Federal standards.



## **Subtitle H—Clean Energy and Natural Gas**

*Section 181. Clean Energy and Accelerated Emission Reduction Program.* Authorizes EPA to carry out a program to provide incentive payments for power generation projects that achieve reductions in greenhouse gases as compared to the electric utility sector average.

*Section 182. Advanced Natural Gas Technologies.* Authorizes EPA to carry out a program to provide grants for research and development of advanced technologies, including carbon capture and storage, that reduce greenhouse gas emissions from natural gas-fueled electricity generation facilities.

## **TITLE II—RESEARCH**

### **Subtitle A—Energy Research**

*Section 201. Advanced Energy Research.* Authorizes EPA to carry out a program to provide grants to support research and development on innovative energy technologies that reduce US dependence on foreign energy sources and reduce greenhouse gas emissions.

### **Subtitle B—Drinking Water Adaptation, Technology, Education, and Research**

*Section 211. Effects of Climate Change on Drinking Water Utilities.* Requires EPA to establish and provide funding for a research program, to be conducted through a nonprofit water research foundation and sponsored by drinking water utilities, to assist utilities in adapting to the effects of climate change.

## **TITLE III—TRANSITION AND ADAPTATION**

### **Subtitle A—Green Jobs and Worker Transition**

*Section 301. Clean Energy Curriculum Development Grants.* Authorizes the Secretary of Education to award grants, on a competitive basis, to eligible partnerships to develop programs of study focused on emerging careers and jobs in the fields of clean energy, renewable energy, energy efficiency, climate change mitigation, and climate change adaptation.

*Section 302. Development of Information and Resources Clearinghouse for Vocational Education and Job Training in Renewable Energy Sectors.* Requires the Secretary of Labor, in collaboration with the Secretary of Energy and the Secretary of Education, to develop an internet-based information and resources clearinghouse to aid career and technical education and job training programs for the renewable energy sectors.

*Section 303. Green Construction Careers Demonstration Project.* Requires the Secretary of Labor, in consultation with the Secretary of Energy, to establish a Green Construction Careers demonstration project to promote careers and quality employment practices in the green construction sector and to



advance efficiency and performance on construction projects related to the Act.

## **Part 2—Climate Change Worker Adjustment Assistance**

*Sections 311- 313.* Establishes a program pursuant to which any worker displaced as a result of Title VII of the Clean Air Act would be entitled to 156 weeks of income supplement, 80% of their monthly health care premium, up to \$1,500 for job search assistance, up to \$1,500 for moving assistance, and additional employment services for skills assessment, job counseling, training, and other services. Payments under the program cannot exceed the proceeds from the auction of allowances set aside for this purpose.

## **Subtitle B—International Climate Change Programs**

*Section 321. Strategic Interagency Board on International Climate Investment.* Directs the President to establish the Strategic Interagency Board on International Climate Investment, composed of the Secretary of State, the Administrator of EPA, and other Federal officials, to assess, monitor and evaluate the progress and contributions of U.S. Government entities in supporting financing for international climate change activities.

*Section 322. Emission Reductions from Reduced Deforestation.* Amends Title VII of the Clean Air Act by inserting Part E, which includes the following new sections:

### **Part E—Supplemental Emission Reductions**

*Sections 751-752. Definitions and Purposes.* Defines forest carbon activities. States the purposes to develop and improve mitigation policies and actions that reduce deforestation and forest degradation or conserve or restore forest ecosystems in developing countries.

*Section 753. Emission Reductions from Reduced Deforestation.* Directs the Administrator of the United States Agency for International Development (U.S. AID), in consultation with the Administrator of EPA, the Secretary of Agriculture, and the heads of any other appropriate agencies to establish a program to build capacity in developing countries to reduce emissions from deforestation.

*Section 323. International Clean Energy Deployment Program.* Directs the Secretary of State, in consultation with an interagency group designated by the President, to establish a program that supports activities in developing countries contributing to substantial, measurable, reportable and verifiable reductions, sequestrations or avoidance of greenhouse gas emissions.

*Section 324. International Climate Change Adaptation and Global Security Program.* Directs the Secretary of State, in consultation with the Administrator of U.S. AID, the Secretary of the Treasury, and EPA to establish a program to provide assistance to the most vulnerable developing countries to protect and promote the interests of the United States.



*Section 325. Evaluation and Reports.* Directs the Strategic Interagency Board to implement a system to monitor and evaluate the effectiveness and efficiency of assistance provided under this Act. Also directs the Board to prepare an annual report to Congress describing steps agencies have taken and the progress made toward accomplishing the objectives of this part, and the ramifications of any potentially destabilizing impacts climate change may have on the interests of the United States.

*Section 326. Report on Climate Action of Major Economies.* Requires the Secretary of State, working with the Strategic Interagency Board, to prepare annually an interagency report on the climate change and energy policies of the top five largest greenhouse gas emitting countries that are not members of the Organisation for Economic Co-Operation and Development. Requires the report to provide Congress and the American public with a better understanding of the actions these countries are taking to reduce greenhouse gas emissions and to identify how the United States can assist these countries in achieving these reductions.

### **Subtitle C—Adapting to Climate Change**

#### **PART 1—Domestic Adaptation**

##### **Subpart A—National Climate Change Adaptation Program**

*Sections 341-342. National Climate Change Adaptation Program and Services.* Requires the President to establish a National Climate Change Adaptation Program to increase the overall effectiveness of Federal climate change adaptation efforts, and to establish within the National Oceanic and Atmospheric Administration a National Climate Service to develop and disseminate climate information, data, forecasts, and warnings at national and regional scales.

##### **Subpart B—Public Health and Climate Change**

*Sections 351 – 356. Public Health Adaptation Policy, Action Plans and Advisory Board.* States the sense of Congress that the Federal Government should take all means and measures to prepare for and respond to the public health impacts of climate change. Requires the Secretary of Health and Human Services to prepare and implement a national strategic action plan to assist health professionals in preparing for and responding to the impacts of climate change on public health, with disease surveillance, research, communications, education, and training programs, supported by a science advisory board and a needs assessment.

##### **Subpart C—Climate Change Safeguards for Natural Resources Conservation**

*Sections 361-365. Purposes, Policy, Definitions, Adaptation Panel.* States the policy of the Federal Government to use all practicable means and measures to assist natural resources to adapt to climate change. Establishes a Natural Resources Climate Change Adaptation Panel, chaired by the White House Council on Environmental Quality, as a forum for interagency coordination on natural resources adaptation.



*Section 366. Natural Resources Climate Change Adaptation Strategy.* Requires the Adaptation Panel to develop a strategy for making natural resources more resilient to the impacts of climate change and ocean acidification. The strategy is to assess likely impacts to natural resources, strategies for helping wildlife adapt, and specific actions that Federal agencies should take.

*Section 367. Natural Resources Adaptation Science and Information.* Establishes a process through National Oceanic and Atmospheric Administration and the U.S. Geological Survey National Global Warming and Wildlife Science Center, to provide technical assistance, conduct research, and furnish decision tools, monitoring, and strategies for adaptation.

*Section 368. Federal Natural Resource Agency Adaptation Plans.* Requires Federal agencies to develop natural resource adaptation plans, consistent with the National Adaptation Strategy, including prioritized goals and a schedule for implementation of adaptation programs within their respective jurisdictions.

*Section 369. State Natural Resources Adaptation Plans.* Requires States to develop Natural Resources Adaptation Plans as a condition for receiving funds under the programs in this subtitle.

*Section 370. Natural Resources Climate Change Adaptation Account.* Provides that allowances devoted to state natural resources adaptation be distributed to the States, with 32.5% going to State wildlife agencies and 6% to State coastal agencies. Funds placed in the Natural Resources Climate Change Adaptation Fund are to be distributed to Federal agencies: 17% to the Department of the Interior (DOI) for endangered species, bird, and Fish and Wildlife Service programs, wildlife refuges, and the Bureau of Reclamation; 5% to DOI for cooperative grant programs; 3% to DOI for tribal programs; 12% to the Land and Water Conservation Fund (1/6 to DOI for competitive grants, 1/3 for land acquisition under §7 of the Land and Water Conservation Fund Act, 1/6 to U.S. Department of Agriculture (USDA) for the Forestry Assistance Act, and 1/3 to the USDA for land acquisition.); 5% to USDA for the Forest Service; 7.5% to EPA for estuaries and freshwater ecosystems; 5% to the Army Corps of Engineers for freshwater ecosystems; and 7% to the Secretary of Commerce for coastal and marine ecosystems. All funds must be used for adaptation activities, and States shall ensure that a minimum of 10% of project costs are paid by non-Federal sources.

*Section 371. National Wildlife Habitat and Corridors Information Program.* Establishes a program in the DOI to support States and tribes in the development of a geographical information system (GIS) of databases of fish and wildlife habitats and corridors. Facilitates the use of database tools in wildlife management programs.

*Section 372. Additional Provisions Regarding Indian Tribes.* Clarifies that nothing in this subpart amends Federal trust responsibilities to Indian tribes or exempts information on tribal sacred sites or cultural activities from the Freedom of Information Act, and clarifies that DOI may apply the provisions of the Indian Self-Determination and Education Assistance Act as appropriate.





## **Subpart D—Additional Climate Change Adaptation Programs**

*Section 381. Water System Mitigation and Adaptation Partnerships.* Requires the EPA Administrator to establish a water system mitigation and adaptation partnership program for distribution of funds under the Act by States as grants for water system adaptation projects. Identifies eligible parties and uses. Provides for a competitive process, prioritizing applications for water systems at the greatest and most immediate risk of facing significant climate-related negative impacts, and establishes requirements and goals to be met by States in awarding grants.

*Section 382. Flood Control, Protection, Prevention and Response.* Requires the Administrator to establish a program for distribution of funds by States under the Act for flood control, protection, prevention and response projects. Establishes eligible uses, objectives and priorities.

*Section 383. Wildfire.* Establishes a program to provide grants for education programs to raise awareness of homeowners and citizens about wildland fire protection practices, including FireWise or similar programs, training programs for local firefighters on wildland firefighting techniques and approaches, equipment acquisition to facilitate wildland fire preparedness, implementation of a community wildfire protection plan, and forest restoration that accomplishes fuels reduction.

*Section 384. Coastal and Great Lakes State Adaptation Program.* Requires the EPA Administrator to distribute annually funding for coastal State economic protection under the Act pursuant to a prescribed formula, for projects and activities addressing the impacts of climate change in coastal watersheds.

## **DIVISION B—POLLUTION REDUCTION AND INVESTMENT**

### **Title I—Reducing Global Warming Pollution**

#### **Subtitle A—Reducing Global Warming Pollution**

*Sections 101-103 and Section 111.* Amends the Clean Air Act to add Title VII to establish a declining limit on global warming pollution and to spur private investment in technologies to reduce global warming pollution.

### **Title VII—GLOBAL WARMING POLLUTION REDUCTION AND INVESTMENT PROGRAM**

#### **Part A—Global Warming Pollution Reduction Goals and Targets**

*Section 701-702. Findings, Economywide Reduction Goals.* States that the goals of Title VII and Title VIII are to reduce economy-wide global warming pollution to 97% of 2005 levels by 2012, 80% by 2020, 58% by 2030, and 17% by 2050.



*Section 703. Reduction Targets for Specified Sources.* Requires that the regulations issued under Title VII reduce emissions of covered sources to 97% of 2005 levels by 2012, 80% by 2020, 58% by 2030, and 17% by 2050.

*Section 704. Supplemental Pollution Reductions.* Directs the EPA Administrator to achieve additional low-cost reductions in global warming pollution equal to an additional 10 percentage points of reductions from U.S. emissions in 2005 by using a small portion of the emissions allowances to provide incentives to reduce emissions from international deforestation.

*Section 705. Review and Program Recommendations.* Directs the Administrator to submit a report to Congress every four years that includes an analysis of the latest science relevant to climate change, an analysis of capacity to monitor and verify greenhouse gas reductions, an analysis of worldwide and domestic progress in reducing global warming pollution, and additional measures that can be taken.

*Section 706. National Academy Review.* Directs the EPA Administrator to commission reports from the National Academy of Sciences every four years, to evaluate the most recent EPA report submitted under Section 705, and provide recommendations for actions to avoid dangerous climate change.

*Section 707. Presidential Response and Recommendations.* Directs the President to use existing authority to respond to recommendations in the reports issued under sections 705 and 706. If the National Academy review confirms that further emission reductions are needed, either domestically or globally, the President must submit a report to Congress recommending steps (including legislation) to achieve those reductions.

#### **Part B—Designation and Registration of Greenhouse Gases**

*Section 711. Designation of Greenhouse Gases.* Establishes a list of greenhouse gases regulated under this title: carbon dioxide, methane, nitrous oxide, sulfur hexafluoride, hydrofluorocarbons (HFCs) emitted as a byproduct, perfluorocarbons, and nitrogen trifluoride. The EPA Administrator may designate additional anthropogenic greenhouse gases by rule.

*Section 712. Carbon Dioxide Equivalent Value of Greenhouse Gases.* Lists carbon dioxide equivalents for each gas. Requires periodic review of equivalence values by the Administrator.

*Section 713. Greenhouse Gas Registry.* Directs EPA to establish a Federal greenhouse gas registry and comprehensive reporting system for greenhouse gas emissions.

*Section 714. Perfluorocarbon Regulation.* Provides the Administrator the discretion to regulate the production of perfluorocarbon either under the emissions limits established under Section 722 or through a combination of best available control technology combined with a mandatory phase-down schedule.





## Part C—Program Rules

*Section 721. Emission Allowances.* Establishes an annual tonnage limit on greenhouse gas emissions from specified activities. Directs the EPA Administrator to establish allowances equal to the tonnage limit for each year (with one allowance representing the permission to emit one ton of greenhouse gases, measured in tons of carbon dioxide equivalent).

*Section 722. Prohibition of Excess Emissions.* Prohibits covered entities from emitting or having attributable greenhouse gases in excess of their allowable emissions level, which is determined by the number of emission allowances and offset credits they hold on the specified date. Electricity generators, refiners and importers of petroleum-based and other specified liquid fuels, fluorinated gas manufacturers, and emitters of nitrogen trifluoride are covered entities starting with emissions in 2012. Specified industrial sources are covered starting with emissions in 2014. Local distribution companies that deliver natural gas are covered starting with emissions in 2016.

Allows covered entities to use a total of up to two billion tons of domestic and international offset credits in lieu of allowances to demonstrate compliance for a portion of their emissions. The ability to use these offsets is divided pro rata among all covered entities. Of the two billion tons of offset credits,  $\frac{3}{4}$  may be derived from domestic offsets and  $\frac{1}{4}$  from international offsets. If the Administrator determines that an insufficient number of domestic offsets are available, the number of international offsets available may be increased by 750 million metric tons. Starting with the 2018 compliance obligation, covered entities using offset credits must submit five tons of international offset credits for every four tons of emissions being offset.

Allows the use of term offset credits in lieu of domestic offset credits to demonstrate temporary compliance with the Act. When the crediting term of a term offset credit expires, the covered entity must either submit a term offset credit to continue to demonstrate compliance temporarily or submit an allowance or domestic offset credit to demonstrate final compliance.

Covered entities may also submit an international emission allowance or compensatory allowance in place of a domestic emission allowance.

*Section 723. Penalty for Noncompliance.* Establishes penalties for parties that fail to comply with the requirements of Title VII.

*Section 724. Trading.* Clarifies that Title VII as established by this section does not restrict who can hold an allowance, nor does it restrict the purchase, sale, or other transactions involving allowances.

*Section 725. Banking and Borrowing.* Permits unlimited banking of allowances for use during future compliance years. Establishes a two-year rolling compliance period by allowing covered entities to borrow an unlimited number of allowances from one year into the future. Covered entities may also satisfy up to 15% of their compliance obligations by submitting emission allowances with vintage years 2



to 5 years in the future, but must pay an 8% premium (in allowances) to do so.

*Section 726. Market Stability Reserve.* Directs the Administrator to create a “market stability reserve” of emission allowances that will be auctioned at a minimum set price (\$28/ton in 2012) that increases annually. The auction of additional allowances will help contain the costs of meeting the annual greenhouse gas limits and minimize price fluctuations. The “market stability reserve” will be established by setting aside a number of allowances from each year’s limit. Following an auction, the reserve will be refilled through the purchase and retirement of offset credits.

*Section 727. Permits.* Clarifies the obligations of operators of stationary sources under the Clean Air Act’s Title V operating permit program under the newly-established Title VII program.

*Section 728. International Emission Allowances.* Establishes criteria that must be met before allowances from foreign programs can be used for compliance by covered entities.

#### **Part D – Offsets**

*Section 731. Offsets Integrity Advisory Board.* Establishes an independent Offsets Integrity Advisory Board composed of scientists and others with relevant expertise, to review the offsets program and provide recommendations to the President on: offset project eligibility, scientific uncertainty, quantification methodologies and related issues.

*Section 732. Establishment of Offsets Program.* Directs the President to establish an offsets program and requires that regulations ensure offsets are verifiable, additional, and permanent.

*Section 733 Eligible Project Types.* Requires the President to establish and update a list of offset project types that are eligible under the program, taking into account the recommendations of the Offsets Integrity Advisory Board. Projects types for consideration include fugitive methane emissions from coal mines, landfills, and oil and gas distribution facilities; agricultural, grassland, and rangeland sequestration and management practices; and changes in carbon stocks attributed to land use change and forestry activities.

*Section 734. Requirements for Offset Projects.* Requires that for each offset project type, the President establish standardized methodologies for: determining additionality; establishing activity baselines; measuring performance; and accounting for and mitigating potential leakage. Establishes requirements regarding the permanence of offset projects and crediting periods, and procedures to address reversals, including penalties.

*Section 735. Approval of Offset Projects.* Establishes procedures for approval of offset projects, including reporting and record-keeping requirements and a requirement that an offset project developer certify the accuracy of information provided in an approval petition.



*Section 736. Verification of Offset Projects.* Directs the President to establish requirements for the verification of offset project performance, and requires that verification reports be prepared by accredited third-party verifiers. Allows the President to revoke the accreditation of any third-party verifier that the President finds fails to maintain professional qualifications or to avoid a conflict of interest

*Section 737. Issuance of Offset Credits.* Establishes procedures for the issuance of offset credits and directs the President to issue offset credits only if the emissions reduction or sequestration has already occurred and other specified conditions are met.

*Section 738. Audits.* Requires the President to conduct, on an ongoing basis, random audits of offset projects, offset credits, and practices of third-party verifiers. Allows the President to delegate this responsibility to State governments.

*Section 739. Program Review and Revision.* Requires the periodic evaluation and updating of specified areas and components of the offsets program.

*Section 740. Early Offset Supply.* To ensure a supply of offset credits in the early years of the program, allows for the issuance of offset credits for offsets from State or other programs that meet specified criteria. Limits the issuance of offset credits under this section to reductions that occur between January 1, 2009, and three years after enactment or the effective date of Federal offset regulations, whichever is sooner.

*Section 741. Environmental Considerations.* Requires additional environmental considerations for forestry and other land management-related offset projects.

*Section 742. Trading.* Provides that the trading provisions applicable to allowances are also applicable to offset credits.

*Section 743. Office of Offsets Integrity.* Establishes an Office of Offsets Integrity within the Department of Justice to: supervise and coordinate investigations and civil enforcement of the carbon offsets program established in this part; ensure that Federal law relating to civil enforcement of the carbon offsets program is used to the fullest extent authorized; and ensure that adequate resources are made available for the investigation and enforcement of civil violations of the carbon offsets program.

*Section 744. International Offset Credits.* Allows the President to issue international offset credits for activities that take place in developing countries. Requires that all international offset credits meet the criteria established for all offsets under sections 732-742, as well as the requirements specific to international offsets established under this section. Requires that the U.S. be a party to a bilateral or multilateral agreement or arrangement with the country where an offset activity would take place before any international offset credits can be issued. Establishes procedures and requirements regarding the issuance of international offset credits for activities that reduce deforestation.



*Section 102. Definitions.* Defines key terms for Titles VII and VIII of the Clean Air Act.

*Section 103. Offset Reporting Requirements.* Amends Section 114 of the Clean Air Act to require any person who is an offset project developer to establish and maintain records for a period of not less than the offset project crediting period plus five years.

#### **Subtitle B—Disposition of Allowances**

*Section 111. Disposition of Allowances for Global Warming Pollution Reduction Program.* Provides for emission allowances to be distributed for three primary goals: to protect consumers from energy price increases, to assist industry in the transition to clean energy, and to spur energy efficiency and the deployment of clean energy technology. Allocates allowances to prevent deforestation and support national and international adaptation efforts and for other purposes.

#### **Part H—Disposition of Allowances**

*Section 771. Allocation of Emission Allowances.* Provides for allocation and auction of allowances.

*Section 772. Electricity Consumers.* Directs distribution of allowances allocated for the benefit of consumers to local electricity distribution companies (LDCs), whose retail rates are regulated by States or other entities. Requires half of the allowances to be distributed based on historic emissions and half based on retail sales, but prohibits any electricity LDC from receiving allowances whose value exceeds the LDC's direct and indirect costs of complying with this Title. Requires that these allowances be used exclusively for the benefit of the LDC's retail ratepayers, and prohibits the Administrator from releasing an LDC's allowances until after a ratemaking or similar proceeding has been conducted regarding the appropriate use of the allowances.

Directs distribution of allowances for merchant coal generators and for certain generators with long-term power purchase agreements, and to small LDCs to support renewable electricity deployment, energy efficiency programs, and consumer assistance for low-income ratepayers. Requires the Administrator to conduct an audit of LDCs receiving allowances under this section to ensure that emission allowances have been used exclusively for the benefit of retail ratepayers. Every three years, the U.S. Government Accountability Office is required to report on the integrity of the allowance program, and the Administrator is required to submit to Congress an evaluation of the disposition of emission allowances.

*Section 773. Natural Gas Consumers.* Directs the Administrator on how to distribute the allowances allocated for the benefit of consumers to local natural gas distribution companies, whose retail rates are regulated by States or other entities.



*Section 774. Home Heating Oil and Propane Consumers.* Directs the Administrator on how to distribute allowances to States for programs to benefit residential and commercial users of home heating oil, propane, and kerosene.

*Section 775. Domestic Fuel Production.* Directs the Administrator on how to distribute allowances to domestic refiners, including small business refiners.

*Section 776. Consumer Protection.* Dedicates proceeds from the sales of allowances to offset electricity cost impacts to low and moderate-income consumers and to provide relief to consumers and others affected by the Act.

*Section 777. Exchange for State-Issued Allowances.* Provides for fair compensation and exchange of allowances issued by the State of California, the Regional Greenhouse Gas Initiative and the Western Climate Initiative prior to commencement of federal program.

*Section 778. Auction Procedures.* Establishes single-round, sealed-bid, uniform-price auction procedures, which may be modified by the Administrator. Provides that a percentage of allowances will be made available for small business refiners to purchase for compliance for that year at the average auction price.

*Section 779. Auctioning Allowances for Other Entities.* Establishes rules by which the Administrator may auction allowances on behalf of other entities.

*Section 780. Commercial Deployment of Carbon Capture and Sequestration Technologies.* Directs the EPA Administrator to establish an incentive program to distribute allowances to support the commercial deployment of CCS technologies in both electric power generation and industrial applications. Establishes eligibility requirements for facilities to receive allowances based on the number of tons of carbon dioxide sequestered. The allowance disbursement program is structured to provide greater incentives for facilities to deploy CCS technologies early in the program and for facilities to capture and sequester larger amounts of carbon dioxide.

*Section 781. Oversight of Allocations.* Requires the Comptroller General to prepare biannual reviews of the programs administered by the Federal Government that distribute emission allowances or funds from Federal auctions of allowances.

*Section 782. Early Action Recognition.* Provides allowances for projects and activities that sequestered carbon or reduced greenhouse gas emissions prior to the beginning of the Pollution Reduction and Investment Program established in this Title.

*Section 783. Establishment of Deficit Reduction Fund.* Establishes a deficit reduction fund in the U.S. Treasury.



### **Subtitle C—Additional Greenhouse Gas Standards**

*Section 121. Greenhouse Gas Standards.* Establishes Title VIII of the Clean Air Act to achieve additional greenhouse gas reductions outside of Title VII.

### **Title VIII—ADDITIONAL GREENHOUSE GAS STANDARDS**

*Section 801. Definitions.* Defines terms used in Title VIII.

#### **Part A—Stationary Source Standards**

*Section 811. Standards of Performance.* Directs the Administrator to delay until January 1, 2020 the establishment of standards of performance under section 111 of the Clean Air Act for stationary sources whose emissions are not subject to the requirements of Section 721 and are eligible as offset projects under Section 733.

*Section 122. HFC Regulation.* Amends Title VI of the Clean Air Act by adding a new section 619 to phase down the consumption of hydrofluorocarbons (HFCs), many of which are extremely potent greenhouse gases, under a separate limit and reduction schedule. Using a market-based regulatory approach, requires HFC consumption to be phased-down to 15% of the baseline by 2032. Requires allowances to be distributed through a combination of annual auctions and non-auction sales. Allows offset credits for destruction of chlorofluorocarbons (CFCs).

*Section 123. Black Carbon.* Directs the Administrator to conduct a study of black carbon emissions, report on existing efforts to reduce domestic black carbon pollution, and in coordination with the Secretary of State, to report to Congress on current and potential future assistance to foreign nations to help reduce black carbon pollution. Includes in Title III of the Clean Air Act a provision directing the Administrator to use existing authority to achieve further reductions.

*Section 124. States.* Amends section 116 of the Clean Air Act to preserve States' existing authority to adopt and enforce standards or limitations on air pollution under the Clean Air Act, including greenhouse gas emissions.

*Section 125. State Programs.* Includes in Title VIII of the Clean Air Act section 861, barring States from implementing or enforcing a Comprehensive Greenhouse Gas Emission Limitation program to control greenhouse gas emissions covered by Title VII. The moratorium begins in 2012 or 9 months after the first auction, whichever is earlier, and continues through the year 2017. Includes section 862, which authorizes the Administrator to make grants to air pollution control agencies under section 105 of the Clean Air Act to implement global warming programs established under the Clean Air Act.

*Section 126. Enforcement.* Amends section 307 of the Clean Air Act to provide that in ruling on a petition for review under the Clean Air Act, the court may remand without overturning an action of the





Administrator under specified circumstances. Sets deadline for the Administrator to respond to a court remand and take final action.

*Section 127. Conforming Amendments.* Provides for conforming amendments to Clean Air Act enforcement and administrative provisions to incorporate Titles VII and VIII.

*Section 128. Davis-Bacon Compliance.* Requires recipients of emission allowances or funding under this Act to provide reasonable assurances that all laborers and mechanics employed by contractors and subcontractors on projects funded directly by or assisted in whole or in part by the Federal Government pursuant to this Act will be paid at least prevailing wages as determined by the Secretary of Labor in accordance with what is commonly known as the Davis-Bacon Act (subchapter IV of chapter 31 of title 40, United States Code). Excludes application of these provisions to retrofitting of residential buildings (apart from large apartment buildings) and smaller nonresidential buildings.

#### **Subtitle D—Carbon Market Assurance**

*Sections 131. Carbon Market Assurance.* States the sense of the Senate that there shall be a carbon market oversight program to provide for effective and comprehensive market oversight and enforcement that lowers systemic risk and protects consumers.

#### **Subtitle E—Ensuring Real Reductions in Industrial Emissions**

*Section 141. Ensuring Real Reductions in Industrial Emissions.* Creates a program within Title VII of the Clean Air Act, as established by this Act, to ensure real reductions in industrial greenhouse gas emissions through emission allowance rebates.

#### **Part F—Ensuring Real Reductions in Industrial Emissions**

*Section 761. Purposes.* Outlines purposes, including promoting a strong global effort to significantly reduce greenhouse gas emissions and preventing an increase in greenhouse gas emissions in foreign countries as a result of compliance costs incurred under Title VII of the Clean Air Act.

*Section 762-764. Definitions, Eligible Industrial Sectors, Distribution of Emission Allowance Rebates.* Establishes a program that rebates emission allowances to eligible industrial sectors to compensate these sectors for costs incurred as a result of compliance with Title VII of the Clean Air Act, as added by this Act. Requires the Administrator to determine which sectors and sub-sectors should be eligible for rebates through a rulemaking based on an assessment of the energy and greenhouse gas intensity of each sector and the trade intensity of each sector.

*Section 765. International Trade.* States the sense of the Senate that there will be trade provisions, including a border measure that is consistent with international obligations of the United States and designed to work in conjunction with provisions that allocate allowances to energy-intensive and trade-exposed industries.



## TITLE II—PROGRAM ALLOCATIONS

*Section 201. Investment in Clean Vehicle Technology.* Distributes emission allowances for development and demonstration of a national transportation low-emission energy plan; use of domestically-produced plug-in electric drive vehicles; and grants to reduce diesel engine emissions.

*Section 202. State and Local Investment in Energy Efficiency and Renewable Energy.* Distributes emission allowances to States, Indian tribes, local governments, metropolitan planning organizations, and renewable electricity generators for programs to reduce greenhouse gas emissions, promote energy efficiency and conservation, and accelerate the deployment of renewable energy sources. States shall receive 62.5 percent of allowances distributed under this section, of which not less than 35 percent shall be used for specified energy efficiency programs and not less than two percent shall be used for thermal energy efficiency projects. States may also use their allocation allowances for other purposes including renewable energy programs, improvements in electricity transmission, cost-effective energy efficiency programs for end-use consumers, retrofits and housing investments, and smart grid development. States and metropolitan planning organizations shall receive 10 percent of the allowance allocations under this section for grants from the Secretary of Transportation to reduce greenhouse gas emissions in the transportation sector. Local governments shall receive 25 percent of allowance allocations under this section for Energy Efficiency Community Block Grants.

*Section 203. Energy Efficiency in Building Codes.* Distributes emission allowances according to the formula in Section 202 to update and implement building codes pursuant to Section 163 of Division A.

*Section 204. Building Retrofit Program.* Distributes emission allowances according to the formula in Section 202 to provide assistance for energy efficiency building retrofits pursuant to Section 164 of Division A.

*Section 205. Energy Innovation Hubs.* Distributes emission allowances for research and development of clean technologies. Allowances are distributed through regional energy innovation hubs.

*Section 206. ARPA-E Research.* Distributes emission allowances to qualified research institutions to achieve the goals of the Advanced Research Projects Agency-Energy (ARPA-E) as described in section 5012(c) of the America COMPETES Act.

*Section 207. International Clean Energy Deployment Program.* Distributes emission allowances to provide assistance to developing countries for clean energy deployment pursuant to Section 323 of Division A.

*Section 208. International Climate Change Adaptation and Global Security.* Distributes emission allowances to provide assistance to developing countries for climate change adaptation pursuant





to Section 324 of Division A.

*Section 209. Energy Efficiency and Renewable Energy Worker Training.* Provides emission allowances to the Secretary of Energy to carry out the Energy Efficiency and Renewable Worker Training program authorized in the Workforce Investment Act of 1998.

*Section 210. Worker Transition.* Provides emission allowances for worker transition assistance pursuant to the program established in Sections 311-313 of Division A

*Section 211. State Programs for Greenhouse Gas Reduction and Climate Adaptation.* Distributes proceeds of emission allowances for implementation of projects, programs, or measures to reduce emissions of greenhouse gases and build resilience to the impacts of climate change. Ten percent (10%) of allowance proceeds are reserved for funding of coastal State economic protection programs pursuant to the program in Section 384 of Division A. At least one percent (1%) of allowance proceeds are reserved to support climate change response programs administered by Indian tribes. Fifty percent (50%) of the remaining proceeds are dedicated to transit grant programs. The remaining proceeds are allocated to fund State and local programs, including; grants to fund water systems mitigation and adaptation partnerships; flood control and response; recycling programs; adverse impacts on agriculture and ranching activities; and programs addressing air pollution and air quality. States and tribes are required to prepare Climate Change Response Plans governing uses of funds and to report on such uses in detail every two years.

*Section 212. Climate Change Health Protection and Promotion Fund.* Distributes proceeds of emission allowances for activities to prepare and respond to the impacts of climate change on public health pursuant to Sections 351-356 of Division A.

*Section 213. Climate Change Safeguards for Natural Resources Conservation.* Distributes proceeds of emission allowances for activities to prepare and respond to the impacts of climate change on natural resources pursuant to Sections 361-372 of Division A.

*Section 214. Nuclear Worker Training.* Distributes proceeds of emission allowances to provide assistance for training of workers that will be essential for the growth of safe domestic nuclear and nuclear-related industries pursuant to Section 132 of Division A.

*Section 215. Supplemental Agriculture, Renewable Energy, and Forestry.* Provides allowances for investment in agriculture and forestry projects to sequester carbon and reduce greenhouse gas emissions pursuant to the program in Section 155 of Division A.



United States Senate Committee on  
**Energy & Natural Resources**

Chairman Jeff Bingaman

Democrat - New Mexico

## ***American Clean Energy Leadership Act of 2009***

### **Clean Energy Technology Deployment**

#### **Creates Clean Energy Financing for the 21<sup>st</sup> Century**

*This legislation is a bipartisan effort to position the U.S. to lead the development of clean energy by ensuring that commercial financing for clean, new technologies is readily available for future energy use right here in America.*

Implements a series of reforms to the existing Department of Energy loan guarantee program, including creating a new "Clean Energy Investment Fund" to allow collected costs to be used to support more technology deployment. The legislation also creates a new entity housed in DOE -- the Clean Energy Deployment Administration (CEDA) -- with strong financial expertise and with a specific purpose to create an attractive investment environment for the development and deployment of clean energy technologies.

- CEDA would be an independent administration within DOE, like the Federal Energy Regulatory Commission. It would be governed by a board of directors and an administrator, all of whom would be appointed with the advice and consent of the Senate. CEDA will also have a permanent Technology Advisory Council to advise on the technical aspects of new technologies and to help set goals for the administration.
- The agency would provide various types of credit to support deployment of clean energy technologies, including loans, loan guarantees and other credit enhancements as well as secondary market support, to develop products such as clean energy-backed bonds that would allow less expensive lending in the private sector. The agency would also seek to accommodate riskier debt and thus provide a mechanism for deployment of the most innovative technologies.
- CEDA's mission would be to encourage deployment of technologies that are perceived as too risky by commercial lenders; thus, the agency is encouraged to back riskier technologies with a higher potential to address our climate and energy security needs. The agency is to use a portfolio investment approach in order to mitigate risk and is to try and become self-sustaining over the long term by balancing riskier investments with revenues from other services and less risky investments.
- CEDA would be an autonomous entity with strong guidance and aggressive goals for technology deployment set by an independent advisory council, in consultation with the Secretary of Energy. The bill sets out a process for goal-setting in the various areas and then mandates numerical targets for achieving the goals, against which the performance of CEDA may be judged. There would be various levels of financial oversight, including audits by the comptroller general and unfettered access to the books of CEDA by the Energy Secretary.

#### **Makes the Promise of Renewables Come True**

*A strong renewable electricity standard (RES) is an essential component of any comprehensive national energy policy, not just an important part of such a strategy, but an essential component. A national RES also will reduce our greenhouse gas emissions, increase our energy*

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*securit, and enhance the reliability of the electricity grid by creating more homegrown renewable energy.*

Rapidly ramps up clean, domestic sources of electricity by requiring the gradual increase of the amount of renewable energy utilities produce.

- Sellers of electricity must obtain the following percentages of their electricity from renewable energy resources or from energy efficiency improvements:

| <u>YEAR</u>    | <u>%</u> |
|----------------|----------|
| 2011-2013..... | 3        |
| 2014-2016..... | 6        |
| 2017-2018..... | 9        |
| 2019-2020..... | 12       |
| 2021-2039..... | 15       |

- Utilities selling less than 4 million megawatt hours per year are exempt.
- Qualifying Renewables are: wind, solar, ocean, geothermal, biomass, landfill gas, incremental hydropower, hydrokinetic, new hydropower at existing dams with no generation.
- Ways of meeting the standard are: Produce the specified amount of electricity or efficiency savings itself; purchase renewable energy or efficiency savings; Purchase renewable energy credits or energy efficiency credits from entities who have excess; Make alternative compliance payments to the Secretary at a rate of 2.1 cents per kilowatt hour. Payments are made directly to states whose utilities have paid into the fund, for development of renewable resources, or to offset increases in customer's bills.

**Will Link the Country with a Reliable Transmission Grid**

*With this legislation millions will benefit from the jobs that come to the states where the generation is located and from the electricity that is carried to customers throughout the country.*

Establishes the policy that the transmission infrastructure should be guided by the following goals: support for development of renewable generation; opportunities for reduced emissions; cost savings resulting from reduced congestion, enhanced opportunities for trades, reduced line losses, generation sharing; enhanced fuel diversity; reliability benefits; diversification of risk; enhancement of competition and mitigation of market power; ability to collocate facilities on existing rights-of-way; competing land use priorities; the needs of load-serving entities; and the contribution of demand response, energy efficiency and distributed generation.

- Requires FERC to coordinate development of an interconnection-wide plan that achieves the policy goals, from plans developed by current planning entities; FERC must promulgate a rule to embody the policy goals and develop a schedule to implement those policies within one year of enactment.
- Transmission planning entities shall develop regional plans and submit them to FERC within 24 months. The Commission will encourage joint submissions and submission of interconnection-wide plans. FERC may require modification of submitted plans to ensure conformance to planning principles and to reconcile inconsistencies.
- FERC shall periodically evaluate whether projects in the interconnection-wide plan are being developed, and if not take actions, in accordance with other provisions of law, to address identified obstacles.
- Make recommendations to Congress for further actions or authority needed to ensure development of timely projects.

- Update the plan every three years.
- Allows States one year from time of filing of a proposal to site a high priority national transmission project.
- Gives FERC jurisdiction over siting when states have either been unable to site the facility or have denied the application.
- Jurisdiction is over facilities 345 kilovolts and above that are included in the transmission plan.
- Gives the Department of the Interior lead agency status for development of records of decision on public lands.
- FERC must establish, by rule, appropriate methodologies for allocation of costs of high priority national transmission projects.
- Such methodologies derived from the cost allocation must be just and reasonable and not unduly discriminatory or preferential.

**Balances Energy Efficiency with Water Efficiency**

*Ensures a better understanding of the interdependence of energy and water, and begins integrating decision-making related to both resources.*

This legislation is intended to promote a better understanding of the interdependence of energy and water, and begin integrating decision-making related to both resources. Large amounts of water are consumed in generating electricity and producing fuels. Likewise, the delivery and treatment of water supplies consume massive amounts of energy. With the exception of certain renewable energy sources, building more power plants and creating new fuels will impact scarce water resources. Similarly, as water demands increase, more energy will be required to produce and treat the water. The interdependence between energy and water requires policies that rely on sound data to promote efficient use of both resources. This legislation contains the following elements relating to energy and water.

- National Academy Energy-Water Study – requires the National Academy of Sciences to assess water use associated with developing fuels in the transportation sector, and the water consumed in different types of electricity-generation.
- Power Plant Water Use Study – directs the Secretary of Energy to identify the best available technologies and develop other strategies to maximize water and energy use efficiencies in producing electricity.
- Reclamation Water Conservation & Energy Savings Study – directs the Bureau of Reclamation (BOR) to evaluate energy use in storing and delivering water from Reclamation projects, and identify ways to reduce such use through conservation, improved operations, and renewable energy integration.
- BOR Brackish Groundwater Desalination Facility (Alamogordo, NM) – establishes research priorities for the Facility, including a requirement to develop renewable energy technologies that will integrate with desalination technologies.
- Energy Information Administration Energy for Water Use Assessment – requires the Energy Information Administration to analyze the energy consumption associated with the acquisition, treatment and delivery of water for a variety of uses.
- Energy-Water Roadmap – directs the Secretary of Energy to develop an Energy-Water Research and Development Roadmap to define the future efforts necessary to address water-related challenges relating to sustainable energy generation and production.

- Energy-Water Clean Technology Grant Program – establishes a grant program for development of technologies that reduce the consumption of, or conserve, energy supplies and promote water conservation activities.
- Rural Water Utilities Energy and Water Efficiency Program -- requires the Secretary of Energy to provide technical assistance to rural water utilities relating to the development of alternative and renewable energy supplies and water conservation.
- Comprehensive Water Use and Energy Savings Study – directs the Secretary of Energy to study the interrelated nature of water and energy use and identify opportunities to reduce energy consumption and associated costs through the use of water conservation and water management strategies such as water reuse and the development of nonpotable water sources.

### **Increases Production of Renewable Energy on Public Lands**

*The development of renewable energy on our public lands holds great promise. For example, the Bureau of Land Management (BLM) manages over 20 million acres of land with wind energy potential and over 30 million acres with solar potential, and there is an active geothermal program on public lands. The bill will enhance the efficient and appropriate use of our public lands for renewable energy development while addressing the need for a reasonable return to the taxpayer, as follows:*

- Improves permit coordination by establishing permit processing offices;
- Requires BLM to undertake a programmatic environmental impact statement on solar development and the Forest Service to do the same for wind, solar and geothermal development; and
- Requires the Secretary to establish pilot projects and authorizes the establishment of a leasing program if warranted by the results of those projects for wind or solar energy on public lands.

## **Enhanced Energy Efficiency**

### **Improves U.S. Manufacturing Energy Efficiency**

*Confronts the challenges in the U.S. manufacturing sector by helping industries boost productivity while using less energy. This bill will create millions of high-quality jobs and help ensure that America retains its position as a top innovator of clean energy technologies.*

This provision is aimed at renewing America's industrial sector by using less energy, reducing carbon emissions and producing the technologies that will help the U.S. (and world) reduce its reliance on fossil fuels.

It takes critical first steps in revitalizing our nation's manufacturing base by increasing our industry's energy productivity by:

- Establishing financing mechanisms for both small and large manufacturers to adopt advanced energy efficient production technologies and processes which will allow them to be more productive and less fuel dependent, cutting costs, not jobs.
- Spurring innovation in our manufacturing sector to decrease energy intensity and environmental impacts while increasing productivity. The bill establishes industry-led partnerships to develop industry-specific roadmaps to identify the breakthrough technologies necessary to reduce energy intensity and greenhouse gas emissions. It also stimulates, through competitive grants to industry and small businesses, the development, deployment and commercialization of innovative energy efficient technologies and processes.

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- Expanding the number and expertise of the Industrial Research and Assessment Centers to better meet the needs of small and medium manufacturers. The bill also provides for workforce training through paid internships at the centers for students to work with industries and manufacturers to implement energy efficiency technologies.
- Establishing a Clean Tech Supply Chain Study that directs the Secretary of Energy to enter into an arrangement with the National Academy of Sciences to develop a report on developing the critical elements of and capabilities for the clean tech supply chain in the U.S. that will be necessary for the production of clean energy technologies and to prevent their production from being shifted overseas.

### **Makes Consumer Products More Energy Efficient**

*Helps to reduce national energy demand, the environmental impacts of energy production, and saves consumers money by strengthening existing appliance energy efficiency programs. For example, the bill will establish federal standards for table and floor lamps. This provision alone is expected to save enough electricity by 2020 to serve 350,000 homes.*

It strengthens and improves two Federal energy efficiency programs that have a 20-year record of success: the Department of Energy's appliance standards program and the joint DOE-EPA Energy Star program.

DOE's appliance standards program targets the low-end of the efficiency spectrum by establishing minimum energy efficiency standards for dozens of products. Mandatory standards phase out the production and sale of the least efficient models of a product. The Energy Star program, in contrast, targets the high-end of the efficiency spectrum, using voluntary labeling to promote the development and sale of the most highly efficient products.

- Establishes initial minimum energy efficiency for portable light fixtures (table and floor lamps) and directs DOE to establish standards for commercial furnaces and certain light bulbs.
- Establishes a rebate program to purchase and install new large electric motors. Electric motors are one of the single largest users of electricity, but old inefficient motors are now usually rebuilt, instead of being replaced with highly efficient models.
- Strengthens the DOE standards and Energy Star programs by establishing processes for stakeholders to petition to revise program test procedures and standards, and requires the agencies to provide a timely response.
- Directs DOE to complete studies on: 1) compliance with the DOE appliance energy standards; 2) the costs and benefits of requiring direct-current electricity in buildings; and 3) assessing the use of electric motors and the electric motor market.

### **Increases Building Efficiency**

*The U.S. buildings sector consumes 72% of electricity, 55% of natural gas and 40% of U.S. primary energy. This is a larger share of energy than either the transportation or industry sectors. Investments in building efficiency are among the most cost-effective measures for reducing greenhouse gas emissions and saving energy.*

*The programs included in the Buildings title would improve the energy efficiency of new and existing buildings and would provide credible and consistent information to consumers about the energy performance of buildings. Key programs include:*

Advanced building codes:

- This provision directs the DOE to set energy savings improvement targets for residential and commercial national model building energy codes at 30% in 2010 and 50% after 2016. The

Secretary may, before 2013, adjust the 50% target date for one or both codes if he determines that a 50% target cannot be met in 2016.

- The Secretary is authorized to set further energy savings targets at the maximum level of energy efficiency that is technologically feasible and life cycle cost effective and on a path to achieving net-zero-energy or "carbon neutral" buildings.
- The Secretary is directed to work with the national model codes bodies (ASHRAE and the International Code Council) to assist them in meeting these targets. Within one year after the new codes are updated, DOE is required to determine whether the IECC or ASHRAE 90.1 codes meet the efficiency targets; if not, DOE is required to propose modifications to the codes to meet the targets.
- Each State shall certify whether or not it has reviewed the model codes and updated the provisions of state codes regarding energy efficiency and whether or not the State has achieved compliance with the building codes.
- The provision would also significantly increase DOE funding assistance to the States for code compliance, technical analysis, training, and financial assistance.

#### State energy efficiency retrofit programs:

- Authorizes competitive grants to states to carry out retrofit programs for residential and commercial buildings. The programs, modeled on the current EPA/DOE program "Home Performance with Energy Star," address many of the barriers to energy efficiency retrofits. Building owners would be eligible for financial incentives to help finance up to 50% of most retrofits, and would have access to certified contractors. Energy savings would be documented through a HERS rating or other approved ratings programs.

#### Home Energy Retrofit Finance Program:

- Authorizes grants to states to capitalize state revolving finance funds. Funds could be used for building retrofit programs, including municipal programs that allow owners to finance energy improvements through property tax bill payback, and energy utility programs that offer "on-bill" financing, as well as traditional financing.

#### Building Energy Performance Information Program:

- Authorizes the creation of model energy performance labels for commercial and residential buildings and encourages voluntary implementation of building labeling programs. The purpose of the labeling program is to provide information on building energy performance that would allow consumers and building owners to identify needed efficiency improvements and to compare similar buildings.

#### Federal Building Efficiency:

- Includes clarifying provisions related to energy savings performance contracts that will enhance the ability of federal agencies to meet goals for renewable energy and efficiency.

#### National Energy Efficiency Goals:

- Establishes goal to achieve an improvement of the nation's energy productivity of at least 2.5% annually by 2012.

#### Evaluation, measurement and verification of energy savings:

- Directs the Secretary to promulgate uniform rules for the evaluation, measurement and verification of energy savings from efficiency programs.

## **Promotes Distributed Generation**

*Distributed generation is one of the ways that we can both meet electricity demand growth and meet our environmental goals and save consumers money by avoiding the need for new generation and transmission upgrades. This legislation removes one of the largest barriers to the rapid deployment of distributed generation by harmonizing the current patchwork and streamlining complicated regulations and processes. It does that by directing FERC to establish a national interconnection standard for small power production facilities (15 kW or less) which would cover nearly all residential-sized distributed generation.*

## **Improved Energy Security**

### **Aids in Thwarting Cybersecurity Threats**

*The American Clean Energy Leadership Act addresses the gaps in federal authority against cybersecurity dangers and will protect the U.S. against such an attack.*

- Cybersecurity Threat means the imminent danger of an act that disrupts or attempts to disrupt the operation of electronic devices or communications networks for the control of critical electric infrastructure.
- FERC must promulgate rules or orders necessary to protect against cybersecurity vulnerabilities.

FERC may issue such rules without prior notice or hearing if it determines that the rule or order must be promulgated immediately to protect against cybersecurity vulnerability.

If immediate action is necessary to protect against a cybersecurity threat, the Secretary may require, by order, with or without notice that entities subject to the jurisdiction of the Commission under this section, take such actions as are necessary to protect against that threat.

### **Addresses Nuclear Waste Management**

*Establishes a Federal advisory commission to conduct a comprehensive study of alternative means of safely managing or disposing of spent nuclear fuel and high-level radioactive waste.*

- The purposes of the National Commission are to conduct a comprehensive study of alternative means of safely managing or disposing of spent nuclear fuel and high-level radioactive waste from civilian nuclear activity and atomic energy defense activity; and to recommend to Congress such legislative or other action as may be necessary to manage or dispose of spent nuclear fuel and high-level radioactive waste successfully and safely.
- Expresses a sense of the Congress on the importance of nuclear energy and authorizes additional research on recycling of spent nuclear fuel.

### **Improves U.S. Strategic Reserves**

*Guarantees that the energy to fuel our cars is readily available during times of emergency by requiring the Department of Energy to hold at least 30 million barrels of the total 1-billion-barrel SPR inventory in refined petroleum products, such as gasoline and diesel fuel.*

Our domestic oil market has changed and we must have a more sophisticated strategy to react to disruptions in our oil supply. While we are more dependent on imported crude oil than ever before, we also import more refined petroleum products. When U.S. refinery operations are disrupted, imported products from other countries are required to fill the gap. This legislation would provide a needed cushion while damaged infrastructure is repaired.



- Requires the Department of Energy to hold at least 30 million barrels of the total 1-billion-barrel SPR inventory in refined petroleum products, such as gasoline and diesel fuel.
- Authorizes the Secretary of Energy to make decisions regarding the drawdown of the SPR.

### **Aids Island Energy**

*The United States includes islands such as Puerto Rico, the Virgin Islands, Guam and America Samoa; they all have unique energy needs. This provision builds upon the Island Energy provisions of EPACT 05, which required updating of the 1982 Territorial Energy Assessment and authorized feasibility studies of the most promising projects. As a next step, this provision would direct DOE to establish a team of experts to assist the U.S.-affiliated islands in developing and implementing an Action Plan to evaluate the feasibility and implement the most promising projects.*

### **Protects Consumers Additional FERC Market Authority**

*The Federal Energy Regulatory Commission is granted the same cease-and-desist authority that is already held by other regulatory bodies, such as the CFTC and SEC, empowering FERC to stop improper market behavior as soon as it is detected. FERC also gains authority to prevent the dissipation of assets, so that actors found guilty of market manipulation cannot get out of paying the fine by playing a shell game with the regulators, moving all their assets to other parts of the business that are out of reach.*

## **Increasing Responsible Production of Traditional Energy Sources**

### **Quantifies Our Domestic Marine Resources**

*Requires the first complete inventory and analysis of marine resources in the Atlantic, Gulf and Alaska regions, including seismic exploration of oil and gas in the outer continental shelf, and provides direct spending and authorizes appropriations to get this done. The report must also provide data on other marine resources, including the potential for alternative energy development, navigation uses, fisheries, aquaculture uses, habitat, conservation and military uses.*

- Priority will be given to areas with the greatest potential for energy production and the first inventory must be available within 2 years of enactment.

### **Increases Domestic Production of Offshore Oil and Gas**

*Will open new resource-rich areas in the Eastern Gulf of Mexico to oil and gas production, including Destin Dome and the Eastern Gulf planning area. In the Eastern Gulf area, no development can occur within 45 miles of the coastline.*

### **Improves Efficiency in Energy Production Permitting**

*Extends the current pilot offices for permit processing for oil and gas development for an additional five years, through 2020; and requires the Secretary of Interior to establish a regional joint Outer Continental Shelf lease and permit processing office for the Alaska region to ensure efficient and coordinated permit processing by all relevant federal agencies.*

*Provides for expedited leasing for geothermal development in areas in which production is already occurring under an existing federal oil and gas lease and in which co-production is possible.*

#### **Facilitates of Natural Gas Pipeline Expansion**

*In creases the amount of federal guarantee available for financing of an Alaska natural gas pipeline to \$30 billion, extends the time period for issuance of guarantee instruments, and makes other changes to facilitate the responsible financing of this pipeline.*

*Authorizes the Secretary of the Interior to issue rights-of-way for a high-pressure natural gas transmission pipeline in non-wilderness areas within the boundary of Denali National Park near the current road through the park, and sets forth terms and conditions required to ensure that it complies with applicable existing laws.*

#### **Requires Responsible Return to the Taxpayer**

*Repeals the 2005 law that prevents the Secretary from collecting royalties for certain offshore energy development, and returns to the usual approach of giving the Secretary the discretion to provide royalty relief in certain circumstances. Will prevent unjustified windfalls to the oil and gas industry and provide a reasonable return to the taxpayer for the use of federally-owned waters.*

*Requires that the Director of the Minerals Management Service, the component of the Department of the Interior that manages the collection of revenues from energy development on public lands and waters, be appointed by the President with the advice and consent of the Senate. Currently this position does not require Senate confirmation.*

- Requires that any Director of the Minerals Management Service be appointed by the President, by and with the advice and consent of the Senate.

## **Energy Innovation and Workforce Development**

#### **Increases Research and Development**

*The Energy Innovation and Workforce Title proposes to double the authorization level of Department of Energy's energy R&D program from \$3.28Bn in fiscal year 2009 to \$6.56Bn in fiscal year 2013. The title includes provisions addressing large energy R&D grand challenges that are inherently interdisciplinary while enhancing training for energy utility technicians across all segments of the energy industry including advanced education for the subsurface geosciences and engineering fields.*

#### **Facilitates Carbon Capture, Transportation and Storage**

*Carbon capture and geologic storage holds promise as a measure that can be used to mitigate global climate change and this legislation establishes a national indemnity program through the Department of Energy for up to 10 commercial-scale carbon capture and sequestration projects to ensure this energy technology is fully realized for the future.*

- The legislation establishes a national indemnity program through the Department of Energy for up to 10 commercial-scale carbon capture and sequestration projects.
- The legislation also sets qualifying criteria that will help to ensure that critical early-mover projects will be conducted safely while addressing the growing concerns of reducing greenhouse

gas emissions from industrial facilities, such as coal and natural gas fired utilities, cement plants, refineries and other carbon intensive industrial processes.

- The legislation also maps out a clear framework for final closure and longtime stewardship for a geological storage sites for carbon dioxide.

## **Energy Markets**

### **Improves Energy Market Information**

*This legislation consists of several measures designed to increase the transparency of our energy markets.*

- The Energy Information Agency (EIA) is directed to collect new data identifying all physical petroleum holdings of the fifty largest oil traders, as determined by the CFTC.
- A new Financial Market Analysis Office is created within EIA. Each of these measures is designed to help to help to shed some light on the elusive connection between the financial and physical oil markets.
- It creates a working group on energy markets, and requires that group to report to Congress both its assessment of the factors influencing oil prices, and also its recommendations for regulatory changes that might make markets function more smoothly in the future.

# # #



# Utility Perspective on Pending Federal Energy Legislation

Joint Committee On Energy and Environmental Policy

Presented by

Mark Schreiber

Director Government Affairs, Westar Energy

On behalf of KMU, KEC, KEPCo, Midwest Energy,

KCP&L and Westar Energy

10/28/2009

10/28/09

## Improvements Needed

- Implement a price collar or safety valve.
- Allocate allowances needed to utilities.
- Synchronize GHG reductions with technology availability.
- Emphasize R&D on CCS.
- Preemption of Clean Air Act for regulating GHGs.

- Price collar sets a floor and a ceiling on the price of allowances.
  - Ceiling price is like a safety valve.
  - Floor price is a reserve price in the allowance auction.
  - Provides cost certainty for utilities, industrial, commercial and residential customers.
- Safety valve sets a maximum allowance price. If the price is exceeded, the federal government can either sell the allowances needed at the safety valve price or allow the cap to be exceeded.

## Allocate Allowances

4-5  
5-5

- In the 1990 Clean Air Act Acid Rain program, utilities received approx. 97% of the SO<sub>2</sub> allowances needed.
- In W-M, utilities would receive far less than the allowances needed. Westar would receive approx. 57%. The balance would be purchased, emissions reduced significantly, or both within the first year, 2012.
  - Depending on the cost of allowances, Westar Energy rates could increase by 5% to 30% in the first year. KCP&L rates could increase 15% to 37%.

## Allocate Allowances (cont.)

5-5

- Allocation of allowances to merchant coal plants (5% of total) results in competitive disadvantages to rate-regulated/member-owned utilities.
- By using allowances to be monetized to pay for non-emitting programs, such as budget deficit reduction, the legislation increases costs to electric customers.
  - For instance, the Chairman's Mark of S.1733 prescribes that 10% of the allowances between 2012-2029 should be sold to reduce the federal deficit. Assuming an average \$20/ton allowance price, end-users would pay \$165B more than if those allowances had been allocated to utilities.



## Synchronize Reductions

- Delay cap reductions to correlate with available control technologies.
- According to 2007 testimony from DOE Acting Assistant Secretary for Fossil Energy Thomas Shope, the availability of utility-scale technologies is somewhere between 2020 and 2025.
  - Control technologies will be expensive and are not included in cost impacts of climate legislation.
    - CCS retrofit cost could increase cost of electricity 170% to 250% (Source: Massachusetts Institute of Technology, *The Future of Coal: An Interdisciplinary MIT Study* (2007))
    - Parasitic load of about 30%.
- If significant cap reductions are not synchronized with the availability of carbon control technology, then
  - Fuel switching from coal to natural gas becomes more likely because natural gas has 50% of the carbon content of coal;
  - Increased fuel cost volatility.

## Emphasize CCS R&D

- Surcharge on all fossil-fueled electricity will collect between \$1B and \$1.1B per year.
  - ARRA is currently providing \$3.4B funding for CCS-related activities.
- Effective appropriations controls must ensure the CCS surcharge is not manipulated like the Yucca Mountain surcharge.
  - \$17B in fees have been collected from utility customers since 1983. Sixty-four percent has been spent. No repository.

## Preemption of Clean Air Act

- W-M preempts some sections of the CAA for the regulation of GHGs.
  - Provides some relief from dual regulation.
- Chairman's Mark of S.1733 does not preempt the CAA, which would allow the regulation of GHGs through this legislation as well as the CAA.
- Preemption is critical to those being regulated.
  - Avoids unnecessary confusion and litigation.

## Energy Legislation Outlook

5-9

- HR 2454 (Waxman-Markey) passed by 7 votes, 219-212.
- The Senate Environment and Public Works committee released last Friday the Chairman's Mark of S. 1733. The first hearings are this week.
- Most people do not foresee climate legislation passing this year.
  - Lack of time. Senate still has five Appropriations bills to consider and at least one more continuing resolution will be needed. Holidays.
  - Health care reform. The #1 initiative of the White House.
  - Building a consensus is difficult because current legislation picks geographic winners and losers and raises rates. Sixty votes are needed in the Senate to move an energy bill to a vote.

# Legislative Testimony



October 25, 2009

Testimony before the Joint on Energy and Environment Policy Committee

**Amy J. Blankenbiller, President and CEO**  
**The Kansas Chamber**

Thank you Madam Chair and members of the committee for the opportunity to be here today to discuss federal Cap and Trade legislation. Specifically, I want to voice the business community's concern with the Waxman-Markey Climate Bill (H.R. 2454). My name is Amy Blankenbiller, President and CEO of the Kansas Chamber.

The Kansas Chamber supports energy policy that is market-based and not politically driven. Balanced policies that provoke free market solutions are the best course of action for Kansas energy consumers, including Kansas businesses. We do not believe mandates are necessary to decrease emissions. From 1992-2005, the United States reduced greenhouse gas (GHG) emissions at a greater rate than the European Union, which was operating under strict GHG emission reduction requirements.

Under H.R. 2454, Kansans will be forced to pay more for needed energy because of increased government regulation. The measure strictly caps the emissions of six greenhouse gasses and primarily focuses the reduction of carbon dioxide. This bill requires emitters to obtain permits (i.e., allowances) for each ton emitted. The cost is estimated to be between \$15 and \$60 per ton - a variance which is difficult at best to budget.

**It is important to note that approximately 5.53 percent of global GHG output is manmade of which less than 1 percent is from the United States and .02 percent is from Kansas.**

The International Energy Agency indicates that the United States accounts for only 17.46% of global GHG emissions. China alone increased more carbon dioxide emissions in one year than the United States did in a decade, according to the Energy Information Administration.

Many studies have created a large amount of data outlining the potential costs of this proposal. To follow are a few examples of the estimates of the impact of the Waxman-Markley Bill:

- The National Mining Association estimates that Kansas customers will be short \$206.8 million in 2012 because users will not have enough allowances to cover their emissions from the generation of electricity.
- According to the US Black Chamber of Commerce, households in the Great Plains Region will feel an average increase of \$1,300 annually



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Date 28 Oct 2009  
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- The Heritage Foundation projects that the measure would increase gasoline prices by 58 percent. In today's terms, a \$2.50 gallon of gas would be \$3.95. The Heritage Foundation also projects the average household energy bill will rise 90% as a result of the proposal.

American industry is facing growing competition from other countries which have less expensive energy costs. Imposing carbon regulation on US businesses without asking the same standards be created from high-emitting countries will only serve to weaken our competitiveness. The non-partisan Governmental Accounting Office warns that the Waxman-Markey bill could make American companies less able to compete internationally and could thus drive American jobs overseas.

The US Black Chamber of Commerce estimates up to 2.7 million Americans will lose their jobs if Waxman-Markey becomes law. The Heritage Foundation estimates 1.2 million job losses nationwide by 2012 – an alarming number in such a short period of time.

What does this mean for Kansas specifically? The American Petroleum Institute projects a loss of 20,000 jobs in just a few years increasing Kansas' unemployment rate from 7 percent to 8.3 percent. They also estimate a \$79 billion reduction in Kansas' gross state product over the next 26 years.

The American Council for Capital Formation and the National Association of Manufactures projects decreases of output in chemical manufacturing of up to 8.2 percent and transportation manufacturing by up to 8.4 percent by 2030. These two sectors represent the largest economic sectors in Kansas. They further project all manufacturing sectors will suffer output losses of between 4.6 percent and 5.2 percent by 2030. Also of note, electricity production falls between 13.9 percent and 16.2 percent in 2030.

They also note that Kansas's 1,695 schools and universities and 159 hospitals will potentially experience a 42.0 percent increase in energy costs by 2030. Given the current condition of the state budget, it is safe to say the State of Kansas can simply not afford this program.

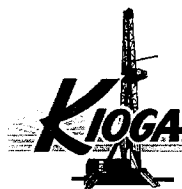
I would be remiss if I did not clarify that Kansas should position itself to capture many of the "green" jobs but at the same time, not throw away the diverse portfolio of Kansas jobs targeted by this sweeping legislation.

While we oppose mandates and support a free market approach, we recognize there is a great opportunity for business development in the area of renewable energy. Kansas is 3<sup>rd</sup> in wind energy potential according to the American Wind Energy Association.

Given the current economic storm we are now facing, now is certainly not the time to impose these mandates.

Thank you again for allowing me the opportunity to voice the Kansas Chamber's concern for H.R. 2454. While reduced emissions from Kansas industries would have little impact on global GHG emissions, all Kansans would realize higher energy costs and many Kansans would pay for this legislation with their jobs.

6-2



Voice of the Kansas  
Independent Petroleum Industry

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**Testimony to the Joint Committee on Energy and Environmental Policy**

**Comments on Pending Federal Energy Legislation  
Oil & Gas Producers and Refiners Perspective**

Edward P. Cross, President  
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October 28, 2009

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Good morning Chair McGinn and members of the committee. I am Edward Cross, President of the Kansas Independent Oil & Gas Association (KIOGA). KIOGA represents the interests of independent oil and gas producers in Kansas. With over 1,400 members from across the entire state, KIOGA is the lead state and national advocate for Kansas independent oil and gas producers. Our members account for 86% of the oil and 63% of the natural gas produced in Kansas. I am responsible for public policy advocacy and interaction with external stakeholders including elected officials, regulators, governmental decision-makers, and community thought leaders. I am here this morning to comment on how pending federal energy legislation will impact Kansas oil and gas producers and refiners.

**Introduction**

Over the past year, the Kansas oil and gas industry has experienced a roller coaster ride with oil and natural gas prices. However, our industry is facing more complicated issues than price shifts alone. Our biggest challenges are now coming from the federal level. We are straining to adjust to a host of potentially harmful issues that raise pointed questions about our industry's future. Federal tax proposals seriously threaten independent producers by attacking virtually every tax provision that encourages investment in American oil and gas development. In addition, proposed climate change legislation discriminates against U.S. refiners creating a competitive advantage for overseas refiners which could be followed by the export of refining

Joint Committee on Energy and  
Environmental Policy  
Date 28 OCT 2009  
Attachment # 7

capacity and jobs. These proposals put development of American oil and natural gas in jeopardy.

The White House and Congress wants to move away from oil dependence and emerging policies emphasize conservation, alternative energy sources, and new limits on the emissions of greenhouse gases they believe are contributing to climate change. Our nation needs all forms of American energy for the future, but the transition from fossil fuels to viable alternative energy sources will be much slower than is commonly assumed by the public and promoted in political advertisements.

KIOGA sees the federal oil and gas tax proposals and climate change proposals as serious and devastating threats to our industry. I have visited with the Kansas Congressional delegation and 11 other oil state Democratic Senators in three separate trips to Washington last July, August, and September. I was able to discuss the role of independent producers in the U.S., the need for tax policy that supports American oil and gas development, and the importance of small businesses that produce American oil that offsets the need for foreign oil. The meetings have been very productive and welcomed by the policymakers who indicated the perspective of the small independent producer is often missing in Washington.

### **Federal Oil & Gas Tax Proposals**

Last May, the Obama Administration formally submitted their FY 2010 budget request that targets independent oil and gas producers with higher taxes. America's independent oil and natural gas producers produce over 80% of American oil and natural gas and drill over 90% of new American wells. In Kansas, independents produce 92% of the oil and 63% of the natural gas. The Administration's request terminates tax provisions critical for the independent oil and gas industry. Nowhere will the impacts of terminating these tax policies be more devastating than in marginal well states like Kansas. The Administration's request to repeal the current oil and gas tax provisions would have an estimated \$3.9 billion negative impact on the Kansas economy within four years of enactment. In addition, the Kansas oil and gas industry would lose 30% of its workforce and state and local governments would lose an estimated \$210 million in production taxes.

Many in Washington refer to these critical oil and gas incentives as "subsidies". The oil and gas tax provisions are not subsidies but incentives realized for the most part by small independent oil and gas producers. Historically, independent producers reinvest over 100% of their cash flow from the production of oil and natural gas back into new exploration and production ventures. In general, small independents do not tap equity markets or use other corporate measures to raise capital. The proposed tax increases would directly reduce the amount of cash available for energy exploration and would provide a disincentive for capital sources outside of the energy industry.

The assertion by the Obama Administration that tax provisions intended to help oil and gas companies recover their costs have resulted in "overproduction of oil and gas, and is detrimental to long-term energy security" runs counter to any logical national energy policy. The President's proposed action on oil and gas taxes are based on academic notions that simply



do not apply in the real world. America needs all the energy it can get and would be hurt by higher taxes that would constrict supplies, cause energy costs to increase, and kill jobs. Such policy prescriptions suggest that Americans must make an unwise and unnecessary choice between green energy and traditional oil and natural gas. Americans will need all energy sources in the future and such false choices only hurt workers, businesses, and the economy. According to the U.S. Energy Information Administration (EIA), America relies on fossil fuels for 83% of its energy and will continue to do so for many decades. With proven alternatives still years away, now is not the time to adopt tax policies that discourage the exploration and production of oil and natural gas

The U.S. Senate Finance Subcommittee on Energy & Natural Resources held a hearing on the oil and gas tax provisions of the President's FY 2010 Budget Proposal on September 10<sup>th</sup>. I submitted written testimony on behalf of KIOGA to the committee underscoring the stark reality that these proposals are anti-jobs, anti-consumer, and anti-energy. I also described how the proposals would depress investment in domestic oil and gas projects, weaken the nation's energy security, and make it more difficult to achieve economic recovery. The September 10<sup>th</sup> hearing saw Senator Jeff Bingaman (D-NM) (Subcommittee Chair) open the hearing by stating the he would be very concerned by any tax law change that impacts economies in oil and gas producing regions.

A 2009 poll found that 61% of Americans who voted in the 2008 presidential election support access to American oil and natural gas resources. At a time when other countries are providing incentives to develop their own energy resources, the U.S. is the only country actively discouraging it. The U.S. oil and natural gas industry employs over 9.2 million workers. Saddling the industry with additional taxes would likely drive these jobs overseas at a time when America needs to create jobs. There is a better way than saddling a troubled economy with new taxes that hurt consumers and workers. The oil and natural gas industry should be allowed to develop our nation's vast resources. It would improve America's energy security, create jobs, and increase federal, state, and local tax revenues.

### **Climate Change Proposals**

Last June, the U.S. House of Representatives passed the American Clean Energy and Security Act of 2009 known as the Waxman/Markey climate bill. Waxman/Markey sets up a program forcing businesses to buy allowances for carbon emissions. Earlier this month, Senators John Kerry (D-MA) and Barbara Boxer (D-CA) introduced the Clean Energy Jobs and American Power Act or the Kerry/Boxer climate bill. The Kerry/Boxer bill looks much like the House bill. Kerry/Boxer is harsher than the Waxman/Markey bill in that it calls for a 20% reduction in emissions by 2020, instead of the 17% Waxman/Markey target. The Kerry/Boxer is incomplete in that it does not mention specific emission allowances. There are a number of place holders in the bill for emission allowances. Agriculture, manufacturing, coal, and a variety of other industries have expressed strong preferences for changes in their share of the potential handouts. If the Senate follows the same disproportionate distribution of emission allowances as the House, refiners will be allocated emission costs for fuel consumption. According to API studies, the cost to refiners would be so great that it would restrict U.S. refining capacity. EIA estimates that prices for gasoline and diesel could rise above \$5.00 a gallon.

The Kerry/Boxer bill would establish a steadily declining cap on emissions more aggressively than Waxman/Markey during the early years of its implementation, mandating an 83% reduction by 2050. As a result, the bill would force the economy to use less fossil fuel energy. Fossil fuels currently provide about 83% of America's energy needs. Strong energy demand driven by growing population will crash headlong into declining supply of emission allowances resulting in sharply rising energy costs. The EIA estimated that Waxman/Markey type legislation could force U.S. households to pay as much as \$1,870 more for energy.

Waxman/Markey style legislation could destroy jobs. EIA and others have estimated well over 2 million jobs could be eliminated as a result of Waxman/Markey style legislation, even when considering the creation of substantial numbers of green jobs.

Kerry/Boxer and Waxman/Markey bills discriminate against U.S. refiners by failing to include provisions leveling the playing field for U.S. refiners versus their foreign counterparts. As a result, competitive advantage would shift overseas, which could be followed by the export of refining capacity, jobs, and emissions. U.S. refinery production could plummet by as much as 25% and investment in U.S. refining could fall by as much as \$90 billion, a decline of 88% by 2030. Imports of refined products, such as gasoline, could double as a percentage of fuel use. For Kansas Independent oil and gas producers, the loss of Kansas refining capacity means a loss of market for Kansas crude oil.

Kerry/Boxer and Waxman/Markey bills could increase the costs of energy. They would also eliminate jobs; drive many overseas; increase our imports of gasoline and other fuels; undermine our energy security; and shift emissions abroad, reducing expected environmental benefits. The ability of the Kerry/Boxer or Waxman/Markey bills to succeed is tied to their ability to increase the cost of energy at all stages – from discovery, to production, to consumer end-use. The bottom line is that the Senate and House cap-and-trade bills would result in less energy for those who need it, and more expensive energy for those who can't afford it. And if less American energy is produced, the result will be higher prices for consumers, increased reliance on foreign oil, and many fewer jobs for hard-working, middle-class families.

## **Conclusion**

The real showdown over energy legislation will probably occur in November. The main problem for proponents of energy proposals is that the legislation represents a great deal of additional government spending and economic hardship. While proponents claim the costs will be borne by corporations or will be compensated for by new job growth, that sentiment is not reflected in opinion polls. According to Rasmussen reports, 53% of Americans said more government spending will hurt the economy. Also, only 42% of U.S. voters believe human activity is the cause of global warming. What this means is that a sizeable number of Americans are not positively receptive to the present legislative prescription. In fact, 42% of Americans believe that Waxman/Markey type legislation will harm the economy.

Thank you for your time and consideration. I stand for questions.

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# THE AMERICAN OIL & GAS REPORTER®

SEPTEMBER 2009

The "Better Business" Publication Serving the Exploration / Drilling / Production Industry

## Political Landscape

# Federal Initiatives Assault Oil And Gas

By Edward P. Cross

TOPEKA, KS.—Over the past year, the oil and gas industry has experienced a roller coaster ride with oil and gas prices. However, our industry is facing more complicated issues than price shifts alone. Our biggest challenges now are coming from the federal level.

We are straining to adjust to a host of potentially harmful issues that raise pointed questions about our industry's future. Federal tax proposals seriously threaten independent producers by attacking virtually every provision that encourages investing in American oil and gas development, and groups opposed to oil and gas are using a host of regulatory and environmental issues to establish barriers to responsible development.

With the election of President Obama and the Democratic Congress, a new chapter has opened for the nation's energy policy. The White House and Congress want to move away from oil dependence, and emerging policies emphasize conservation, alternative energy and new limits on the greenhouse gas emissions they believe contribute to climate change.

There are at least three key vehicles through which energy policy is being developed. One is "clean energy" bills in the U.S. House and Senate.

On June 26, the House of Representatives passed HR 2454, the American Clean Energy and Security Act. This landmark cap-and-trade climate change bill narrowly passed 219-212, reflecting the heated political debate over the bill's effectiveness and cost. Meanwhile, the Senate has developed its own version of climate and energy legislation, titled the American Clean Energy Leadership Act of 2009.

The ability of the 1,200-page House bill to succeed is tied to increasing the cost of energy at all stages: from discovery, to production and consumer end use. The bottom line is that HR 2454 would result in less energy for those who need it and more expensive energy for those who can't afford it. And if less American energy is produced, the result will be higher prices for consumers, increased reliance on foreign oil, and many fewer jobs for hard-working, middle-class families.

### Tax And Energy Policies

In May, the Obama Administration formally submitted its fiscal 2010 budget request, which targets independent oil and gas producers with higher taxes. Obama's budget would terminate eight tax policies critical to the independent oil and gas industry. It also includes a new tax on Gulf of Mexico production and fees on nonproducing Gulf of Mexico properties. Altogether, these terminations will cost oil and gas companies \$31 billion in taxes between 2010 and 2019, as well as \$1 billion in fees for nonproducing properties.

Nowhere will the impacts be more devastating than in marginal-well states such as Kansas. The U.S. Treasury justifies eliminating oil and gas tax provisions by arguing that current law "encourages overproduction of oil and gas, and is detrimental to long-term energy security."

The House and Senate energy bills, and the president's 2010 budget, contain myriad energy policies that are wide in scope and far-reaching in implication. The Senate legislation proposes adjustments to the Strategic Petroleum Reserve and increases loan guarantees for a natural gas pipeline from Alaska. Policies to curb greenhouse gas emissions include a cap-

and-trade system, a carbon capture and sequestration program, and new performance standards for coal-fired power plants.

Such initiatives will have consequences for a wide range of industries, including electric utilities, paper, steel and cement. Programs to increase energy efficiency will affect homebuilders, and lighting and appliance manufacturers and retailers. A renewable electricity standard will give a substantial boost to clean energy companies, as will the availability of credit for investments in clean energy.

Finally, clean transportation programs will encourage the manufacture and sale of plug-in electric and other advanced technology vehicles. If these legislative efforts are successful, new energy policies will cause an enormous shift in the U.S. economy, with implications for virtually all economic sectors.

### Fracture Regulation

The third "energy policy vehicle" is legislation seeking to increase oversight of hydraulic fracturing. On June 9, U.S. Representatives Diana DeGette, D-Co., Maurice Hinchey, D-N.Y., and Jared Polis, D-Co., along with U.S. Senator Bob Casey, D-Pa., introduced the Fracturing Responsibility and Awareness of Chemicals (FRAC) Act. The legislation is based on the false premises that hydraulic fracturing is unsafe, unregulated, and that it benefits from a special exemption to federal law.

At its core, the FRAC Act seeks to rescind key provisions of federal law clarifying Congress' intent as it relates to the Safe Drinking Water Act of 1974, which is aimed at protecting public water supplies. In 1974, hydraulic fracturing already had been in commercial use for 25 years. At no time during its deliberation, nor in subsequent debates on amendments to

Since 1980, 1986 and 1996, did Congress consider regulating hydraulic fracturing under SDWA.

Hydraulic fracturing was then, and now continues to be, aggressively regulated by the states, and has compiled an impressive record of safety and performance over that time. This temporary well stimulation action differs from the permanent waste disposal that the SDWA was designed to address, and it should not be treated the same way.

More than 60 years after its first commercial use, not a single case of hydraulic fracturing-related contamination has been documented by federal or state government analyses. In fact, a landmark 2004 study conducted by the Environmental Protection Agency found that hydraulic fracturing posed "no threat" to underground drinking water supplies.

### Industry Responses

When the Obama administration proposed massive revisions to federal oil and natural gas taxation in its FY 2010 budget request, several oil and gas associations and producers documented the adverse economic consequences that would result. That material was shared with members of Congress, including key House and Senate Democrats.

Several oil and gas associations initiated grass-roots responses to the proposals that generated letters and statements from producers across the nation, challenging the Obama administration's proposals because of the consequences to independent producers, national energy security, and national and state economies.

Congresswoman DeGette's attempt to replace the state-and-federal regulatory partnership on hydraulic fracturing is being countered with studies that show doing so could have serious consequences for America's energy and economic future. The studies, collectively known as Project BRIEF (Bringing Real Information on Energy Forward) found these and other new federal regulations could result in:

- The forced closure of more than half of America's oil wells and a third of its gas wells;
- \$4 billion in lost revenue to the federal government, while state treasuries would lose \$785 million; and
- Domestic oil production slashed by 183,000 barrels a day, and natural gas by 245 billion cubic feet a year.

Beyond the national numbers, Project BRIEF's economic impact study offers a comprehensive, state-by-state breakdown of local impacts of new federal regulation, including segmented data related to the number of wells likely to be closed in each state, and the amount of revenue and royalties expected to be foregone.

Project BRIEF is one of the largest industrywide undertakings to provide honest information on the industry's environmental practices to federal, state and local legislators as well as the news media. Project BRIEF's scope includes studies on the economic and supply impacts of new regulations, a historical study of key environmental statutes, and a review of state regulations and their effectiveness in mitigating environmental risk.

Project BRIEF is an invaluable tool for disproving the fallacies of anti-energy-development groups. Its findings and other information can be found on the coalition's Web site at [www.energyin-depth.com](http://www.energyin-depth.com).

### Progress

In July, the Kansas Independent Oil & Gas Association joined the Oklahoma Independent Petroleum Association, Texas Alliance of Energy Producers, Domestic Energy Producers Alliance, Independent Petroleum Association of Mountain States, and more than 20 Mid-Continent oil and gas producers to visit with key Democratic senators whom we felt would listen to the concerns of the independent oil and gas segment. The events provided us the opportunity to express our concerns about important tax and environmental issues, and to begin building relationships.

The group was able to visit for one and a half to two hours each with Senators Mary Landrieu, D-La., Mark Pryor, D-Ar., Ben Nelson, D-Ne., Tim Johnson, D-S.D., and Kent Conrad, D-N.D. The group also met with Senator Byron Dorgan, D-N.D., in August.

Our basic message was that if President Obama and Congress were serious about a responsible approach to energy policy, they must recognize that the nation's infrastructure is built on oil and natural gas, and these resources must be incorporated in policy decisions. We also discussed the impacts of climate and hydraulic fracturing legislation.

The meetings were productive and the information provided to the senators was welcomed, especially the information about the impact on small independent producers, whose perspective, according to the senators, often is not heard in Washington.

In addition, a coalition of associations and producers launched an aggressive campaign in June, responding to the anti-energy-development attacks on state regulation of exploration and production activities, and specifically hydraulic fracturing. The proactive public information efforts are making tremendous progress. News accounts that otherwise might have characterized hydraulic fracturing as untested, unregulated, toxic, or exotic,

now are include facts and less fiction.

Reporters who fail to note the technique's extraordinary record of safety and performance are apprised of that information immediately. And reporters, editors and journalists trained to describe energy bill provisions as "give-aways," "loopholes", or "exemptions" are being educated about those inaccurate responses. We also are seeing more third party organizations, lawmakers and congressional staffers using industry talking points, fact sheets, and analyses in their communications.

### What Next?

The real showdown over energy and environmental legislation probably will occur in October or November. While the June vote to pass the House cap-and-trade bill was very close, it always has been clear that the main battle would be fought in the Senate.

For some time, there was reasonable speculation that a unified Senate bill containing cap-and-trade as well as Energy and Natural Resources Committee measures could emerge before the August recess. However, in light of the large amount of important legislation before Congress, Senate Environment and Public Works Chairwoman Barbara Boxer, D-Ca., postponed markup of energy legislation until mid-September.

Time is not on the side of those who support this energy policy. The main problem for proponents is that the legislation represents a great deal of additional government spending and economic hardship. While the Democratic leadership claims the costs will be borne by corporations or will be compensated for by new job growth, that sentiment is not reflected in opinion polls.

According to Rasmussen reports, in June, 53 percent of Americans said more government spending would hurt the economy. Also, only 42 percent of U.S. voters believe human activity is the cause of global warming. What this means is that a sizeable number of Americans are not receptive to the present legislative prescription. In fact, 42 percent of Americans believe the House climate bill would harm the economy.

The point is that incoming presidents and congressional majorities are never as popular as they are immediately after they are elected. At that time they have fresh political capital and the electorate's benefit of the doubt. Over time, that begins to diminish, especially if positive results aren't forthcoming.

In light of our nation's persisting economic problems, optimism for energy policy in its current form is waning. For these reasons, it is becoming more likely

energy bill(s) will not survive in current forms. However, as is characteristic of Congress, it is very likely that some compromise or face-saving measure will produce new energy legislation this year.

### Moving Forward

The oil and gas industry continues to face numerous challenges that, if passed into law, would have damaging effects on independent producers. Complicating matters, we do not and cannot control the agenda in this new landscape. Promoting our goals and protecting our interests has become more challenging.

We are faced with the task of focusing the harsh light of reality onto the fantasy world in which too many of our policymakers have found refuge. Many policymakers speak with sincerity about an economy and society that can thrive without oil and natural gas. And, we must operate in a political environment in which our industry is under assault and vilified.

Given these realities and recognizing the knowledge gap on the crucial role U.S. producers play in delivering secure and affordable energy to American consumers, we must continue our efforts to set the record straight. The oil and gas industry must build on the success of several very good public information efforts to focus on bringing a wealth of new information on energy to the forefront, and must deploy an aggressive communication strategy designed to separate fact from fiction, reality from myth, and proven practices from hyperbole. We must advocate for sensible policies that will help encourage more American oil and natural gas production.

We need to continue to work with our congressional members and industry partners to acquire more intelligence on Democratic energy and tax strategies. We also must continue to work hard to present our messages to more Democratic members of Congress across the nation. We also need to continue to work with Republicans, to keep them current on all facts.

### Early Preparedness

Many of the oil and gas industry's past public information initiatives were largely reactive and defensive. We need to anticipate the scope of threats before they materialize, and craft comprehensive information and education efforts to preempt them. By working together, we can develop salient messages and thorough, well-prepared materials to counter attacks on the independent oil and gas industry.

We can then leverage our early preparedness to create opportunities with lawmakers, opinion-leaders, media, and third-party groups. These efforts already are being done through Project BRIEF and by individual associations working together. We need to continue to grow those efforts and stay unified.

We need to keep providing Congress information and facts about the impacts of proposed tax and environmental legislation on the economy and energy security. Industry needs to be vigilant in keeping oil and gas tax proposals out of other, more encompassing bills. If a floor vote should occur with oil and gas taxes wrapped into a much larger debate where the factors driving votes go well beyond the oil and gas provisions, it could be very difficult to keep the oil and gas tax provisions out.

For example, the sizeable fiscal note that likely will accompany any healthcare reform could very well have Congress searching under every rock for revenue. If it steps outside of the health-related parts of the tax code, no one knows where it may go. Oil and gas tax provisions could get caught in a wide net.

We must continue to confront and correct our opposition on every plane and platform on which it operates. We need to continue to advance messages and materials that redefine the terms of the debate, and to inspire outside groups and everyday Americans to act on our behalf.

The oil and gas industry has a monumental task ahead of it, but we are right on course. We must educate key Senate and House Democrats on the importance

of retaining the oil and gas production the president has targeted for elimination, the consequences of passing cap-and-trade legislation, and the consequences of passing hydraulic fracturing legislation.

Most importantly, it is imperative that the oil and gas industry—and fossil fuels industry in general—stay focused and unified in its approach. Our opponents are light on facts, but heavy on emotion, and are well funded and organized. We cannot afford to become divided.

True leadership is seeing the need, envisioning a plan, and empowering stakeholders for action. We have begun that process, and by working together, the collective focus of our industry can be unleashed. □



**EDWARD P. CROSS**

*Edward P. Cross is president of the Kansas Independent Oil & Gas Association. He is a member of the Workforce and Public Education Committee of the Independent Petroleum Association of America, and serves as secretary-treasurer of the Liaison Committee of Cooperating Oil & Gas Associations. In addition, Cross is past chairman of the Interstate Oil & Gas Compact Commission Public Outreach Committee. Cross has published peer-reviewed papers on economic, environmental and energy education issues facing the independent oil and gas industry. He is a licensed professional geologist and certified school business official, holding a B.S. in geology and an M.B.A. from Southern Illinois University.*

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**Summary Of Oil & Gas Tax Provisions In Proposed 2010 Budget**

The repeal of current oil and gas tax provisions will have an estimated \$3.9 billion negative impact on the Kansas economy within four years of enactment. The tax provisions are important to small, independent oil and gas producers and royalty owners – NOT “Big Oil.” Independents produce 92% of the oil and 63% of the natural gas in Kansas in 2008.

Most independents are small, privately-held companies, and they invest large sums of personal money in personal risk. In order to find more oil and natural gas, independents use their money and, to a lesser extent, raise capital from investors. Percentage depletion, which has been in the tax code since 1926, helps offset some of the high risks of exploration, and helps the “mom-and-pop” producers keep small (one to two barrels per day) wells active. There are already limits on percentage depletion which is 15% of gross oil and gas income as follows: (1) limited to first 1,000 barrels per day of production; (2) limited to the net income of a property for non-marginal properties (15 barrels per day or more); and (3) after the above limitation, the amount deducted for depletion cannot exceed 65% of the taxpayers income before the depletion deduction.

While percentage depletion applies to production, intangible drilling costs (IDCs) is the cost of drilling a well. This cost is paid to a drilling company that pays wages and buys goods and services. Once the well is drilled it has no value, because all you have is a hole in the ground. Currently, IDCs can be expensed in the year they are paid or incurred by independents. This allows companies to recover their costs quickly so they can drill more wells faster. This encourages more production of oil and gas in the U.S. Expensing of IDCs has been in the tax code since 1913.

The other tax provisions on the chopping block are:

(1) repealing the passive loss exception for working interests in oil and gas properties (Investors in drilling programs are called working interest owners and they must share in the costs of the risky venture. The tax code, in effect, allows working interest owners who have a loss to be classified as an active loss that could be used to offset any type of active income instead of being treated as a passive loss.)

(2) geological and geophysical (G&G) amortization (G&G costs are incurred in the beginning of the exploration process, and are very expensive with no guarantee of recouping the costs if the venture fails. Like IDCs, the faster the independent can recapture his G&G costs the more wells he can drill and find more oil and gas. Currently, G&G costs must be amortized over two years for independents and seven years for major oil companies, but the change would increase amortization to seven years for everyone. Again, it is the independent that gets hurt.)

(3) marginal well and enhanced oil recover (EOR) tax credits.

(4) Manufacturing tax deduction.

(5) excise tax on Gulf of Mexico production.

Every change will negatively impact small independents, not Big Oil, and decrease drilling and production of oil and natural gas in Kansas and in the nation. If passed, the drilling rig count will decline to its lowest level in history within 12 months (488 rigs running nationwide in March 1999 when oil was \$6 per barrel). Oil and gas production will drop and the state will lose approximately \$210 million in state taxes over four years. The nation will have to import more oil; another \$36 billion jolt to the economy. The President’s “energy independence” goal will fail if these tax provisions become law.



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On February 26, 2009, the Obama administration released its proposed Fiscal 2010 Federal Budget. In this budget it proposed eliminating what it called “Oil and Gas Company Preferences” which would raise over \$31 billion of revenue over the ensuing ten years. The changes would fall most heavily on the independent oil and natural gas producing sector.

America’s independent oil and natural gas producers produce 68% of American oil, 82% of American natural gas, and drill over 90% of new American wells. Historically, independent producers reinvest over 100% of their cash flow from the production of oil and natural gas back into new exploration and production ventures. These proposed tax increases would directly reduce the amount of cash available for energy exploration and would provide a disincentive for capital sources outside of the energy industry. This would result in reduction of oil and natural gas production, a reduction of American jobs, and a greater dependence on foreign sources of supply. All of these results run counter to the administration’s stated goals.

**Percentage Depletion** - Depletion is a tax deduction which allows the recovery of capital investment over time. Percentage depletion is used by nearly all mineral resources including oil and natural gas. This is a tax deduction calculated by applying the allowable percentage (15%) to the gross income from the property. Percentage depletion has been a part of the tax code since 1926. Current law limits the use of percentage depletion in several ways. First, percentage depletion is not available to integrated oil companies and is available to independent producers and royalty owners only to the extent of 1,000 barrels of oil or 6,000 MCF of natural gas per day. Further, it is limited to the net income produced by each producing property and it is limited to 65% of each taxpayer’s taxable income. Because of these limitations, the proposal would fall disproportionately on the smaller independent producers and royalty owners. It is estimated that over one third of the tax increases would be born by royalty owners.

Percentage depletion provides capital to keep the current marginal wells producing and capital to be reinvested in new oil and gas ventures in the United States. Eliminating percentage depletion would remove over \$8 Billion which would have been invested in developing American production.

**Intangible Drilling and Development Costs (IDC)** - IDC's include expenditures that lack a salvage value made by an oil or natural gas producer incident and necessary for the drilling of wells in preparation of wells for the production of oil and natural gas. The drilling of new wells is necessary to replace reserves of oil and natural gas which were otherwise produced. In recognition of this, the tax code provides for current income tax deductions for IDC's as these are an ordinary and necessary expense of oil and gas exploration and production operations. Under current law a producer may elect to expense or capitalize these costs. If the producer has elected to expense these costs, an independent producer has a further election available to amortize these costs over a 60-month period. Without an election to expense or to amortize IDC's, they are recovered over the life of the property through cost depletion. The IDC deduction is allowed to provide a mechanism to attract capital for the high risk business of exploring for and developing American oil and natural gas. Without expensing IDC, it becomes far more difficult to attract the drilling capital and it is estimated that over \$3 Billion of new drilling activity would not occur.

**Geological and Geophysical (G&G) Amortization** - G&G costs include those expenses incurred for geologists, seismic surveys and the drilling of core holes. Improved technology has increased the usage of G&G costs as an exploration tool which has greatly reduced the risk associated with drilling exploratory wells. As these costs are incurred before the drilling of a new well they are in the nature of an ordinary and necessary expense. These costs are similar to research and development costs for other businesses. For those industries those costs are not only deductible, a tax credit is available in certain circumstances. Under current law, G&G costs incurred by independent producers are to be amortized over two years. The amortization period for major integrated oil companies has been extended to seven years. The proposal would extend the amortization period to seven years for independent producers as well. Extending the amortization period would remove over \$1 Billion from efforts to find and develop new American production.

**Manufacturer's Deduction** - In 2004 Congress created a new tax deduction related to qualifying domestic production activities. This provision came about as a means to enable a wide range of U.S. industries to remain competitive in world markets. The deduction is strictly tied to U.S. wages and U.S. production. The deduction applies to a income from the sale of property which is manufactured, produced, grown or extracted. It includes construction activities and other mining activities. Indeed, nearly all energy produced in America whether that be coal, wind or ethanol, is eligible for the deduction. During 2008, the oil and natural gas industry was restricted to a 6% deduction while other manufacturers' deductions will grow to 9%. The proposal would eliminate this deduction in its entirety only with respect to oil and natural gas production, putting this industry at a competitive disadvantage compared to competing energy sources.

**Passive Loss Exemption Exception for Working Interest in Oil and Gas Properties** - During 1986 the tax law divided income and expense activities into three categories, active, passive and portfolio. This law categorized working interests in oil and natural gas as being part of the active category provided that the taxpayer's liabilities were not limited in any way. The proposal would re-categorize the oil and gas working interest activities as passive which would be subject to limitations based upon the passive income of each taxpayer. Those losses would be



deferred until such time as the taxpayer disposed of the passive activity or had offsetting passive income. The loss of this income tax incentive would severely diminish the willingness of individuals to risk an investment in oil and gas exploration.

**Enhanced Oil Recovery Tax Credit and Marginal Well Tax Credit** - Both of these tax credits are designed to encourage production using either costly technologies to extend the life of an oil and gas well after its initial phase of production or to provide a safety net for marginal wells during periods of low prices. These projects and these wells are vulnerable to becoming uneconomic during periods of low prices. Currently prices remain above the threshold for either credit to become effective. However, both remain key elements in support of American production and American energy security.

American oil and natural gas are important components to an energy policy that recognizes the need for multiple forms of energy to meet future increases in energy demands. These proposals would decrease American exploration and production, American energy security and American jobs.

Edward P. Cross  
President  
Kansas Independent Oil & Gas Association

## Economic Impact of 2010 Federal Budget Proposals On Oil & Gas Extraction Industry

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|   | <u>National</u>  | <u>Kansas</u> |
|---|------------------|---------------|
| Drilling Rig Count (May 26, 2009)                               | 900              | 41            |
| Drilling Rig Count in 12 months if passed                       | 450              | 20            |
| Crude Oil Production (000,000 bbls 2007)                        | 1,800            | 39.4          |
| Crude Oil Production Prematurely Plugged (000,000) <sup>1</sup> | 735              | 16.2          |
| Increase in imported oil (\$50/bbl) <sup>2</sup>                | \$36,750,000,000 |               |
| Loss in oil production tax in Kansas <sup>3</sup>               |                  | \$87,000,000  |
| Natural gas production (billion cubic feet)                     | 2,600            | 378           |
| Natural gas production prematurely plugged (bcf)                | 1,950            | 283           |
| Loss in gas production tax in Kansas <sup>4</sup>               |                  | \$122,000,000 |
| Employment (Oil & gas extraction and service 2008)              | 221,200          | 26,000        |
| Employment (2012)   | 150,000          | 18,000        |

In addition to losing 30% of its workforce and an estimated \$210 million in production taxes, the state and local governments will lose significant tax payments in the form of sales taxes and other taxes and fees. The total negative economic impact to the State of Kansas alone would be about \$3.9 billion over the next four years.

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<sup>1</sup> Estimates of crude oil production prematurely plugged for years 2010, 2011 and 2012.

<sup>2</sup> Based on increased imports to offset plugged production for years 2010, 2011 and 2012

<sup>3</sup> Kansas effective tax rate for 2008 was 10.81% of value. Estimates based on \$50/barrel for years 2010, 2011 and 2012.

<sup>4</sup> Kansas effective tax rate for natural gas in 2008 was 10.81% of value. Estimates based on \$4/mmcf for years 2010, 2011 and 2012.

## Comparison Of Tax Provision For Majors and Independents

| Tax Provision  | Major Integrated Company  | Independent producer  |
|--|---|---|
| Expensing of intangible drilling costs                 | Not available. Majors raise their drilling capital internally. Stock holders provide funding. Most of their revenues comes from foreign operations. | Able to expense drilling costs in the year incurred. Important to smaller companies that have to drill with personal money, because the quicker costs recouped the more wells they can drill.   |
| Percentage depletion                                   | Has not been available to majors for more than 30 years.  | Helps small producers keep marginal wells (15 barrels or less per day) producing. Percentage depletion is limited to 15% of gross oil and gas income. Also limited to first 1,000 b/d. Limited to net income from marginal properties through 2009. Amount deducted for depletion cannot exceed 65% of taxpayers income before the deduction. |
| Repeal of passive loss exception for working interests | Does not apply.   | Working interest owners are investors who share the costs in drilling and production. Current tax law allows WI owners to be classified as an active, rather than passive, investor if they do not have limited liability.  |
| Geological and geophysical costs                       | Majors must amortize costs over 7 years.  | Independents currently must amortize G & G costs over 2 year period. The economic life of a property for independent is considerably less than 7 years, which is the new proposal.  |
| Marginal well tax credit                               | Never been in effect because prices have never reached the trigger point since enacted.   | Never been in effect because prices have never reached the trigger point since enacted.   |
| Enhanced Oil Recovery (EOR) tax credit                 | Available to majors, but has been rarely used.  | Available to independents, but not many have decided to apply for the credit because of bureaucratic red tape and the costs to implement.   |
| Manufacturing tax deduction                            | Designed to encourage creation of jobs in U.S. rather than taking employees overseas.   | This is a current benefit to independents but it is insignificant.  |
| Excise tax on Gulf of Mexico production.               | Majors are still active in the Gulf of Mexico somewhat, but most are pulling out.   | Independents are drilling most of the new wells in the Gulf today. They would be hit hardest by a new tax.  |

Key points to remember: Independents raise capital from U.S. sources – most of it personal – while majority of majors' income comes from foreign sources.

Independents drill 90% of the wells in the U.S. and produce 82% of the natural gas and 68% of the oil. Proposed tax changes would drive most small independents out of business, because they would not be able to raise capital for new ventures. Dry hole costs must be deductible. If not, no one will risk drilling dry holes looking for new production.

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## **Cap and Trade Summary**

The global warming scare has politicians around the world looking for a method to reduce greenhouse gases (GHG), primarily carbon dioxide created by the burning of fossil fuels. In Washington, some believe that the creation of a cap-and-trade system will efficiently reduce GHG emissions. The concept sets limits (cap) on emissions and allows people to buy, sell, borrow or trade the made-up credits. In theory, it reduces GHG emissions while raising funds from polluter to pay for funding of research and development for clean energy. It sounds too good to be true, because it is.

As the Senate and House debate these issues, please keep in mind these points:

1. Increased costs to consumers and energy producers will be unavoidable. The Environmental Protection Agency predicts gross domestic production reduction of \$1 trillion to \$2.9 trillion by 2050.
2. There will be increased volatility in energy prices. Energy demand is inelastic, so that even small changes in demand relative to supply can result in sharp price movement.
3. H.R. 2454 discriminates against natural gas.
4. U.S. refineries will be at a competitive disadvantage with foreign refiners.
5. The U.S. will need to import more foreign oil.
6. Raising the price of energy during a recession will damage U.S. economy further.
7. The goal to reduce GHG 80% by 2050 is impossible. Carbon emissions have not been that since 1910 when the U.S. population was 92 million.
8. Food prices will rise. More farmers will plant corn to meet ethanol demand, replacing wheat and soybeans.
9. It is imperative that the top 15 carbon-producing countries participate. Allowing competing countries to operate in an economy without cap and trade restrictions will give them a competitive advantage.
10. Protection against fraud and cheating will be expensive. Just as the Commodities Futures Trading Commission and others must oversee trading on the futures markets, some agency will have to be responsible for overseeing the trading of emission allowances.
11. Claims of increase in jobs misplaced.
12. Big Government gets bigger. Many new organizations would be created to protect against fraud and cheating.
13. Big business gains another advantage over small business.
14. No free market. Markets set by government through allocation of emission allowances.
15. Economic pain without environmental gain. When the President and Congress mandated huge increases in ethanol usage, they failed to realize the full impact on grain prices and food supplies. Cap-and-trade programs will have enormous impact throughout the economies of the world.

7-14

## 80%-by-2050 Goal Impossible to Achieve

Steven Hayward, fellow at the American Enterprise Institute, quoted Department of Energy (DOE) figures that show the U.S. emitted 5.8 billion metric tons of carbon dioxide or just under 20 tons per capita. An 80% reduction from 1990 levels means that the U.S. cannot emit more than about one billion metric tons of carbon dioxide in 2050. Carbon emissions have not been that low since 1910 when the population was 92 million people and the per capita income was about \$6,000 (in current dollars). By 2050, U.S. Census Bureau projects 420 million people, which means that per capita emissions will have to fall to about 2.5 tons to meet the 80%-reduction goal. "It is likely the U.S. per capita emissions were never that low – even back in colonial days when the only fuel burned was wood," Hayward wrote.

By dissecting the American economy into residential, commercial, industrial, and transportation sectors, it becomes obvious how ridiculous these goals are to achieve. Residential: Currently, American households emit 1.2 billion tons of carbon dioxide, which is 20% higher than the entire nation's 80% reduction target by 2050! "If households are to emit no more than their present share of carbon dioxide, emissions will have to be reduced to 204 million tons by 2050. But in 2050 there will be another 40 million residential households in the U.S. Today, the average residence in the U.S. uses about 10,500 kilowatt hours of electricity and emits 11.4 tons of carbon dioxide per year (much more if you are Al Gore or John Edwards and live in a mansion). To stay within the magic number, average household emissions will have to fall to no more than 1.5 tons per year. In our current electricity infrastructure, this would mean using no more than 2,500 kilowatt hours per year. This is not enough juice to run the average hot water heater." (emphasis added) Transportation: With consumption of motor fuel at 180 billion gallons, consumption must be reduced to 31 billion gallons unless a genuine carbon-neutral liquid fuel can be produced. Ethanol isn't it. "To show how unrealistic this is, if the entire nation drove nothing but Toyota Priuses in 2050, we'd still overshoot the transportation emissions target by 40%." according to Hayward's study. He noted that the commercial and industrial sectors would have to replace the entire fossil fuel electricity infrastructure with an energy source that does not emit carbon dioxide – a multi-trillion dollar proposition, if it can be done at all.

## Increase Costs to Consumers and Energy Producers

Because fossil fuels provide about 85% of the energy used in the U.S. economy, any program that constrains carbon dioxide emissions will effectively constrain U.S. energy use and result in higher prices and less economic output.

The National Association of Manufacturers and the American Council for Capital Formation conducted a study of S. 2191, the cap and trade bill offered by Lieberman and Warner. The study predicts that the gross domestic product would drop by \$151 billion to \$210 billion each year by 2020 and \$631 billion to \$699 billion per year by 2030. The reduction in disposable household income would be \$739 to \$2,927 per year in 2020 and \$4,022 to \$6,752 per year by 2030.

The Environmental Protection Agency predicts gross domestic production reduction of \$238 billion to \$983 billion in 2030 and \$1 trillion to \$2.9 trillion in 2050.

Gasoline costs would rise 60% to 144% by 2030 (NAM-ACCF study) and \$0.53 per gallon (EPA).

## **Market Volatility for Crude Oil and Natural Gas Increases**

Most macroeconomic models estimate the effects of constraints on fossil energy use on aggregate output, stated a study by Michael E. Canes of the George C. Marshall Institute. "However, economists warn that the volatility of fossil energy prices associated with a cap on their use may generate additional large costs. Energy demand is inelastic, so that even small changes in demand relative to supply can result in sharp price movement. Volatility associated with permits would cause large relative price swings among economic sectors, create uncertainty among investors, and adversely impact aggregate demand."

## **"Green Jobs" Claim Not So Great**

President Obama has claimed that tax subsidies to alternative energy and environmental penalties to fossil fuels "can create millions of additional jobs and new industries." Obama has even cited the government of Spain "where they are making real investments in renewable energy." However, a new study of the subsidy program implemented by Spain reveals that every new job created by the Spanish government in the alternative energy area destroyed an average of 2.2 other jobs.

The study – prepared under the direction of Dr. Gabriel Calzada, an economics professor at Juan Carlos University in Madrid – discovered that only one in 10 jobs created by the program in Spain were of a permanent nature (operations, maintenance, etc.), and two-thirds consisted of temporary jobs in construction, fabrication and installation.

"Spain's experience (cited by President Obama as a model) reveals with high confidence, by two different methods, that the U.S. should expect a loss of at least 2.2 jobs on average, or about 9 jobs lost for every four created, to which we have to add those jobs that non-subsidized investments with the same resources would have created," the study stated.

"The study's results demonstrate how much 'green jobs' policy clearly hinders Spain's way out of the current economic crisis, even while U.S. politicians insist that rushing into such a scheme will ease their own emergence from the turmoil... This study marks the very first time a critical analysis of the actual performance and impact has been made," Dr Calzada wrote in the study's introduction.

Dr. Calzada notes that no other country has given very broad support to the construction of alternative fuels to generate electricity.

Spain has spent about \$774,000 to create each "green job" since 2000, including subsidies of more than \$1.3 million per wind industry job. However, about 113,000 other jobs elsewhere in the Spanish economy were destroyed because of the subsidies, or 2.2 jobs destroyed for every "green job" created.

"The loss of jobs could be greater if you account for the amount of lost industry that moves out of the country due to higher energy prices," Dr. Calzada said.

"The price of a comprehensive energy rate, paid by the end consumer in Spain, would have to be increased 31 percent to begin to repay the historic debt generated by this rate deficit mainly produced by the subsidies to renewables, according to Spain's energy regulator. Spanish citizens must therefore cope with either an increase of electricity rates or increased taxes (and public deficit), as will the U.S. if it follows Spain's model," the study found.

## **Cap-and-Trade Programs Will Cause Food Prices to Rise**

In addition to making fossil fuels more expensive and more volatile, a cap-and-trade system will put more pressure on the price of ethanol and biodiesel. U.S. ethanol producers have it pretty good right now: a \$0.51 per gallon (\$7 billion total) federal tax exemption; a \$0.54 tariff on imported ethanol; rising demand; and rising prices. U.S. farmers planted 25% more corn in 2008 than in 2007. However, as farmers plant more corn and less wheat and soybeans, the price of everything – corn, wheat and soybeans – increases. News reports of worldwide food shortages began appearing in early 2008, which caused many policymakers to question the logic of using food to make energy. Additionally, studies were released in 2008 that show that it takes more than a gallon of energy to produce a gallon of ethanol – not an efficient use of energy.

Also, ethanol proponents touted the environmental advantages of ethanol over gasoline, but another study in 2008 found that ethanol produced more greenhouse gases than gasoline.

## **Any Carbon Reduction Program Must Have the Involvement of the Top 15 Carbon-Producing Countries if Reduction Targets are to be met**

The Environmental Protection Agency found in 2007 that without China taking aggressive action, carbon dioxide emissions would continue to increase even if the U. S. adopted aggressive standards. If China is given a pass and the U.S. complies, the U.S. will have economically retrenched without any environmental gain. China and India have grown their economies. In 1990, China and India's combined energy consumption was about 13% of the world's total and it is expected to grow to 30% by 2030. Energy and environmental issues of all producing countries must be considered and debated.

The United States economy, and the fate of American workers, should not be expected to absorb the economic consequences of emissions regulations merely to see other countries benefit at America's expense.

## **Protections Against Fraud and Cheating will be Expensive**

The challenges and associated costs of policing an international and national cap-and-trade system will be formidable. Fossil fuel use would have to be closely monitored. Trading of emission rights also would have to be monitored to ensure the rights exchanged are real and not bogus. Because fraudulent allowance sellers can earn considerable wealth while buyers have weak incentives to assure that allowances are legitimate, the scope of fraud is great.

A cap-and-trade system will include thousands of participants (emitters, who are required to participate, and others who will participate to make money). Internationally, there will be millions of players. Tracking the allowances must be accurate and the players in the market must have confidence that the allowance being bought, sold, traded, etc. are legitimate and not stolen or fraudulent.

## **Big Government gets Bigger to Insure Legitimacy of Allowances**

For example, under S. 2191, 110<sup>th</sup> Congress, the Environmental Protection Administration would have been required to establish a federal greenhouse gas (GHG) registry

with an advisory body from private enterprise, agriculture, environmental groups, etc. to “guide the development and management of the Registry.”

The new Carbon Market Efficiency Board will be established to ensure the implementation and maintenance of stable, functional, and efficient market for emission allowances.

The new Climate Change Credit Corporation will be created to auction emission allowances

The new Climate Change and National Security Council will be created to study and submit a report to the President stating the extent that other countries are complying with GHG reductions; extent that global warming is causing political instability in countries around the world; conflicts over water, food and other resources; recommendation if increased national security measures need to be taken.

In addition to the EPA, current federal agencies involved in cap-and-trade monitoring are Department of Treasury, Department of Energy, Department of Labor, State Department, Defense Department, Director of National Intelligence, the Federal Trade Commission and the Commodity Futures Trade Commission.

### **Big Business Gains Another Advantage over Small Business**

Large, publicly-held, international companies will be able to set up emission trading departments with the latest in technology and will hire the leading experts in the field of trading. This will become another “profit center” for these companies as they buy, sell and trade carbon emission allowances. Meanwhile, small companies will be in the dark unable to find the light switch. They will not be able to hire trading experts, set up trading departments or even understand the basics of this new trading system. Small companies will be at a considerable disadvantage in this new world of carbon emissions trading.

### **No Free Market**

The U.S. government dictates the number of emission allowances that will be auctioned; the U.S. government sets the number of emission allowances that each person must purchase; the U.S. government requires reports to be filed by those that are required to be in the program; big government must monitor the program to prevent fraud and cheating.

### **The federal government likes cap and trade, because it yields large amounts of money to redistribute to voters.**

In spite of all the problems created by a cap-and-trade system, politicians like it because it creates massive amounts of revenue - by the way, it is not called new taxation - from a group of “polluters” and redistributes those funds to voters. Conservatives like it because they can claim it is a “free market” approach to address the global warming issue. Liberals like it because it attempts to put producers of fossil fuels, which have political opponents of liberals, out of business, or at a minimum reduces their influence. From a political sense, it theoretically achieves the goal of reducing greenhouse gas emissions and saves the world from destruction at the hands of producers of fossil fuels.



## **Economic Pain without Environmental Gain**

Policymakers must take into consideration many social and economic goals as it debates the implementation of a cap-and-trade system. Economic growth is key to the success of any plan designed to reduce greenhouse gases. If a cap-and-trade program rapidly reduces fossil fuel supplies and demand remains high and other forms of energy do not or cannot replace fossil fuels, prices will rise to astronomical levels creating all enormous problems in the U.S. At the same time, carbon emissions are only reduced slightly. Will the small environmental gain be worth the economic pain?

## Ten Essential Principles for Sound Energy Policy

Edward P. Cross, President  
Kansas Independent Oil & Gas Association

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Energy policy in the United States for today and tomorrow involves much more than providing safe, reliable and affordable energy to consumers. The energy policy of the future must take into consideration global terrorism, foreign policy, national security, environmental concerns, the fear that climate change will cause catastrophic consequences, and worldwide economic considerations. Ten essential principles that must be included in an energy policy adopted in the U.S. are:

- Reduce U.S. dependence on foreign oil by increasing domestic energy production.
- The world and the U.S. have vast crude oil and natural gas reserves, but policies must allow for exploration and production.
- Crude oil, natural gas, and coal will provide a majority of U.S. energy needs for many years to come.
- Policies enacted should have a positive impact on U.S. economy, national security and foreign policy.
- Make certain that the environmental gain (i.e., reduction in greenhouse gases) outweighs the economic pain.
- Other countries must reduce greenhouse gases similarly.
- Policy must be based on sound science.
- Energy efficiency and conservation should be increased.
- Encourage research and development in technology.
- Government actions must be based on market conditions and consumers' needs, and private enterprise must be the spark plug that ignites the engine.

Policymakers must recommend solutions that are realistic and pragmatic. Policies that are unrealistic, and reflect only wishful thinking, will create future energy shortages, accompanied by higher prices. Realistic proposals should be based on market forces and consumer preferences. The economic consequences of each idea should be analyzed and compared to the gain achieved through changes in the environment, conservation, or new technology.

Sound science must serve as the cornerstone of any policy regarding climate change or global warming. Energy efficiency is the cheapest, most plentiful form of new energy. Energy saved is energy found.

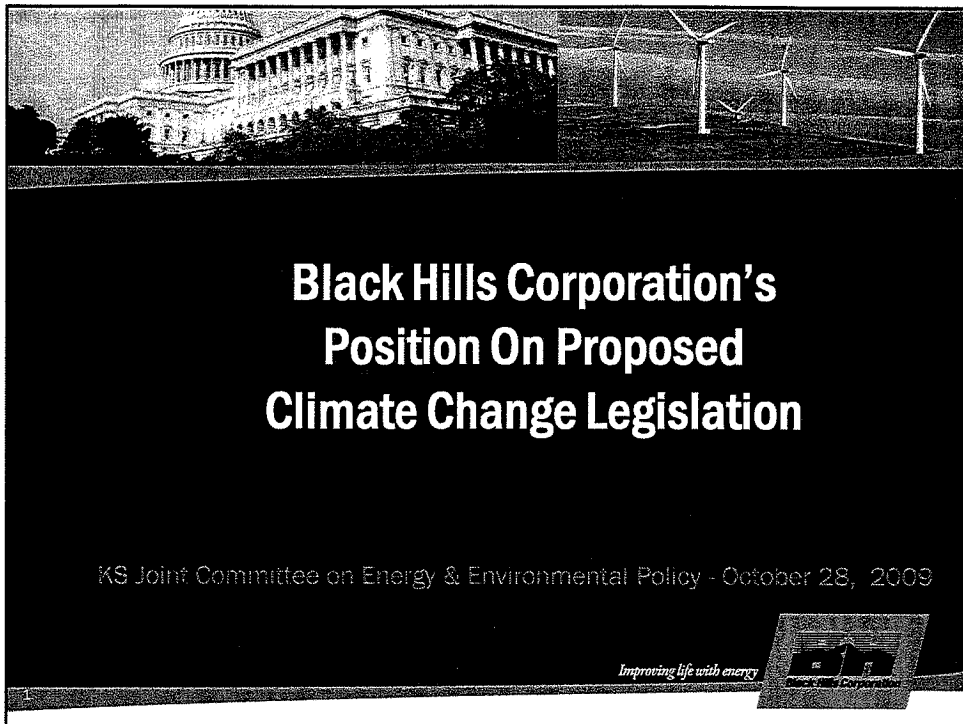
Diversity of domestic energy supplies is critical. Whether it is crude oil, natural gas, coal, nuclear, wind, solar, ethanol, etc. originating in the U.S., North America, South America, Middle East, etc., the key must be building a mix of energy that continues America's economic and military strength.

Even though renewable energy sources appear to be the current preference of Washington policymakers, the fact remains that it will be decades before renewable energy will play a large role in providing sufficient amounts of energy at competitive prices. Crude oil will be the primary transportation fuel for the world for many years to come. Natural gas, coal, and nuclear

will provide a majority of the electricity. Federal and state governments should continue to encourage private enterprise to invest in renewable energy, but it would be a catastrophic mistake to tax or punish one source of energy, i.e. hydrocarbons, to finance research in renewable energy.

Any policy adopted by the U.S. regarding reduction of greenhouse gas emissions should be adopted by all other countries, too, especially the 15 countries with the largest economies. Restrictions on energy production, or increases in taxes, could make U.S. businesses less competitive. In today's global economy, competition is intense. Economic and social impacts must be addressed. Cheap, affordable and reliable energy powers economic growth.

While the largest portion of imported oil comes from Canada and Mexico, the U.S. continues to import substantial amounts from Saudi Arabia and Venezuela. Crude oil imports pose unique political, military, economic and foreign policy issues for the U.S. A policy that includes reduction of crude oil imports will have many positive benefits for Americans.



**Black Hills Corporation's  
Position On Proposed  
Climate Change Legislation**

KS Joint Committee on Energy & Environmental Policy - October 28, 2009

*Improving life with energy*

## Black Hills Corp Overview

*An Integrated and diversified energy company*

| Utilities   | Non-Regulated Energy   |
|---|--|
| <b>Gas Utilities</b><br>Colorado Natural Gas<br>Iowa Natural Gas<br>Kansas Natural Gas<br>Nebraska Natural Gas<br><br><b>Electric Utilities</b><br>Black Hills Power<br>Cheyenne Light, Fuel & Power *<br>Colorado Electric | <b>Coal</b><br>Wyodak Resources<br><br><b>Oil &amp; Gas</b><br>Black Hills Exploration & Production<br><br><b>Power Generation</b><br>Black Hills Electric Generation<br><br><b>Energy Marketing</b><br>Enserco Energy |

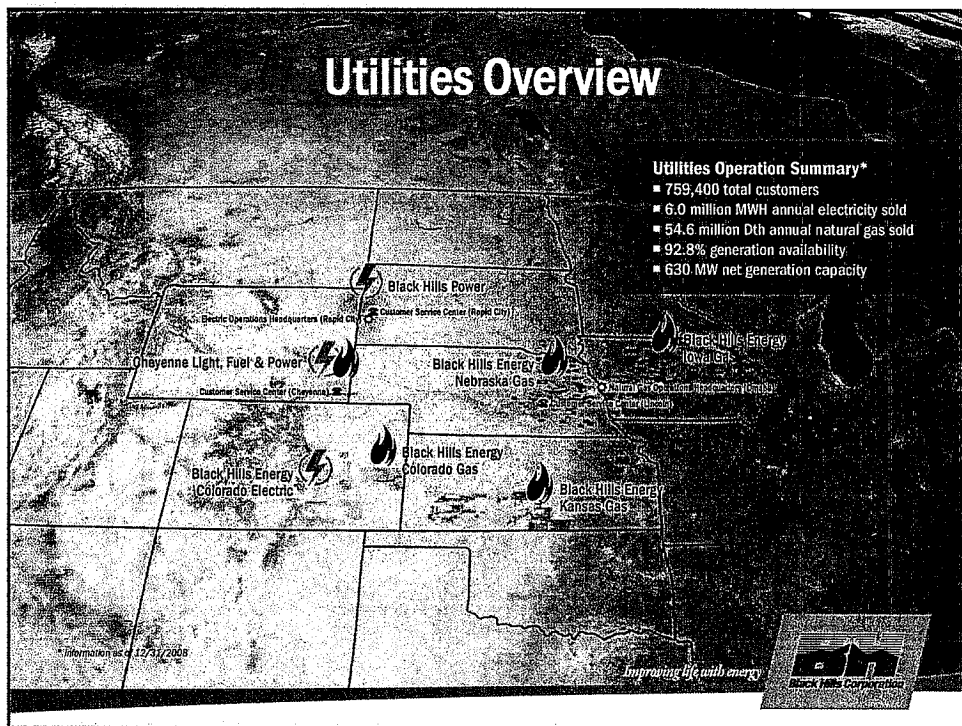
**Fuel, Generation, and Utilities**

\* Supplies electric and gas utility service to Cheyenne, Wyoming and parts of Laramie County

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Joint Committee on Energy and  
Environmental Policy

Date 28 OCT 2009  
Attachment # 8



## Black Hills Position on Proposed Climate Change Legislation

- We support a reasonable RPS (like the Bingaman proposal of 15% by 2021) that includes all suppliers with a reasonable time for implementation.
- We support a diverse energy portfolio that includes coal (the primary generation fuel for our company and for the U.S.) natural gas, wind, solar, biomass and hydro.
- U.S. greenhouse reduction must be part of a global initiative. (China has surpassed the U.S. in CO<sub>2</sub> emissions, and India is catching up.)
- Greenhouse gas reduction must be nationwide and industry-wide, with no public power exemptions.
- As proposed, the climate change legislation is a burdensome cost customers would pay, especially in coal-reliant regions including the Midwest.

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## What is the Proposed Climate Change Legislation?

- The proposed climate change legislation is often referred to as the **American Clean Energy and Security Act**, **CO<sub>2</sub> tax**, **cap-and-trade** or **Waxman-Markey** or **Kerry-Boxer**.
- An attempt by the Obama Administration & U.S. Congress to control emissions of carbon dioxide (CO<sub>2</sub>) through a cap-and-trade program.
- The next step in the legislative process started yesterday, as hearings on Kerry-Boxer (S. 1733) began, which will likely merge with the Bingaman bill (S. 1462) as the U.S. Senate follows the House action, that passed H.R. 2454 in June.

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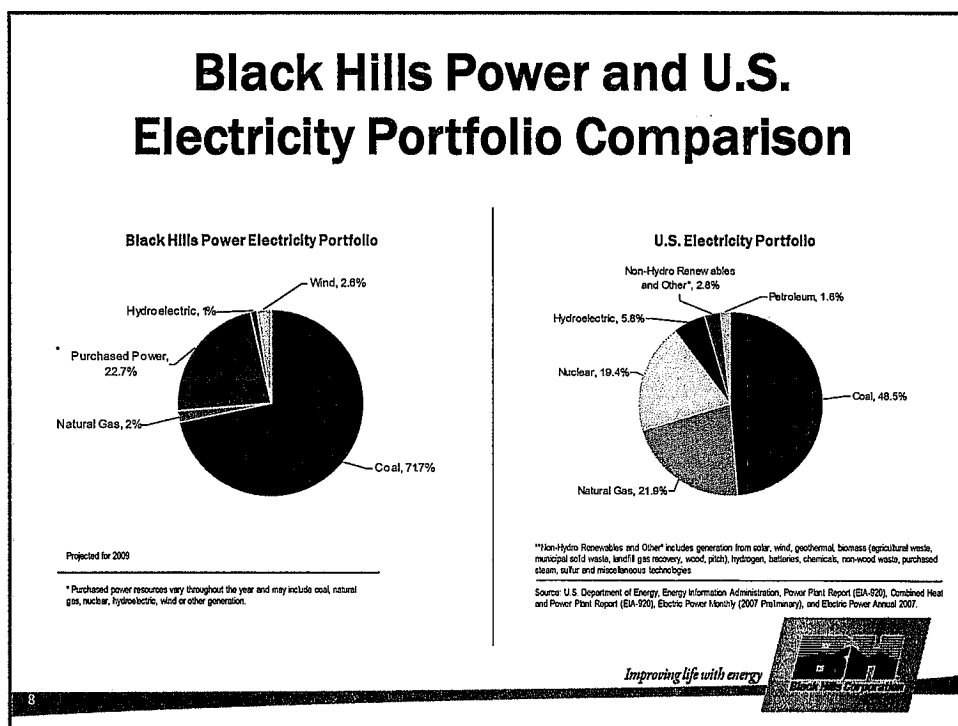
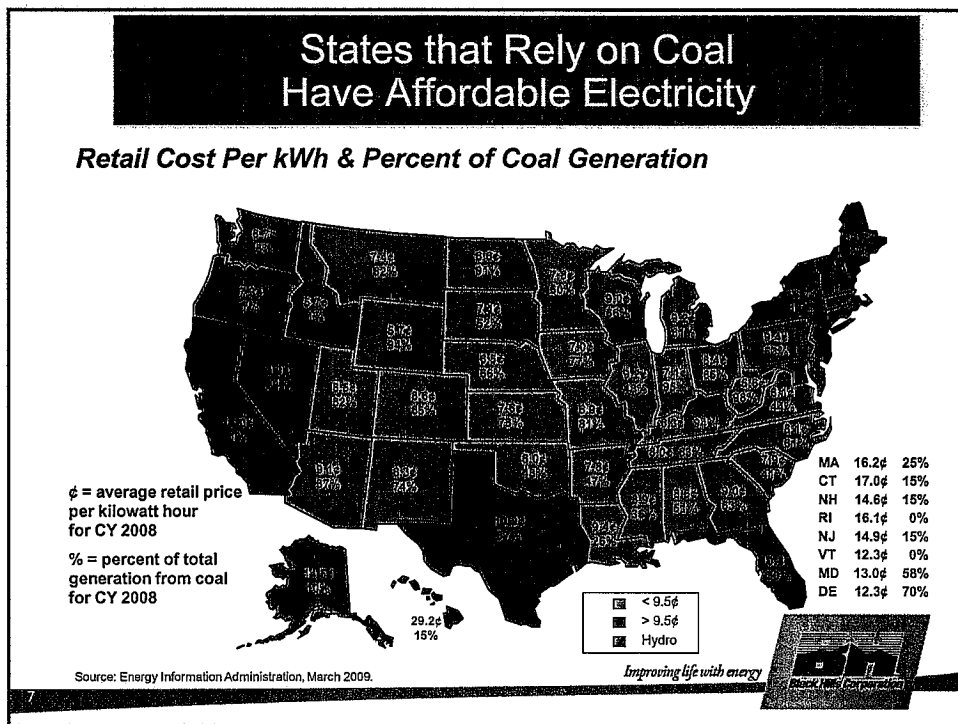
## Climate Change Legislation

### *Understanding "cap-and-trade"*

- **The Goal – Reduce Carbon Emissions:**
  - 3 percent below 2005 levels by 2012
  - 17 percent below 2005 levels by 2020
  - 42 percent below 2005 levels by 2030
  - 83 percent below 2005 levels by 2050
- **The Mechanism – Cap and Trade System**
  - Cap carbon emissions at 2005 levels.
  - Give free carbon emission allowances and reduce free allocation over time. Between 2025-2029 free carbon allowances will be phased out completely.
  - Utilities, like Black Hills, who produce carbon emissions in excess of their free allowances have two choices to comply with the cap:
    1. Buy additional allowances or international offsets in a government administered carbon market; or
    2. Migrate portfolio towards less carbon intense generation to comply with the cap
      - more renewables, energy efficiency, nuclear, biomass, cleaner coal, gas, etc.

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## Waxman-Markey Details

- This legislation passed the U.S. House 219-212 just before July recess.
- Of the 219 votes for the bill, more than 1/4 were from New York and California.
- Of the 50 state's delegations, 28 states voted in opposition, 22 in favor.

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## Electric Customer Impacts

### Direct Cost Increase for Customers

- Restrictions begin in 2012. Allocations—credits provided to utilities to cover a portion (but not all) emissions—would be phased out by 2030.
- Considers only Cap & Trade impacts through the allocated credits & allocation shortfall.
- The CO<sub>2</sub> “tax” would result in an increase for electricity bills for all residential, commercial and industrial customers.

### Indirect Cost Increase to Customers

- Does not include costs of other provisions of the bill such as Renewable Energy or Energy Efficiency Standards.
- Does not include changes the bill would cause in the broader economy or market and energy resource demand resulting from fuel-switching cost, or demand-side management.
- Does not include cost of new generation to meet demand growth or production needs.

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## Cost of Climate Change Legislation for Black Hills Power Customers

Projected Electricity Cost Increases from CO<sub>2</sub> costs associated with climate change legislation as passed by the U.S. House June 26, 2009

| Year | Cost Increase per kWh | % Increase on Rates | Residential Annual Increase | Commercial Annual Increase | Industrial Annual Increase |
|------|-----------------------|---------------------|-----------------------------|----------------------------|----------------------------|
| 2012 | \$0.036               | 47%                 | \$349                       | \$2,030                    | \$367,400                  |
| 2030 | \$0.061               | 82%                 | \$601                       | \$3,490                    | \$632,900                  |

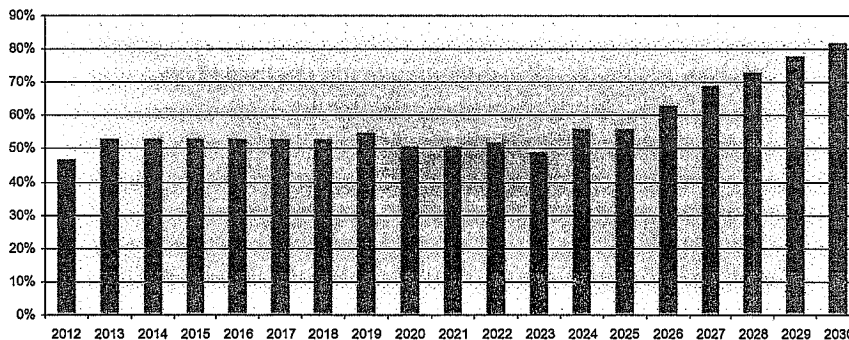
**Notes:**  
 Includes emissions from Wygen III for purposes of calculating emissions for the allocation formula.  
 Future power generation and emissions based on BHP & CLFP 2008 Integrated Resource Plan.  
 Assumes average rate of \$0.075/kWh; 820 kWh/mo residential, 4,760 kWh/mo commercial, 863,400 kWh/mo Industrial.  
 Assumes cost of \$50 per emission credit per metric ton of CO<sub>2</sub> emitted.

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## Cost of Climate Change Legislation for Black Hills Power Customers

Estimated Electricity Cost Percent Increases from CO<sub>2</sub> costs associated with climate change legislation as passed by the U.S. House June 26, 2009



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Account Number: **\$23,325.01 \$25,566.21**

Check if changes to mailing address. Please number enclosed to back of form.

SCHOOL CUSTOMER  
124 W ROAD ST  
RAPID CITY SD 57701

AMOUNT ENCLOSED

Web ID: 121428  
Account Number: 11 34 667390 01

Please remit any portion with payment. If paying in person please bring exact bill.

Energy Charge—Estimated Based On 2009  
Service Dates: 01/15/09 TO 02/28/09  
Service Address: 124 W ROAD ST  
RAPID CITY SD

Statement Date: February 21, 2009  
Billing Period: 30 Days  
Web ID: 121428  
Account Number: 11 34 667390 01

| Rate | Present | Previous | Difference | Multiplier | Usage   | Charges |
|------|---------|----------|------------|------------|---------|---------|
| 9775 | 21      | 3601     | 3779       | 300        | 322,420 | 1272    |
| 9754 | 21      | 221      | 300        | 300        | 243.0   | 126     |
| 9754 | 21      | 1197     | 300        | 300        | 12,900  | 5043    |

Account Billing Information

Balance Forward: .00

Charges:

- Energy Charge—120: 15,070.50
- Billing Capacity Charge—120: 5,261.54
- Energy Cost Adjustment: 139.75

Federal CO<sub>2</sub> Compliance Cost @ \$50.00 per ton: 7,756.40

**ACCOUNT BALANCE: \$23,325.01 \$25,566.21**

For future billing before March 15, 2009 is a 15 day payment charge.

Customer is responsible for payment of their electric bill. Please call us at 605-342-3311 or visit our website at www.bhp.com when you have questions or concerns.


Thank You For Business

\*Based on emission rate of 1.24 CO<sub>2</sub> tons/MWh

**\$23,325.01 \$25,566.21**

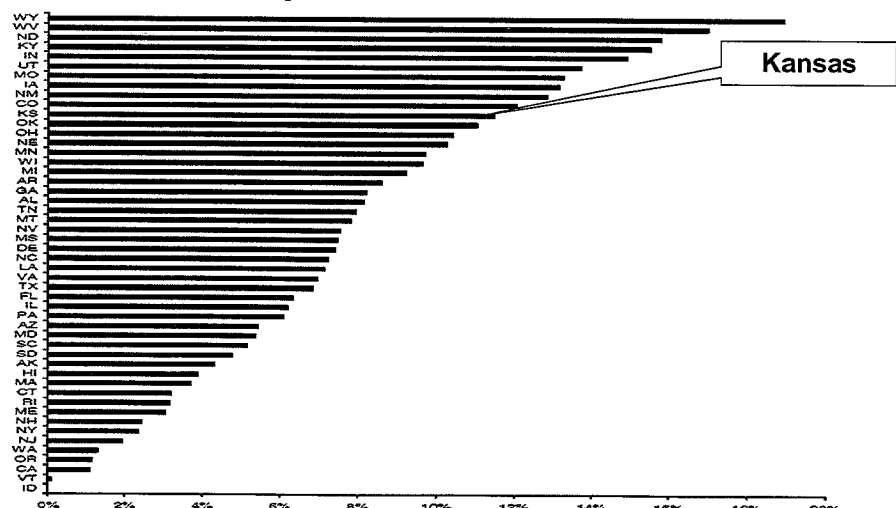
Energy for a lifetime

## Sample BHP School Customer Bill w/Federal CO<sub>2</sub> Compliance Cost in H.R. 2454 Added




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## Estimated impact of ACES on retail rates\*



| State | Estimated Impact (%) |
|-------|----------------------|
| WY    | 18.5                 |
| ND    | 17.5                 |
| KY    | 16.5                 |
| IN    | 15.5                 |
| UT    | 14.5                 |
| MO    | 13.5                 |
| IA    | 12.5                 |
| NM    | 11.5                 |
| CO    | 10.5                 |
| KS    | 9.5                  |
| OK    | 8.5                  |
| OH    | 7.5                  |
| NE    | 6.5                  |
| MN    | 5.5                  |
| WI    | 4.5                  |
| MI    | 3.5                  |
| AR    | 2.5                  |
| GA    | 1.5                  |
| AL    | 1.0                  |
| TN    | 0.8                  |
| MT    | 0.6                  |
| NV    | 0.4                  |
| MS    | 0.3                  |
| DE    | 0.2                  |
| NC    | 0.1                  |
| LA    | 0.1                  |
| VA    | 0.1                  |
| TX    | 0.1                  |
| FL    | 0.1                  |
| IL    | 0.1                  |
| PA    | 0.1                  |
| AZ    | 0.1                  |
| MD    | 0.1                  |
| SC    | 0.1                  |
| SD    | 0.1                  |
| AK    | 0.1                  |
| HI    | 0.1                  |
| MA    | 0.1                  |
| CT    | 0.1                  |
| RH    | 0.1                  |
| ME    | 0.1                  |
| NH    | 0.1                  |
| NY    | 0.1                  |
| NJ    | 0.1                  |
| WA    | 0.1                  |
| OR    | 0.1                  |
| CA    | 0.1                  |
| VT    | 0.1                  |
| ID    | 0.1                  |

\* This assumes that the free allocations to various entities are monetized in allowance markets. Bernstein Research, "U.S. Utilities: The Climate Warms for CO<sub>2</sub> Regulation," January 22, 2009.



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## Natural Gas Customer Impacts

- Both “Waxman-Markey” and “Kerry-Boxer” include residential and commercial natural gas customers under the cap beginning in 2016, with the LDC responsible for obtaining the allowances.
  - One third of the funds from allowances granted to gas companies must be used on energy efficiency programs.
  - Eventually allocated allowances go to zero in 2030.

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## Natural Gas Customer Impacts

### Direct cost increase for customers

- Under the current provisions, climate change legislation on natural gas would go into effect in 2016.
- This federal “CO<sub>2</sub> tax” would result in an increase in bills for all natural gas customers: residential, commercial and industrial.

### Indirect cost increase to customers

- Fuel-switching: Second to coal, the most rational energy choice to produce electricity is natural gas.
- Further increase natural gas costs: Switching to natural gas-fired electric generation will increase the demand for natural gas. Laws of supply and demand suggest when demand for a commodity (such as natural gas) increases, the cost of that commodity will increase as well.

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## Cost of Climate Change for BHC Natural Gas Customers On Average

Projected Natural Gas Cost Increases from CO<sub>2</sub> costs associated with proposed climate change legislation as passed by the U.S. House June 26, 2009

| Year | Cost Increase Per Therm | % Increase on Billing Rate* | Residential Annual Increase ** | Commercial Annual Increase *** |
|------|-------------------------|-----------------------------|--------------------------------|--------------------------------|
| 2016 | \$0.06                  | 8%                          | \$44                           | \$186                          |
| 2030 | \$0.27                  | 33%                         | \$191                          | \$798                          |

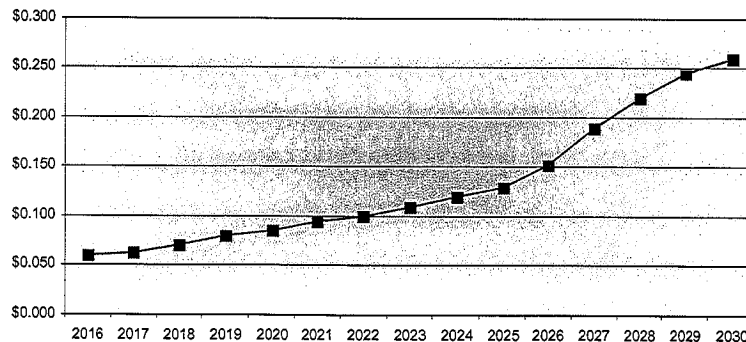
Assumes cost of \$50 per emission credit per metric ton of CO<sub>2</sub> emitted.  
 \* Based on \$0.80 per therm billing rate  
 \*\* Based on residential customer using 720 therms per year  
 \*\*\* Based on commercial customer using 3000 therms per year  
 Estimates do not factor in: natural gas price volatility, increased demand due to the lower CO<sub>2</sub> emission rate of natural gas, supply constraints or inflation.

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## Cost of Climate Change for BHC Natural Gas Customers On Average

Estimated Increases per therm from CO<sub>2</sub> costs associated with proposed climate change legislation as passed by the U.S. House June 26, 2009



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## What's Wrong with Climate Change Legislation as Currently Proposed?

- **Significant cost to customers:** Negative economic impacts for compliance with climate change legislation would be significant, especially in the central U.S. and during an economic downturn.
- **Lack of available technology:** Proposed CO<sub>2</sub> reductions are too aggressive to be practical or attainable with the current available technology. There is no technology available today that can readily replace coal and natural gas generation and be deployed commercially in less than 10 to 20 years.
- **Allowance allocation formula unfair to coal-reliant states:** CO<sub>2</sub> allowances for local electric distribution companies based 50% on electricity sales and 50% emissions, shorting our customers by more than half. Allowances need to be based on emissions, not sales.

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## What's Wrong with Climate Change Legislation as Currently Proposed?

- **Redistribution of wealth:** Creates windfall profits as high as \$1 billion per year for utilities that are less coal-reliant than those in the Midwest. Transfers wealth from central U.S. to both coasts and jobs from the U.S. to countries that don't limit their greenhouse gases.
- **No cost containment:** Creates new multi-trillion-dollar commodities market subject to speculation. A maximum and minimum cost range for emissions credits should be established to avoid market speculation and protect customers. Markets should be restricted to those who need allowances.
- **Little impact on global greenhouse gas emissions:** A federal greenhouse gas emissions reduction program will only be effective as part of international effort that includes all major emitting sectors in both developed and developing countries. Otherwise, we're just exporting jobs and emissions.

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## How Can the Proposed Climate Change Legislation be improved?

If Congress proceeds on climate change legislation, it should:

- **Provide Customer Relief:** Provide free emissions credits (also known as allowances) to local electric distribution companies based on 100% emissions (rather than 50% on sales and 50% on emissions) to provide cost relief to customers. Impose the cap on emissions more gradually in early years.
- **Cover Actual Emissions:** Create an allocation pool that matches 100% of actual emissions from the year that is chosen to start the program. Current versions would provide fewer allocations than what utilities and other businesses would need.
- **Include New Generation:** Include all power plants under construction and those placed in service after 2005. Coal plants built after 2005 that contain the latest technology are the “cleanest in the nation” for NO<sub>x</sub>, SO<sub>2</sub> and mercury emissions, and should be granted allowances for CO<sub>2</sub>. Additionally, if commercial technology becomes available, newer plants could be easiest to convert to capture CO<sub>2</sub> emissions.

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## How Can the Proposed Climate Change Legislation be improved?

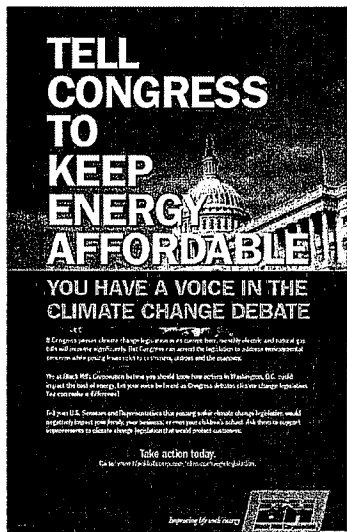
- **Contain Costs:** Adopt a maximum price (price ceiling) to reduce market volatility in credit trading.
- **Develop Technology:** Provide funding and allow time for CO<sub>2</sub> capture and sequestration technology to be commercially available.
- **Prevent Windfalls:** Make emissions credits available to those who need them for compliance—no “windfall profits” for companies that do not need emissions credits or for commodities traders.
- **Protect International Competitiveness:** Require other nations to reduce their CO<sub>2</sub> emissions. Legislation should include “off ramps” if other countries fail to participate.
- **Increase Customer Benefit:** Instead of requiring natural gas utilities to spend one-third of the value of their emission allowances on energy efficiency, all allowances allocated to natural gas local distribution companies should be used for customer benefit.

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## Further information



- Have a voice in the climate change debate. Contact your Senators with your story.
- Visit [www.blackhillscorp.com/climatechangelegislation](http://www.blackhillscorp.com/climatechangelegislation) for more information.

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To learn more about Climate Change Legislation visit [www.blackhillspower.com/cap-and-trade.htm](http://www.blackhillspower.com/cap-and-trade.htm)

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# Citizens' Utility Ratepayer Board

## Board Members:

Laura L. McClure, Chair  
A.W.Dirks, Vice-Chair  
Carol I. Faucher, Member  
Nancy Scott Jackson, Member  
Stephanie Kelton, Member



State of Kansas  
Mark Parkinson, Governor

David Springe, Consumer Counsel  
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Phone: (785) 271-3200  
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<http://curb.kansas.gov>

## Joint Committee on Energy and Environmental Policy

### Comments on Pending Federal Energy Legislation

By David Springe, Consumer Counsel

Citizens' Utility Ratepayer Board

October 28, 2009

### Background Assumptions:

1. Consumer rates will increase in the future.
  - Additional generation needed
  - Stricter emission limits require environmental (non-GHG) retrofits
  - Mandatory renewable portfolio standard
  - Push in build transmission
  - Push to improve system through "smart grid" technology
  - Fuel price volatility
    - Natural gas price is low at the moment, but may not stay low, coal and rail subject to congestion)
  - Normal operating expense increasing
    - Health care, pensions etc.
2. Consumers have a general concern about climate issues, and on average are willing to invest some level of capital (higher rates) in clean technologies. The question inevitably is how much capital and how high of rates. Also, certain investments may serve to offset increases in other cost drivers listed above.

### Pending Federal Legislation<sup>1</sup>: Consumer Comments

1. Allowance allocations are inadequate
  - Allowances are not allocated based on the level of historic emissions. Unlike SO2 cap and trade programs, which capped emissions at historic level and then ramped down over time, allowing the utility to adjust and implement technology, the current federal bills leave some utilities with more allowances than they need, and other utilities with far less than needed.

<sup>1</sup> HR 2454: The American Clean Energy and Security Act of 2009 (Rep.'s Waxman/Markey)

S. 1733: The Clean Energy Jobs and American Power Act (Sen.'s Kerry/Boxer)

S.1462: The American Clean Energy Leadership Act of 2009 (Sen. Bingaman )

Joint Committee on Energy and  
Environmental Policy

Date 28 Oct 2009

Attachment # 9



- Total allowances start off at only 90% of 2005 emissions in Waxman Markey.
- Of the total pool of allowances, the electric sector receives 43.75% in 2012-2013, 38.89% 2014-2015 and then 35% 2016-2025. Between 2025 and 2029 allowance allocations are phased down to zero. KEY: after 2029 100% of emission allowances must be acquired in the market.
- Natural gas utilities receive 9% of the total pool of allowances between 2016 and 2025, and then phase down to zero by 2029.
- All allowances going to LDC utilities must be used for the benefit of customers.
  - Kerry/Boxer has certain requirements for ratable allocations within the utility to customer classes.
- Merchant generators receive 5% of electric sector allowances, leaving only 30% of an already inadequate supply for local distribution company electric utilities. Massive give away to merchant plants that sell into wholesale markets and that may in fact have no emissions. Nuclear plants would receive allowances even with no emissions.
- Allowances available to LDC's are allocated 50% based on historic emissions, and 50% base on historic sales. States that rely heavily on coal will not be allocated enough emission allowances to cover historic emissions under this allocation structure and must go to the market to acquire additional allowances.
- Customers are at risk for the shortfall in allowances. Utility rates will (likely) increase by the amount of a) allowances need to meet emissions purchased in the market at market prices, and/or b) the cost of technologies, retrofits, resource changes or any other utility actions to reduce GHG emissions.
- There are regional winners and losers under this mechanism. Shorting the coal dependent states in the middle of the country and requiring them to buy allowances, while at the same time allocating allowances to states that rely far less on coal and allowing them to sell the allowances creates a massive transfer of wealth from the middle of the country towards the coasts.
- Kerry/Boxer pulls 15% of the total allowance pool off the top, (the percentage increases in the later years) most to be used for deficit reduction. It keeps the same percentage allocations to the electric sector as Waxman/Markey, but some question whether the 35% is out of the total pool, or whether the 35% is out of the 85% left after the deficit reduction allowances are removed. If it's the latter, then the amount of allowances allocated to our Kansas utilities will be further reduced.

## 2. Lack of firm price protection for allowances

- Allowances will be traded freely on the market. No restriction on who can buy, sell or hold. Likely will be a derivatives market created also. The market price of the allowances will determine the level and severity of cost impact on consumers where allowances are needed to cover emissions.
- Neither Waxman/Markey nor Kerry/Boxer contains a firm market price cap for allowances. Both take a small percentage of total allowances and hold them in a strategic reserve to be sold when prices go above certain trigger levels. Kerry/Boxer triggers at \$28/ton in 2012, but increases between 5-7% plus inflation each year following. Waxman/Markey triggers at \$28/ton in 2012 but then moves to a trigger price 60% above the 36 month rolling average in 2015.

9-2

- KEY: The strategic reserve *may* have the effect of cushioning price increases; it will *not* create an absolute price cap.

### 3. Offsets

- Both Waxman/Markey and Kerry/Boxer allow up to 2 billion offsets of allowances which can be split between domestic and international sources.
- Both Waxman/Markey and Kerry/Boxer require the creation of an agency to monitor and verify the integrity of the offsets. Potential for fraud in this program, but allowing this flexibility might help reduce the overall cost impact of reducing GHG emissions.
- Some question about how we will account for these offsets in consumer rates. If a utility buys trees and Brazil as an offset, how do we account for this in the rate setting process?

### 4. Climate Change Consumer Refund

- The allocation of allowances goes from 35% to the electric sector in 2025 to zero in 2029. After 2029 all allowances must be purchased at market. At the same time, under both Waxman/Markey and Kerry/Boxer emission caps decrease from 17% below 2005 levels in 2020 to 42% below 2005 levels in 2030. In this ten year period there is a huge reduction in allowed emissions but utilities lose all the free allowance allocations.
- Under Waxman/Markey, the allowances don't simply disappear. Instead of allocating allowances to the electric sector, the government sells the allowances in the market and deposits the proceeds in the "Climate Change Consumer Refund" account at the treasury. (estimated at 54% of all allowances in 2050)
- Secretary of the Treasury shall provide tax refunds on a *per capita* basis to each household each year from this fund.
- KEY: Entire program moves from allocations to utilities to a program that provides direct tax refunds to consumers.

### 5. Low income support: The "Energy Refund Program"

- Waxman/Markey allocated 15% of the total pool of allowances *in all years* to be sold and the revenue used to fund the Energy Refund Program. The Energy Refund Program will provide cash payments to cover loss of purchasing power for households whose gross income does not exceed 150% of federal poverty level.

### 6. Renewable Energy Standard

- Waxman/Markey has mandatory Federal Energy Efficiency and Renewable Electricity Standard. By 2020, 20% of base energy net of hydro and nuclear must be supplied through the submission of renewable energy credits (REC's)
  - REC's may be sold, transferred and exchanged. Can be banked for three years.
  - Up to 25% can be supplied by "demonstrated savings" through energy efficiency.
  - Increase Energy efficiency portion to 2/5 with Governor's petition to FERC.
  - Only retail electric suppliers that sell more than 4 million MWh's/year
- Alternative Compliance Payments
  - \$25 per MWh: 2.5 cents per kWh. (Inflation adjusted after 2009)
  - Paid directly to the state in which the retail electric supplier is located and must be used only to deploy technologies that generate electricity from renewable energy sources or to implement cost-effective energy efficiency programs.

- Customer Impact in Kansas
  - Likely neutral given Kansas aggressive RPS standard
  - Additional flexibility with energy efficiency option and alternative compliance payment gives broader set of option than current Kansas law
- Kerry/Boxer has no renewable energy standard (either energy efficiency or renewable power). Bingaman does have RPS. Some question whether it will be pulled into Kerry/Boxer.

#### 7. Carbon Storage and Research Corporation

- “Accelerate the commercial availability of carbon dioxide capture and storage technologies and methods” by issuing grants “to support commercial-scale demonstrations of carbon capture or storage technology projects capable of advancing the technologies to commercial readiness”
- Operated by the Electric Power Research Institute (EPRI)
- Funded by assessment on Electric utilities
  - \$1 billion per year for 10 years
  - EPRI gets 5% Administrative fee
  - 50% goes to “early movers”
    - Utilities that commit to large scale CCS projects designed to capture a “substantial portion” of emissions before the corporation awards its first grant.
- If 40% of State Regulatory Authorities submit written notices of objection within 180 days of enactment, the corporation “shall not be established”.
- Waxman/Markey also provides 2-3% of total allowance pool allocated to help electric utilities install carbon sequestration technologies.

#### Final Thoughts

- Current allowance scheme could prove expensive to Kansas customers.
- Other sectors received far fewer allowances. Some risk that the allocation scheme can shift and the electric sector could end up with fewer allowances as legislation passes.
- No assurances that government will actually return the allowance sales revenue given other needs for federal revenue sources.
- It would likely be more productive to have a simple program run like the successful SO<sub>2</sub> allowance program where emissions are initially covered and then reduced on a reasonable timeline consistent with technology availability
- Seeing a broad shift of regulatory authority, especially transmission, from states to federal regulators.
- EPA will likely act first to regulate GHG emissions.
  - Clean Air Act Section 202 GHG regulation for cars and light duty trucks could be finalized as early as March. Once this step is taken, GHG fall under Clean Air Act and EPA must take regulatory action.
  - Far more likely than Climate bill.

CAP-AND-TRADE  
FROM AN ENVIRONMENTAL  
PERSPECTIVE

JCEEP | 28 October 2009

## LIMITS

- HOW?
  - Market mechanism (cap-and-trade)
  - Agency command-and-control (EPA)
  - International treaty (Copenhagen)
- WHEN?
- WHY?
  - National Academy of Sciences, American Meteorological Society, United Nations, U.S. Department of Defense, CIA, 130+ countries

## WHAT IS CAP-AND-TRADE?

- Straightforward market signal:
  - Companies that reduce emissions make money;
  - Companies that continue to pollute pay a fee.
- We have one today:
  - The Acid Rain Program:
    - Solved the problem,
    - Ahead of schedule
    - Under budget (cost less than 1/3 of estimates)
    - With hundreds of billions of dollars of economic benefit

## THE BILLS

**ACES – 17% 2020, 83% 2050**

- 20% Renewable Energy by 2020
  - 5% Efficiency
- National bldg codes
- Transmission reform
- State RE & EE funds
- Transport incentives
- Offsets, USDA

**GEI/AFPA – 20% 2020, 83% 2050**

- No RES
  - Financing to RES states
- No EERS
- National bldg codes
- No transmission
- Vehicle emission standards
- More domestic offsets

## WHAT ABOUT COSTS?

- Congressional Budget Office projects annual household utility expenditures will rise \$175 by 2020 under ACES.
- EPA projects an increase of \$80-111/year by 2020 under CEJAPA.
- By 2050, CBO projects GDP will rise 70%. If passed, impact of ACES projected at  $\frac{1}{4}$  to  $\frac{3}{4}$  of 1% by 2020, 1-3% by 2050.
- CBO projects lowest income Americans' purchasing power will actually increase due to rebates.

## AND THE BENEFITS?

- Consumer Federation of America projects *savings* to consumers of over \$200 billion by 2030.
- Rural economic development: DOE projects 20% wind pays an annual \$20 million each to landowners and counties.
- Hybrid electric vehicles allow us to drive on Kansas wind – local energy means stronger national security.
- Cleaner air and water provide health benefits.

« [Long-Term Implications of the Department of Defense's Fiscal Year 2010 Budget Submission](#)  
When are CBO's cost estimates made public, and when are they not? »

## The Economic Effects of Policies to Reduce Greenhouse-Gas Emissions

Today I testified about the economic effects of legislation aimed at reducing emissions of greenhouse gases, drawing on a [report](#) that CBO released a few weeks ago.

Global climate change poses one of the nation's most significant long-term policy challenges. A strong consensus has developed in the expert community that, if allowed to continue unabated, the accumulation of greenhouse gases in the atmosphere will have extensive, highly uncertain, but potentially serious and costly impacts on regional climates throughout the world. Moreover, the risk of abrupt and even catastrophic changes in climate cannot be ruled out.

Reducing the extent of climate change would entail substantial reductions in U.S. emissions and in emissions from other countries over the coming decades. Achieving such reductions in this country would probably involve some combination of three broad changes: transforming the U.S. economy from one that runs on carbon-dioxide-emitting fossil fuels to one that increasingly relies on nuclear and renewable fuels; accomplishing substantial improvements in energy efficiency; and implementing the large-scale capture and storage of carbon dioxide emissions.

My testimony emphasized several points:

- The economic impact would depend importantly on the design of the policy. Decisions about whether to reduce greenhouse gases primarily through market-based systems (such as taxes or a cap-and-trade program) or primarily through traditional regulatory approaches that specify performance or technology standards would influence the total costs of reducing emissions and the distribution of those costs. The costs would also depend on the stringency of the policy; whether other countries imposed similar policies; the amount of flexibility about when, where, and how emissions would be reduced; and the allocation of allowances if a cap-and-trade system was used.
- Reducing the risk of climate change would come at some cost to the economy. For example, CBO concludes that the cap-and-trade provisions of H.R. 2454, the American Clean Energy and Security Act of 2009, would reduce GDP below what it would otherwise have been—by roughly  $\frac{1}{4}$  to  $\frac{3}{4}$  percent in 2020 and by between 1 and  $3\frac{1}{2}$  percent in 2050. By way of comparison, CBO projects that real (that is, inflation-adjusted) GDP will be roughly two and a half times as large in 2050 as it is today, so those changes would be comparatively modest. In the models that CBO reviewed, the long-run cost to households would be smaller than the changes in GDP because consumption falls by less than GDP and because households benefit from more time spent in nonmarket activities. Moreover, these measures of potential costs do not include any benefits of averting climate change.
- Climate legislation would cause permanent shifts in production and employment away from industries that produce carbon-based energy and energy-intensive goods and services and toward industries that produce alternative energy sources and less-energy-intensive goods and services. While those shifts were occurring, total employment would probably be reduced a little compared with what it would have been without such a policy, because labor markets would most likely not adjust as quickly as would the composition of demand for different outputs.
- CBO has estimated the loss in purchasing power that would result from the primary cap-and-trade program in H.R. 2454, incorporating both the higher prices that households would face and the compensation they would receive (primarily through the allocation of allowances or the proceeds from their sale). CBO's measure omits some channels of influence on households' well-being that cannot be readily quantified, and it appears that the measure probably understates the true burden to a small degree. As estimated, the loss in purchasing power would be modest and would rise over time as the cap became more stringent, accounting for 0.2 percent of after-tax income in 2020 and 1.2 percent in 2050. Households in the lowest fifth of households when arrayed by income would see gains in purchasing power in both 2020 and 2050, because the compensation they would

receive would exceed the costs they would bear. However, households in the middle fifth would see net losses in purchasing power amounting to 0.6 percent of after-tax income in 2020 and 1.1 percent in 2050.

This entry was posted on Wednesday, October 14th, 2009 at 4:56 pm and is filed under [Climate Change](#).

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10-5  
10-5



# KANSAS LEGISLATIVE RESEARCH DEPARTMENT

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October 26, 2009

**To:** Joint Committee on Energy and Environmental Policy  
**From:** Raney Gilliland, Assistant Director for Research  
**Re:** Overview of CO<sub>2</sub> Storage Regulation Issue

The 2007 Kansas Legislature enacted the Kansas Carbon Dioxide Reduction Act to provide tax incentives for the sequestration of carbon dioxide through underground storage. The Act also provided the authority for the Kansas Corporation Commission (KCC) to promulgate rules and regulations relating to underground carbon dioxide facilities. In addition, the Act made the KCC responsible for regulating both existing and future underground carbon dioxide sequestration. The Act required the KCC to establish rules and regulations providing for the safe and secure injection and maintenance of underground storage of carbon dioxide by July 1, 2008. A more complete description of the legislation will be provided later during this hearing.

After the time the 2007 legislation became effective, the staff of the KCC began working, at the direction of the Commission, on proposed rules and regulations. By way of background, after rules and regulations are developed, they are required to proceed through a review and editing process at the Department of Administration and the Attorney General's Office. Once this review has occurred, the proposed rules and regulations are provided to the Secretary of State's Office where they are reviewed prior to their publication in the *Kansas Register*. After this occurs, a copy of the proposed rules and regulations identical to that published in the *Kansas Register* is provided to the Joint Committee on Administrative Rules and Regulations through staff of the Kansas Legislative Research Department. At some point during the 60-day comment period the Joint Committee meets, reviews proposed rules and regulations, and makes comments. The Joint Committee is prohibited from making actual changes to the rules and regulations, but can introduce legislation which would effectuate a change in the rules and regulations if adopted by the Legislature and signed by the Governor.

The Joint Committee on Administrative Rules and Regulations (JCARR) met on February 13, 2009 to review the proposed rules and regulations by the KCC on carbon dioxide storage facilities. A copy of the proposed rules and regulations is attached. As a result of the review by the members of the Committee, numerous written comments were submitted with respect to the proposed rules and regulations to the KCC on behalf of the members of JCARR. One comment, specifically dealing with proposed KAR 82-3-1117 expressed concern with the State of Kansas taking possession (and potentially incurring a financial obligation) of CO<sub>2</sub> storage facilities at some point in the future. The comment also stated that it was the Committee's intent to seek input from the Joint Committee on Energy and Environmental Policy. A copy of JCARR's letter to the KCC also is attached. In addition, a letter was sent to the Chairperson of the Energy and Environmental Policy Committee asking for consideration of the issue.

In furtherance of its opposition to the proposed rule and regulation referred to above, the JCARR directed staff to draft proposed legislation to reverse the policy that would have required the State to accept liability after a period of time for closed CO<sub>2</sub> storage facilities. Staff of the Revisor's Office will review that proposed legislation. It is noteworthy to state that the KCC has decided not to proceed with the adoption of the proposed regulation that would have required eventual State liability.

Joint Committee on Energy and  
Environmental Policy

Date 10/28/10  
Attachment # 11

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Assistant Director for Research

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Chief Fiscal Analyst

**MARY K. GALLIGAN**  
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February 20, 2009

Mr. Tom Wright, Chairman  
Kansas Corporation Commission  
1500 SW Arrowhead Road  
BUILDING MAIL

Dear Mr. Wright:

At its meeting on February 13, 2009, the Joint Committee on Administrative Rules and Regulations reviewed for public comment rules and regulations concerning drilling through CO<sub>2</sub> storage facility or CO<sub>2</sub> enhanced oil recovery reservoirs; definitions: carbon dioxide (CO<sub>2</sub>) storage facilities; CO<sub>2</sub> storage facility, permit application; notice of application for permit and protest; application required to amend permit; transfer of a CO<sub>2</sub> storage facility permit; modification, suspension, or cancellation of permit; well construction requirements; storage facility requirements; storage facility monitoring and reporting; annual review of safety plan, safety plan update; safety inspection; leak detector inspections and testing; mechanical integrity testing; report of leak, potential leak, or loss of containment; temporary abandonment of storage wells; temporary abandonment of a storage facility; application for decommissioning and abandonment of storage facility; postclosure determination; plugging methods and procedures, plugging report, and plugging fee for CO<sub>2</sub> storage. After discussion, the Committee had the following comments.

- **KAR 82-3-1100.** The Committee is concerned with the definitions of "fresh water" and "usable water" with regard to water which may someday be needed for consumption purposes, and whether different definitions should be used. Are these definitions consistent with those used by the Division of Water Resources of the Department of Agriculture and the Kansas Department of Health and Environment?
- **KAR 82-3-1101.** The Committee is concerned with the reference to KSA 55-155, since that section applies to oil and gas operators rather than those who may be involved with CO<sub>2</sub> sequestration.
- **KAR 82-3-1109.** The Committee suggests the inclusion of a cross reference back to safety plan requirements contained in KAR 82-3-1101 (c)(14).
- **KAR 82-3-1111.** The Committee suggests the inclusion of KSA 2008 Supp. 55-1640 in the history section of this rule and regulation.
- **KAR 82-3-1117.** The Committee is concerned with the State of Kansas taking possession of CO<sub>2</sub> storage facilities at some point in the future and intends to

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Mr. Wright

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refer this as a topic of study to the Joint Committee on Energy and Environmental Policy.

- KAR 82-3-1118. This regulation references rules and regulations that appear to refer to oil and gas activities rather than to CO<sub>2</sub> storage. Please make appropriate changes.
- KAR 82-3-311a. The Committee believes that the responsibility for penetrating a CO<sub>2</sub> storage formation should rest with the company doing the drilling, rather than with the field owner.

Prior to filing with the Secretary of State, review the history sections of the rules and regulations to update them to the most recent statutory citations, making certain the citations for authorizing and implementing statutes are correct and complete. Please indicate your agency's website address in the filing notice where proposed regulations can be located. In addition, if your agency accepts written comments by e-mail include this information in the public notice. Further, e-mail requests for public accommodation should be included as a part of the notice. Finally, verify that the adoption by reference of any materials included in the regulations is properly completed as prescribed in the *Policy and Procedure Manual for the Adoption of Kansas Administrative Regulations*.

Please make this letter a part of the public record on these regulations. The Committee will review the regulations, which the agency ultimately adopts, and reserves any expression of legislative concern to that review.

To assist in that final review:

- Please inform the Joint Committee and me, in writing, at the time the rules and regulations are adopted and filed with the Secretary of State, of any and all changes which have been made following the public hearing.
- Please notify the Joint Committee and me, in writing, when your agency has adopted the regulations as permanent; delayed implementation of the regulations; or decided not to adopt any of the regulations.
- Also, please indicate separately to the Joint Committee and me, any changes made to the proposed regulations reviewed by the Committee.

Based upon direction from the Committee, failure to respond to each and every comment contained in this letter may result in the request that a spokesperson from your agency appear before the Committee to explain the agency's failure to reply.

Sincerely,

Raney L. Gilliland  
Assistant Director for Research

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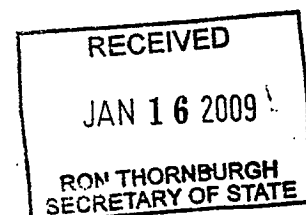
State Corporation Commission  
Notice of Hearing on Proposed  
Administrative Regulations

A public hearing will be conducted at 10:00 a.m., March 26, 2009, at the Kansas Corporation Commission, 130 S. Market, Room 2078, Wichita, Kansas 67202, to consider the adoption of proposed permanent regulations for the underground storage and sequestration of CO<sub>2</sub>.

The 60-day notice period from the date of this publication to the date of the public hearing constitutes a public comment period for the purpose of receiving written public comments on the proposed regulations. Comments may be submitted to John McCannon, Litigation Counsel, State Corporation Commission, Finney State Office Building, 130 S. Market, Room 2078, Wichita, Kansas, 67202; or to [oilandgasregcomments@kcc.ks.gov](mailto:oilandgasregcomments@kcc.ks.gov) via electronic mail.

Any person requiring special accommodations under The Americans with Disabilities Act needs to give notice to the Commission at least ten (10) days prior to the scheduled hearing date.

Copies of the proposed regulations and the economic impact statement may be obtained from the Commission's Office at 130 South Market, Room 2078, Wichita, Kansas 67202; or from the Commission website at <http://kcc.ks.gov>. Persons requesting a copy of the proposed regulations and economic impact statement, in accordance with K.S.A. 45-129, will be required to compensate the Commission for the cost of reproduction. All interested parties will be given a reasonable opportunity at the hearing to present their views orally or in writing in regard to the adoption of the proposed regulations.



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All written or oral comments submitted by interested parties on or before March 26, 2009, will be considered by the Commission as a basis for making changes to these proposed permanent regulations.

The following is a brief summary of the proposed regulations and economic impact statement:

**K.A.R. 82-3-1100.** This regulation contains definitions of terms used throughout the regulations covering carbon dioxide (CO<sub>2</sub>) storage facilities.

**K.A.R. 82-3-1101.** This regulation requires the issuance of a permit before a CO<sub>2</sub> storage facility can be operated. The regulation also sets out the requirement for an application to obtain a CO<sub>2</sub> storage facility permit.

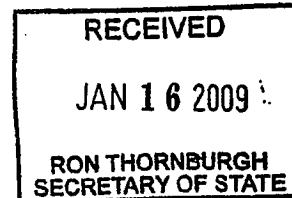
**K.A.R. 82-3-1102.** This regulation sets out the notice requirements for an application to obtain a CO<sub>2</sub> storage facility permit.

**K.A.R. 82-3-1103.** This regulation requires an application to amend a CO<sub>2</sub> storage facility permit. The regulation also sets out the notice required for the application to amend the CO<sub>2</sub> storage facility permit.

**K.A.R. 82-3-1104.** This regulation establishes the requirements necessary to transfer a CO<sub>2</sub> storage facility permit to a new operator.

**K.A.R. 82-3-1105.** This regulation sets out the conditions under which the Commission may modify, suspend or cancel a CO<sub>2</sub> storage facility permit.

**K.A.R. 82-3-1106.** This regulation establishes the well construction requirements and standards for CO<sub>2</sub> storage wells. The regulation covers well completions for existing wells and wells to be drilled or reentered.



**K.A.R. 82-3-1107.** This regulation sets standards and requirements for CO<sub>2</sub> storage facility equipment.

**K.A.R. 82-3-1108.** This regulation establishes the monitoring and reporting requirements for CO<sub>2</sub> storage facility operations.

**K.A.R. 82-3-1109.** This regulation requires the CO<sub>2</sub> storage facility operator to conduct an annual review of its safety plan. The regulation sets out specific areas that must be covered by the safety plan review. The regulation also requires updating of the safety plan as changes occur at the storage facility or as required by the Director to protect public health and safety.

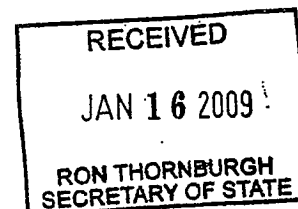
**K.A.R. 82-3-1110.** This regulation requires the CO<sub>2</sub> storage facility operator to conduct an annual safety inspection of the storage facility to ensure all safety and monitoring equipment are in proper working order. The regulation requires prior notice to the Conservation Division to allow for witnessing the safety inspection. The regulation also lists specific items that must be inspected or tested and requires a written report of the safety inspection from the CO<sub>2</sub> storage facility operator.

**K.A.R. 82-3-1111.** This regulation requires testing of all leak detectors at least annually. Any defective leak detector must be repaired or replaced within 10 days.

**K.A.R. 82-3-1112.** This regulation sets out the methods and frequency for mechanical integrity testing of CO<sub>2</sub> storage wells.

**K.A.R. 82-3-1113.** This regulation requires the CO<sub>2</sub> storage facility operator to report each leak, each potential leak, and any pressure changes or other monitoring data that indicate loss of containment of injected CO<sub>2</sub> or associated fluids. The regulation establishes reporting deadlines and requires the CO<sub>2</sub> storage facility operator to submit a plan to repair the leak or regain containment for the Conservation Division's review and approval.

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**K.A.R. 82-3-1114.** This regulation requires CO<sub>2</sub> storage wells that have not been in operation for 90 days to be either plugged or temporarily abandoned. The regulation provides for approval or denial of the temporary abandonment application by the Director.

**K.A.R. 82-3-1115.** This regulation allows the CO<sub>2</sub> storage facility to be temporarily abandoned. The regulation sets out what information must be provided by the CO<sub>2</sub> storage facility operator and provides for approval or denial by the Director.

**K.A.R. 82-3-1116.** This regulation requires an application and approval by the Conservation Division prior to decommissioning and abandonment of a CO<sub>2</sub> storage facility. The regulation specifies the content of the application and when it must be filed.

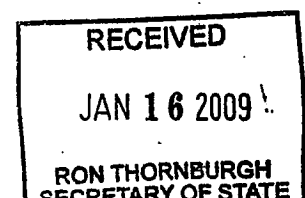
**K.A.R. 82-3-1117.** This regulation requires an application and approval by the Conservation Division for a post closure determination of the CO<sub>2</sub> storage facility. The regulation specifies the content of the application for a post closure determination. Upon approval of post closure status, the operator must plug any remaining monitor wells, the CO<sub>2</sub> storage facility permit will then be revoked and any financial assurance maintained by the operator will be released. Future remediation or monitoring activities will be performed by the State.

**K.A.R. 82-3-1118.** This regulation establishes the methods and procedures for plugging CO<sub>2</sub> storage wells. The regulation requires the filing of a plugging report pursuant to K.A.R. 82-3-117 and the payment of a plugging fee in accordance with K.A.R. 82-3-118.

**K.A.R. 82-3-1119.** This regulation establishes the various fees associated with the application for a permit and the operation of a CO<sub>2</sub> storage facility.

**K.A.R. 82-3-1120.** This regulation establishes the penalties that may be assessed by the Commission for violation of the provisions of K.A.R. 82-3-1100 through K.A.R. 82-3-1119.

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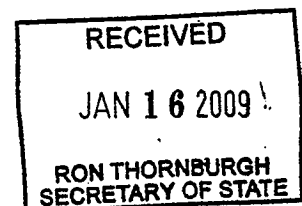


**K.A.R. 82-3-311a.** This regulation establishes the requirements, methods and procedures for drilling any well that penetrates or bores through any stratum or formation used for CO<sub>2</sub> storage or CO<sub>2</sub> enhanced oil recovery.

**Economic Impact Statement:** The direct regulatory cost to industry is the \$4,500.00 permit application fee and \$100.00 for each well included in the application, an annual fee of \$1,000.00 for each active or inactive unplugged CO<sub>2</sub> storage well and a per ton fee of \$0.05 per ton of CO<sub>2</sub> injected. There will be indirect regulatory costs such as preparation of the application for a permit, periodic well testing, safety inspections, ongoing monitoring of the project and reporting, which will be substantial but cannot be accurately estimated.

The agency's costs will increase depending on the number and complexity of projects initiated. One or two projects can probably be handled with current staff. If more projects are initiated, additional technical and support staff will be necessary. Complex projects may require contracting for outside expert assistance.

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**K.A.R. 82-3-311a. Drilling through CO<sub>2</sub> storage facility or CO<sub>2</sub> enhanced oil recovery reservoirs.** (a) Each person, firm, or corporation that, for any purpose, drills or causes the drilling of a well or test hole that penetrates or bores through any stratum or formation utilized for CO<sub>2</sub> storage or CO<sub>2</sub> enhanced oil recovery shall seal off the CO<sub>2</sub> stratum or formation by either of the following:

(1) The methods and materials recommended by the operator of the CO<sub>2</sub> storage facility and approved by the director or the director's authorized representative; or

(2) any methods and materials that the director determines to be fair and reasonable.

(b) Each person, firm, or corporation specified in subsection (a) shall maintain the well or test hole in a manner that protects the stratum or formation at all times from pollution and the escape of CO<sub>2</sub>.

(c) At least 30 days before commencing or plugging a well or test hole as specified in subsection (a), the person, firm, or corporation desiring to commence drilling or plugging operations shall give to the operator of the CO<sub>2</sub> storage facility and the conservation division written notice, by registered mail, of the date desired for commencement of drilling or plugging the well.

(d) Within 10 days after receipt of notice, the operator of the CO<sub>2</sub> storage facility or CO<sub>2</sub> enhanced oil recovery reservoir shall forward to the conservation division the operator's recommendations for the manner, methods, and materials to be used in the sealing off or plugging operation. The operator of the CO<sub>2</sub> storage facility shall give notice of the recommendations by mailing or delivering a copy to the person, firm, or corporation that seeks to

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drill or plug a well or test hole. The notice shall be mailed or delivered on or before the date on which the recommendations are mailed to or filed with the conservation division.

(e) Each objection or complaint stating why the recommendations proposed by the operator of the CO<sub>2</sub> storage facility are not feasible, practical, or reasonable shall be filed within five days after the recommendation is filed.

(f) If any objections or complaints are filed or if the director deems that there should be a hearing on the recommendation of the operator of the CO<sub>2</sub> storage facility, a hearing shall be held. Notice of the hearing shall be published according to K.A.R. 82-3-135.

(g) Following the hearing or receipt of the recommendations proposed by the operator of the CO<sub>2</sub> storage facility, the manner, methods, and materials to be used in the sealing off or plugging operation shall be prescribed by the director. Operations shall not commence until the director has prescribed the manner, methods, and materials to be used.

(h) The operator of the CO<sub>2</sub> storage facility or CO<sub>2</sub> enhanced oil recovery reservoir involved may have a representative present at all times during the drilling, completing, or plugging of the well or test hole and shall have access to all records relating to the drilling, equipping, maintenance, operation, or plugging of the well.

(i) Each operator of the CO<sub>2</sub> storage facility or CO<sub>2</sub> enhanced oil recovery project involved, in conjunction with the conservation division or its representative and with the operator of the well, shall have the right to inspect or test the well to discover any leaks or defects that could affect the CO<sub>2</sub> storage or CO<sub>2</sub> enhanced oil recovery stratum or formation.

(j) The operator of the CO<sub>2</sub> storage facility or enhanced oil recovery project shall pay each cost necessarily incurred in sealing off the stratum or formation or in plugging, maintaining,

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inspecting, or testing the well, as recommended by the operator of the CO<sub>2</sub> storage facility or CO<sub>2</sub> enhanced oil recovery reservoir and subsequently either approved or independently determined by the director or the director's representative, that exceeds the ordinary cost of operations using similar methods. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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82-3-1100. Definitions: carbon dioxide (CO<sub>2</sub>) storage facilities. The following terms, as used in these regulations for carbon dioxide (CO<sub>2</sub>) storage facilities, shall have the following meanings:

(a) "Abandonment" means the process of plugging all CO<sub>2</sub> storage wells in a storage facility and the removal of all surface equipment.

(b) "CO<sub>2</sub>" means carbon dioxide.

(c) "CO<sub>2</sub> capture, sequestration, or utilization machinery and equipment" means any machinery and equipment that are located in this state and meet one of the following conditions:

(1) Are used to capture carbon dioxide from industrial and other anthropogenic sources, or to convert this carbon dioxide into one or more products;

(2) are used to inject carbon dioxide into a carbon dioxide injection well; or

(3) are used to recover carbon dioxide from sequestration.

(d) "CO<sub>2</sub> closure period" means the period of time from the permanent cessation of active injection or withdrawal operations until the beginning of the CO<sub>2</sub> postclosure period.

During this period, the operator is responsible for activities that include the following:

(1) Monitoring the plume's pressure;

(2) monitoring the horizontal and vertical extent of the plume; and

(3) monitoring plugged and abandoned wells.

(e) "CO<sub>2</sub> postclosure period" means the time after the CO<sub>2</sub> closure period in which all wells are plugged and monitoring of the storage reservoir is no longer necessary because the plume is stable and is not a threat to public health and safety or usable water.

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(f) "CO<sub>2</sub> storage" means the storage of CO<sub>2</sub> in geologic strata that have been converted for CO<sub>2</sub> storage.

(g) "CO<sub>2</sub> storage facility" and "storage facility" mean the leased acreage and CO<sub>2</sub> storage reservoir. This term shall include the CO<sub>2</sub> storage well, well bore tubular goods, the wellhead, and any related equipment, including the last positive shutoff valve attached to the flow line.

(h) "CO<sub>2</sub> storage observation well" and "observation well" mean a well either completed or recompleted for the purpose of observing subsurface phenomena, including the presence of CO<sub>2</sub>, pressure fluctuations, fluid levels and flow, and temperature.

(i) "CO<sub>2</sub> storage recovery well" and "recovery well" mean a well used for the withdrawal of storage CO<sub>2</sub> that has migrated from the CO<sub>2</sub> storage reservoir and is trapped in a different reservoir. The wells are used in the recovery of storage CO<sub>2</sub> as remediation of a loss of containment.

(j) "CO<sub>2</sub> storage reservoir" and "storage reservoir" mean a porous, brine-filled stratum of the earth that is separated from any other similar porous stratum by an impermeable stratum and is capable of being used for the storage of CO<sub>2</sub>.

(k) "CO<sub>2</sub> storage well" means any CO<sub>2</sub> storage injection or withdrawal well, CO<sub>2</sub> storage withdrawal well, CO<sub>2</sub> storage observation well, or CO<sub>2</sub> recovery well completed or recompleted as part of a CO<sub>2</sub> storage facility.

(l) "CO<sub>2</sub> storage withdrawal well" and "withdrawal well" mean a well used only for the withdrawal of CO<sub>2</sub> stored in a reservoir.

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(m) "Decommission" means a declaration that CO<sub>2</sub> injection or withdrawal will cease at a CO<sub>2</sub> storage field and the storage field will be taken out of service.

(n) "Fracture gradient" means the pressure gradient, measured in pounds per square inch per feet, that if applied to a subsurface formation, will cause that formation to physically fracture.

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(o)

"Fresh water" means water containing not more than 1,000 milligrams of total dissolved solids per liter.

(p) "Kansas certified laboratory" means a laboratory certified by the Kansas department of health and environment.

(q) "Leak" means a loss of CO<sub>2</sub>. A loss occurs when CO<sub>2</sub> has migrated or is migrating from the wellhead, tubing, or casing or around the packer.

(r) "Leak detector" means a device capable of detecting by chemical or physical means the presence of CO<sub>2</sub> or the escape of CO<sub>2</sub> through a small opening.

(s) "Licensed engineer" means an engineer who is licensed or authorized to practice engineering in Kansas by the Kansas state board of technical professions.

(t) "Licensed geologist" means a geologist who is licensed or authorized to practice geology in Kansas by the Kansas state board of technical professions.

(u) "Loss of containment" means that CO<sub>2</sub> has migrated or is migrating out of the CO<sub>2</sub> reservoir or facility. Generally, the term "loss of containment" is used when referring to CO<sub>2</sub> that has migrated or is migrating from the CO<sub>2</sub> storage reservoir or beyond the authorized facility boundary.

(v) "Material change" shall include any of the following:

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- (1) Adding a storage zone;
- (2) a change in CO<sub>2</sub> storage volume; or
- (3) a change in the maximum surface operating pressure.

(w) "Monitoring means" means the steps taken to evaluate pressure data or other data for any indication that a leak or loss of containment could be occurring or has occurred.

(x) "Normal operating condition" means that the master valve and the first positive shutoff valve must fully open and close with reasonable ease and must be able to hold pressure in the closed position.

(y) "Packer" means an expanding mechanical device used in a well to seal off certain sections of the well when cementing, testing, or isolating the well from the completed interval.

(z) "Small, well-defined outside area" means an area, including a playground, recreation area, outdoor theater, and other place of public assembly, that is occupied by 20 or more persons at least five days a week for 10 weeks in any 12-month period. The days and weeks shall not be required to be consecutive.

(aa) "Usable water" means water containing not more than 10,000 milligrams of total dissolved solids per liter. This upper limit is approximately equivalent to 10,000 parts of salt per million or 5,000 parts of chloride per million. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1101. CO<sub>2</sub> storage facility; permit application.** (a) No entity shall operate a CO<sub>2</sub> storage facility without a permit to operate the facility.

(b) Each applicant for a permit shall submit the application on a form provided by the conservation division. The applicant shall sign and verify the application. The applicant shall file the original and two copies of the application with the conservation division.

(c) Each application shall contain the following information:

(1) The applicant's name and license number pursuant to K.S.A. 55-155 and amendments thereto;

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(2) the name of the proposed CO<sub>2</sub> storage facility;

(3) the name, description, and average depth of the CO<sub>2</sub> storage reservoir or reservoirs proposed to be utilized for CO<sub>2</sub> storage;

(4) a generalized stratigraphic column of the geologic formations encountered at the proposed CO<sub>2</sub> storage facility supported with geophysical logs:

(A) Each generalized stratigraphic column and geophysical log shall identify the geologic formations from the surface through the first formation below the storage reservoir and clearly label all fresh and usable water aquifers and all known active and inactive oil and gas producing horizons within the CO<sub>2</sub> storage facility and within a one-mile radius around the CO<sub>2</sub> storage facility; and

(B) minimum required geophysical logging analysis curves for each CO<sub>2</sub> storage well shall be on a scale of 5"=100' and shall include the following: correlation gamma ray, formation density, porosity curves, spontaneous potential, cement bond log and temperature log;

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(5) a geologic, hydrogeologic, and reservoir evaluation of the proposed CO<sub>2</sub> storage facility, including the predicted amount of CO<sub>2</sub> that will be stored in the reservoir. The evaluation shall describe the geologic, geomechanic, hydrogeologic, and reservoir characteristics of the proposed CO<sub>2</sub> storage reservoir or reservoirs, the adjacent confining layer or layers, and the reservoir conditions that control the trapping mechanism. The evaluation shall consist of written text as specified in this paragraph and shall be illustrated with maps and cross sections. In addition, the evaluation shall identify any petroleum and water resources that have the potential to impact or be impacted by CO<sub>2</sub> storage operations. The evaluation under this paragraph, including all written materials and all accompanying maps, shall be certified by a licensed engineer or licensed geologist. This evaluation shall include the following:

(A) An assessment of the regional and local geological setting, including regional or local faulting and structural or stratigraphic features;

(B) the geological characterization of the trapping and containment mechanisms of the proposed CO<sub>2</sub> storage reservoir and adjacent confining layers, using all available geophysical data;

(C) a geochemistry evaluation to quantitatively predict water-CO<sub>2</sub>-rock reactions and their effects on the storage reservoir;

(D) an evaluation of the CO<sub>2</sub> concentrations in the proposed storage reservoir and adjacent formations;

(E) reservoir evaluation and modeling for long-term distribution of CO<sub>2</sub> in the subsurface, including the rate of dissolution of the CO<sub>2</sub> in the formation water, miscibility, migration rates, direction, and the monitoring of the CO<sub>2</sub> reservoir pressure and migration;

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(F) reservoir modeling of long-term movement of brine displaced by the injection of CO<sub>2</sub>;

(G) exhibits and plan view maps showing the following:

(i) All CO<sub>2</sub> storage wells;

(ii) all water, oil, and natural gas exploration and development wells and other man-made surface structures and activities within one mile outside of the storage facility boundary;

(iii) all regional or local faulting;

(iv) an isopach map of the CO<sub>2</sub> storage reservoir or reservoirs;

(v) an isopach map of the adjacent confining layer or layers;

(vi) a structure map of the top and base of the CO<sub>2</sub> storage reservoir or reservoirs;

(vii) the extent of the area of maximum volume and all structural spill points or stratigraphic anomalies controlling the containment of stored CO<sub>2</sub> or associated fluids. The base for this map shall be a structure map on top of the storage reservoir;

(viii) structural and stratigraphic cross sections that depict the geologic conditions at the proposed CO<sub>2</sub> storage facility;

(ix) a detailed plan that outlines timely and permanent monitoring of soil, usable water, and the first porous zone immediately above the CO<sub>2</sub> reservoir's confining layer; and

(x) a saline fluid flow map of the storage reservoir showing local and regional fluid flow direction; and

(H) an evaluation of all potential migration pathways that could lead to any potential loss of containment;

(6) a closure plan, which shall include the following:

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(A) Pressure in the injection zone before injection began and the anticipated pressure in the injection zone at the time of closure;

(B) the predicted time when pressure in the storage reservoir will decrease to a point at which the storage reservoir's static fluid level will be below the base of the lowermost usable water formation;

(C) the predicted position of the leading edge of CO<sub>2</sub> plume at closure; and

(D) monitoring of the CO<sub>2</sub> plume and the lowest usable water zone;

(7) an area of review evaluation, which shall be certified by a licensed geologist or licensed engineer and shall include the following:

(A) A review of the data of public record and all available records for all wells that penetrate the CO<sub>2</sub> storage reservoir and those wells that penetrate the CO<sub>2</sub> storage reservoir within one-fourth mile of the boundary of the CO<sub>2</sub> storage facility. This review shall determine if all the abandoned wells have been plugged in a manner that prevents the movement of CO<sub>2</sub> or associated fluids from the CO<sub>2</sub> storage reservoir and if all unplugged wells that penetrate the CO<sub>2</sub> storage reservoir have adequate cement to isolate the storage interval from other reservoirs in the well and from behind the casing; and

(B) identification of any wells that appear from a review of public records to be unplugged or improperly plugged or any unplugged or improperly plugged wells of which the applicant has actual knowledge;

(8) the actual maximum injection rate per day for the injection of CO<sub>2</sub> certified by a licensed engineer or licensed geologist;

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(9) a report characterizing the maximum storage facility operating pressure as a function of the fracture gradient of the storage reservoir. The fracture gradient of the storage reservoir shall be determined by a step rate test or calculated by other methods approved by the director and certified by a licensed engineer or licensed geologist. The operating pressure of a CO<sub>2</sub> storage facility shall not be greater than 75 percent of the fracture gradient for the storage reservoir as measured in PSIG;

(10) the calculated maximum surface and bottom hole injection pressure of the CO<sub>2</sub> and water to be injected;

(11) the results of multiple water quality tests of fluid recovered from the CO<sub>2</sub> storage reservoir or reservoirs. The amount of chlorides and total dissolved solids of the fluid in milligrams per liter shall be reported. Water analysis shall be performed by a Kansas certified laboratory. No CO<sub>2</sub> storage shall be permitted in a usable water formation;

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(12) a site map showing the boundaries of the CO<sub>2</sub> storage facility, the location and well number of all proposed CO<sub>2</sub> storage wells, including all observation wells, the location of cathodic protection boreholes or ground bed systems, and the location of all pertinent surface facilities within the boundary of the storage facility and within one-fourth mile of the outside of the proposed storage facility boundary. The applicant shall verify this site map;

(13) a statement confirming that the applicant holds the necessary property and mineral rights for construction and operation of the CO<sub>2</sub> storage facility;

(14) a storage facility safety plan. This plan shall include the following:

(A) Emergency response procedures and provisions to provide security against unauthorized entry;

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(B) details for the safety procedures concerning residential, commercial, and public land use in the proximity of the storage facility;

(C) details for notifying all residents, commercial businesses, and areas of public use that could be impacted if an emergency occurs;

(D) emergency response procedures and contingency plans for CO<sub>2</sub> storage well leaks;

(E) emergency response procedures and contingency plans for a loss of containment from the CO<sub>2</sub> storage facility;

(F) specific contractors and equipment vendors capable of providing necessary services and equipment to respond to CO<sub>2</sub> storage well leaks or loss of containment from the CO<sub>2</sub> storage facility;

(G) a review of the safety plan with county emergency management, to determine how emergencies will be prevented, prepared for, and responded to;

(H) a schedule for updating county emergency management agencies; and

(I) a monitoring plan to ensure containment of the CO<sub>2</sub> within the CO<sub>2</sub> storage facility boundaries. This shall include monitoring wells to monitor for CO<sub>2</sub> migration vertically and horizontally;

(15) a demonstration of financial responsibility to ensure proper operation and closure of the CO<sub>2</sub> storage facility. The form and amount of financial responsibility shall be approved by the director. Adjustments to the financial responsibility may be required by the director;

(16) any other relevant information that the conservation division requires; and

(17) payment of the application fee required by K.A.R. 82-3-1119. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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K.A.R. 82-3-1102. Notice of application for permit and protest. (a) Each applicant for a permit to operate a CO<sub>2</sub> storage facility shall give notice on or before the date the application is filed with the conservation division by mailing or delivering a copy of the application to the following:

- (1) *Holmes* Each operator or mineral lessee of record within one-half mile of the boundary of the storage facility;
- (2) *Holmes* each owner of record of the minerals in unleased acreage within one-half mile of the boundary of the storage facility; and
- (3) each landowner on whose land the storage facility will be located.

(b) The applicant shall publish notice of the application once each week for two consecutive weeks in the official county newspaper of each county in which the lands affected by the application are located, at least once in the Kansas Register, and at least once in the Wichita Eagle newspaper.

(c) The applicant shall give any additional notice that the director deems necessary to ensure due process.

(d) The application shall be held in abeyance for 30 days from the date of last publication or delivery of notice, whichever is later. If, during that 30-day period, a protest is filed according to K.A.R. 82-3-135b or if the director deems that a hearing is necessary to protect the health, safety, welfare, or property of residents or the water or soil resources of the state, a hearing on the application shall be held.

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(e) The applicant shall publish notice of the hearing in the same manner as that required by subsection (b). (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-  
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**K.A.R. 82-3-1103. Application required to amend permit.** (a) The operator of a CO<sub>2</sub> storage facility shall file an application with the conservation division, on a form furnished by the conservation division, for an amendment to that permit if at least one of the following conditions is met:

(1) A material change in condition has occurred in the operation of the CO<sub>2</sub> storage facility or in the ability of the storage facility to operate without causing pollution.

(2) The areal extent of the CO<sub>2</sub> storage facility is expanded.

(3) The CO<sub>2</sub> storage reservoir pressure is increased above the maximum permitted pressure.

(4) An additional CO<sub>2</sub> storage well is added, or an existing well is converted to a CO<sub>2</sub> storage well.

(b) Notice of the amendment application and protest period shall be the same as provided in K.A.R. 82-3-1102.

(c) If an application for an amendment is administratively denied, the operator shall have a right to a hearing upon written request. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1104. Transfer of a CO<sub>2</sub> storage facility permit.** (a) The authority to operate a CO<sub>2</sub> storage facility under a permit from the conservation division shall not be transferred from one operator to another without the approval of the director. The transferring operator shall notify the conservation division, on a form prescribed by the conservation division, of the intent to transfer the permit at least 30 days before the proposed transfer.

(b) The notification shall contain the following information:

- (1) The name and address of the transferring operator and that operator's license number;
- (2) the permit number;
- (3) a list of all CO<sub>2</sub> storage wells on the storage facility authorized under the permit

being transferred;

- (4) the CO<sub>2</sub> storage reservoir or reservoirs covered by the permit;
- (5) the proposed effective date of transfer;
- (6) the signature of the transferring operator and the date signed;
- (7) the name and address of the transferee operator and that operator's license number;

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and

(8) the signature of the transferee operator and the date signed.

(c) The transferee shall provide proof of financial responsibility in a form and an amount approved by the director before the transfer of the permit.

(d) A copy of the approved transfer shall be sent to the transferring operator and transferee operator.

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(e) Within 90 days of transfer approval, the transferee operator shall change the identification signs specified in K.A.R. 82-3-1107(g) to show the transferee operator information. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P- \_\_\_\_\_.)

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**K.A.R. 82-3-1105. Modification, suspension, or cancellation of permit.** (a) A permit may be modified, suspended, or canceled after notice and opportunity for hearing if either of the following conditions is met:

(1) A material change in condition has occurred in the operation of the CO<sub>2</sub> storage facility.

(2) Material deviations from the information originally furnished to the conservation division occur that affect the safe operation of the storage facility or the ability of the storage facility to operate without causing a threat to public health and safety or to usable water.

(b) All operations at a CO<sub>2</sub> storage facility shall cease upon suspension or cancellation of the permit for that storage facility. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1106. Well construction requirements.** (a) As part of the application to install and operate a CO<sub>2</sub> storage facility, the applicant shall submit well construction information for proposed well completions for existing wells and wells to be drilled or reentered and used for CO<sub>2</sub> storage wells.

(b) Information on existing wells and wells to be drilled or reentered shall include the following:

(1) A plan specifying the drilling, completion, or conversion procedures for the proposed CO<sub>2</sub> storage well;

(2) a well bore schematic showing the name, description, construction, and depth of each well drilled or proposed to be drilled as a CO<sub>2</sub> storage well;

(3) a description of the casing, tubing, and packer in the CO<sub>2</sub> storage well or the proposed casing for new wells, including a full description of cement already in place or as proposed;

(4) the proposed method of testing the wells to demonstrate mechanical integrity of the casing, tubing, and packer before use; and

(5) for existing wells and wells to be reentered, all available geophysical logs through the storage reservoir and cased-hole logs including gamma ray, neutron curves, cement bond log, and temperature log. For wells to be drilled, the information shall include a complete open-hole wireline log measuring rock formation parameters of spontaneous potential, resistivity, gamma ray, and neutron density through the storage reservoir and cased-hole logs, including gamma ray, neutron curves, cement bond log, and temperature log. Each log shall be annotated to identify the estimated location of the base of the deepest usable water formation, showing the

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stratigraphic position and thickness of all confining strata above the storage reservoir and the stratigraphic position and thickness of the storage reservoir. An alternative log may be used if the director determines that the alternative log is substantially equivalent to one of the logs specified. To obtain approval for use of an alternative log, the applicant shall submit the following to the director:

- (A) A description of the log and the theory of operation;
- (B) a description of the field conditions under which the log can be used;
- (C) the procedure for interpreting the log; and
- (D) an interpretation of the log upon completion of the logging event.

(c) Each CO<sub>2</sub> storage well shall meet the applicable casing and cementing requirements of K.A.R. 82-3-104, K.A.R. 82-3-105, and K.A.R. 82-3-106. However, all casing strings that are set in the well bore shall be cemented with a sufficient volume of cement to fill the annular space to a point 500 feet above the top of the CO<sub>2</sub> storage reservoir or to the surface, whichever is less.

(d) Each CO<sub>2</sub> storage well shall be completed with a tubing and packer configuration.

(e) All surface, intermediate, and production casing and all tubing strings shall meet the standards specified in either of the following, which are hereby adopted by reference:

- (1) "Bulletin on performance properties of casing, tubing, and drill pipe," API bulletin 5C2, as published by the American petroleum institute in October 1999; or
- (2) "specification for casing and tubing (U.S. customary units)," API specification 5CT, sixth edition, as published by the American petroleum institute in October 1998, except the publications adopted on page 1 of section 2.1, and the errata published in May 1999.

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(f) Liners set within casing shall have cement circulated from the bottom of the liner to the top of the liner. If cement does not circulate, the annulus between the liner and casing shall be equipped in a way that the annulus can be monitored and tested for mechanical integrity.

(g) All surface, intermediate, and production casing and all tubing strings shall be new casing or reconditioned casing of equivalent quality that has been pressure-tested in accordance with the requirements of K.A.R. 82-3-1112(d)(1). For new pipe, the pressure test conducted at the manufacturing mill or fabrication plant may be used to fulfill this requirement.

(h) Emplacement of cement in setting intermediate casing, production casing, or any liners shall be verified by a cement bond log, cement evaluation log, or other evaluation method approved by the conservation division.

(i) All newly drilled wells shall demonstrate internal and external mechanical integrity before use for CO<sub>2</sub> injection, as required in K.A.R. 82-3-1112.

(j) The applicant shall submit a tabular summary containing the following information for each proposed CO<sub>2</sub> storage well:

- (1) Location;
- (2) completion date;
- (3) well depth;
- (4) casing; and
- (5) cementing and completion information.

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(k) Each CO<sub>2</sub> injection or withdrawal well located within 330 feet of an inhabited residence, commercial establishment, church, school, or small, well-defined outside area shall be equipped with a down-hole safety shutoff.

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(l) Approval of the design of the proposed well may be obtained before actual construction of the well.

(m) Upon completion of each well, the applicant shall submit to the conservation division a copy of the well completion report, on a form furnished by the conservation division.

(n) All packers, packer elements, and any similar equipment critical to the containment of CO<sub>2</sub> shall be of a quality to withstand exposure to CO<sub>2</sub>.

(o) For tubing completions, the packer shall be set at a depth so that the packer will be opposite a cemented interval of the long-string casing and shall be set no more than 50 feet above the uppermost perforation or open hole of the CO<sub>2</sub> storage reservoir. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1107. Storage facility requirements.** (a) All wellhead components, including the casinghead and tubing head, valves, and fittings, shall be made of material having operating pressure ratings sufficient to exceed the maximum injection pressure computed at the wellhead and to withstand the corrosive nature of CO<sub>2</sub>.

(b) The ratings shall be clearly identified on valves and fittings.

(c) The wellhead master valve on each CO<sub>2</sub> storage well shall be fully opening and shall be sized to the diameter of the casing or tubing string to which the valve is attached.

(d) Each flow line connected to the wellhead shall be equipped with a manually operated positive shutoff valve located on the wellhead.

(e) Each wellhead shall be protected with safety devices to prevent pressures in excess of the maximum allowable operating pressure from being exerted on the storage reservoir and to prevent the backflow of any stored CO<sub>2</sub> if a flow line ruptures.

(f) The storage facility shall have a continuously operating supervisory control and data acquisition (SCADA) system approved by the director to monitor operations for each individual CO<sub>2</sub> storage well. The SCADA system shall be connected by a communication link with the local control room or any remote control center for service and maintenance crews. If an emergency occurs, the equipment shall be capable of automatically closing all inlets and outlets to the CO<sub>2</sub> storage facility. Each sensor or indicator shall be calibrated annually, and the documentation shall be kept for five years. Each of the following instruments shall be connected to an alarm:

- (1) Flow indicator; and
- (2) pressure indicator on the lines of the wellhead.

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(g) The operator shall identify each CO<sub>2</sub> storage well and associated compressor site by posting a sign at the wellhead or compressor site. The sign shall be durable and shall be large enough to be legible under normal daytime conditions at a distance of 50 feet. The sign shall include all of the following information:

(1) The name and license number of the operator;

(2) the name of the storage facility and either the CO<sub>2</sub> storage well number or the compressor site name or number;

(3) the location of the CO<sub>2</sub> storage well or compressor site by quarter section, section, township, range, and county;

(4) the emergency contact phone number or numbers for the operator of the storage facility; and

(5) identification of the well as a CO<sub>2</sub> storage well.

(h) A leak detector shall be placed at each of the following locations:

(1) Any CO<sub>2</sub> storage well located within 330 feet of an inhabited residence, commercial establishment, church, school, or small, well-defined outside area;

(2) each enclosed compressor site; and

(3) any building housing a CO<sub>2</sub> pipe connection.

(i) The required leak detectors shall be integrated with automated warning systems.

The inspection and testing of these leak detectors shall meet the requirements of K.A.R. 82-3-1111.

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(j) The installation of monitor wells may be required by the director to determine the preinjection baseline parameters of soil and water. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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K.A.R. 82-3-1108. Storage facility monitoring and reporting. (a) During the first year of CO<sub>2</sub> storage operations, the operator shall file monthly pressure, injection, and withdrawal reports on forms provided by the conservation division. Each monthly report shall be due on or before the 10<sup>th</sup> of the month for the previous month and shall contain the following information:

- (1) Maximum wellhead pressure reading for the month;
- (2) minimum wellhead pressure reading for the month;
- (3) average wellhead pressure reading for the month;
- (4) total amount of CO<sub>2</sub> injected each week;
- (5) total amount of CO<sub>2</sub> withdrawn each week; and
- (6) cumulative total of CO<sub>2</sub> in the storage facility.

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(b) (1) During the second and each subsequent year of CO<sub>2</sub> storage operations, the operator shall file quarterly pressure, injection, and withdrawal reports on forms provided by the conservation division. The quarterly reports shall be submitted according to the following schedule:

- (A) For the period covering January 1 through March 31, on or before the following April 30;
  - (B) for the period covering April 1 through June 30, on or before the following July 31;
  - (C) for the period covering July 1 through September 30, on or before the following October 31; and
  - (D) for the period covering October 1 through December 31, on or before the following January 31.
- (2) Each quarterly report shall contain the following information:

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- (A) Maximum wellhead pressure reading for each month;
- (B) minimum wellhead pressure reading for each month;
- (C) average wellhead pressure reading for each month;
- (D) total amount of CO<sub>2</sub> injected each month;
- (E) total amount of CO<sub>2</sub> withdrawn each month; and
- (F) cumulative total of CO<sub>2</sub> in the storage facility.

(c) The CO<sub>2</sub> injectate shall be sampled monthly and tested at a Kansas certified laboratory for the percentage of CO<sub>2</sub>. The report shall be filed with the conservation division on or before the 28<sup>th</sup> day of the following month. The CO<sub>2</sub> shall be of sufficient purity and quality not to compromise the safety and efficiency of the reservoir to effectively contain the CO<sub>2</sub>.

(d) The total volume of CO<sub>2</sub> injected into or withdrawn from a storage facility shall be measured through a meter of sufficient capacity and approved by the director. The original field record consisting of magnetic tapes, digital electronic data, meter charts, or records of CO<sub>2</sub> injected or withdrawn shall be retained for at least five years. This information shall be made available to the conservation division upon request.

(e) The operator shall submit a detailed map, which shall be prepared by a licensed engineer or a licensed geologist, showing the areal extent of the CO<sub>2</sub> plume on December 31 of each year to the conservation division by the following January 31 of each year. The operator shall include a narrative description of how the areal extent of the CO<sub>2</sub> plume was determined.

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K.A.R. 82-3-1109. Annual review of safety plan; safety plan update. (a) Each operator of a CO<sub>2</sub> storage facility shall conduct an annual review of the safety plan with its field staff and an agent of the conservation division.

(b) The annual review shall, at a minimum, include the following:

(1) Emergency response procedures;

(2) security against unauthorized entry;

(3) procedures to be followed if an emergency occurs, affecting the residential, commercial, and public land use within the CO<sub>2</sub> storage facility and within one-half mile of the storage facility;

(4) contingency plans for CO<sub>2</sub> storage well leak and loss of containment;

(5) the names of specific contractors and equipment vendors capable of providing necessary services and equipment to respond to an emergency or CO<sub>2</sub> storage well leak or loss of containment;

(6) availability of the safety plan at the CO<sub>2</sub> storage facility and the nearest operational office of the storage facility operator;

(7) safety training drills that occurred during the year, including a list of attendees and date on which each training drill was conducted;

(8) safety meetings that occurred during the year, including a list of attendees and the date on which each safety meeting was conducted; and

(9) a review of the safety plan to ensure that the plan is current.

(c) The operator shall notify the conservation division at least 10 days before the annual review so that a representative of the conservation division can be present.

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(d) The operator shall submit a written report summarizing the annual review to the conservation division within 30 days following the review.

(e) An extension of time to conduct the annual review may be granted by the director, upon a showing of good cause by the operator.

(f) Subsequent reviews of the safety plan may be required by the director if an emergency or a safety-related incident occurs.

(g) The safety plan shall be updated as changes in safety features at the storage facility occur or as the director may require for the protection of public health and safety. An updated copy of the safety plan shall be maintained with the conservation division and either at the storage facility or at the nearest operational office. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1110. Safety inspection.** (a) Each operator of a CO<sub>2</sub> storage facility shall perform an annual safety inspection of the storage field to ensure that all safety equipment and monitoring equipment are in working order.

(b) The operator shall notify the conservation division at least 10 days before each inspection so that a representative of the conservation division can be present to witness the inspection.

(c) An extension of time to conduct the annual safety inspection may be granted by the director upon a showing of good cause by the operator.

(d) The safety inspection shall demonstrate to the satisfaction of the conservation division's agent that all of the following conditions are met:

- (1) All CO<sub>2</sub> storage well manual valves are in normal operating condition.
- (2) All surface automatic shut-in safety valves are in normal operating condition.
- (3) Wellheads and all related equipment are connected and functioning.
- (4) All valves, annuli, and blow-downs open and close with reasonable ease.
- (5) The cathodic protection systems are functioning.
- (6) The warning signs are in compliance with these regulations.
- (7) All safety fences, barriers, and security equipment are adequate.

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(e) The operator shall file a written report consisting of the inspection procedures used and the results of the safety inspection with the conservation division within 30 days following the inspection. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-

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**K.A.R. 82-3-1111. Leak detector inspections and testing.** (a) Each leak detector required by K.A.R. 82-3-1107 shall be tested once each calendar year and, if defective, shall be repaired or replaced within 10 days.

(b) Each repaired or replaced detector shall be retested if required by the director.

(c) An extension of time for repair or replacement of a leak detector may be granted by the director upon a showing of good cause by the operator of the CO<sub>2</sub> storage facility.

(d) The operator shall maintain a record of each inspection, including the inspection results, for at least five years and shall make each record available to the conservation division upon request. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-  
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**K.A.R. 82-3-1112. Mechanical integrity testing.** (a) Each CO<sub>2</sub> storage well shall be completed, equipped, operated, and maintained in a manner that prevents pollution of usable water and confines the CO<sub>2</sub> in the tubing or casing and in the formations approved for storage.

(b) A CO<sub>2</sub> storage well shall be considered to have mechanical integrity if the well demonstrates both internal and external integrity.

(c) Internal integrity shall be demonstrated by a successful pressure test. The operator shall perform a successful pressure test on each CO<sub>2</sub> storage well before placing the storage well in operation and at least once every two years thereafter.

(d) The pressure test shall be conducted under the supervision of an employee of the operator of the CO<sub>2</sub> storage facility. The date of the test shall be mutually agreed to by the CO<sub>2</sub> storage facility operator and the conservation division. The test shall be conducted as follows:

(1) A minimum fluid pressure of 300 psig shall be applied to the tubing casing annulus at the surface for a period of 30 minutes. Internal mechanical integrity shall be demonstrated if the applied pressure does not decrease by more than 10 percent.

(2) The test results shall be verified by the CO<sub>2</sub> storage facility's representative.

(e) External integrity shall be demonstrated by cased hole logs. A minimum of a gamma ray, neutron, and temperature logs shall be run from 50 feet above the point of injection continuously to the surface. The use of an alternative log may be approved by the director upon written request.

(f) Each CO<sub>2</sub> storage well shall demonstrate external integrity at least once every four years.

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(g) If a CO<sub>2</sub> storage well fails to demonstrate mechanical integrity, the operator of the well shall, upon discovery, isolate each leak in a manner that contains CO<sub>2</sub> and associated fluids in the storage well or storage reservoir and demonstrates that the well does not pose a threat to public health and safety and usable water. The operator shall perform one of the following within 90 days:

- (1) Repair and retest the storage well to demonstrate mechanical integrity; or
- (2) plug the storage well according to K.A.R. 82-3-1118. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1113. Report of leak, potential leak, or loss of containment.** (a) Each operator of a CO<sub>2</sub> storage facility shall report each leak, each potential leak, and any pressure changes or other monitoring data that indicate a loss of containment of injected CO<sub>2</sub> or associated fluids.

The report shall be made orally to the appropriate conservation division district office and to the conservation division central office by the next business day following discovery. The oral report shall be confirmed in writing to the conservation division central office within three business days following the oral report.

(b) The operator shall submit a written summary of the cause or causes of each leak or loss of containment or the data indicating a potential leak or potential loss of containment to the conservation division central office within 10 days following the written report required in subsection (a). The summary shall also evaluate whether the situation poses a threat to public health and safety, usable water, or property.

(c) Within 30 days following the summary report required by subsection (b), the operator of the CO<sub>2</sub> storage facility shall submit an action plan to repair the leak or regain containment for the conservation division's review and approval. The action plan shall describe any corrective action, monitoring, or operational procedures that have been or will be taken.

(d) The installation of observation or monitoring wells may be required by the director to gain additional information about the leak or loss of containment.

(e) Additional reports may be required by the director until the leak or loss of containment is remediated. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1114. Temporary abandonment of storage wells.** (a) Within 90 days after a CO<sub>2</sub> storage well ceases operation, the operator of that well shall perform one of the following:

- (1) Plug the well in accordance with K.A.R. 82-3-1118; or
- (2) file an application with the conservation division requesting temporary abandonment, on a form provided by the conservation division.

(b) One of the following actions shall be taken by the director:

- (1) Approval of temporary abandonment of the storage well for one year; or
- (2) denial of temporary abandonment if the storage well poses a threat to public health and safety or usable water.

(c) Applications for one-year extensions of temporary abandonment may be granted by the director for a maximum of 10 years. Each application for extension of temporary abandonment shall be filed before the expiration of the previous one-year temporary abandonment period.

(d) Before a temporary abandonment or any extension is granted, a demonstration of the well's internal mechanical integrity may be required by the director by means of a pressure test according to K.A.R. 82-3-1112(d)(1).

(e) If a temporary abandonment application or any extension application is denied and the storage well is not placed back in service, the storage well shall be deemed permanently abandoned and shall be plugged in accordance with K.A.R. 82-3-1118. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1115. Temporary abandonment of a storage facility.** (a) Any operator of a CO<sub>2</sub> storage facility may temporarily abandon the storage facility upon submitting written notice to the conservation division. The notice shall be submitted to the conservation division at least 90 days before the temporary abandonment. The notice shall include the following:

- (1) The date on which the storage facility is to be temporarily abandoned;
- (2) the projected temporary abandonment period;
- (3) the monitoring procedures to be utilized at the facility during the temporary

abandonment period;

(4) the temporary abandonment applications for each CO<sub>2</sub> storage well filed according to K.A.R. 82-3-1114, except any CO<sub>2</sub> storage wells for which temporary abandonment has already been approved; and

(5) any other relevant information required by the conservation division.

(b) One of the following actions shall be taken by the director:

- (1) Approval of temporary abandonment of the storage facility for one year; or
- (2) denial of temporary abandonment if the storage facility poses a threat to public

health and safety or usable water.

(c) Applications for one-year extensions of temporary abandonment may be granted by the director for a maximum of 10 years. Each application for extension of temporary abandonment shall be filed before the expiration of the previous one-year temporary abandonment period. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective

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**K.A.R. 82-3-1116. Application for decommissioning and abandonment of storage facility.**

Any operator of a CO<sub>2</sub> storage facility may permanently decommission and abandon the storage facility upon application to, and approval from, the conservation division. The application shall be submitted at least 90 days before the beginning of decommissioning activities and shall contain a detailed decommissioning plan that includes the following:

- (a) The anticipated date on which the storage facility will cease injection and withdrawal;
- (b) the anticipated storage reservoir pressure after injection and withdrawal cease;
- (c) a schedule for abandoning the storage facility, including when and how all equipment and buildings will be abandoned and when the CO<sub>2</sub> storage wells will be plugged;
- (d) the name and address of persons responsible for any equipment and buildings to be left in place;
- (e) an updated closure plan as required by K.A.R. 82-3-1101;
- (f) the method of monitoring to demonstrate the containment, pressure, and position of the CO<sub>2</sub> plume during the closure period; and
- (g) any other relevant information that the director may require to ensure the protection of public health and safety and usable water, considering the unique conditions of the storage facility. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-

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**K.A.R. 82-3-1117. Postclosure determination.** (a) Each CO<sub>2</sub> storage facility operator seeking a postclosure determination shall submit an application to the conservation division.

(b) The CO<sub>2</sub> storage facility operator shall demonstrate that both of the following conditions are met before postclosure status may be granted:

(1) The CO<sub>2</sub> plume has stabilized, is contained within the storage reservoir, and is not a threat to public health and safety and usable water.

(2) The CO<sub>2</sub> storage reservoir pressure is stable.

(c) If the application is denied, the closure period activities shall continue as directed by the director.

(d) Upon written approval of postclosure status, the operator shall plug the remaining monitor wells in accordance with K.A.R. 82-3-1118. After the remaining monitor wells are plugged, the CO<sub>2</sub> storage facility permit shall be revoked, and any financial assurance instrument maintained by the operator shall be released. All future remediation or monitoring activities shall be performed by the state using funds from the commission's CO<sub>2</sub> remediation fund.

(Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1118. Plugging methods and procedures, plugging report, and plugging fee for**

**CO<sub>2</sub> storage wells.** (a) Each CO<sub>2</sub> storage well shall be plugged in accordance with a plugging plan submitted by the operator and approved by the director. Before commencing any plugging operations, the operator shall perform the following:

(1) Provide a written plugging plan to the appropriate conservation division district office and the conservation division central office at least 30 days before the planned commencement of plugging operations;

(2) demonstrate that each well to be plugged has internal and external mechanical integrity to ensure the long string casing and cement left in the subsurface after plugging have integrity; and

(3) complete one of the following operations:

(A) Set a mechanical bridge plug or other control device approved by the director immediately above the CO<sub>2</sub> storage reservoir or storage reservoirs; or

(B) place a cement plug across and above the CO<sub>2</sub> storage reservoir or storage reservoirs by a method approved by the appropriate conservation division district office.

(b) After each storage well is plugged, the operator shall meet the following requirements:

(1) File a plugging report in accordance with K.A.R. 82-3-117; and

(2) pay a plugging fee in accordance with K.A.R. 82-3-118. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1119. Fees for CO<sub>2</sub> storage facilities and CO<sub>2</sub> storage wells.** (a) For a storage facility permit application filed according to K.A.R. 82-3-1101, each applicant shall submit a fee of \$4,500. In addition, for each CO<sub>2</sub> storage well included in the permit application, the applicant shall submit a fee of \$100.

(b) For any application to amend a storage facility permit filed according to K.A.R. 82-3-1103, each applicant shall submit a fee of \$250.

(c) The operator shall pay an annual fee of \$1,000 for each active or inactive unplugged CO<sub>2</sub> storage well located within the boundary of the storage facility.

(1) The total annual well fee shall be based on the number of the operator's CO<sub>2</sub> storage wells in existence on the first day of November each year.

(2) The operator shall remit the total annual well fee in a single check to the conservation division, on or before the last day of January each year.

(d) The operator shall quarterly pay to the conservation division a fee of five cents per ton of CO<sub>2</sub> injected. The funds shall be held in the carbon dioxide injection well and underground storage fund to be used for the purposes specified in K.S.A. 55-1638(b), and amendments thereto.

(e) All fees shall be nonrefundable. (Authorized by and implementing K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

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**K.A.R. 82-3-1120. Penalties.** Monetary penalties in accordance with K.S.A. 55-1639 and amendments thereto may be assessed by the commission against any CO<sub>2</sub> storage facility operator violating any of the provisions of K.A.R. 82-3-1100 through K.A.R. 82-3-1119.

(Authorized by and implementing K.S.A. 2007 Supp. 55-1639; effective P-\_\_\_\_\_.)

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## ECONOMIC IMPACT STATEMENT

### I. Summary of Proposed Regulations, Including Its Purpose:

**K.A.R. 82-3-1100 through K.A.R. 82-3-1120 and K.A.R. 82-3-311a.** These regulations regulate the subsurface storage and sequestration of carbon dioxide (CO<sub>2</sub>). The regulations provide for permitting and ongoing monitoring of CO<sub>2</sub> storage projects. The regulations include criteria for site selection, well construction and testing, monitoring of the project, safety and public notification, financial assurance and closure and abandonment of the project.

The regulations apply to CO<sub>2</sub> storage and sequestration projects. They do not apply to CO<sub>2</sub> injection for enhanced oil recovery, which is regulated already under K.A.R. 82-3-400 through K.A.R. 82-3-412.

### II. Reason or Reasons the Proposed Regulation Is Required, Including Whether or Not the Regulation is Mandated by Federal Law:

Federal law does not mandate these proposed regulations. K.S.A. 55-1636 through K.S.A. 55-1640 directs the State Corporation Commission to adopt a comprehensive set of regulations governing the storage and sequestration of CO<sub>2</sub> in Kansas.

### III. Environmental Benefit Statement:

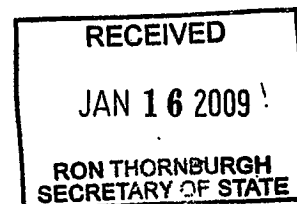
There will be a direct environmental benefit provided by these regulations. They will allow the safe subsurface storage and sequestration of CO<sub>2</sub> produced as a byproduct of energy generation, ethanol production and other manufacturing processes. Currently, the CO<sub>2</sub> produced is released into the atmosphere. The regulations will protect the fresh and usable water resources, the mineral resources of the State, and the public health and safety while allowing CO<sub>2</sub> to be stored and sequestered underground.

### IV. Anticipated Economic Impact:

There will be an economic impact to the industry and the agency.

The direct regulatory cost to industry is the \$4,500.00 application fee plus a fee of \$100.00 for each well included in the application, an annual fee of \$1,000.00 for each active or inactive unplugged CO<sub>2</sub> storage well and a per ton assessment of \$0.05 per ton on the CO<sub>2</sub> injected.

An example of the per ton assessment on CO<sub>2</sub> injected is the following: The CO<sub>2</sub> output from two 750 megawatt coal-fired electric generation plants is estimated at 10 million tons



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annually. If the total 10 million tons were injected for CO<sub>2</sub> storage, the annual assessment would be \$500,000. The agency anticipates that it will hold 60% of the per ton fee for possible post closure monitoring and remediation.

There would be other indirect regulatory costs such as preparation of the application for a permit, periodic testing of wells, ongoing monitoring of the project and reporting. These costs could be substantial but can't be accurately estimated.

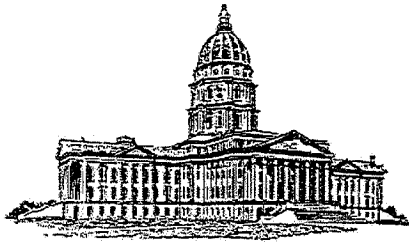
The agency's costs will increase depending on the number of projects that are initiated. If only one or two projects are initiated, current staff is probably adequate. However past that point, additional technical and support staff will be necessary depending on the number of CO<sub>2</sub> storage projects. Very complex projects may require contracting for outside expert assistance.

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OFFICE OF REVISOR OF STATUTES  
KANSAS LEGISLATURE

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Kansas Commission on  
Interstate Cooperation  
Kansas Statutes Annotated  
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Legislative Information System

October 28, 2009

**CARBON DIOXIDE REDUCTION ACT**

K.S.A. 2008 Supp. 55-1636 through 55-1640, 79-233 and 79-32,256

**55-1636. Carbon dioxide reduction act.** K.S.A. 2008 Supp. 55-1636 through 55-1640, 79-233 and 79-32,256, and amendments thereto, may be cited as the carbon dioxide reduction act.

**55-1637. Same; definitions; commission powers.**

(a) As used in K.S.A. 2008 Supp. 55-1637 through 55-1640, and amendments thereto:

(1) "Carbon dioxide injection well" means any hole or penetration of the surface of the earth used to inject carbon dioxide for underground storage or for enhanced recovery of hydrocarbons and any associated machinery and equipment used for such injection of carbon dioxide. "Carbon dioxide injection well" does not include underground storage.

(2) "Commission" means the state corporation commission.

(3) "Underground storage" means any underground formation where carbon dioxide is injected for sequestration.

(b) For the purposes of protecting the health, safety and property of the people of the state, and preventing escape of carbon dioxide into the atmosphere and pollution of soil and surface and subsurface water detrimental to public health or to plant, animal and aquatic life, the commission, on or before July 1, 2008, shall adopt separate and specific rules and regulations establishing requirements, procedures and standards for the safe and secure injection of carbon dioxide and maintenance of underground storage of carbon dioxide. Such rules and regulations shall include, but not be limited to:

(1) Site selection criteria;

(2) design and development criteria;

- (3) operation criteria;
- (4) casing requirements;
- (5) monitoring and measurement requirements;
- (6) safety requirements, including public notification;
- (7) closure and abandonment requirements, including the financial requirements of subsection (e); and
- (8) long-term monitoring.

(c) The commission may adopt rules and regulations establishing fees for permitting, monitoring and inspecting operators of carbon dioxide injection wells and underground storage. Fees collected by the commission under this subsection shall be remitted by the commission to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury and credit it to the carbon dioxide injection well and underground storage fund.

(d) The commission or the commission's duly authorized representative may impose on any holder of a permit issued pursuant to this section such requirements relating to inspecting, monitoring, investigating, recording and reporting as the commission or representative deems necessary to administer the provisions of this section and rules and regulations adopted hereunder.

(e) Any company or operator receiving a permit under the provisions of this act shall demonstrate annually to the commission evidence, satisfactory to the commission, that the permit holder has financial ability to cover the cost of closure of the permitted facility as required by the commission.

(f) The commission may enter into contracts for services from consultants and other experts for the purposes of assisting in the drafting of rules and regulations pursuant to this section.

(g) Rules and regulations adopted under this act shall apply to any carbon dioxide injection well or underground storage, whether in existence on the effective date of this act or thereafter.

**55-1638. Same; carbon dioxide injection well and underground storage fund.**

(a) (1) There is hereby established in the state treasury the carbon dioxide injection well and

underground storage fund to administer the provisions of K.S.A. 2008 Supp. 55-1637 through 55-1640, and amendments thereto. Such fund shall be administered by the commission in accordance with the provisions of this section.

(2) The commission shall remit to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto, all moneys received by the commission for the purposes of K.S.A. 2008 Supp. 55-1637 through 55-1640, and amendments thereto. Upon receipt of the remittance the state treasurer shall deposit the entire amount in the state treasury and credit it to the fund. The commission is authorized to receive from any private or governmental source any funds made available for the purposes of K.S.A. 2008 Supp. 55-1637 through 55-1640, and amendments thereto.

(3) All expenditures from the carbon dioxide injection well and underground storage fund shall be made in accordance with appropriation acts and upon warrants of the director of accounts and reports issued pursuant to vouchers approved by the chairperson of the commission or a person designated by the chairperson.

(b) The commission is authorized to use moneys from the carbon dioxide injection well and underground storage fund to pay the cost of:

- (1) All activities related to permitting activities, including but not limited to, development and issuance of permits, compliance monitoring, inspections, well closures, underground storage closure, long-term monitoring and enforcement actions;
- (2) review and witnessing of test procedures;
- (3) review and witnessing of routine workover or repair procedures;
- (4) investigation of violations, complaints, pollution and events affecting public health;
- (5) design and review of remedial action plans;
- (6) contracting for services needed to supplement the commission's staff expertise in facility investigations;
- (7) consultation needed concerning remedial action at a permitted facility;
- (8) mitigation of adverse environmental impacts;
- (9) emergency or long-term remedial activities;
- (10) legal costs, including expert witnesses, incurred in administration of the provisions

of K.S.A. 2008 Supp. 55-1637 through 55-1640, and amendments thereto; and

(11) costs of program administration.

(c) On or before the 10th of each month, the director of accounts and reports shall transfer from the state general fund to the carbon dioxide injection well and underground storage fund interest earnings based on:

(1) The average daily balance of moneys in the carbon dioxide injection well and underground storage fund for the preceding month; and

(2) the net earnings rate of the pooled money investment portfolio for the preceding months.

**55-1639. Same; Violations, penalties; commission authority.**

(a) The commission, upon a finding that a person has violated any provision of K.S.A. 2008 Supp. 55-1637, and amendments thereto, or rules and regulations adopted thereunder, may impose a penalty not to exceed \$10,000 per violation which shall constitute an economic deterrent to the violation for which it is assessed and, in the case of a continuing violation, every day such violation continues shall be deemed a separate violation.

(b) No penalty shall be imposed pursuant to this section except after an opportunity for hearing upon the written order of the commission to the person who committed the violation. The order shall state the violation and the penalty to be imposed.

(c) Whenever the commission or the commission's duly authorized agents find that the escape of carbon dioxide into the atmosphere from injection of carbon dioxide is not being prevented or that the soil or waters of the state are not being protected from pollution resulting from injection of carbon dioxide, the commission or the commission's duly authorized agents shall issue an order prohibiting such injection. Any person aggrieved by such order may request in writing, within 15 days after service of the order, a hearing on the order. Upon receipt of a timely request, a hearing shall be conducted in accordance with the provisions of the Kansas administrative procedure act.

(d) Any action of the commission pursuant to this section is subject to review in accordance with the act for judicial review and civil enforcement of agency actions.

**55-1640. Same; commission ingress and egress for investigation and enforcement.**



(a) In performing investigations or administrative functions relating to prevention of escape of carbon dioxide into the atmosphere from injection of carbon dioxide or prevention of pollution of the soil or waters of the state, the commission or the commission's duly authorized representatives may enter any property or facility which is subject to the provisions of K.S.A. 2008 Supp. 55-1637, and amendments thereto, for the purpose of observing, monitoring, collecting samples, examining records and facilities to determine compliance or noncompliance with state laws and rules and regulations relating to air pollution, water pollution, soil pollution or public health or safety.

(b) The representatives of the commission shall have the right of ingress and egress upon any lands to halt escape of carbon dioxide into the atmosphere from injection of carbon dioxide and to clean up pollution from injection of carbon dioxide over which the commission has jurisdiction pursuant to K.S.A. 2008 Supp. 55-1637, and amendments thereto. Such representatives shall have the power to occupy such land if necessary to investigate and prevent such escape or clean up such pollution or to investigate and plug any such carbon dioxide injection well. Any representative entering upon any land to investigate and prevent such escape or clean up such pollution or to investigate and plug any such carbon dioxide injection well shall not be liable for any damages necessarily resulting therefrom, except damages to growing crops, livestock or improvements on the land. Upon completion of activities on such land, such representative shall restore the premises to the original contour and condition as nearly as practicable.

**79-233. Property exempt from taxation; carbon dioxide capture, sequestration or utilization property.**

(a) The following described property, to the extent herein specified, shall be exempt from all property taxes levied under the laws of the state of Kansas: Any carbon dioxide capture, sequestration or utilization property; and any electric generation unit which captures and sequesters all carbon dioxide and other emissions.

(b) The provisions of subsection (a) shall apply from and after purchase or commencement of construction or installation of such property and for the five taxable years immediately following the taxable year in which construction or installation of such property is completed.

(c) The provisions of this section shall apply to all taxable years commencing after December 31, 2007.

(d) As used in this section, "carbon dioxide capture, sequestration or utilization property" means:

(1) Any machinery and equipment used to capture carbon dioxide from industrial and other anthropogenic sources or to convert such carbon dioxide into one or more products;

(2) any carbon dioxide injection well, as defined in K.S.A. 2008 Supp. 55-1637, and amendments thereto; and

(3) any machinery and equipment used to recover carbon dioxide from sequestration.

**79-32,256. Carbon dioxide capture, sequestration or utilization machinery or equipment; accelerated depreciation, deduction.**

(a) A taxpayer shall be entitled to a deduction from Kansas adjusted gross income with respect to the amortization of the amortizable costs of carbon dioxide capture, sequestration or utilization machinery and equipment based upon a period of 10 years. Such amortization deduction shall be an amount equal to 55% of the amortizable costs of such machinery and equipment for the first taxable year in which such machinery and equipment are in operation and 5% of the amortizable costs of such machinery and equipment for each of the next nine taxable years.

(b) The election of the taxpayer to claim the deduction allowed by subsection (a) shall be made by filing a statement of such election with the secretary of revenue in the manner and form and within the time prescribed by rules and regulations adopted by the secretary.

(c) The provisions of this section shall apply to all taxable years commencing after December 31, 2007.

(d) The secretary of revenue shall adopt such rules and regulations as deemed necessary to carry out the provisions of this section.

(e) As used in this section, "carbon dioxide capture, sequestration or utilization machinery and equipment" means any machinery and equipment which is located in this state and is: (1) Used to capture carbon dioxide from industrial and other anthropogenic sources, or to convert such carbon dioxide into one or more products; (2) used to inject carbon dioxide into a carbon dioxide injection well, as defined in K.S.A. 2008 Supp. 55-1637, and amendments thereto; or (3) used to recover carbon dioxide from sequestration.

## PROPOSED BILL NO. \_\_\_\_\_

By Joint Committee on Administrative Rules and Regulations

AN ACT concerning the carbon dioxide reduction act; pertaining to liability of the state of Kansas; pertaining to rules and regulations; amending K.S.A. 2009 Supp. 55-1636 and 55-1637 and repealing the existing sections.

*Be it enacted by the Legislature of the State of Kansas:*

New Section 1. (a) Except as permitted by the Kansas tort claims act, no provision of this act shall establish or create or impose upon the commission, any agent or employee thereof, or the state of Kansas any liability or responsibility to pay any damages resulting from the leak or discharge of carbon dioxide from any carbon dioxide injection well or the underground storage of carbon dioxide.

(b) This section shall be supplemental to and a part of the carbon dioxide reduction act.

Sec. 2. K.S.A. 2009 Supp. 55-1636 is hereby amended to read as follows: 55-1636. K.S.A. 2009 Supp. 55-1636 through 55-1640, section 1, 79-233 and 79-32,256, and amendments thereto, may be cited as the carbon dioxide reduction act.

Sec. 3. K.S.A. 2009 Supp. 55-1637 is hereby amended to read as follows: 55-1637. (a) As used in K.S.A. 2009 Supp. 55-1637 through 55-1640, and amendments thereto:

(1) "Carbon dioxide injection well" means any hole or penetration of the surface of the earth used to inject carbon dioxide for underground storage or for enhanced recovery of hydrocarbons and any associated machinery and equipment used for such injection of carbon dioxide. "Carbon dioxide injection well" does not include underground storage.

(2) "Commission" means the state corporation commission.

Joint Committee on Energy and  
Environmental Policy  
Date 28 OCT 2009  
Attachment # 13

(3) "Underground storage" means any underground formation where carbon dioxide is injected for sequestration.

(b) Except as provided in subsection (h), for the purposes of protecting the health, safety and property of the people of the state, and preventing escape of carbon dioxide into the atmosphere and pollution of soil and surface and subsurface water detrimental to public health or to plant, animal and aquatic life, the commission, on or before July 1, 2008, shall adopt separate and specific rules and regulations establishing requirements, procedures and standards for the safe and secure injection of carbon dioxide and maintenance of underground storage of carbon dioxide. Such rules and regulations shall include, but not be limited to: (1) Site selection criteria; (2) design and development criteria; (3) operation criteria; (4) casing requirements; (5) monitoring and measurement requirements; (6) safety requirements, including public notification; (7) closure and abandonment requirements, including the financial requirements of subsection (e); and (8) long-term monitoring.

(c) Except as provided in subsection (h), the commission may adopt rules and regulations establishing fees for permitting, monitoring and inspecting operators of carbon dioxide injection wells and underground storage. Fees collected by the commission under this subsection shall be remitted by the commission to the state treasurer in accordance with the provisions of K.S.A. 75-4215, and amendments thereto. Upon receipt of each such remittance, the state treasurer shall deposit the entire amount in the state treasury and credit it to the carbon dioxide injection well and underground storage fund.

(d) The commission or the commission's duly authorized representative may impose on any holder of a permit issued pursuant to this section such requirements relating to inspecting, monitoring, investigating, recording and reporting as the commission or representative deems

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necessary to administer the provisions of this section and rules and regulations adopted hereunder.

(e) Any company or operator receiving a permit under the provisions of this act shall demonstrate annually to the commission evidence, satisfactory to the commission, that the permit holder has financial ability to cover the cost of closure of the permitted facility as required by the commission.

(f) The commission may enter into contracts for services from consultants and other experts for the purposes of assisting in the drafting of rules and regulations pursuant to this section.

(g) Rules and regulations adopted under this act shall apply to any carbon dioxide injection well or underground storage, whether in existence on the effective date of this act or thereafter.

(h) No rule and regulation adopted under the provisions of this section shall create or impose upon the commission, any agent or employee thereof or the state of Kansas any liability for the underground storage of carbon dioxide or the maintenance of any carbon dioxide injection well or underground storage of carbon dioxide except as permitted by the Kansas tort claims act. From and after July 1, 2010, any requirement in any rule and regulation adopted by the commission which conflicts with the prohibition prescribed in this section shall be null and void.

Sec. 4. K.S.A. 2009 Supp. 55-1636 and 55-1637 are hereby repealed.

Sec. 5. This act shall take effect and be in force from and after its publication in the statute book.



Mark Parkinson, Governor  
Thomas E. Wright, Chairman  
Michael C. Moffet, Commissioner  
Joseph F. Harkins, Commissioner

Mr. Carl Holmes, Chairman  
Joint Committee on Administrative Rules and Regulations  
P.O. Box 2288  
Liberal, KS 67901

October 13, 2009

Dear Chairman Holmes,

In response to the request of the 2007 Legislature in HB2419, the KCC has drafted Rules and Regulations on Carbon Sequestration. The steps taken in developing these guidelines have been thorough. When the final form has received the required administrative approvals and the KCC has conducted appropriate public hearings, KCC Commissioners will make their final review and vote.

The KCC began the process in the summer of 2007 with a group composed of KCC Staff, KDHE Staff, KGS Staff, EPA Region 7 Staff and Industry. The working group met almost every two weeks drafting the CO<sub>2</sub> regulations. At the same time, the group was tracking EPA CO<sub>2</sub> regulation proposals and the concerns in other states regarding CO<sub>2</sub> storage.

On May 9, 2008, the KCC staff made the initial submittal of the regulations to the D of A. That complete draft received final approval from the D of A on August 29, 2008, following approval of parts of the regulations on July 10, August 6 and August 7, 2008. The D of A then submitted all the regulations to the AG's office for review. On January 9, 2009, the AG's office approved the submitted draft of Regulations in its entirety,

On January 22, 2009, the regulations and notice of the public hearing were published in the Kansas Register. The Public Hearing was scheduled for March 26, 2009.

On February 13, 2009, the Joint Committee on Administrative Rules & Regulations held a hearing. The KCC received a letter from the Kansas Legislative Research Department with comments from the Joint Committee on February 20, 2009.

Following the March 26 public hearing, the KCC staff suggested changes and the regulations were submitted to the Commissioners on April 16, 2009. The Commissioners held Open Meetings to discuss the regulations on July 15, September 28 and October 2.

On October 2, 2009, the Commissioners approved staff's changes and, considering that concerns had been expressed in the February 20 letter regarding provisions relating to post-closure

liability, and in light of our understanding that the interim committee was going to consider legislation addressing this issue, the Commissioners decided to amend K.A.R. 82-3-1117 to eliminate the State assumption of post-closure responsibility. Following the Commission's decision on October 2, Staff submitted the approved changes to the Department of Administration (D of A) for approval on October 7. The KCC anticipates the approval by the D of A and the Attorney General's (AG) office by October 23.

Staff believes the modification regarding post-closure liability is a significant change in the regulation that triggers the need for another public hearing. The KCC can publish notice of the public hearing on October 29 or November 5, 2009 and could hold the public hearing after January 5, 2010. Following the public hearing, the Commissioners can vote on the regulations.

As indicated above, the Commission is also aware that the Committee is considering legislation to address post-closure liability. With respect to the newly proposed legislation, KCC staff has indicated concerns regarding the effect of language in the current draft on the Commission's authority to remedy a post closure emergency in a case in which there is no viable operator. We would welcome the opportunity for them to discuss this matter with you.

The KCC looks forward to working with you as this process is completed.

Sincerely,

Thomas Wright, Chairman  
Kansas Corporation Commission

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**K.A.R. 82-3-1117. Postclosure determination.** (a) Each CO<sub>2</sub> storage facility operator seeking a postclosure determination shall submit an application to the conservation division.

(b) The CO<sub>2</sub> storage facility operator shall demonstrate that both of the following conditions are met before postclosure status may be granted:

(1) The CO<sub>2</sub> plume has stabilized, is contained within the storage reservoir, and is not a threat to public health and safety and usable water.

(2) The CO<sub>2</sub> storage reservoir pressure is stable.

(c) If the application is denied, the closure period activities shall continue as directed by the director.

(d) Upon written approval of postclosure status, the operator shall plug the remaining monitor wells in accordance with K.A.R. 82-3-1118. After the remaining monitor wells are

plugged, the CO<sub>2</sub> storage facility permit shall be revoked, (Authorized by and implementing

K.S.A. 2007 Supp. 55-1637; effective P-\_\_\_\_\_.)

**Deleted:** , and any financial assurance instrument maintained by the operator shall be released. All future remediation or monitoring activities shall be performed by the state using funds from the commission's CO<sub>2</sub> remediation fund.



# Review of CO<sub>2</sub> Sequestration Issues – New Research in Kansas

Saibal Bhattacharya & W. Lynn Watney  
Kansas Geological Survey  
Lawrence, KS 66047  
[lwatney@kgs.ku.edu](mailto:lwatney@kgs.ku.edu)

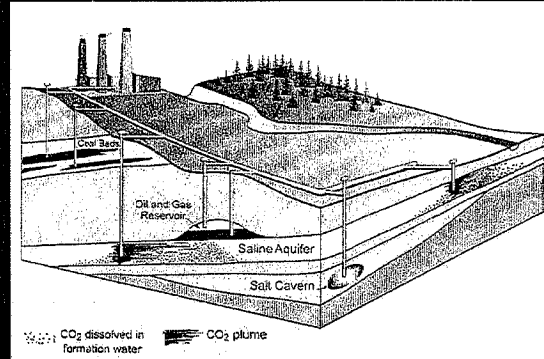
Joint Session Energy Environmental Policy Committees  
Kansas Legislature  
October 28, 2009



## CO<sub>2</sub> Sequestration Update

- Introduction – Geologic CO<sub>2</sub> sequestration
- Potential of CO<sub>2</sub> sequestration in KS
- CO<sub>2</sub> Sequestration studies at KGS
- Subsurface fate of injected CO<sub>2</sub>
  - Risk Analysis – Model leakage scenarios
- World wide field trials/applications of CO<sub>2</sub> sequestration
  - Sleipner, Frio, Weyburn, *In Salah*
- Implementation - CO<sub>2</sub> sequestration projects

## Geologic Sequestration of CO<sub>2</sub>



Bachu, 2003

| Formation Type              | 10 <sup>9</sup> Metric Tons |              |
|-----------------------------|-----------------------------|--------------|
| Saline Aquifers             | 3,297 – 12,618              | 91.8 – 97.5  |
| Unmineable Coal Seams       | 157 – 178                   | 4.4 – 1.4    |
| Mature Oil & Gas Reservoirs | 138                         | 3.8 – 1.1    |
| <b>Total Capacity</b>       | <b>3,592 – 12,934</b>       | <b>100.0</b> |

DOE &amp; NETL, "Carbon Sequestration Atlas of the US and Canada", 2008

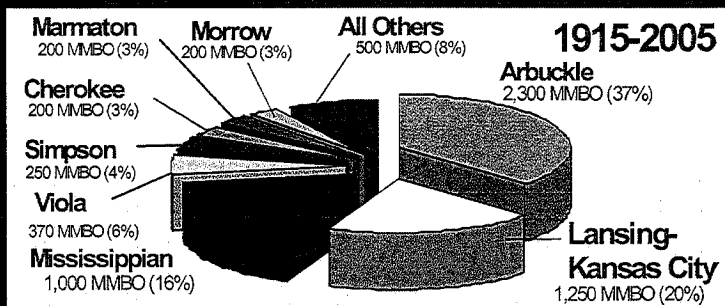
## Kansas Geological Survey's Role - CO<sub>2</sub> Sequestration

- Identify target geologic horizons
- Estimate tonnage of CO<sub>2</sub> that can be sequestered
- Study confinement of injected CO<sub>2</sub>
- Evaluate risks related to CO<sub>2</sub> leakage
- Model long term fate of injected CO<sub>2</sub>
- Technology support and transfer to industry
  - Short list targets
    - Depleted oil fields, coal beds, and saline aquifers
  - Develop public databases
    - Data mining facility and tools
  - Provide technology support to industry

## Importance of CO<sub>2</sub> Sequestration - Kansas

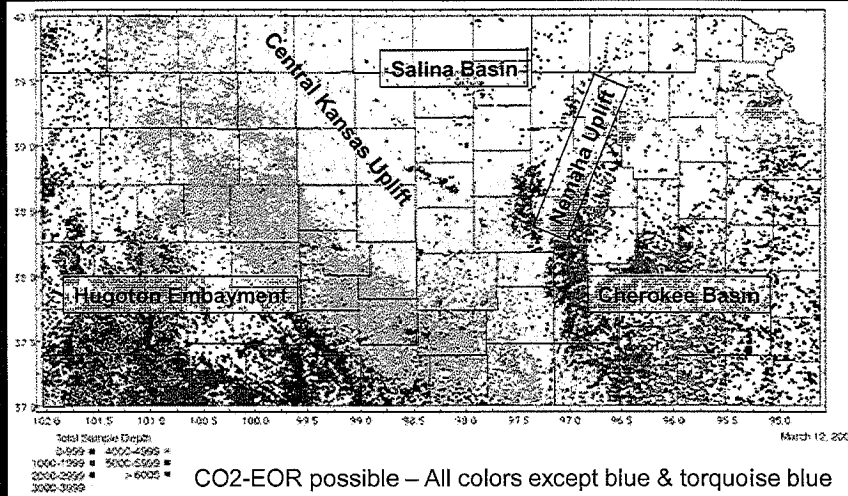
- Coal-fired power plants to produce for years
- Concerted DOE effort to develop carbon capture and storage (CCS) infrastructure
- Initiatives of the *Midwestern Governors Association*
- CO<sub>2</sub>-EOR – proven & reliable technology
  - Applicable in many depleted and depleting fields in Kansas
- CO<sub>2</sub> sequestration in saline aquifers - potential to become a significant economic enterprise in Kansas
  - Thick and deep saline aquifer underlie many regions of Kansas
- Multi-layer thin and unmineable coal beds in eastern Kansas
- Kansas centrally located to major CO<sub>2</sub> emitting states and cities

## CO<sub>2</sub>-EOR Potential in Kansas



- 6.3 billion barrels crude oil produced (from ~11 billion bbls originally in place)
- CO<sub>2</sub>-EOR could recover substantial incremental oil
  - 10% of primary and secondary recovery (technically feasible) ~600 MMBO
  - Recovery depends on field readiness, infrastructure, and access to CO<sub>2</sub>
- Independent Oil and Gas companies are a primary stakeholder for CCS in Kansas

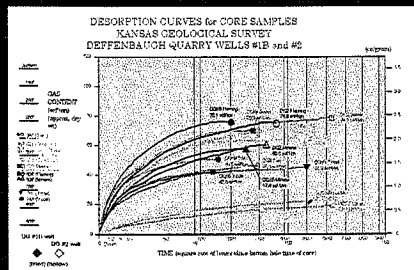
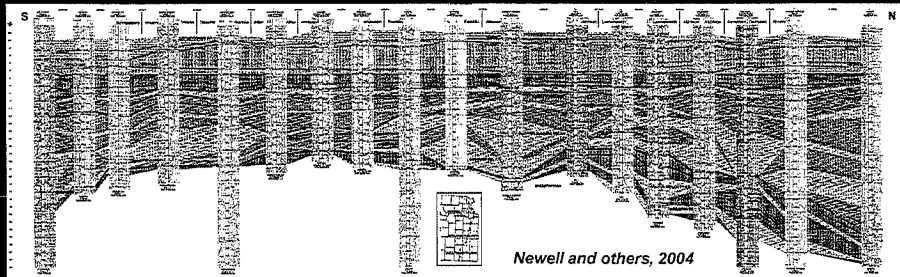
## Widespread Applicability of CO<sub>2</sub>-EOR



### Minimum Miscibility Pressure

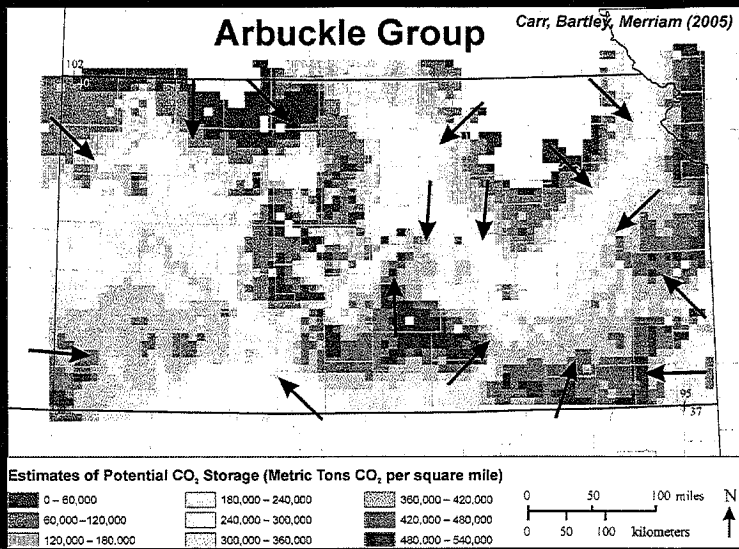
\* LKC oil @ Hall-Gurney = 1230 psi \* Arbuckle @ Bemis-Shutts ~ 1400 psi

## Potential for CO<sub>2</sub> Sequestration - ECBM



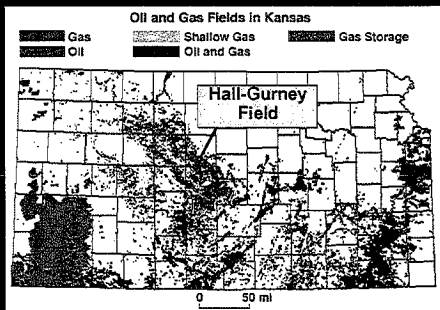
Multiple thin unmineable coal beds in Eastern KS  
Beds contain modest amount of methane  
Depleted coal beds can be used for CO<sub>2</sub> sequestration and some methane production

## Potential for CO<sub>2</sub> Sequestration in Saline Aquifers

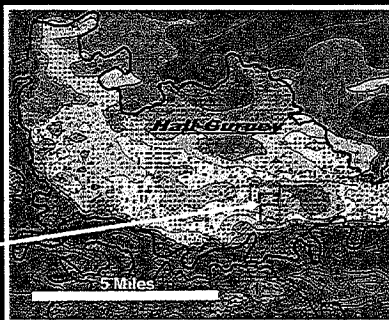


– Sequestration (solubility) capacity 540,000 metric tons/mi<sup>2</sup>

## KGS Project - CO<sub>2</sub>-EOR Pilot Hall-Gurney Field (Russell)

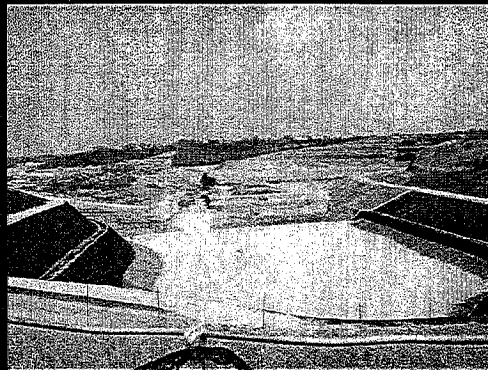


8000 tons CO<sub>2</sub> Injected – Dec 03 to Jun 05  
231,000 bbls water Injected – since 2005  
22,000 bbls oil produced  
6.4 MCF/bbl



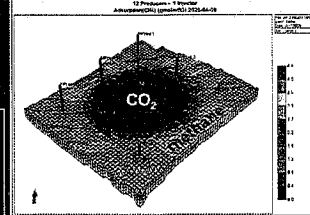
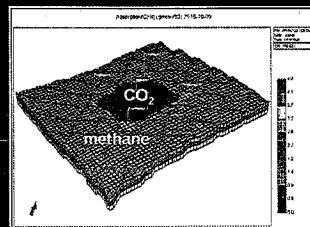
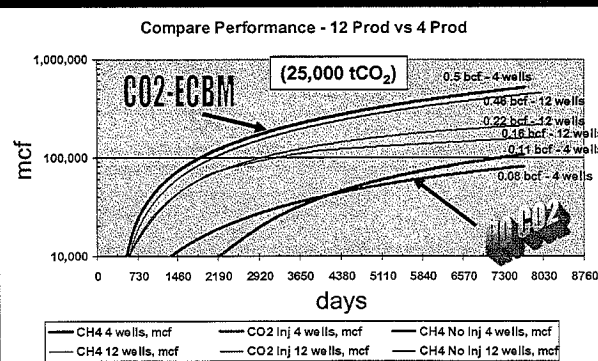
CO<sub>2</sub> Pilot Study Area (~80 acres)

## KGS Study - CO<sub>2</sub> Sequestration & ECBM Johnson County Landfill



Modeled CO<sub>2</sub> sequestration and ECBM in Bevier, Fleming, and Mineral coal beds.

## KGS Study - CO<sub>2</sub> Sequestration & ECBM Johnson County Landfill

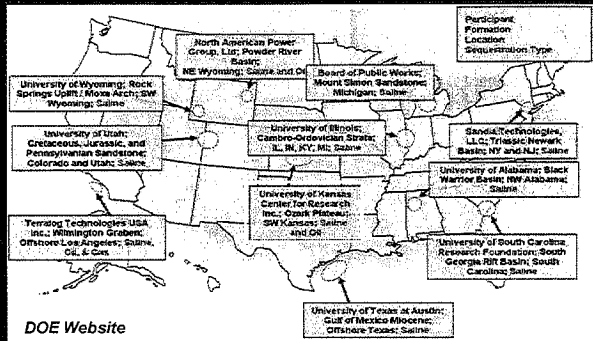


Based on the performance of 1 central Injector and 4 far-off producers (2489 ft) located on 640 acres, it is estimated that between 0.14 to 0.18 mmcf of ECBM can be recovered per acre while sequestering between 0.5 to 0.64 mmcf (roughly 17 tons) of CO<sub>2</sub> per acre.

Bhattacharya, et al. (2008)

## Newly Funded KGS Project CO<sub>2</sub> Sequestration in Saline Aquifer & Depleted Oil Field

*“Modeling CO<sub>2</sub> sequestration in saline aquifer and depleted oil reservoir to evaluate regional CO<sub>2</sub> sequestration potential of non-potable Ozark Plateau Aquifer system, south-central Kansas”*

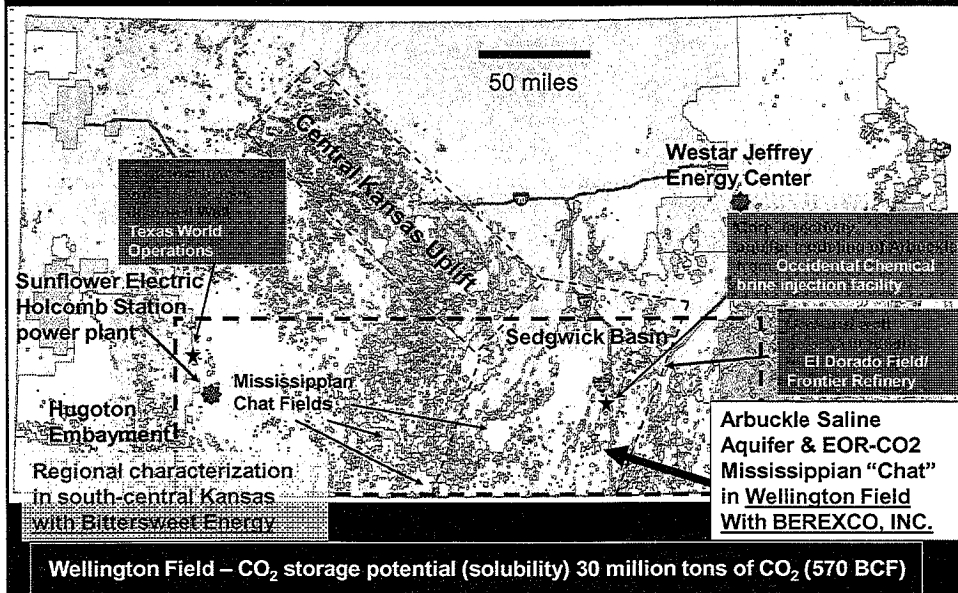


DOE share: \$4,974,352  
 Recipient share: \$1,251,422  
 Duration: 36 months  
 Start Date: ~12-01-09

**KGS scientists Dr. Lynn Watney and Saibal Bhattacharya will lead the project**

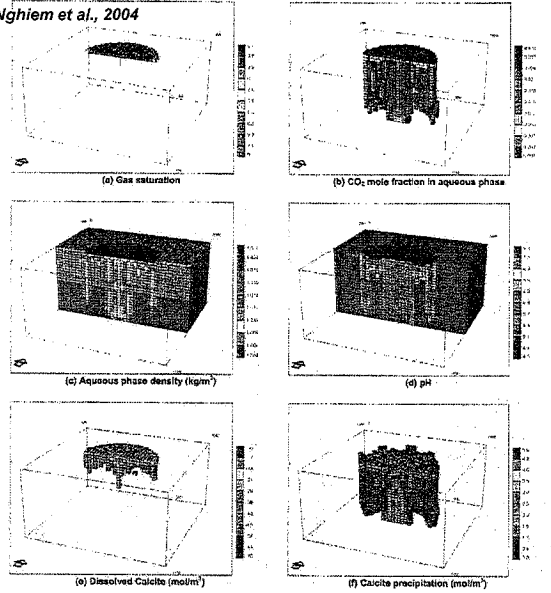
(part of American Recovery & Reinvestment Act)

## Newly Funded KGS Project Wellington Field & 17 County Study Area



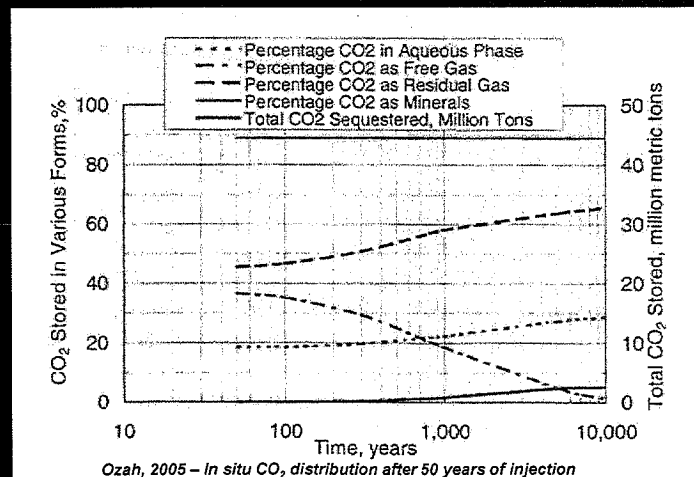
## Near-term Fate of Injected CO<sub>2</sub> – Saline Aquifer

Nghiem et al., 2004



1. Free-phase CO<sub>2</sub> rises to the top (under cap rock) and accumulates under pressure – seal integrity
2. As CO<sub>2</sub> bubble rises, brine flows downwards as a countercurrent – imbibition traps CO<sub>2</sub> as residual gas saturation
3. CO<sub>2</sub> dissolves in brine - pH decreases & brine density increases
4. Dense CO<sub>2</sub>-saturated brine sinks - fresh brine moves up and dissolve additional CO<sub>2</sub>
5. Mineralization occurs due to pH changes

## Long-term Fate of Injected CO<sub>2</sub> – Saline Aquifer



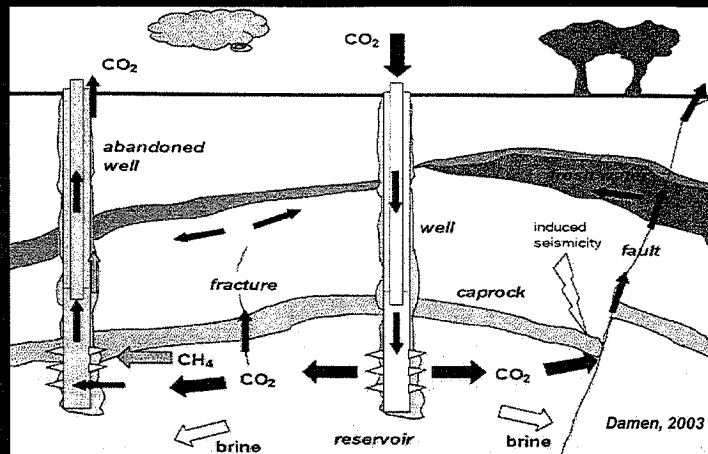
Ozah, 2005 – In situ CO<sub>2</sub> distribution after 50 years of injection

Majority of injected CO<sub>2</sub> gets trapped as residual gas saturation followed by CO<sub>2</sub> in brine solution.

CO<sub>2</sub> mineralization is a slow process (requires cations as Ca<sup>2+</sup>, Mg<sup>2+</sup>, Fe<sup>2+</sup> etc.)

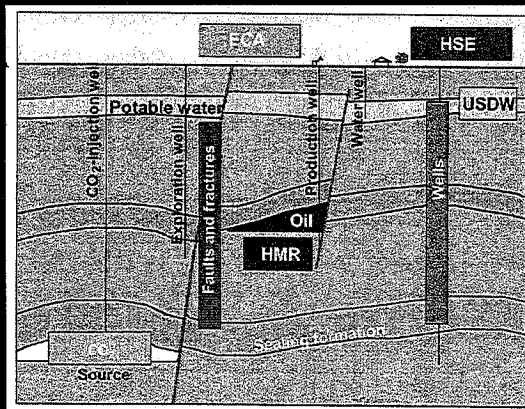


### Risk Analysis – Leakage pathways



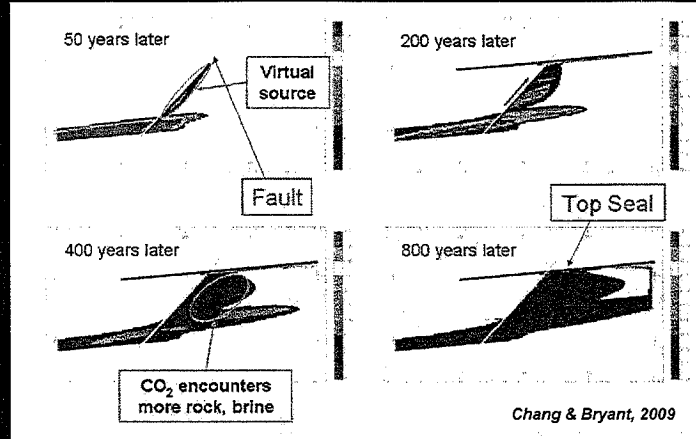
$CO_2$  Leakage Risk = Leakage Probability \* Leakage Impact (Kumar 2008)  
 Leakage Probability reduced by robust site characterization.  
 Leakage Impact – typically lower in less populated areas

### Risk Analysis – Leakage pathways



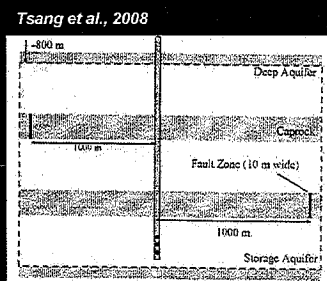
Well inventory in and around injection site important – particularly in oil & gas production areas.

### Risk Analysis Plume Intersects Inclined Conductive Fault

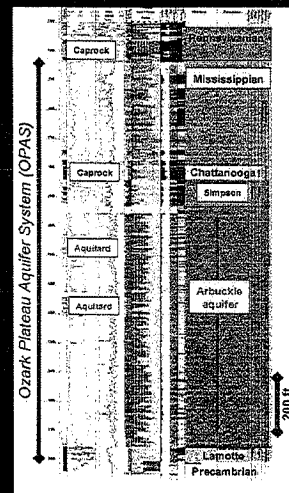
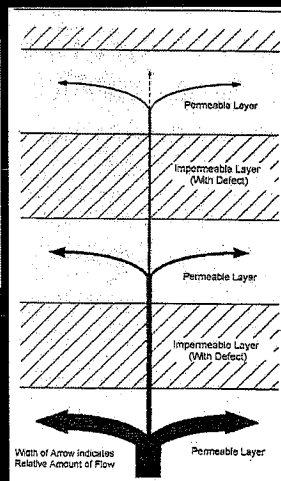


CO<sub>2</sub> leaks into fault and accumulates below top seal (cap rock).  
 However, faults also creates a virtual source for updip CO<sub>2</sub> migration.  
 New migration attenuates leakage and results additional saturation trapping.

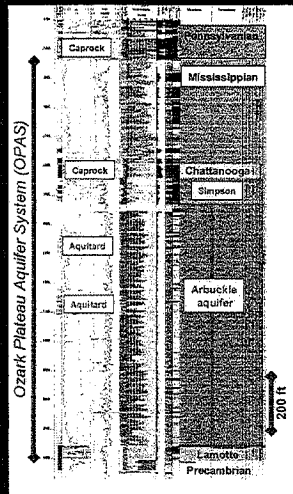
### Risk Analysis Leakage Retardation – Multiple Cap Rock & Aquitards



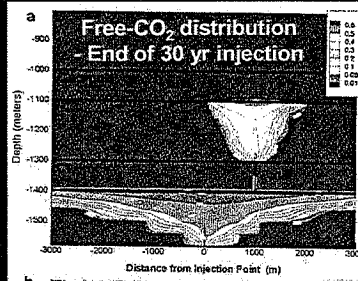
Pressure reduction and increased trapping as residual gas saturation as plume travels through successive cap rocks or aquitards.



## Risk Analysis Leakage Retardation – Multiple Cap Rock & Aquitards

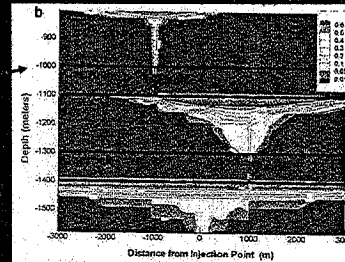


Watney & Bhattacharya, 2009



Tsang et al., 2008

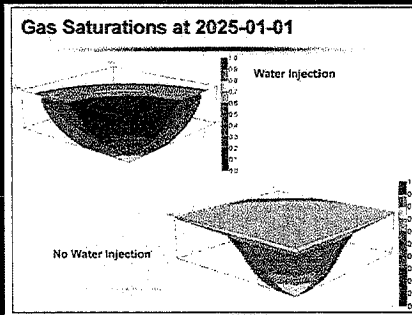
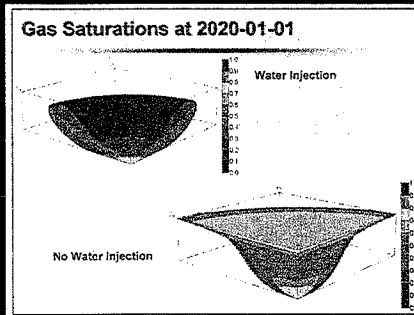
Free phase CO<sub>2</sub> accumulation is under pressure as long as CO<sub>2</sub> injection takes place. After injection stops its pressure equilibrates to hydrostatic



Free phase CO<sub>2</sub> distribution - 500 yrs after end of injection

Tsang et al., 2008

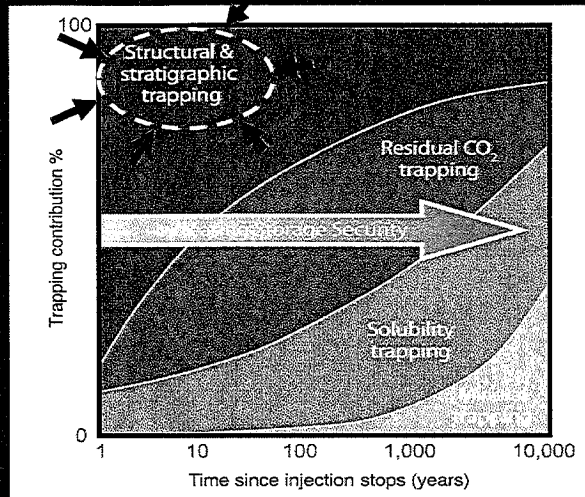
## Risk Reduction – Simultaneous Brine Injection



From CMG

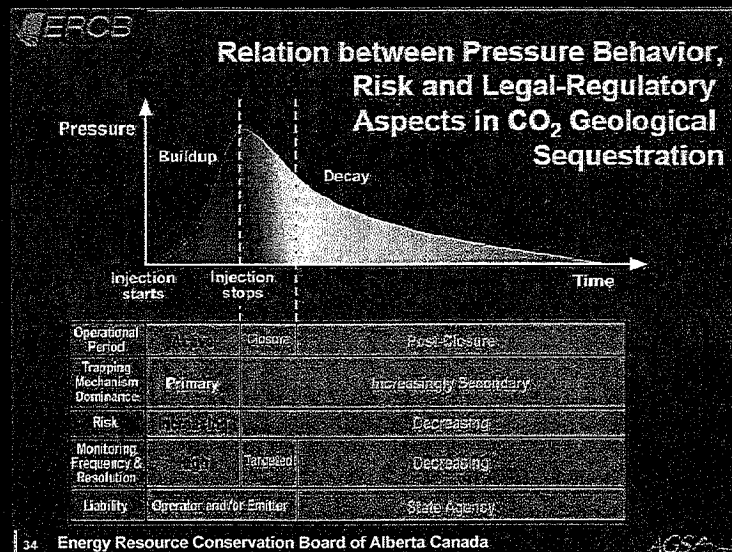
Simultaneous brine injection from upper zone while CO<sub>2</sub> is injected from lower zone in the aquifer results in increased CO<sub>2</sub> trapping as residual saturation thus reducing free phase CO<sub>2</sub> accumulation beneath the cap rock.

## Risk Analysis – Primary vs. Secondary Trapping



From IPCC Special Report on carbon dioxide capture and storage

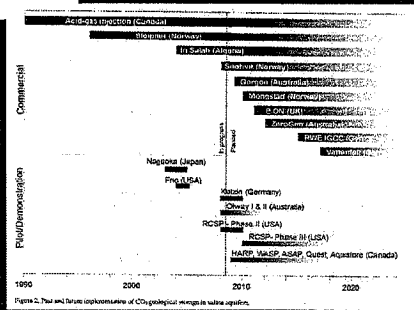
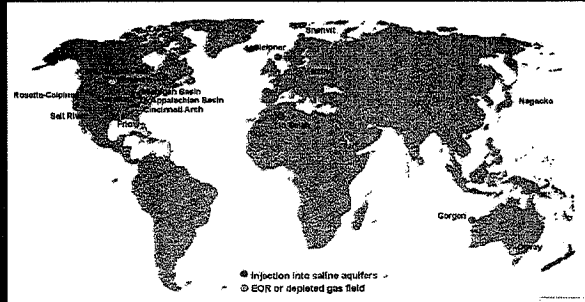
## Risk Analysis – Pressure Decay after Injection



34 Energy Resource Conservation Board of Alberta Canada

AGSA

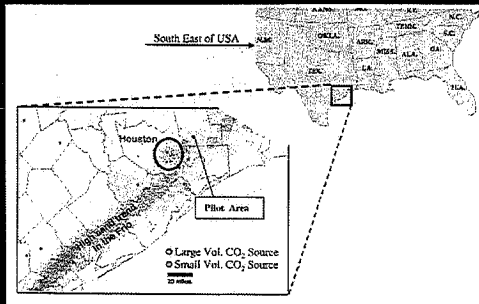
## CO<sub>2</sub> Sequestration Projects – Deep Saline Aquifers



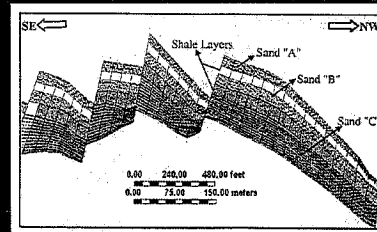
Michael et al., 2009

## Frio Pilot Injection - Texas

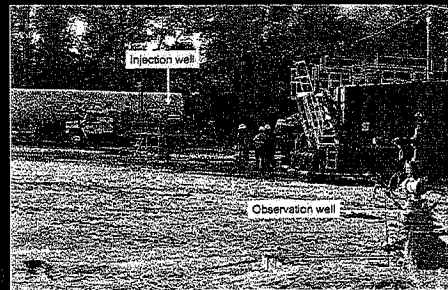
Hovorka et al., 2006



Hovorka et al., 2006

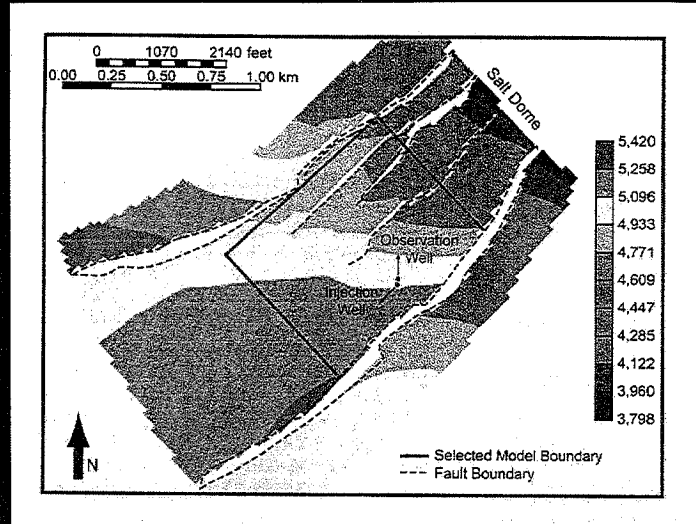


Sand A, B, C with interbedded shale - Frio Formation



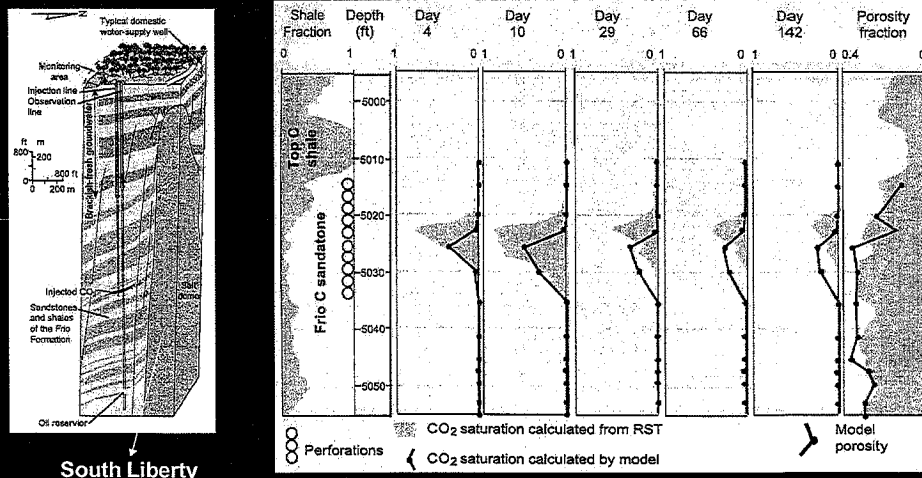
Meckel, 2008

### Frio Pilot Injection - Texas



Hovorka et al., 2006

### Frio Pilot Injection - Texas

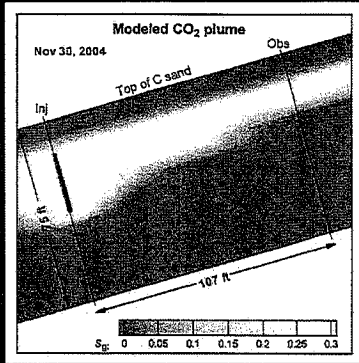


Current tools (geologic modeling, reservoir simulation, wireline logging, 3D seismic) are capable of tracking subsurface CO<sub>2</sub> migration.

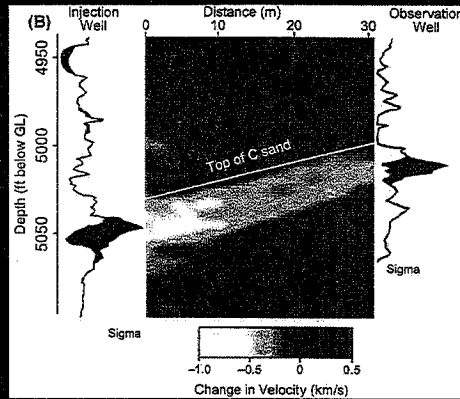
Hovorka et al., 2006

## Frio Pilot Injection - Texas

Plume from Simulation



Plume from cross-well seismic tomogram



Current tools (geologic modeling, reservoir simulation, wireline logging, 3D seismic) are capable of tracking subsurface CO<sub>2</sub> migration.

Hovorka et al., 2006

## Sleipner Vest Field - CO<sub>2</sub> Disposal (North Sea)

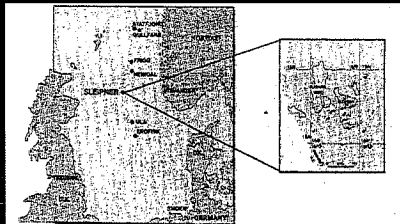
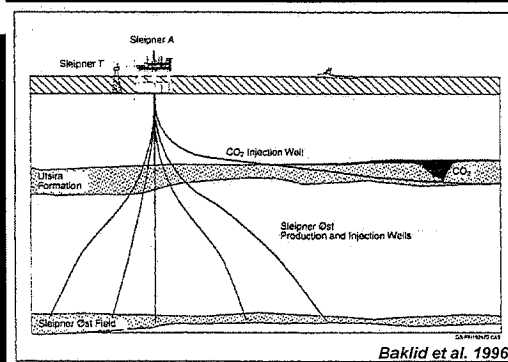


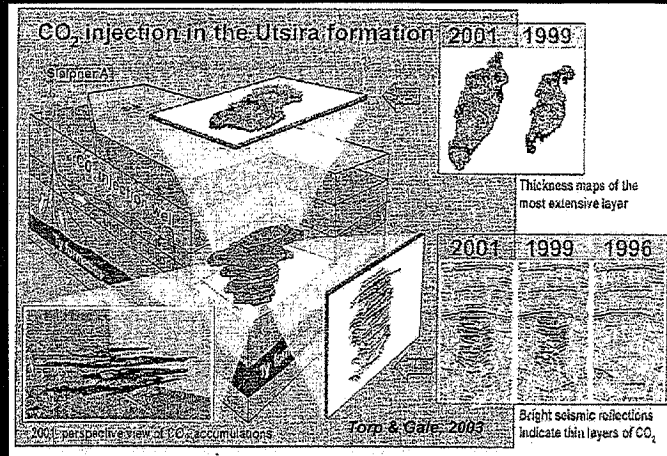
FIGURE 1. Map of North Sea, including Sleipner Field.

Kongsjorden et al. 1997



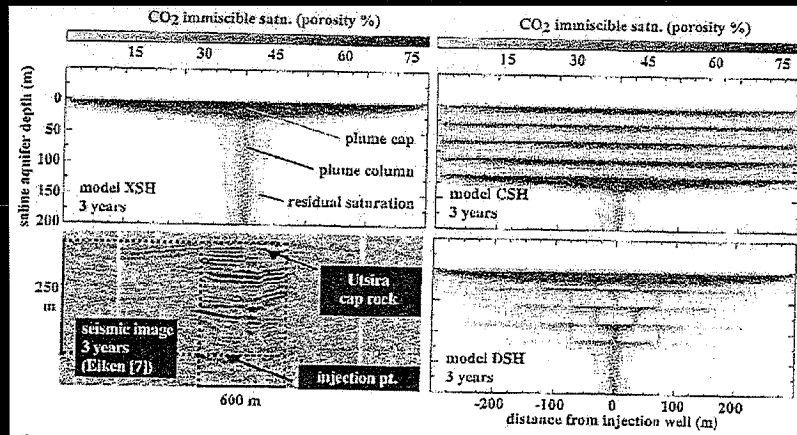
Baklid et al. 1996

## Sleipner Vest Field - CO<sub>2</sub> Disposal (North Sea)



Thin shale layers radically affect CO<sub>2</sub> distribution. CO<sub>2</sub> migrated laterally for 100s of meters beneath intra-reservoir shales. In the long term, this dissemination of CO<sub>2</sub> throughout will cause more efficient dissolution of CO<sub>2</sub> and effectively increase the reservoir storage capacity.

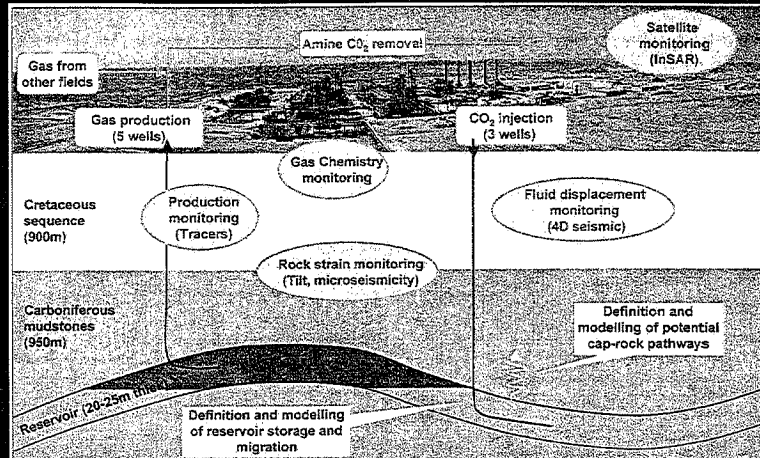
## Sleipner Vest Field - CO<sub>2</sub> Disposal (North Sea)



Simulated and observed plume configuration after 3 yrs of injection. Comparison indicates varying levels of success of different simulation tools in matching observed results.



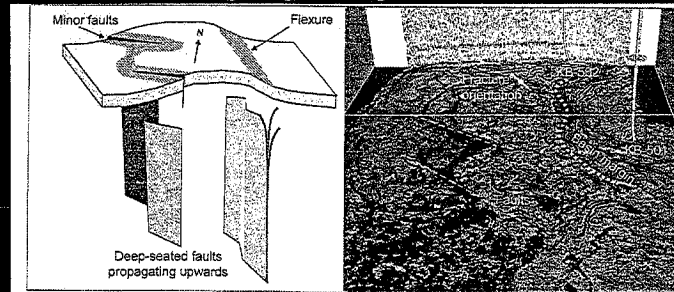
## In Salah CO<sub>2</sub> Injection - Algeria



Ringrose et al. (2009)

## In Salah CO<sub>2</sub> Injection - Algeria

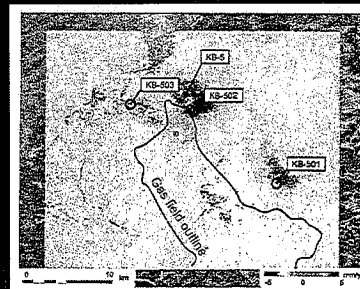
Structural geologic setting - from seismic data



Satellite imagery (PSInVar velocity map) – enabled mapping of subsurface plume along fracture direction.

Injection wells: KB-502, KB-501, KB-503

CO<sub>2</sub> breakthrough detected at KB-5 well (tracer analysis)



Ringrose et al. (2009)

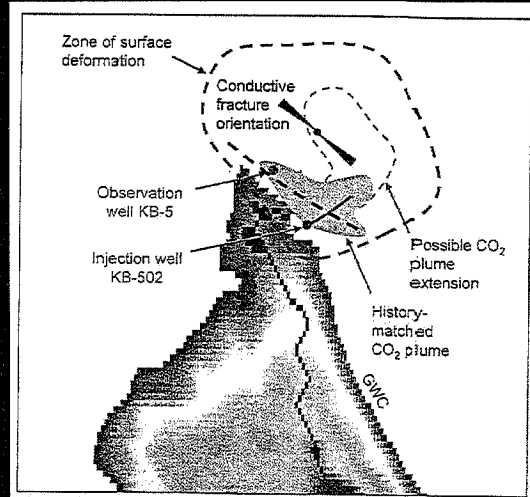
## In Salah CO<sub>2</sub> Injection - Algeria

Plume has migrated 1.3 km from KB-502 to KB-5 within 2 yrs.

Enhanced plume migration in this direction - consistent with conductive fracture orientation (identified from image log, and geologic and rock mechanical models).

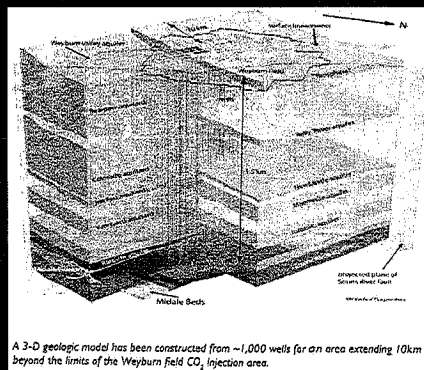
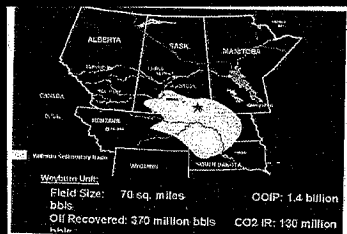
Reservoir simulation – a high permeability streak required for history matching and it coincides with a subtle fault.

Surface deformation – suggests possible plume extension.



Ringrose et al. (2009)

## Weyburn CO<sub>2</sub> Storage - Canada



A 3-D geologic model has been constructed from ~1,000 wells for an area extending 10km beyond the limits of the Weyburn Field CO<sub>2</sub> Injection area.

DOE 2008

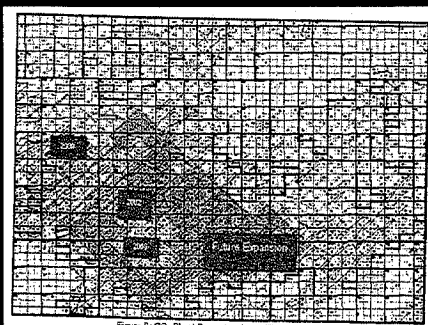
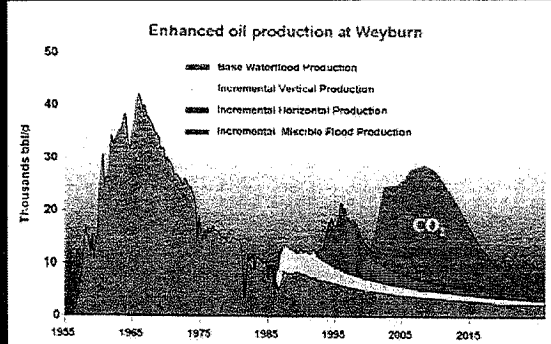


Figure 6: CO<sub>2</sub> Flood Expansion Areas (Weyburn Time)

CO<sub>2</sub> Flood Phased Expansion

IEA GHG Weyburn Summary Report 2000-04

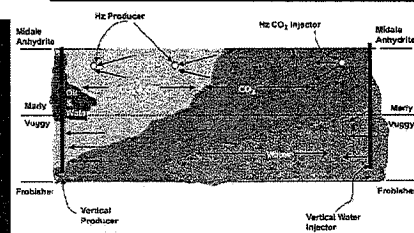
## Weyburn CO<sub>2</sub> Storage - Canada



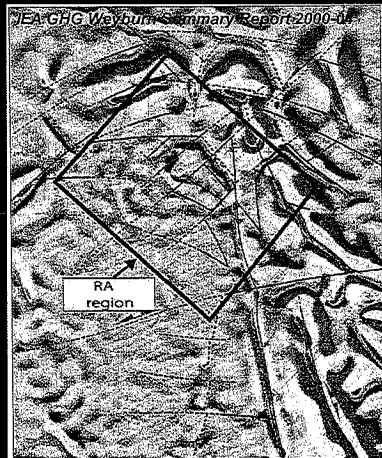
Cohen, 2005

CO<sub>2</sub> injection started in 2000.  
CO<sub>2</sub>-EOR was used to extend field life and recover "stranded" oil.

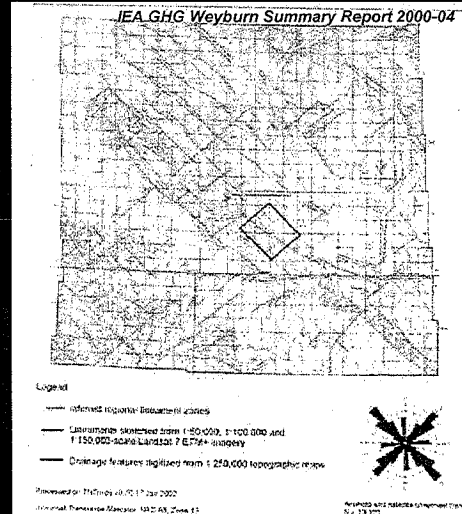
### CO<sub>2</sub>-EOR Schematic



## Weyburn CO<sub>2</sub> Storage - Canada

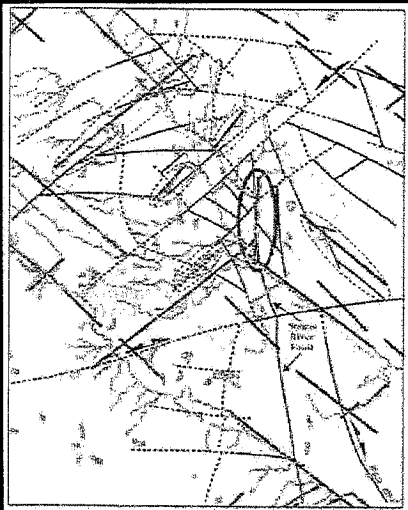


Fault/Fracture network in vicinity of Risk Assessment area. Solid lines – faults identified from seismic. Broken lines – features from HRAM interpretation.



Location of surficial lineaments and lineament zones identified from Landsat 7 imagery analysis.

## Weyburn CO<sub>2</sub> Storage - Canada



Map showing relation between seismically and magnetically identified faults and fractures zones and surface lineament zones around the Risk Assessment area.

Solid Green – fault trends from seismic & HRAM

Broken Green – trends from HRAM

Purple – surface lineaments

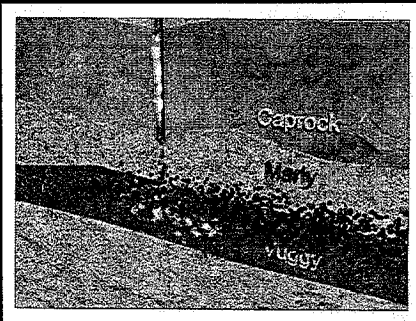
Red oval – Souris Valley fault (fault identified by seismic and HRAM coincide)

Broken Red – weak correlations between data sets

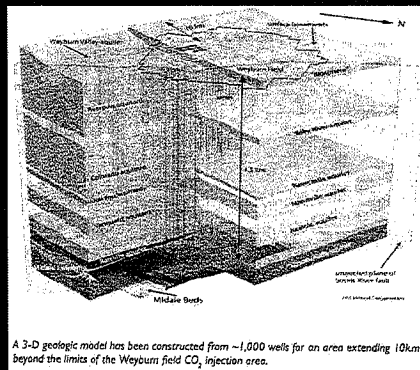
IEA GHG Weyburn Summary Report 2000-04

Surface lineaments often do not coincide with sub-surface faults/fractures

## Weyburn CO<sub>2</sub> Storage - Canada



DOE 2008



A 3-D geologic model has been constructed from ~1,000 wells for an area extending 10km beyond the limits of the Weyburn field CO<sub>2</sub> injection area.

Roughly 30% of CO<sub>2</sub> returns to the surface along with the produced oil.

CO<sub>2</sub> is separated from the produced oil and reinjected.

Current studies indicate that the impervious cap rock is capable of securing CO<sub>2</sub> underground in the Marly and Vuggy layers.

## Implementation of CO<sub>2</sub> Sequestration Projects

- Site Selection
- Detailed technical due-diligence studies
- Pilot project – fine-tune and validate model
- Commercial scale – develop in phases
- Robust monitoring and compliance

  
**KANSAS**  
CORPORATION COMMISSION

*Mark Parkinson, Governor  
Thomas E. Wright, Chairman  
Michael C. Moffet, Commissioner  
Joseph F. Harkins, Commissioner*

October 28, 2009

Senator Carolyn McGinn, Chair  
Representative Carl Dean Holmes, Vice Chair  
Joint Committee on Energy and  
Environmental Policy  
Kansas Legislature  
c/o Kansas Legislative Research Department  
Statehouse, Room 010-W  
Topeka, Kansas 66612

Dear Senator McGinn and Representative Holmes:

The Kansas Corporation Commission's (KCC) presentation before the Joint Committee on Energy and Environmental Policy on September 30, 2009 raised a few questions by the members which the KCC wishes to answer and provide additional information.

The KCC is providing information on the requirements of the ARRA, energy auditor training and timeframes to become qualified, energy auditor scholarship program, Efficiency Kansas loan program, website for the Efficiency Kansas program manual, and the website for stimulus fund programs in Kansas.

Included are the following attachments:

- Attachment 1—Synopsis of the American Reinvestment and Recovery Act of 2009 requirements which must be met by the State Energy Office to receive ARRA funds.
- Attachment 2—Energy Auditor Scholarships program
- Attachment 3—Efficiency Kansas program
- Attachment 4—Efficiency Kansas Partner Banks
- Attachment 5—Energy Efficiency Building Codes Working Group, Including Governor's Assurance to Secretary Steven Chu, U.S. Department of Energy

The Efficiency Kansas Program Manual can be found at:

<http://www.energycanada.com/pdf/EfficiencyKansasProgramManual.pdf>

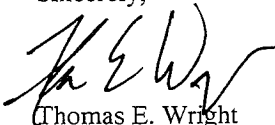
This document will be updated regularly. The official and most current version will always be available at this address.

Additionally, the committee asked for the website that listed all the KCC's ARRA projects:

<http://kcc.ks.gov/energy/arra.htm>

We hope the committee finds this information useful for a better understanding, and in your deliberations, regarding the American Recovery and Reinvestment Act of 2009 (ARRA).

Sincerely,



Thomas E. Wright  
Chairman

Joint Committee on Energy and  
Environmental Policy

Date 28 OCT 2009

Attachment # 16

## **ARRA Requirements**

As a condition of receiving ARRA funds, the State Energy Office must meet certain federal requirements. Below is a description of these requirements.

### **Energy-Efficiency Building Codes**

Below is the language from the American Recovery and Reinvestment Act of 2009 (ARRA) regarding energy-efficiency building codes:

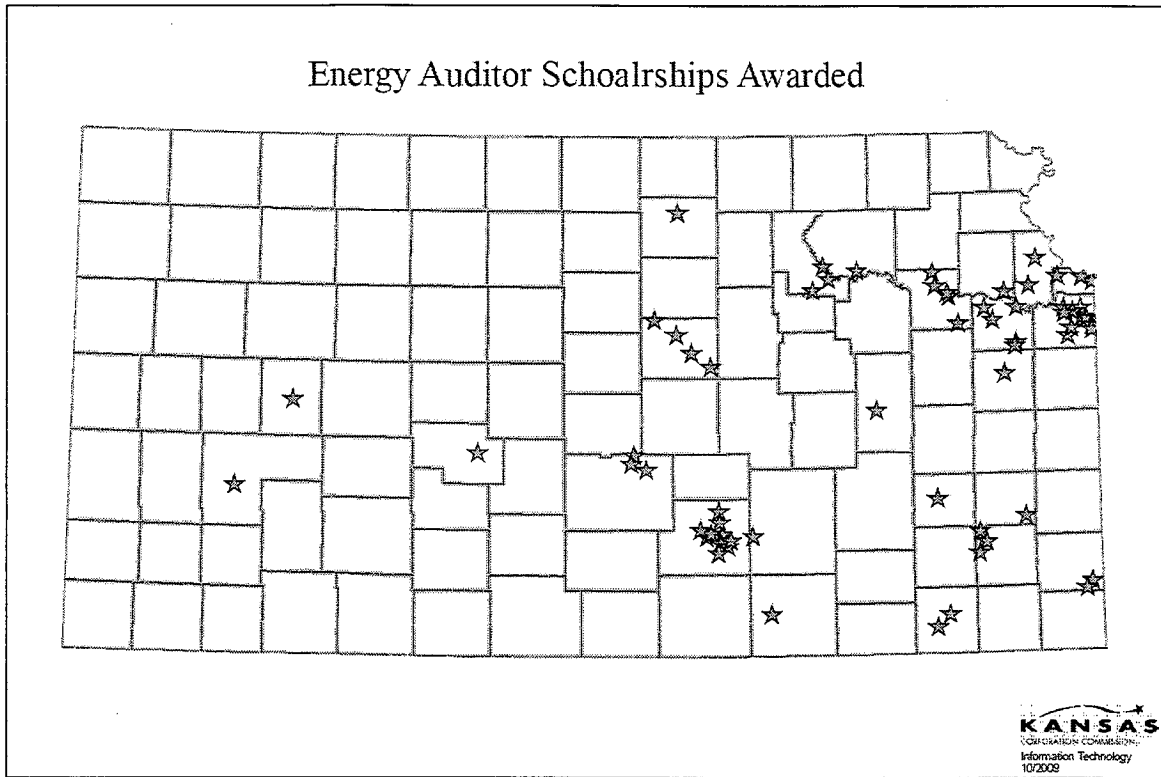
The state building code authority (or local building code authorities) will adopt a building code that achieves energy savings equivalent to the latest IECC (Residential) and ANSI/ASHRAE/IESNA 90.1-2007 (Commercial) and a plan to achieve compliance; a plan is developed for the jurisdiction achieving compliance to do so within 8 years of the date of enactment in at least 90 percent of new or renovated residential and commercial building space.

### **Davis-Bacon and Related Acts (DBRA)**

All ARRA-funded projects are subject to DBRA prevailing wage requirements. DBRA requires that contractors pay the prevailing wage, as established by the U.S. Department of Labor, for all contracts in excess of \$2,000. The State Energy Office has worked with the U.S. Department of Energy and the U.S. Department of Labor to ensure compliance with DBRA requirements.

### **National Environmental Protection Act (NEPA)**

Projects using ARRA funding must also meet the NEPA requirements. NEPA requires certain projects to undergo environmental assessments of the impact of the project. The State Energy Office received a Categorical Exclusion from the NEPA requirements for all funds in the State Energy Program portion of ARRA funds, including the Efficiency Kansas loan program. The Energy Office has set aside funds from the Energy Efficiency and Conservation Block Grant (EECBG) to fund the necessary environmental assessments.



The State Energy Office has received a total of 226 applications, and awarded 63 scholarships.

Of the 63 scholarships awarded:

22% have indicated they will work in the western 1/3 of the state

64% will work in the middle 1/3 of the state

84% will work in the eastern 1/3 of the state

Training at the three institutions takes approximately 5-7 days in the classroom. Students are required to complete audits on their own to be reviewed by the training institution, and may be required to complete an in-field examination with instructors. This process could take an additional 4-6 weeks.



## Efficiency Kansas: How it Works

### Step One: The Energy Audit

1. Customer selects from the list of Efficiency Kansas qualified auditors
2. Customer is responsible for paying auditor
  - Audit cost can be rolled into loan
  - First 1,000 participants eligible for \$350 energy audit rebate
3. Auditor provides customer with Energy Conservation Plan, including forms for the customer to provide contractors

### Step Two: Selecting Contractors

1. Customer submits specifications to contractor for bids
  - Customers should seek final bids from contractors
  - Total amount approved for financing is based on these bids. Any costs in excess of the approved amount are the customer's responsibility
2. Customer submits Energy Conservation Plan and signed forms from contractor(s) to partner lender or utility, with final pricing from contractor(s)

### Step Three: Approval

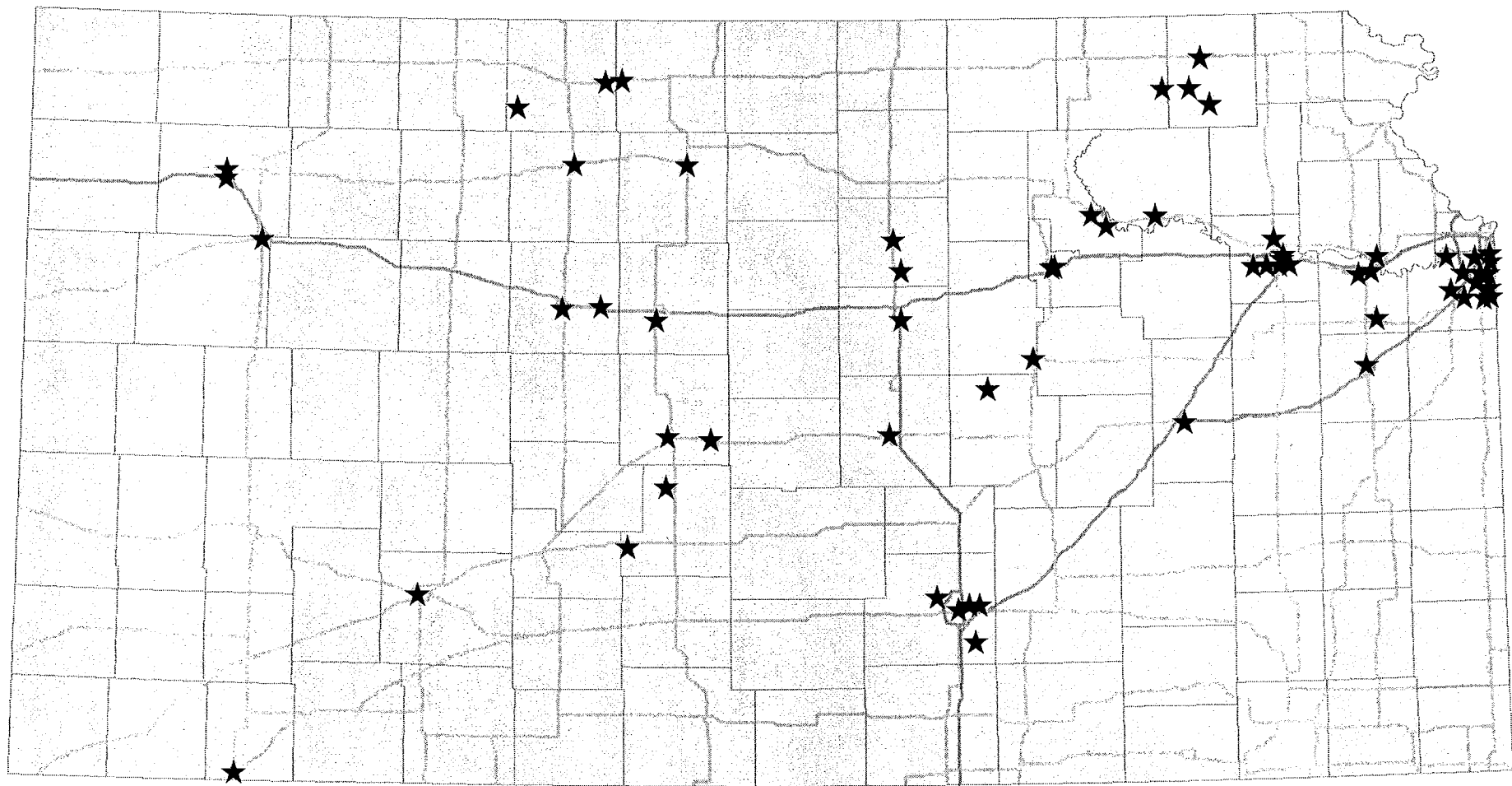
1. Lender or utility submits Energy Conservation Plan to the State Energy Office for review and approval
2. For projects to be approved, the estimated savings must cover the costs of the improvements over the lifetime of the loan
3. State Energy Office notifies partner lender or utility of approval and they finalize financing arrangements with customer

### Step Four: Implementation

1. Customer contacts contractors and work begins
2. Energy auditor conducts post-audit when all the work is completed
  - Customer and auditor sign Certificate of Project Completion and submit to partner lender or utility to be forwarded to the State Energy Office

# Partner Banks - Efficiency Kansas

16-9



Attachment 4

- |  |   |                                  |
|--|---|----------------------------------|
| Bennington State Bank                                  | Kansas State Bank Ottawa & Baldwin City | Tampa State Bank                 |
| Capitol Federal Savings                                | Mid America Bank in Baldwin City        | The Baldwin State Bank           |
| Farmers & Merchants Bank of Colby                      | Sunflower Bank                          | The Farmers State Bank of Oakley |
| First National Bank and Trust Company of Junction City | St. John National Bank                  |                                  |

16-5

## Energy Efficiency Building Codes Working Group

Overview prepared by KCC staff, October 20, 2009

### THE ISSUE

As a requirement for receiving Department of Energy funding, authorized through the American Recovery and Reinvestment Act of 2009 (ARRA), Kansas and other states provided assurances that the State would make progress on several initiatives, including adoption of energy efficiency building codes. The requirements are as follows:

- The state building code authority (or local building code authorities) will adopt a building code that achieves energy savings equivalent to the latest IECC (Residential) and ANSI/ASHRAE/IESNA 90.1-2007 (Commercial) and a plan to achieve compliance;
- A plan is developed for the jurisdiction achieving compliance to do so within 8 years of the date of enactment in at least 90 percent of new or renovated residential and commercial building space.

### GOVERNOR'S ASSURANCE

The State of Kansas, through the Office of the Governor, made the following assurances to Secretary Chu, in a letter dated February 24, 2009:

“As a condition of Kansas receiving its share of \$3.1 billion of funding for the State Energy Program (SEP) under the American Recovery and Reinvestment Act of 2009 (H.R. 1) (ARRA), I am providing the following assurances:

- I have written to our public utility commission and requested that they consider additional actions to promote energy efficiency, consistent with the federal statutory language contained in H.R. 1 and their obligation to maintain just and reasonable rates, while protecting the public.
- I have also written the state legislature and requested that they consider action to improve building energy codes and to consider the statutory language contained in ARRA.”

Copies of the Governor's letters are included in Appendix A.

### WORKING GROUP PURPOSE

To ensure timely progress towards the development of energy efficiency building codes throughout the state, the Kansas Corporation Commission (KCC) established the **Energy Efficiency Building Codes Working Group** in May 2009. The Working Group, made up of county and municipal building codes experts from across the state, will develop a plan for Kansas to achieve compliance with the ARRA requirements within 8 years; they will present this plan, along with any recommendations, to the 2011 legislature. The Working Group will receive

input from an **Advisory Group**, made up of building industry stakeholders (including but not limited to representatives of homebuilders, manufactured housing builders, and realtors). The participation of the Advisory Group will ensure that the perspective of the building industry is fully incorporated in the process.

### CURRENT STATUS OF ENERGY EFFICIENCY BUILDING CODES IN KANSAS

Currently, Kansas does not have any laws establishing energy efficiency standards for residential structures. Two statutes address energy efficiency in new and existing buildings. The first, K.S.A. 66-1227 (see Appendix B), adopts the 2006 version of the International Energy Conservation Code (IECC 2006) as the applicable standard for new commercial and industrial structures. The statute makes no provision for enforcement, nor is it clear whether the statewide standard supersedes locally adopted standards.

The second, K.S.A. 66-1228 (Appendix C), requires that the person building or selling a previously unoccupied new residential structure disclose specific information related to the energy efficiency of the structure in a timely and easy to understand manner (single family or multifamily unit of four units or less). "For new residential structures that are completed and suitable for occupancy, but unsold, the completed disclosure form shall be made available to the buyer or a prospective buyer by the builder or seller when the residence is shown and at any other time upon request" (see Kansas Energy Efficiency Disclosure Form, Attachment D).

In 2007, Kansas Energy Council staff surveyed the 25 Cities of the First Class in Kansas to determine the extent to which energy efficiency building codes had been adopted in Kansas (see Appendix E). A summary of the results of the survey were included in the *Kansas Energy Plan 2008*, as follows:

Statewide, a number of municipalities have adopted ordinances addressing, to varying degrees, energy efficiency and conservation in residential structures. According to results of a 2007 KEC staff survey of the 25 cities of the first class, most of the state's larger cities have adopted some version of the International Residential Code (IRC) or the International Building Code (IBC). Specifically, Lawrence has adopted the 2006 IECC; Overland Park, Manhattan, and Prairie Village have adopted the 2006 IRC/IBC standards, which are equivalent to the 2006 IECC; Topeka, Great Bend, and Wichita have adopted the 2006 IRC/IBC (without the energy efficiency requirements); Junction City, Kansas City, Newton, Pittsburg, and Shawnee have adopted the 2003 IRC/IBC (with Kansas City also adopting the 2003 IECC); Salina, Lenexa, Garden City, and Dodge City have adopted the 2003 IRC/IBC (without the energy efficiency requirements); Leawood has adopted the 2000 IRC/IBC; Liberal and Parsons have adopted the 1997 UBC. Atchison, Emporia, Fort Scott, Hutchison, Leavenworth, and Olathe have not adopted any residential energy efficiency codes, though some of these cities have plan to do so. Enforcement of these codes varies greatly among these cities.

## WORKING GROUP PROCESS

The first task of the Working Group will be to fully understand the technical, legal, and financial issues associated with the development and enforcement of energy efficiency building codes in local jurisdictions. To assist the Working Group in developing a successful plan, an Advisory Group will be established, consisting of building industry stakeholders such as representatives of homebuilders, manufactured housing, and realtors.

The process will be guided by the following guiding principles:

- Continue the existing policy of local jurisdictions having the choice to adopt and enforce codes;
- “Connect the dots” of the existing statutory framework, instead of re-inventing the wheel; and
- Keep the system simple and understandable.

As a starting point, the KCC proposes any plan include the following elements:

- Retain existing law regarding energy efficiency disclosure in new residential structures;
- Retain existing statewide standard for commercial buildings;
- Establish a [non-statutory?] process for automatically updating the energy efficiency disclosure form on a three-year cycle, to incorporate updates to IECC and federal manufacturing standards;
- Encourage local jurisdictions to adopt local codes based on the standards in 66-1227 and 66-1228;
- Integrate the IECC standards, as summarized in the current energy efficiency disclosure form, into the audit report information provided in the *Efficiency Kansas* retrofit program;
- Establish a “certificate of recognition” for new and existing homes that meet the IECC standard, as summarized in the current energy efficiency disclosure form;
- Provide technical assistance and training and/or financial incentives to local jurisdictions to implement a building codes program.

## **Appendix A: Governor's Assurance File**

Submitted by the State Energy Office, Kansas Corporation Commission  
State Energy Program, State Formula Grant Application, PY 2009

This Appendix contains the language related to building codes, excerpted from the State Energy Office's proposal for ARRA funding.

The State Energy Office, at the Kansas Corporation Commission, offers the following information regarding progress the State of Kansas is making towards meeting the requirements in Section 410, Title IV, of the American Recovery and Renewal Act of 2009 (ARRA). Governor Sebelius' letters to Secretary Chu, which were submitted as part of the initial application, are also attached.

### **Building Codes**

*The State, or the applicable units of local government that have authority to adopt building codes, will implement the following: (A) A building energy code (or codes) for residential buildings that meets or exceeds the most recently published International Energy Conservation Code, or achieves equivalent or greater energy savings. (B) A building energy code (or codes) for commercial buildings throughout the State that meets or exceeds the ANSI/ASHRAE/IESNA Standard 90.1-2007, or achieves equivalent or greater energy savings. (C) A plan for the jurisdiction achieving compliance with the building energy code or codes described in subparagraphs (A) and (B) within 8 years of the date of enactment of this Act in at least 90 percent of new and renovated residential and commercial space. Such plan shall include active training and enforcement programs and measurements of the rate of compliance each year. - ARRA, Title IV, Section 410*

### **Previous Actions**

As recommended by the Kansas Energy Council, the State of Kansas adopted the 2006 version of the International Energy Conservation Code (IECC 2006) as the applicable standard for new commercial and industrial structures (see KSA 66-1227). However, the statute contains no provision for enforcement nor clarification of whether the statewide standard would supersede locally adopted standards. As a home rule state, Kansas allows local jurisdictions to enact local regulations where a statewide standard does not exist.

Further, as recommended by the Kansas Energy Council, K.S.A. 66-1228 (as amended by HB 2036 in 2007) requires the builder or seller of a new home to disclose to prospective buyers, "at any time upon request or prior to the signing of a contract to purchase and prior to closing," information regarding the energy efficiency of the structure using a revised, user-friendly form outlined in the statute. This disclosure form is posted on the SEO and KCC web sites.

To better understand the current status of residential building codes, SEO staff assigned to the Kansas Energy Council, conducted a survey in 2007 of the 25 cities of the first class. The survey indicated that most of the state's larger cities have adopted some version of the International Residential Code (IRC) or the International Building Code (IBC). Specifically, Lawrence has adopted the 2006 IECC; Overland Park, Manhattan, and Prairie Village have adopted the 2006 IRC/IBC standards, which are equivalent to

the 2006 IECC; Topeka, Great Bend, and Wichita have adopted the 2006 IRC/IBC (without the energy efficiency requirements); Junction City, Kansas City, Newton, Pittsburg, and Shawnee have adopted the 2003 IRC/IBC (with Kansas City also adopting the 2003 IECC); Salina, Lenexa, Garden City, and Dodge City have adopted the 2003 IRC/IBC (without the energy efficiency requirements); Leawood has adopted the 2000 IRC/IBC; Liberal and Parsons have adopted the 1997 UBC. Atchison, Emporia, Fort Scott, Hutchison, Leavenworth, and Olathe have not adopted any residential energy efficiency codes, though some of these cities have plan to do so. Enforcement of these codes varies greatly among these cities.

During 2008, the SEO held several meetings with county officials and representatives of the building community to discuss ways to encourage voluntary adoption of building codes by local units of government.

### **Planned actions, initiatives**

To move forward towards achieving the building code requirements outlined in the ARRA, the State Energy Office, collaborating with Commissioner Harkins, will host an organizational meeting on Wednesday, May 13, 2009. Outcomes of this initial meeting include (1) identifying appropriate people in state and local government to form a steering committee, (2) identification of members of stakeholder groups, and (3) development of a milestone chart with target dates for all work up to and including implementation timeframes.

The purpose of this *steering committee* is to develop a plan for the design of a residential/commercial building code strategy and implementation plan. The steering committee will also identify a stakeholder group that will have the opportunity to monitor and provide input into the aforementioned strategy. The *stakeholder group* will include representatives of the residential and commercial building industry, the manufactured home building industry, architectural professionals, the League of Kansas Municipalities, and the Kansas Association of Counties, in addition to other interested parties.

This project will be conducted in a process to allow for dialog with appropriate legislative leaders, the Governor's office and other stakeholders. The Kansas Corporation Commission will offer testimony in the summer/fall of 2009 regarding the stakeholder group and its progress to the Joint Committee on Energy and Environmental Policy. In addition, the Kansas Corporation Commission, during the regular legislative session of 2010, will offer testimony on the process to the Kansas House Energy and Utilities Committee and the Kansas Senate Utilities Committee.



Kathleen Sebelius, Governor

[www.governor.ks.gov](http://www.governor.ks.gov)

February 24, 2009

The Honorable Steven Chu  
Secretary  
U.S. Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

Re: State Energy Program Assurances

Dear Secretary Chu:

As a condition of Kansas receiving its share of the \$3.1 billion funding for the State Energy Program (SEP) under the American Recovery and Renewal Act of 2009 (H.R. 1)(ARRA), I am providing the following assurances:

- I have written to our public utility commission and requested that they consider additional actions to promote energy efficiency, consistent with the federal statutory language contained in H.R.1 and their obligations to maintain just and reasonable rates, while protecting the public.
- I have also written to the state legislature and requested that they consider actions to improve building energy codes and to consider the statutory language contained in ARRA.

We are prioritizing our energy investments to take advantage of existing programs and expand programs where appropriate.

We are committed to advancing energy efficiency programs and renewable energy, as well as a balanced state energy policy. I want to assure you that we will move forward in these critical areas.

We look forward to immediate distribution of the federal SEP funds which will allow Kansas to make progress in these critical areas.

Respectfully Submitted,

Kathleen Sebelius  
Governor

cc: Gil Sperling, Director, Office of Weatherization and Intergovernmental Programs,  
U.S. Department of Energy  
Ray Hammarlund, State Energy Director  
David Terry, Executive Director, National Association of State Energy Officials

Capitol Building, Room 2125, Topeka, KS 66612-1390 ■ (785) 296-3232 ■ Fax: (785) 296-7973  
e-mail: [governor@ks.gov](mailto:governor@ks.gov)

16-11





Kathleen Sebelius, Governor

[www.governor.ks.gov](http://www.governor.ks.gov)

February 24, 2009

Peter Orszag  
Director  
The Office of Management and Budget  
725 17th Street, NW  
Washington, DC 20503

Sent Electronically to [recovery@omb.eop.gov](mailto:recovery@omb.eop.gov)

Dear Mr. Orszag:

This letter is to satisfy the requirements of Sec. 1607 of the American Recovery and Reinvestment Act (ARRA):

***ADDITIONAL FUNDING DISTRIBUTION AND ASSURANCE OF APPROPRIATE USE OF FUNDS***

***SEC. 1607. (a) CERTIFICATION BY GOVERNOR.***—Not later than 45 days after the date of enactment of this Act, for funds provided to any State or agency thereof, the Governor of the State shall certify that: (1) the State will request and use funds provided by this Act; and (2) the funds will be used to create jobs and promote economic growth.

I hereby certify that the State of Kansas and agencies thereof, will 1) request and use funds provided by the ARRA and 2) that the funds will be used to create jobs and promote economic growth.

Sincerely,

A handwritten signature in black ink that reads "Kathleen Sebelius". The signature is written in a cursive style with a large initial "K".

Kathleen Sebelius  
Governor

11-16-09  
Kathleen Sebelius  
Governor



Kathleen Sebelius, Governor  
www.governor.ks.gov

February 24, 2009

Thomas Wright, Chairman  
Kansas Corporation Commission  
1500 SW Arrowhead Road  
Topeka, KS 66604

RE: State Energy Program Funding

Dear Chairman Wright:

I am attaching the relevant section of the recently passed American Recovery and  
Reinvestment Act of 2009 (H.R. 12174/ARRA), which contains a requirement that Governors make  
certain assurances regarding energy efficiency programs as a condition of Kansas receiving our  
share of \$3.1 billion from the Federal State Energy Program (SEP).

Within the limits of my authority as Governor, and fully recognizing that you have been  
appointed to an independent regulatory agency, I request that you consider appropriate additional  
steps consistent with state law, the attached statute and relevant PURPA requirements, to  
implement appropriate incentives for energy efficiency programs.

I further request that you inform me of your actions, understanding that time is a factor  
given the competitive nature of these funds.

Sincerely,  
  
Kathleen Sebelius  
Governor

Attachment:

116-13



Kathleen Sebelius, Governor

www.governor.ks.gov

February 25, 2009

The Honorable Pat Apple  
Kansas State Senator  
Kansas Statehouse - Room 242-E  
Topeka, KS 66612

The Honorable Janis Lee  
Kansas State Senator  
Kansas Statehouse - Room 162-B  
Topeka, KS 66612

The Honorable Carl Homes  
Kansas State Representative  
Kansas Statehouse - Room 142-W  
Topeka, KS 66612

The Honorable Ann Kuoether  
Kansas State Representative  
Docking State Office Building  
Topeka, KS 66612

Re: State Energy Program

Dear Energy and Utilities Committee Chairs and Ranking Democrats:

As a condition of receiving Kansas' share of \$3.1 billion in State Energy Program (SEP) funds contained in the recently passed American Recover and Renewal Act of 2009 (ARRA), our state must demonstrate that we are taking certain actions to begin upgrading building energy codes and develop a plan for compliance. I encourage you to take appropriate steps so that Kansas is not disadvantaged in accessing these one-time federal funds available to states. Legislation to implement these changes has been introduced this session and has been largely ignored -- or tied to failed ideas to implement radical regulatory policy that would move our state further away from the nation's clean energy future. If we adopt the legislation that emerged from the House Committee, we put ourselves firmly at the back of the line for accessing recovery funds needed to create sustainable Kansas jobs.

I have also directed our state energy director to work with the appropriate state and local code officials to develop implementation plans. Relevant provisions of the ARRA are attached.

Kansas must be committed to a robust energy efficiency program. This is especially important for buildings that will be part of our housing stock for decades to come.

Your cooperation is greatly appreciated.

Sincerely,

Kathleen Sebelius  
Governor

Attachment

Capitol Building, Room 212S, Topeka, KS 66612-1590 • (785) 296-3232 • Fax, (785) 296-7973  
e-mail: governor@ks.gov

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## Appendix B: K.S.A. 66-1227

66-1227. Energy efficiency of buildings; standards. (a) The International Energy Conservation Code 2006 (IECC 2006) is hereby adopted as the applicable energy efficiency standard for new commercial and industrial structures in this state.

(b) The state corporation commission has no authority to adopt or enforce energy efficiency standards for residential, commercial or industrial structures.

(c) **Nothing in this section shall be construed to preclude a city or county from adopting or enforcing energy efficiency standards for structures within the jurisdiction of such city or county** (*emphasis added*).

History: L. 1997, ch. 132, § 17; L. 2003, ch. 86, § 1; L. 2007, ch. 100, § 1; July 1.

**Appendix C: K.S.A. 66-1228**

66-1228. Same; disclosures required on sale of new residence. (a) Except as provided by subsection (b), the person building or selling a previously unoccupied new residential structure which is a single family or multifamily unit of four units or less shall disclose to the buyer or a prospective buyer, prior to the signing of the contract to purchase and prior to closing if changes have occurred or are requested, and at any other time upon request, information regarding the energy efficiency of the structure. For new residential structures that are completed and suitable for occupancy, but unsold, the completed disclosure form shall be made available to the buyer or a prospective buyer by the builder or seller when the residence is shown and at any other time upon request. The disclosure shall be made on a form prepared and disseminated by the state corporation commission, which form shall be substantially as follows:

(b) If a structure is subject to both the national manufactured housing construction and safety standards act (42 U.S.C. 5403) and the federal trade commission regulation on labeling and advertising of home insulation, 16 CFR section 460.16, both as in effect on the effective date of this act, the builder or seller may disclose, instead of the information required by subsection (a), the information regarding such structure that is required to be disclosed pursuant to such federal act and regulation.

**History:** L. 1997, ch. 132, § 18; L. 2003, ch. 86, § 2; L. 2007, ch. 100, § 2; July 1.

## Appendix D: Disclosure Form

### KANSAS ENERGY EFFICIENCY DISCLOSURE

*As required by KSA 86-1228*

Kansas law requires the person building or selling a previously unoccupied new residential structure which is a single family or multifamily unit of four units or less shall disclose to the buyer or a prospective buyer, at any time upon request or prior to the signing of the contract to purchase and prior to closing if changes have occurred or are requested, information regarding the energy efficiency of the structure. For new residential structures that are completed and suitable for occupancy, but unsold, the completed disclosure form shall be made available to the buyer or a prospective buyer by the builder or seller when the residence is shown and at any other time upon request.

Common Address or Legal Description of Residence:

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**Part 1: Builder must describe the following energy efficiency elements of this house:**

|                               | Actual Value | 2006 IRC/IECC*<br>Zone 4 | 2006 IRC/IECC*<br>Zone 5                               |
|-------------------------------|--------------|--------------------------|--|
| Wall Insulation R-Value       | _____        | R-13                     | R-19 <i>(or R-13 cavity + R-5 insulated sheathing)</i> |
| Attic Insulation R-Value      | _____        | R-38                     | R-38   |
| Foundation Insulation R-Value |              |                          |  |
| Basement Walls                | _____        | R-10/13**                | R-10/13**  |
| Crawlspace Walls              | _____        | R-10/13**                | R-10/13**  |
| Slab-on-Grade                 | _____        | R-10, 2 ft depth         | R-10, 2 ft depth                                       |
| Floors over Unheated Spaces   | _____        | R-19                     | R-30   |
| Window U-Value                | _____        | 0.40                     | 0.35   |

|                                      | Actual Value | Current Federal Manufacturing Standards*** |
|--------------------------------------|--------------|--|
| <b>Water Heater</b>                  |              |  |
| Gas or Propane (Energy Factor)       | _____        | 0.67 - (0.0019 x _____) = _____            |
| Electric (Energy Factor)             | _____        | 0.97 - (0.00132 x _____) = _____           |
| <b>Heating and Cooling Equipment</b> |              |  |
| Warm-Air Furnace (AFUE)              | _____        | 0.78                                       |
| Air Conditioner (SEER)               | _____        | 13   |
| Air-Source Heat Pump-Cooling (SEER)  | _____        | 13   |
| Air-Source Heat Pump (HSPF)          | _____        | 7.7  |

[Note: Federal standards for geothermal heat pumps are not available.]

**Part 2: Builder may provide the following additional information about this house:**

- \_\_\_\_\_ This residence has been/will be built to meet the energy-efficiency standards of the International Energy Conservation Code of 2006 (IECC 2006).
- \_\_\_\_\_ This residence has received a Home Energy Rating (HERS) index score of 100 or less based on an energy audit performed in accordance with the Mortgage Industry National Home Energy Rating Systems Standards (July 1, 2006) by a rater certified by Residential Energy Services Network (RESNET).
- \_\_\_\_\_ This residence is an Energy Star Qualified Home and has been verified and field tested in accordance with RESNET standards by a RESNET-accredited provider.

Seller Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Seller Name and Address: \_\_\_\_\_

Buyer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Buyer Signature: \_\_\_\_\_ Date: \_\_\_\_\_

\* See reverse for more information on existing standards and explanation of abbreviations.  
 \*\* The first R-value applies to continuous insulation; the second to framing cavity insulation.  
 \*\*\* Equipment meeting federal standards may not always be available.  
 \*\*\*\* Insert rated storage volume in gallons.

May 2007

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**Appendix E**  
**Energy Efficiency Building Codes**  
**Adopted by Kansas Cities of the First Class**  
 KEC Staff Summary, December 2007

*[This summary was compiled by the staff of the Kansas Energy Council (KEC) during the summer and fall of 2007.]*

Currently, Kansas has adopted the 2006 version of the International Energy Conservation Code (IECC 2006) as the applicable standard for new commercial and industrial structures (see KSA 66-1227), although there is no provision for enforcement nor clarification of whether the statewide standard would supersede locally adopted standards. As a home rule state, Kansas allows local jurisdictions to enact local regulations where a statewide standard does not exist.

To better understand the current status of energy efficiency building codes throughout the state, KEC staff surveyed the 25 Kansas cities of the first class (the 25 cities that have historically possessed regional importance and generally possess more than 15,000 residents).<sup>1</sup> The results of this survey are summarized in the following table.

| <b>Results of 2007 Energy Efficiency Building Code Survey</b><br><b>Kansas Cities of the First Class</b> |                          |                               |                               |  |
|--|--------------------------|-------------------------------|-------------------------------|--|
| <b>City</b>  | <b>Construction Type</b> | <b>Energy Efficiency Code</b> | <b>Inspection/Enforcement</b> | <b>Adoption/Update Plans</b>                 |
| <b>Atchison</b>  | Residential              | No code                       | n/a                           | None   |
|  | Commercial               | No code                       | n/a                           |  |
|  | Industrial               | No code                       | n/a                           |  |
| <b>Coffeyville</b><br><i>(recovering from flood)</i>   | Residential              | No response                   | No response                   | No response                                  |
|  | Commercial               | No response                   | No response                   |  |
|  | Industrial               | No response                   | No response                   |  |
| <b>Dodge City</b>  | Residential              | No code                       | n/a                           | The next update cycle will occur around 2010 |
|  | Commercial               | 2003 IBC                      | No enforcement.               |  |
|  | Industrial               | 2003 IBC                      | No enforcement.               |  |
| <b>Emporia</b>   | Residential              | No code                       | n/a                           | None   |
|  | Commercial               | No code                       | n/a                           |  |
|  | Industrial               | No code                       | n/a                           |  |
| <b>Fort Scott</b>  | Residential              | No code                       | n/a                           | Has plans to adopt some code at some time.   |
|  | Commercial               | No code                       | n/a                           |  |
|  | Industrial               | No code                       | n/a                           |  |

<sup>1</sup> KEC research staff Trisha Shrum and Dana Maher worked on different stages of the survey during the summer and fall of 2007.

| <b>Results of 2007 Energy Efficiency Building Code Survey<br/>Kansas Cities of the First Class</b> |                          |   |  |  |
|--|--------------------------|---|--|--|
| <b>City</b>  | <b>Construction Type</b> | <b>Energy Efficiency Code</b>   | <b>Inspection/Enforcement</b>                                  | <b>Adoption/Update Plans</b>   |
| <b>Garden City</b>   | Residential              | 2003 IRC (EE requirements have replaced with similar insulation requirements; R19 for walls and R30 for attics) | Pre-permit inspection by city inspector; permit can be denied. | Plans to adopt 2006 version of IECC/IRC/IBC in the near future; may adopt EE requirements. |
|  | Commercial               | 2003 IBC (EE requirements have replaced with similar insulation requirements; R19 for walls and R30 for attics) | Pre-permit inspection by city inspector, permit can be denied. |  |
|  | Industrial               | 2003 IBC (EE requirements have replaced with similar insulation requirements; R19 for walls and R30 for attics) | Pre-permit inspection by city inspector, permit can be denied. |  |
| <b>Great Bend</b>  | Residential              | No code   | n/a  | City council plans to ask for a staff recommendation                                       |
|  | Commercial               | 2006 IBC, excluding EE requirements   | n/a  |  |
|  | Industrial               | 2006 IBC, excluding EE requirements   | n/a  |  |



| <b>Results of 2007 Energy Efficiency Building Code Survey<br/>Kansas Cities of the First Class</b> |                          |                               |   |   |
|--|--------------------------|-------------------------------|---|---|
| <b>City</b>  | <b>Construction Type</b> | <b>Energy Efficiency Code</b> | <b>Inspection/Enforcement</b>   | <b>Adoption/Update Plans</b>                                  |
| <b>Hutchison</b>   | Residential              | No code                       | n/a   | Code inspector's office estimates next update in 3 to 6 years |
|  | Commercial               | No code                       | n/a   |   |
|  | Industrial               | No code.                      | n/a   |   |
| <b>Junction City</b>   | Residential              | 2003 IRC                      | At least 15 inspections occur during the construction of a new building, covering all aspects of the adopted international codes. | Will adopt latest IECC when codes are updated in 2009.        |
|  | Commercial               | 2003 IBC                      | At least 15 inspections occur during the construction of a new building, covering all aspects of the adopted international codes  |   |
|  | Industrial               | 2003 IBC                      | At least 15 inspections occur during the construction of a new building, covering all aspects of the adopted international codes  |   |
| <b>Kansas City, KS</b>   | Residential              | 2003 IRC                      | Requires completion of KEED prior to permitting   | Green Buildings Task Force responsible for updating.          |
|  | Commercial               | 2003 IBC                      | Requires completion of KEED prior to permitting.  |   |
|  | Industrial               | 2003 IBC                      | Requires completion of KEED prior to permitting   |   |
| <b>Kansas City, MO</b>   | Residential              | 2003 IRC                      | Part of general contracting license process   | Plans to adopt 2006 IRC/IBC/IECC                              |
|  | Commercial               | 2003 IBC                      | Special inspections of buildings  |   |
|  | Industrial               | 2003 IBC                      | Special inspections of buildings  |   |
| <b>Lawrence</b>  | Residential              | 2006 IECC                     | n/a   | Adopted IECC 2006   |
|  | Commercial               | 2006 IECC                     | n/a   |   |
|  | Industrial               | 2006 IECC                     | n/a   |   |

| Results of 2007 Energy Efficiency Building Code Survey<br>Kansas Cities of the First Class |                   |                                     |   |   |
|--|-------------------|-------------------------------------|---|---|
| City   | Construction Type | Energy Efficiency Code              | Inspection/Enforcement  | Adoption/Update Plans   |
| <b>Leawood</b>   | Residential       | 2000 IRC/IECC                       | City code inspectors enforce "strictly"   | Plans to adopt 2006 IRC/IBC/IECC; will address commercial enforcement |
|  | Commercial        | 2000 IBC/IECC                       | No enforcement required.  |   |
|  | Industrial        | 2000 IBC/IECC                       | Leawood currently has no industry, so no enforcement mechanism has been created |   |
| <b>Lenexa</b>  | Residential       | 2003 IRC, excluding EE requirements | n/a   | Plans to adopt 2006 IRC/IBC/IECC with EE requirements in January 2008 |
|  | Commercial        | 2003 IBC, excluding EE requirements | n/a   |   |
|  | Industrial        | 2003 IBC, excluding EE requirements | n/a   |   |
| <b>Leavenworth</b>   | Residential       | No code                             | n/a   | No plans for adoption   |
|  | Commercial        | No code                             | n/a   |   |
|  | Industrial        | No code                             | n/a   |   |
| <b>Liberal</b>   | Residential       | 1997 UBC                            | City inspects new construction; remodel projects are not inspected              | Plans to adopt revised 2006 IRC/IBC/IECC                              |
|  | Commercial        | 1997 UBC                            | No inspections  |   |
|  | Industrial        | 1997 UBC                            | No inspections  |   |
| <b>Manhattan</b>   | Residential       | 2006 IRC/IECC                       | On-site inspections during the construction process                             | Plans to adopt 2006 IRC/IBC/IECC                                      |
|  | Commercial        | 2006 IBC/IECC                       | On-site inspections during the construction process                             |   |
|  | Industrial        | 2006 IBC/IECC                       | On-site inspections during the construction process                             |   |

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| <b>Results of 2007 Energy Efficiency Building Code Survey<br/>Kansas Cities of the First Class</b> |                          |  |   |                               |
|--|--------------------------|--|---|-------------------------------|
| <b>City</b>  | <b>Construction Type</b> | <b>Energy Efficiency Code</b>  | <b>Inspection/Enforcement</b>   | <b>Adoption/Update Plans</b>  |
| <b>Newton</b>  | Residential              | 2003 IRC, with EE chapter replaced by custom insulation requirements | City code inspectors can enforce, but have no specific requirements to do so.                 | None                          |
|  | Commercial               | 2003 IBC   | City code inspectors can enforce but not specifically required to do so                       |                               |
|  | Industrial               | 2003 IBC   | City code inspectors can enforce but not specifically required to do so                       |                               |
| <b>Olathe</b>  | Residential              | No code  | n/a   | Plans to adopt 2006 IRC/IECC. |
|  | Commercial               | No code  | n/a   |                               |
|  | Industrial               | No code  | n/a   |                               |
| <b>Overland Park</b>   | Residential              | 2006 IRC/IECC  | Inspect window insulation and stucco; look for energy certificate required by IRC, Chapter 11 | None                          |
|  | Commercial               | 2006 IBC/IECC  | Some building plan inspectors inspect for energy codes, but this is not consistent.           |                               |
|  | Industrial               | 2006 IBC/IECC  | Some building plan inspectors inspect for energy codes, but this is not consistent.           |                               |

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| <b>Results of 2007 Energy Efficiency Building Code Survey<br/>Kansas Cities of the First Class</b> |                          |                                     |  |   |
|--|--------------------------|-------------------------------------|--|---|
| <b>City</b>  | <b>Construction Type</b> | <b>Energy Efficiency Code</b>       | <b>Inspection/Enforcement</b>                        | <b>Adoption/Update Plans</b>  |
| <b>Parsons</b>   | Residential              | 1997 UBC                            | City code inspectors                                 | Parsons plans to adopt the 2006 IRC/IBC/IECC, possibly by December 2007                               |
|  | Commercial               | 1997 UBC                            | City code inspectors                                 |   |
|  | Industrial               | 1997 UBC                            | City code inspectors                                 |   |
| <b>Pittsburg</b>   | Residential              | 2003 IRC                            | Enforcement through residential contractor licensing | None  |
|  | Commercial               | 2003 IBC                            | Enforcement through commercial contractor licensing  |   |
|  | Industrial               | No code                             | n/a  |   |
| <b>Prairie Village</b>   | Residential              | 2006 IRC                            | Enforcement through inspection                       | Has been adopting new international codes as they come out; expects to adopt 2009 when it is released |
|  | Commercial               | 2006 IBC                            | Enforcement through inspection                       |   |
|  | Industrial               | 2006 IBC                            | Enforcement through inspection                       |   |
| <b>Salina</b>  | Residential              | 2003 IRC, excluding EE requirements | n/a  | Plans to adopt 2006 IRC with rudimentary EE requirements  |
|  | Commercial               | 2003 IBC, excluding EE requirements | n/a  |   |
|  | Industrial               | 2003 IBC, excluding EE requirements | n/a  |   |
| <b>Shawnee</b>   | Residential              | 2003 IRC                            | Pre-permitting inspections                           | Plans to adopt 2006 IRC/IBC/IECC  |
|  | Commercial               | No code                             | n/a  |   |
|  | Industrial               | No code                             | n/a  |   |
| <b>Topeka</b>  | Residential              | 2003 IRC, excluding EE requirements | n/a ; other code inspections by licensed contractor  | Plans to adopt EE codes from the IRC/IBC  |
|  | Commercial               | 2006 IBC, excluding EE requirements | n/a ; other code inspections by licensed contractor  |   |

| Results of 2007 Energy Efficiency Building Code Survey<br>Kansas Cities of the First Class |                   |                                     |  |  |
|--|-------------------|-------------------------------------|--|--|
| City   | Construction Type | Energy Efficiency Code              | Inspection/Enforcement                             | Adoption/Update Plans  |
|  | Industrial        | 2006 IBC, excluding EE requirements | n/a; other code inspections by licensed contractor |  |
| <b>Wichita</b>   | Residential       | 2006 IRC, excluding EE requirements | n/a  | Uses 3-year code adoption cycle; will probably consider new code adoption in 2010 since 2006 codes were just adopted |
|  | Commercial        | 2006 IBC, excluding EE requirements | n/a  |  |
|  | Industrial        | 2006 IBC, excluding EE requirements | n/a  |  |

16-24

## SENATE BILL No. 284

By Committee on Ways and Means

2-24

9 AN ACT concerning energy efficiency and conservation programs; re-  
10 lating to the state corporation commission and authorizing establish-  
11 ment of a third party administrator program; establishing the third  
12 party administrator program fund.  
13

14 *Be it enacted by the Legislature of the State of Kansas:*

15 Section 1. (a) The intent of this act is to create an entity whose sole  
16 purpose is to achieve reductions in energy use through increasing the  
17 level of cost effective energy efficiency, conservation and education avail-  
18 able to Kansas citizens.

19 (b) Notwithstanding any provision of law to the contrary, on or before  
20 January 1, 2010, the state corporation commission shall establish an in-  
21 dependent entity for the purpose of development, implementation and  
22 monitoring of natural gas and electric energy efficiency, conservation and  
23 education programs.

24 (c) The entity created pursuant to this section shall be organized as  
25 a not-for-profit corporation. A third party administrator oversight board  
26 shall be appointed by the state corporation commission and may include  
27 representatives from electric and natural gas utilities, social service agen-  
28 cies, charitable entities, experts in energy efficiency and conservation,  
29 consumer representatives and other members the state corporation com-  
30 mission deems appropriate to create balanced representation on the  
31 board.

32 (d) The state corporation commission shall establish an equitable vol-  
33 umetric charge to be paid by utility customers to support the programs  
34 of the independent entity. Separate charges may be assessed to electric  
35 and gas utility customers. The charge shall be known as the energy con-  
36 servation and efficiency charge and shall be shown on each customer's  
37 bill and shall be remitted by participating utilities to the third party ad-  
38 ministrator program fund pursuant to section 2, and amendments thereto.  
39 The funds generated by the energy conservation and efficiency charge  
40 shall be in an amount equal to not less than  $\frac{1}{2}$  of 1% of the participating  
41 utilities' retail revenue.

42 (e) The state corporation commission shall initially require partici-  
43 pation in funding the entity by investor owned electric and natural gas

Joint Committee on Energy and  
Environmental Policy

Date 29 Oct 2009

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1 utilities. Customer owned cooperatives and municipal utilities may, but  
2 shall not be required to, contribute to the third party administrator pro-  
3 gram fund. A customer owned cooperative and municipal utility shall have  
4 access to the services of the third party administrator only if such coop-  
5 erative or municipal utility makes a contribution to the third party ad-  
6 ministrator fund.

7 (f) The energy programs division of the state corporation commission  
8 is authorized to develop guidelines for the entity including designing goals  
9 and objectives, setting program priorities, developing program infrastruc-  
10 ture and recommending appropriate staffing and budgets. The third party  
11 administrator oversight board shall be responsible for making adjustments  
12 to the goals and objectives, program priorities, infrastructure and budgets  
13 established by such division when such board assumes responsibility for  
14 oversight of the entity.

15 (g) The entity shall maximize the cost effectiveness of delivered en-  
16 ergy conservation and efficiency programs and shall make efforts to main-  
17 tain accountability for the programs delivered and the utilities and cus-  
18 tomer classes providing funds to support program initiatives and market  
19 strategies that address the needs of persons or businesses facing the most  
20 significant barriers to participation. Salaries and administrative expenses  
21 shall not exceed 15% of overall annual expenditures of the entity, except  
22 that in the first three years of operation, salaries and administrative ex-  
23 penses shall not exceed 50% of such expenditures.

24 (h) The state corporation commission shall require an independent  
25 verification, on or before January 1, 2010, and on or before January 1,  
26 every three years thereafter, by an independent auditor appointed by such  
27 commission of the reported energy and capacity savings and cost-effect-  
28 iveness of programs delivered by the entity established pursuant to this  
29 section to administer energy conservation and efficiency programs.

30 (i) The third party administrator oversight board shall submit to the  
31 chairperson, vice-chairperson and ranking minority member of the senate  
32 committee on utilities and the house of representatives committee on  
33 energy and utilities on or before the first day of the 2011 regular session  
34 of the legislature and each ensuing regular session, a report detailing the  
35 moneys collected, expenditures made, programs administered and the  
36 energy savings achieved by the entity created pursuant to this section.

37 Sec. 2. (a) (1) There is hereby established the third party adminis-  
38 trator program fund. Such fund shall be administered by a fund admin-  
39 istrator, appointed by the third party administrator oversight board.

40 (2) Participating utilities shall remit the energy conservation and ef-  
41 ficiency charge prescribed by subsection (d) of section 1, and amend-  
42 ments thereto, to the third party administrator program fund at least  
43 quarterly, which shall be deposited by the fund administrator in an in-

17-2

1 terest-bearing account or accounts in Kansas banks or Kansas savings and  
2 loan associations until expended for the purposes prescribed in subsection  
3 (b).

4 (3) The fund administrator is hereby authorized to accept and expend  
5 any gifts and grants from any public or private source deposited in the  
6 third party administrator program fund. The fund administrator shall  
7 make payments from the third party administrator program fund to the  
8 entity in accordance with the board's direction.

9 (b) The third party administrator oversight board shall be authorized  
10 to expend moneys from the third party administrator program fund to  
11 pay salaries and expenses necessarily incurred to implement the provi-  
12 sions of section 1, and amendments thereto.

13 Sec. 3. This act shall take effect and be in force from and after its  
14 publication in the statute book.

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# KANSAS LEGISLATIVE RESEARCH DEPARTMENT

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October 27, 2009

**To:** Joint Committee on Energy and Environmental Policy  
**From:** Lauren S. Douglass, Legislative Fellow  
**Re:** Senate Bill 284

## Summary

Senate Bill 284 would require the Kansas Corporation Commission (KCC) to establish an independent entity, run as a not-for-profit corporation, that would develop, implement, and monitor natural gas and electrical energy efficiency, conservation, and education programs. The independent entity would be overseen by a board with members appointed by the KCC (the Board). Its membership may consist of representatives from electric and natural gas utilities, social service agencies, charitable entities, experts in energy efficiency and conservation, consumer representatives, and other members the KCC considers appropriate to create balanced representation on the Board. The bill also would allow the KCC's State Energy Office to develop guidelines for the independent entity, including designing goals and objectives, setting program priorities, developing program infrastructure, and recommending appropriate staffing and budgets. Once the Board assumes oversight of the independent entity, it would be responsible for making adjustments to these guidelines.

To fund the independent entity, the bill provides that the KCC would establish an equitable volumetric charge, known as the energy conservation and efficiency charge, to be paid by customers of participating utilities. Initially, the KCC only would require the participation of investor-owned electric and natural gas utilities. Customer-owned cooperatives and municipalities also would be allowed to contribute to the program fund and in so doing, gain access to the independent entity's services. Then on at least a quarterly basis, the participating utilities would transfer the funds to a Board-appointed fund administrator (the Administrator). The Administrator would then deposit the funds into an interest-bearing account or accounts. The funds generated by the energy conservation and efficiency charge would be no less than ½ of 1 percent of the participating utilities' retail revenue.

Under the bill, the independent entity would be required to maximize the cost effectiveness of delivered energy conservation and efficiency programs and to maintain accountability for these programs. It also would be required to maintain accountability for the utilities and customer classes providing funds to support program initiatives and market strategies that address the needs of persons or businesses facing the most significant barriers to participation. To ensure compliance with these requirements, the KCC would appoint an independent auditor to verify the reported energy and capacity savings and cost-effectiveness of programs delivered by the independent entity. This audit would take place on or before January 1, 2010 and every three years thereafter. Further, salaries and administrative expenses would be capped at 15 percent of the independent entity's overall annual expenditures, except in the first three years of operation, when the cap would

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Joint Committee on Energy and  
Environmental Policy

Date 29 OCT 2009  
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be 50 percent of such expenditures. Finally, beginning with the 2011 Legislative Session, the Board would be required to submit an annual report detailing moneys collected, expenditures made, programs administered, and the energy savings achieved by the independent entity to the Senate Utilities Committee and the House Energy and Utilities Committee.

## Testimony

During the 2009 Legislative Session, SB 284 was assigned to the Senate Utilities Committee, which held a hearing on the bill on March 11 and 16. Appearing in favor of the bill were David Springe of the Citizens' Utility Ratepayer Board (CURB), George Lippencott from the AARP, and Tom Thompson from the Sierra Club. Opposing the bill were Randy Degenhardt, the director of energy efficiency for Westar and Scott Jones, representing Kansas City Power and Light. Nancy Jackson, the executive director of the Climate and Energy Project gave neutral testimony on the bill and Janet Buchanan provided written testimony on behalf of the KCC.

Factors cited as benefits of an independent entity include:

- Helping consumers to reduce their energy use and lower energy bills;
- Offering consistent programs and a consistent message across the state;
- Resolving the inherent conflict for utilities of promoting efficiency and wanting to make a profit;
- Providing accountability and transparency in the administration of energy efficiency programs;
- Reducing overhead expenses incurred by multiple agencies
- Eliminating debate over utility incentives related to energy efficiency while continuing to address any lost revenues due to declines in usage in rate case proceedings; and
- Allowing both the KCC and utility companies to be involved: the KCC because of its discretion in the formation of the entity, and the utilities through their ability to serve on the entity's board.

The opponents of the bill argued that implementation of energy efficiency programs should be left to utilities based on the following factors:

- Utilities have extensive interaction with customers, giving them a better understanding of consumers' needs and based on that fact, could arguably deliver more cost-effective energy efficiency programs;
- Utilities could develop programs specific to their own unique resource portfolios;
- Many utilities have already implemented efficiency and conservation programs, whereas an independent entity would be starting "from scratch," requiring a start-up period that could take considerably longer than encouraging and extending existing utility programs.

Conferrees suggested the following changes be made to the bill:

- All utilities, rather than just those that are investor owned, should be required to participate, with the possibility of "opting-out" if a company can demonstrate

its programs meet performance and cost-effectiveness standards set by the independent entity;

- The “equitable volumetric charge” should be explained or defined more fully in the bill;
- The guidelines created by the KCC should set goals for decreasing energy usage;
- The bill should include statutory performance standards;
- Which costs would fall under the 15 percent cap for administrative expense should be clarified;
- An ongoing competitive bid process should be used for contracts to provide energy-efficiency services; and
- Language guaranteeing that program funds would be used only for the purposes outlined in the bill should be added.

### **Kansas' Current Efforts**

The KCC's written testimony provided a summary of the multiple occasions in which it has considered whether to use a third-party administrator to deliver energy efficiency programs but ultimately, in each situation, the KCC decided against it. Instead it has committed to work cooperatively with utilities and has already begun efforts to promote energy efficiency and conservation. The Facility Conservation Improvement Program (FCIP), for example, facilitates the implementation and financing of energy conservation improvements in state, municipal, county, and educational facilities by connecting local units of governments and school districts with pre-approved, private energy service companies (ESCOs) that evaluate the facility, identify energy-saving opportunities, and recommend a turn-key package of upgrades to be financed through the projected utility bill savings. Moreover, funds authorized by the American Recovery and Reinvestment Act of 2009 (ARRA) will add significantly to those efforts. A brief description of the KCC programs funded by ARRA follows.

#### State Energy Program (SEP)-\$38,284,000

- *Efficiency Kansas Loan Program (\$37.3 million)*. The KCC will be overseeing a new revolving loan fund for cost-effective energy-efficiency improvements in homes and small businesses. Through this program, Kansans can access financing from partner banks and partner utilities for 100% of approved project costs at low interest. Project costs will be based on an energy audit performed by a qualified energy auditor.
- *Comprehensive Rate Design (\$1 million)*. The KCC plans to develop a comprehensive, collaborative planning process to redesign utility rate structures. A consultant will be selected through a bidding and interview process to:
  - Facilitate collaborative work sessions on rate design changes necessary to encourage consumers to use energy efficiency, technology that can be used to help deliver better information to consumers, and research into possible solutions; and
  - Develop a formal project management plan.

The consultant will review and utilize all available information on rate structures that encourage efficiency; low-cost technologies that facilitate end-user decision making; smart meters; decoupling; and educating consumers on energy use and efficiency. Further, the plan will develop economic models to forecast the effect of rate design changes on both the utility and the consumer.

#### Energy Efficiency and Conservation Block Grant (EECBG)-\$9,593,000

- *Renewable Energy Grants (\$3.8 million)*. Grants will be awarded to local units of government, including school districts, community colleges, vocational schools, and universities, that did not receive direct block grant allocations for renewable electrical generation projects. Projects may include wind, solar, biomass, or fuel cells. The grants will cover 25 percent of approved project costs, up to \$250,000.
- *FCIP Energy Savings Project Grants and Rebates (\$3.2 million)*. Grants of up to \$150,000 will fund projects that do not meet the 30-year payback period required by statute or are considered too small by ESCOs and are thus ineligible under the current FCIP. Additionally, rebates of up to \$40,000 will be used to offset start-up costs for cities and counties that use FCIP to upgrade public buildings.
- *Energy Managers for Local Units of Government (\$2.5 million)*. This program will provide a stipend to local units of government (cities, counties, or coalitions of the aforementioned entities) to enable them to hire energy managers for up to three years. Funding will be awarded through a competitive process. During the first year, the energy manager will be expected to develop a strategic plan that includes setting benchmarks to determine energy usage and developing three-year and long-term energy savings strategies. Funding for the second and third years will be contingent on successful completion of the strategic plan and progress towards strategic reduction in energy consumption.

#### **Examples of Other States' Efforts**

Vermont, Oregon, and Hawaii have chosen to use third-party administrators to deliver energy efficiency services to their residents. Vermont's SB 137 from the 1999 Legislative Session gave the Public Services Board the authority to oversee the development, implementation, and monitoring of gas and electric energy efficiency and conservation programs funded by a volumetric charge to utilities customers. Subsequently, the Vermont Public Services Board established Efficiency Vermont, an independent non-profit organization, to provide technical assistance and financial incentives to households and businesses to help reduce energy costs with energy-efficient equipment and lighting and with energy-efficient approaches to construction and renovation.

In Hawaii, Haw. Rev. Stat. § 269-121 et seq. allowed the Public Utilities Commission to contract with a third-party administrator to operate and administer energy-efficiency and demand-side management programs and services. The administrator is funded by money collected from customers through a demand-side surcharge. Based on this authority, using a competitive bid

process the Public Utilities Commission contracted with Science Applications International Corporation (SAIC) to run Hawaii's Energy Efficiency Program.

In 1999, the Oregon Legislature passed SB 1149, which required Oregon's two largest investor-owned utilities to collect a 3 percent public purpose charge from their customers. It also gave the Oregon Public Utility Commission the authority to direct a portion of the public purpose funds to a non-governmental entity for investment in cost-effective energy conservation, market transformation efforts, above-market costs of renewable energy resources, and low-income weatherization. Pursuant to that law, in 2002, the Energy Trust of Oregon, Inc. was established.

In addition to these three states' independent administrators, in 2009, Virginia and Maine considered establishing similar entities but did not approve this legislation. In Virginia, pursuant to SB 1452, a \$1 per month efficiency charge would have been added to customers utility bills. The funds generated by this charge then would have been managed by an independent administrator under contract with the Virginia Corporation Commission to develop an energy-efficiency programs.

In Maine, HP 610 would have established the Efficiency Maine Trust to provide a consolidated and integrated approach to the planning and administration of energy efficiency and conservation programs. Funding for the trust would have come from fees assessed to transmission and distribution utilities in an amount based on the utilities' gross operating revenue.

March 11, 2009

The Honorable Pat Apple, Chairperson  
Senate Committee on Utilities  
Statehouse, Room 242-E  
Topeka, Kansas 66612

Dear Senator Apple:

SUBJECT: Fiscal Note for SB 284 by Senate Committee on Ways and Means

In accordance with KSA 75-3715a, the following fiscal note concerning SB 284 is respectfully submitted to your committee.

SB 284 would require the Kansas Corporation Commission to establish the Third Party Administrator Program as an independent, not-for-profit corporation. The purpose of the program would be to achieve reductions in energy use through increasing the level of cost effective energy efficiency, conservation, and education programs available to Kansans.

On or before January 1, 2010, the Kansas Corporation Commission (KCC) would be required to establish a not-for-profit corporation for developing and monitoring energy efficiency programs. The Third Party Administrator Oversight Board would be appointed by the KCC to create a balanced representation that would include representatives of the electric and natural gas utilities, social service agencies, charitable agencies, and experts in energy efficiency and conservation.

The KCC would establish an equitable volumetric charge to be paid by utility customers to support the programs of the not-for-profit corporation. The charge to the customers would be known as the "energy conservation and efficiency charge" and would be shown on each customer's utility bill. The funds generated would be equal to not less than one-half of 1.0 percent of the participating utilities' retail revenue.

The bill would also require the KCC to require initial participation in funding the not-for-profit corporation by investor-owned electric and natural gas utilities. Cooperatives and

municipal utilities could contribute to the third party administrator, but could not use the services of the Third Party Administrator unless such utilities made a contribution to the Third Party Administrator Fund. The KCC's Energy Programs Division would be authorized to develop guidelines, goals, objectives and priorities for the not-for-profit corporation until the Third Party Administrator Oversight Board assumes the responsibilities.

Salaries and administrative expenses could not exceed 15.0 percent of overall annual expenditures of the not-for-profit corporation, except that during the first three years of operation, salaries and administrative expenses may not exceed 50.0 percent of total expenditures. On or before January 1, 2010, the KCC would require an independent verification, and on or before January 1, and for three subsequent years, the report of an independent auditor appointed by the KCC. The bill would also require an annual report to the Legislature on or before the first day of the 2011 Session and before the first day of every subsequent session.

SB 284 would also establish the Third Party Administrator Program Fund, to be administered by a fund administrator appointed by the Third Party Administrator Oversight Board. The responsibilities of the fund administrator and the Third Party Administrator Oversight Board would include oversight of the expenditures for salaries and other expenses necessary to implement the provisions of the Act.

| Estimated State Fiscal Effect |                |                      |                |                      |
|-------------------------------|----------------|----------------------|----------------|----------------------|
|                               | FY 2009<br>SGF | FY 2009<br>All Funds | FY 2010<br>SGF | FY 2010<br>All Funds |
| Revenue                       | --             | --                   | --             | --                   |
| Expenditure                   | --             | --                   | --             | \$3,560              |
| FTE Pos.                      | --             | --                   | --             | --                   |

The Kansas Corporation Commission indicates that the cost to establish the not-for-profit corporation would increase expenditures in FY 2010 from the Public Service Regulation Fee by \$3,560. The expenditures would include the initial filing fee of \$20 for the Kansas Secretary of State's office, the annual filing fee of \$40, and the initial filing fee of between \$250 and \$500 with the Internal Revenue Service for a 501(c) designation. The initial independent audit would cost between \$1,500 and \$3,000.

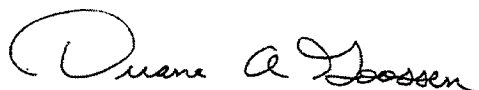
Estimated revenues (one-half of 1.0 percent) for the not-for-profit organization established would be approximately \$14,700,000 (based on 2007 gross operating revenues of investor-owned electric and natural gas utilities totaling \$2,940,051,000). During the first three years of operations the not-for-profit cost for salaries and expenses would be approximately \$7,350,000. After the first three years, the expenses for salaries and expenses would be approximately \$2,205,000. In addition, the Third Party Administrator Oversight Board would receive travel and associated expenses approved by the Board and within expenditure limitations.

19-2

The Honorable Pat Apple, Chairperson  
March 11, 2009  
Page 3—284

The KCC estimates that the not-for-profit corporation would require 10.00 new positions including: 1.00 Third Party Administrator, 2.00 to 3.00 accountant FTE positions, 2.00 energy efficiency auditor FTE positions, 2.00 program marketer FTE positions, and 2.00 administrative assistant FTE positions. Any fiscal effect resulting from enactment of SB 284 is not accounted for in *The FY 2010 Governor's Budget Report*.

Sincerely,



Duane A. Goossen  
Director of the Budget

cc: Tom Day, KCC

19-3



March 11, 2009

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Senate Committee on Utilities  
Statehouse, Room 242-E  
Topeka, Kansas 66612

Dear Senator Apple:

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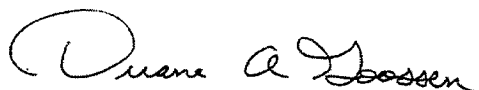
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19-2

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Sincerely,



Duane A. Goossen  
Director of the Budget


cc: Tom Day, KCC

19-3



**VERMONT:  
PERSPECTIVES FROM THE  
LEADING EDGE**

Presented to the Kansas Legislature  
Joint Committee on Energy and Environmental Policy  
Scudder Parker, Senior Project Manager  
October 29, 2009



**Getting Smart:  
The Structure of the Discussion**

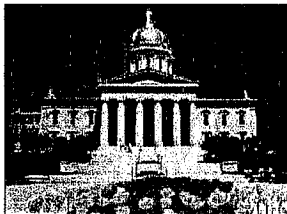
- **Policy** lays the foundation
- **Goals** give shape to the policy
- **Structure and funding** are designed to meet the goals
- **Incentives** are designed to make the structure and funding effective
- **Performance and accountability** create the opportunity for **flexibility and innovation**
- **Focus on the customer** overcomes the barriers
- **Identify and change the structural barriers**

Joint Committee on Energy and  
Environmental Policy  
Date 29 OCT 2009  
Attachment # 20



## State Policy Goals for Acquisition of Electric Energy Efficiency Resources

- Vermont statute requires, as a component of utility service, acquisition of all energy efficiency resources that are lower in cost than generation alternatives
- The pace at which this is done is determined by utility regulators, considering both near-term rate impact and long-term efficiency policy goals
- Current goals (2009-2011) are to reduce electricity requirements by approximately 2% each year



## New State Building Efficiency Goals in Act 92 (§581)

- Reduce fuel use and bills by 25% in 60,000 homes by 2017, and 80,000 homes by 2020
- Reduce fossil fuel use in *all* buildings by 0.5% per year (6% annually by 2017; 10% annually by 2025)
- Save Vermonters \$1.5 billion on their fuel bills by 2017
- Increase weatherization services to low-income Vermonters as revenue becomes available in the Home Weatherization Assistance Trust Fund

## What Is the Basic Mechanism?

### **A Contract to Supply Energy Efficiency Resources**

- Similar to a power supply contract
- KWh and peak KW are “purchased” from the competitively selected Efficiency Vermont contractor
- The contract is performance-based, with a significant financial holdback to assure contractor performance

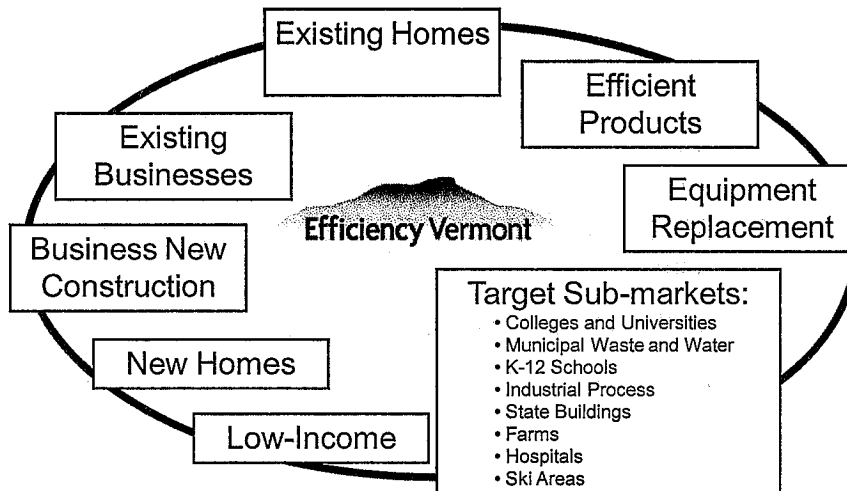
### **A Contract for *Results***

- Efficiency Vermont’s current 3-year contract is for:
  - 360,000 MWh of annual energy savings (262,000 MWh in previous 3-year contract period)
  - 50 MW of summer peak and winter peak reduction
  - \$342 million in economic benefits
  - And other measurable indicators

## A New Structure Is Being Considered

- “Order of Appointment,” similar to a utility franchise, for up to 12 years
- Longer term allows for more effective engagement in market transformation, forecasting, and pursuit of more comprehensive savings
- Performance-based mechanisms for evaluation and compensation are retained
- Relationship with regulators is made consistent with that of other utilities
- Hearings held September 2009 – decision to come by year’s end

## What Markets Do We Work in?



## What Does Efficiency Vermont Do to Obtain Energy Savings?



### Technical Assistance

- Public energy information, education, and promotion
- Expert advice on design, equipment, and selection of technology
- On-site consultation and custom analysis for large users
- Cash flow and investment analysis
- Training – suppliers, architects, builders, operators, contractors
- Commissioning assistance

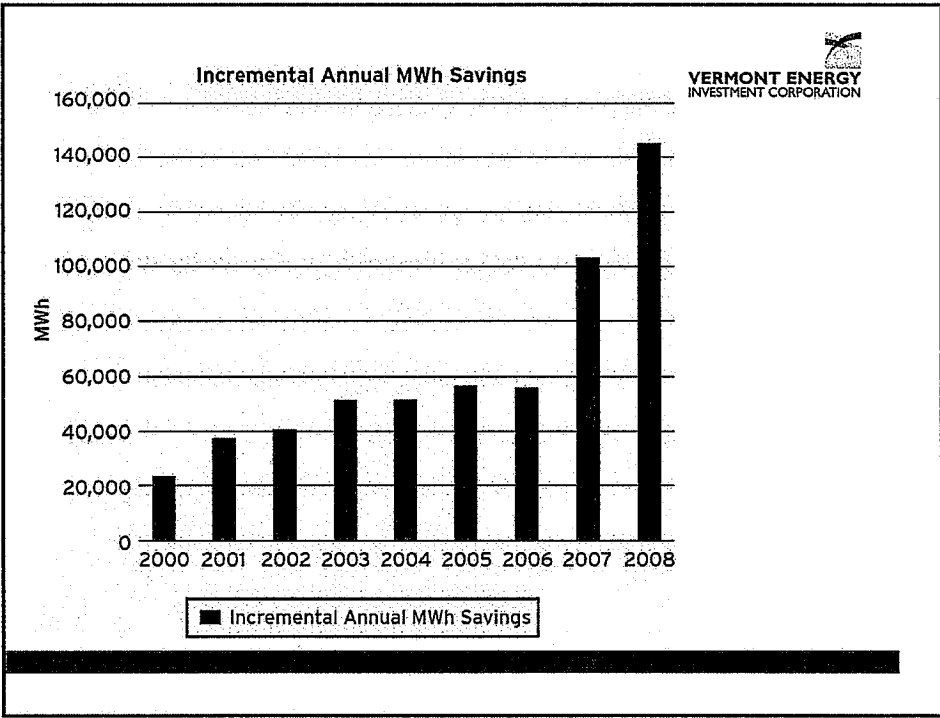
## What Does Efficiency Vermont Do to Obtain Energy Savings?



### Financial Incentives

- Cash incentives, rebates, and buy-downs
- Financing assistance – low-interest loans, loan guarantees
- Direct installation at no cost to targeted customer groups



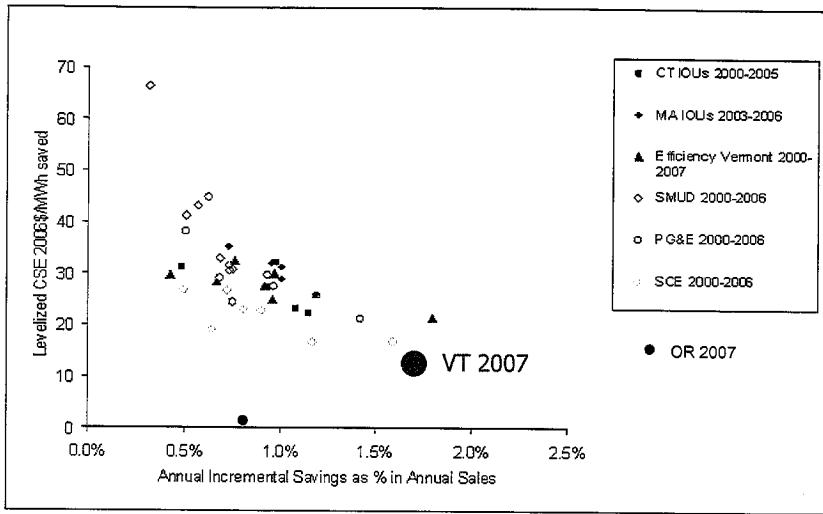


**Efficiency Vermont's approximate cost of electric efficiency 3.1¢ / kWh**

**Approximate cost of comparable electric supply 14¢ / kWh**

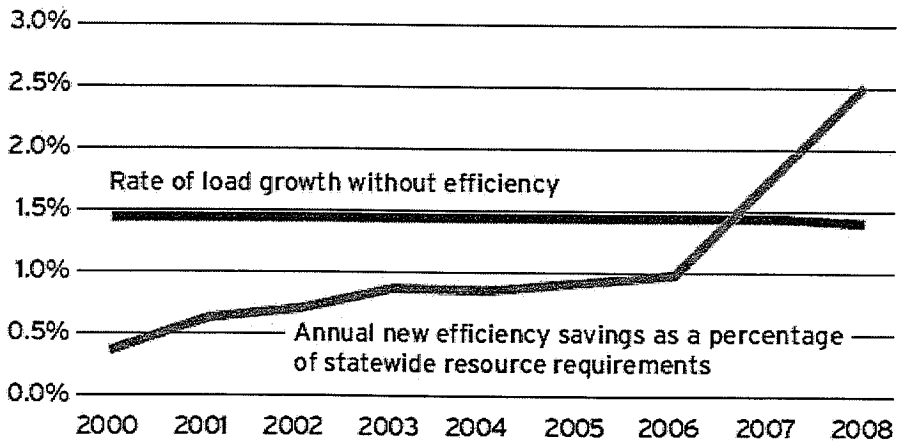
VERMONT ENERGY INVESTMENT CORPORATION

# Cost and Savings Performance



BACKGROUND CHART COURTESY SYNAPSE ENERGY ECONOMICS

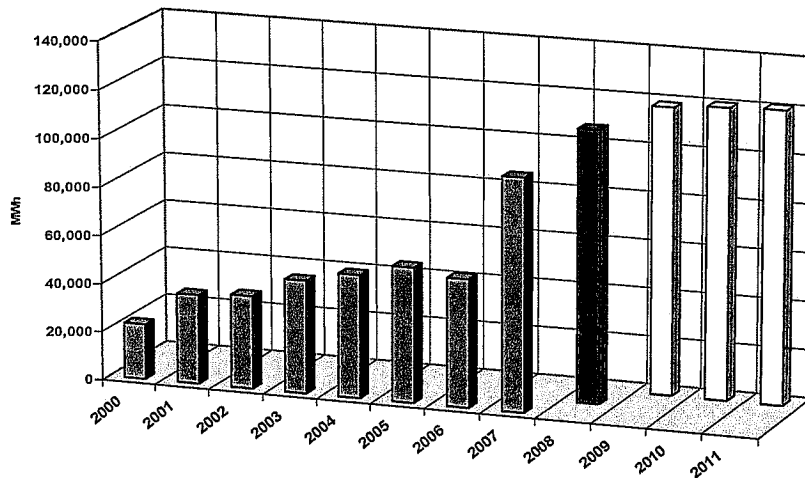
# Energy Savings vs. Projected Load Growth



# Efficiency Vermont Plans for 2009-2011

## Historic and Projected Savings

Efficiency Vermont Annual MWh Savings

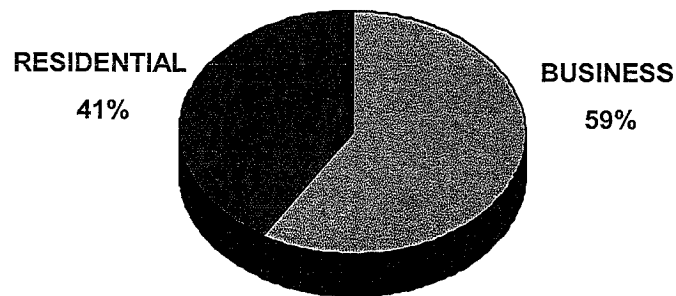


## Efficiency Vermont Budgets for 2009 - 2011



| Year | Electric Services and Initiatives | Unregulated Fossil Fuel Services and Initiatives | TOTAL    |
|------|-----------------------------------|--|----------|
| 2009 | \$25.5 M                          | \$1.0 M  | \$26.5 M |
| 2010 | \$28.9 M                          | \$1.9 M  | \$30.8 M |
| 2011 | \$33.1 M                          | \$1.6 M  | \$34.7 M |

## Efficiency Vermont Budget Allocation by Sector, for 2009-2011



## 2009-2011 Performance Goals



| Performance Indicator      | Contract Goals |
|----------------------------|----------------|
| Total annual MWh savings   | 360,000        |
| Total resource benefits    | \$342,400,000  |
| Summer peak MW savings     | 51.2           |
| Winter peak MW savings     | 54.0           |
| Target area summer peak MW | 8.1            |
| Target area winter peak MW | 2.4            |

## Minimum Performance Requirements for 2009-2011



| Minimum Performance Requirement                            | Standard to Be Met                                |
|--|---|
| Ratio of gross electric benefits to spending               | 1.2   |
| 2009-2011 spending for residential customers               | \$19.7 million                                    |
| 2009-2011 spending for low-income customers                | \$6.3 million                                     |
| Number of small business customers served                  | 700   |
| Minimum of total resource benefits received by each county | Proportional to Energy Efficiency Charge payments |

## What's New for 2009 – 2011?

- New technology
- New financing options
- New initiatives for unregulated fossil fuels
- Expand on the success of Account Management for large business customers
- Changes in geographically targeted initiatives
- Higher-tier efficiency in new construction
- Focus on deeper and more comprehensive savings

## Technology Innovations

- Higher-efficiency fluorescent lamps with lower mercury and more specialty applications
- Transition to LED technology in all lighting applications
- Compressed air system efficiency innovations
- Smart power strips
- In-home displays of consumption and cost
- Initiatives on efficient consumer electronics, including TVs
- Higher-tier efficiency in appliances
- Net-zero and micro-load buildings
- High-efficiency water heaters



## New Financing Options

- Enhanced, custom financial analysis for business customers
- State Treasurer / TD Banknorth & VHFA low-interest loans
- More participating lenders with loans for comprehensive, all-fuels home energy improvements
- VEDA loans for major business energy efficiency
- Developing other new business loan partnerships with Vermont banks and credit unions
- Development of new, innovative financing mechanism:  
"PROPERTY ASSESSED CLEAN ENERGY" (PACE)



## Property Assessed Clean Energy (PACE)

- Authorized by the Vermont Energy Act of 2009
- Voluntary mechanism allowing individuals to opt in to a special assessment district created by their municipality
- Eligible energy efficiency and/or renewable energy improvements are funded by taxable municipal bonds or other municipal debt
- Repayment period up to 20 years - may not exceed projected life of improvements
- Special assessment fees transfer to the new owner when the property is sold, or assessment obligation can be paid in full at time of transfer.

## New Initiatives for Unregulated Fossil Fuels

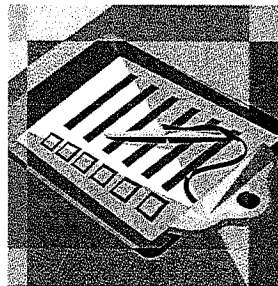


- Funded by Forward Capacity Market revenues
  - Projected net revenues of \$1.3 million in 2009 (\$5.2 million total for 2009-2011)
- Allows more integrated, comprehensive (electric and non-electric) energy efficiency services and initiatives, by funding efficiency in oil, propane, and kerosene heating
- Focused on achieving Vermont's statutory building energy efficiency goals
- Should complement RGGI-funded unregulated fuels initiatives

## Expanded Account Management

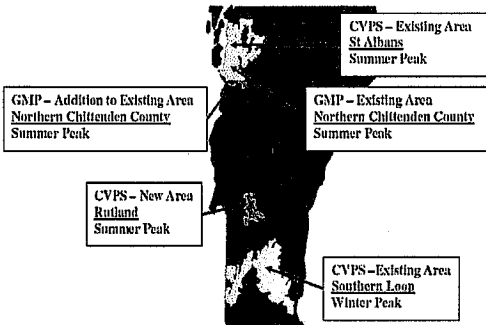
Custom technical and financial assistance  
for large business energy users

- Enhanced account management services to all **65** largest business accounts
- Expand account management services to **300** additional businesses during 2009-2011
- Expected 2009-2011 savings from managed accounts of **81,500 MWh**, or **23%** of total expected savings





## Geographic Targeting in 2009-2011



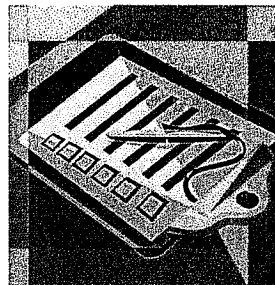
- Continue energy efficiency efforts targeted to customers where transmission and distribution systems are at or near peak load capacity
- Small changes to areas to be served
- Expand target groups for Direct Installation
- Seek greater depth of savings
- Adjust incentive offers and increase use of financing

## Direct Installation in Geographically Targeted Areas

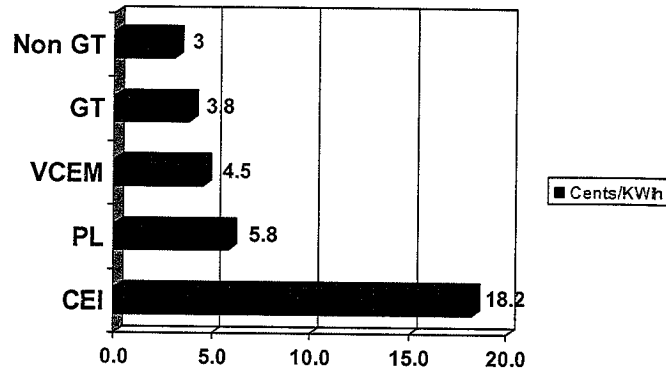


**More than 1,500 participants  
expected**

- Projected savings of 16,000 MWh for 2009-2011
- Targeted to commercial customers
- Moving to cost sharing and expanded eligibility criteria
- Estimated delivery of \$9.5 million in products and services
- Involves dozens of Vermont service and installation companies



## Levelized Costs for Efficiency Vermont's Community Focused Initiatives



## Higher-Tier Efficiency in New Construction



- Introduction of new higher-tier home efficiency standard tied to LEED and other green rating systems
- New computer tools and guidelines to support advanced commercial building energy design
- Support development of next code updates
- Demonstration of "net zero" and micro-load buildings
- Support technical information exchange through Efficiency Vermont web site

## Focus on Deeper and More Comprehensive Savings



- Refinement of services and initiatives to achieve savings levels consistent with statutory building efficiency goals
- Pursuit of more comprehensive savings: all cost-effective measures for all fuels
- Development of indices to measure depth and comprehensiveness of savings
- Adoption of performance indicators and goals for depth and comprehensiveness of savings

## Accountability and Oversight



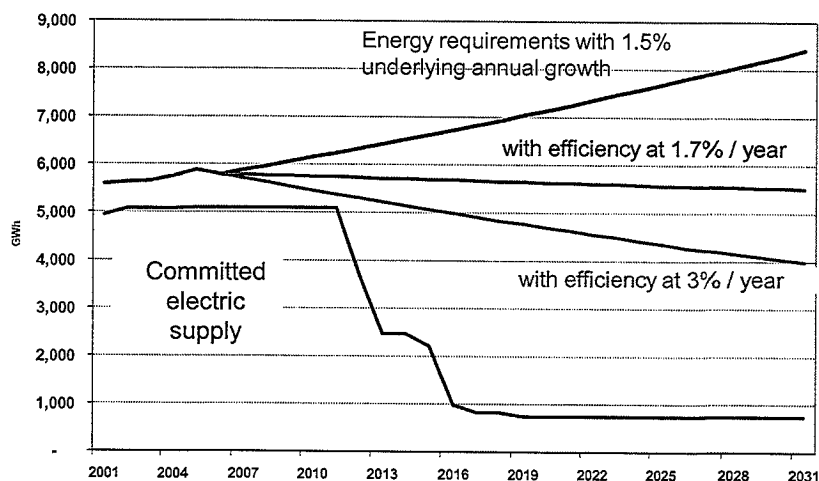
- Public Service Board establishes the budget, goals, and terms of the Efficiency Vermont contract
- Vermont Department of Public Service, on behalf of Vermont ratepayers, provides critical review and oversight of Efficiency Vermont, including program evaluation
- Energy Efficiency Utility Advisory Committee, established by the PSB, provides additional review and oversight
- Rigorous, independent financial audit – OMB A-133
- 3<sup>rd</sup>-party audit conducted every 3 years and reported to Legislature

## Savings Verification



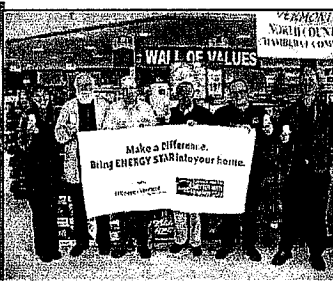
- Foundation is Efficiency Vermont data system and internal quality assurance systems
- Established, documented process for savings assumptions and calculations (*Technical Reference Manual*)
- Annual savings verification performed by Department of Public Service
- Monitoring and Verification Plan is formally approved by PSB
- Savings accepted for capacity payments from ISO New England in new Forward Capacity Market (beginning December 2006)

## Potential Impact of Energy Efficiency on Vermont's Future Electric Needs





Thank you!



## Questions or Comments

**Vermont Energy Investment Corporation**

255 S. Champlain St.

Burlington, Vermont

888 – 921 – 5990

[www.veic.org](http://www.veic.org)

Scudder Parker x 1123

[sparker@veic.org](mailto:sparker@veic.org)

# Taking the Efficiency Utility Model to the Next Level

*Blair Hamilton, Vermont Energy Investment Corporation*

## ABSTRACT

The concept of an "efficiency utility" took form in 2000 with the creation of Efficiency Vermont. Variants on this statewide approach to non-utility responsibility for acquiring energy efficiency resources exist in other states. While these entities are accountable to regulators, their structure and supervision have been quite different from typical regulated electric and gas supply utilities. In 2007 Vermont began to consider structural changes that could improve on the success of the current model. The primary impetus for considering these changes was the need for a structure that would allow the efficiency utility to take on longer-term roles, commitments, and partnerships, including long-term resource planning, financing, and bidding resources into the regional forward capacity market. Efficiency Vermont's current 3-year contract model has imposed significant constraints on the evolution of these roles and responsibilities. The regulator's contractual relationship with the efficiency utility, as opposed to the judicial relationship it has with other utilities, has also presented some difficulties and constraints. In response, Vermont is considering a new efficiency utility model that is much more like other franchised utilities. The new structure is analogous to a supply utility under performance-based regulation and includes adoption of 20-year budgets and resource acquisition goals. Legislation was passed in February 2008 that explicitly empowers utility regulators to "appoint" an energy efficiency utility for a twelve-year term under this new model. This paper discusses the development of the new model and the details that have been determined for implementation.

## The Opportunity

In mid-2007, the Vermont Public Service Board (PSB) convened a process to consider alternatives to the energy efficiency utility (EEU) structure the state had adopted in 1999 for implementing statewide ratepayer-funded energy efficiency resource acquisition. This structure was known as Efficiency Vermont. Since 2000, Efficiency Vermont has grown to be widely acknowledged as one of the most successful energy efficiency efforts in North America (Eldridge, Prindle, York & Nadel, 2007; York, Kushler & Witte, 2007). It established a non-utility/administrative model that has been adopted in several other jurisdictions, and is being considered in many others. So why would Vermont want to change something that appears so successful?

## Making a Good Thing Better

In establishing the nation's first EEU, the PSB assigned the responsibility for statewide energy efficiency resource acquisition to a non-utility entity. The EEU performs this function on behalf of the state's electric distribution utilities, fulfilling the efficiency resource component of their statutory least-cost resource acquisition obligations. The EEU is accountable, however, not to the utilities, but to the PSB through a contract. The two key features of this contract are that it is: (1) competitively bid, and (2) a performance-based contract, with a significant compensation

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hold-back that the delivery entity is eligible to earn if it meets the specified performance indicators. As the PSB recently noted, "This structure has served Vermont well over the last seven years. The EEU's performance has exceeded expectations..." (Vermont PSB, 2007a). Nonetheless, after seven years of operation, a range of stakeholders, including regulators, advocates, utilities and the current EEU contractor, concluded that it was time to consider some structural refinements and alternatives. It had become apparent that there were some limits imposed by the short-term contract model that were serious enough to suggest reassessment of the structural model itself. While there was much to be preserved, the parties recognized there was also an opportunity to make a good thing better.

On July 13, 2007, the PSB issued a notice that it would convene a workshop process to consider changing the structure of Vermont's EEU. This notice stated:

"In the Board's role overseeing the electric EEU, it has identified some aspects in the program's overall structure that may require some modification in light of experience and changing circumstances" (Vermont PSB, 2007a).

The PSB's notice included an enumeration of the specific reasons to consider modifying the structure. These were organized under two categories: (1) problems associated with a short, fixed-term contract, and (2) difficulties associated with the contractual relationship. At the outset of the workshop process, PSB staff and workshop participants identified the most problematic impacts of a short, fixed-term contract as follows:

- As an efficiency implementer approaches the end of the contract term, it will tend to focus on short-term results that can be accomplished before the end of the contract period. This end-effect discourages starting new projects, developing relationships, or initiating long-term strategies that might be highly valuable, but unlikely to yield results until after the end of the contract period.
- Any short-term contract does not compel an entity to engage in long-term resource planning that extends beyond the current contract period.
- As the efficiency effort becomes larger and more complex, the costs of transition to any other entity become a considerable barrier to changing contractors.
- Whereas a periodic competitive bidding model in theory provides some assurance of performance, quality, and innovation, if the same entity is consecutively awarded the contract several times and appears to be performing well, the pressure of competition can decrease. This can result in an unintentional monopoly without the benefits of regulation.
- Current state procurement regulations severely constrict the term of any contract. Three years is likely the maximum term that can be easily accommodated.
- The rebid process can both consume considerable resources and be quite disruptive for involved parties, particularly when the contract value is very large. The diversion from contract implementation and societal costs associated with conducting a rebid every three years may not be worthwhile if superior levels of performance are being achieved and there is a high probability of deciding to continue with the current contractor.

The key issues regarding the contractual relationship between the regulators and the EEU contractor were identified by the PSB as:

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- As the size and complexity of the efficiency efforts have grown, regulators are increasingly challenged by the level of effort to administer a contract.
- Regulators see a potential for conflict in carrying out their judicial role with respect to regulated utilities while at the same time carrying out an administrative role with respect to the EEU contractor.
- In a number of instances, *ex parte* communication considerations regarding concurrent regulatory proceedings have limited communication in EEU administrative deliberations. For example, when discussing EEU operational matters, PSB staff may need to leave if a topic touches on the subject of a docket or rulemaking under current consideration by the PSB.
- The role of the EEU contractor has been limited in PSB proceedings that affect the EEU, such as the setting of goals and budgets. Additionally, there has been concern about the perception of a conflict of interest if the EEU contractor, as a contractor to the PSB, were to advocate before the PSB on efficiency or other utility matters.
- The EEU contractor has felt constrained in engaging in public advocacy regarding efficiency and other energy policy matters out of concern that, as a contractor to the regulators, there could be some perception (however unwarranted) of speaking on behalf of regulators.

As discussions of a new structure developed, there was broad agreement among the parties in the working group that it was becoming increasingly important that an EEU structure be more compatible with long-term planning and resource acquisition strategies. Already, in 2007, a regulatory order regarding long-range transmission planning required the EEU to begin preparing triennial 20-year forecasts of probable demand reductions that will occur from efficiency efforts, both at a statewide level and for each of 14 load zones.

### **Preserving the Best of the Current Model**

As the parties considered options for modifying the EEU structure, there was consensus that the best attributes of the current model should be preserved:

- **Performance-based contract.** It was broadly perceived that there was great value in the high level of accountability for results that has been achieved through a performance-based EEU contract. Maintaining a mechanism in which there are serious consequences for the EEU, tied to achievement of specified performance indicators, was deemed essential.
- **Flexibility.** A corollary to assessing performance by results (as opposed to assessing program design or spending) has been the high degree of flexibility granted to the EEU for determining how best to achieve its contractual goals. This has allowed Efficiency Vermont to modify strategies and allocate resources quickly, in response to feedback on performance, changing markets, new technologies, and other unforeseen conditions and opportunities.
- **Evaluation and savings verification.** All of the workshop participants, and the Legislature, placed great emphasis on the importance of maintaining rigorous, independent evaluation of EEU performance, as well as continuing annual savings verification by the Department of Public Service in its capacity as the ratepayer advocate.
- **Public awareness and brand identity.** The Efficiency Vermont brand has achieved extremely high recognition in the state as the single, trusted source for energy efficiency knowledge. This brand, which belongs to the state, should continue to be used.

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- Technical excellence and capability. The current EEU has built a considerable professional staff, technical capability, systems, and tools at ratepayer expense; the parties agreed that these resources are valuable and should be preserved in any shift to a different structure.

## Areas of Opportunity for Structural Improvement

The process also identified areas for potential improvement that any new structure might be able to address, including:

- Repositioning regulators, with respect to the EEU, closer to a regulatory relationship, such as that which exists with energy supply utilities, rather than acting as administrators of a contract.
- Enabling the EEU to enter into long-term financial obligations, including raising capital and partnering with financial institutions to provide new financing products or loan guarantees to customers that require EEU financial backing;
- Enabling the EEU to participate in the ISO-New England Forward Capacity Market, including qualifying as a market participant and being able to stand behind bids to provide capacity into the market three to five years in the future.
- Providing clearer public assessment to assure all parties that the entity is truly providing least-cost services;
- Enabling the EEU to meet needs for statewide long-term electric planning;
- Allowing the EEU to participate in regulatory proceedings and in the Legislature, including participating as an advocate, in a manner similar to distribution utilities; and
- Providing flexibility that allows for possible fundamental changes in efficiency policies and programs in response to market transformation or policy decisions. (Notably, in February 2008 the Vermont Legislature passed landmark legislation (Act 92) that called for expansion of the State's energy efficiency efforts to address non-regulated fuels.)

## Consideration of Options

The charge from the PSB to the EEU Structure Working Group was "to examine what type of alternative electric EEU structure would improve the aspects described above while preserving the strengths of the current EEU program. This charge includes consideration of the myriad of design details associated with a particular model, including legal, financial, operational, and transition issues." (Vermont Public Service Board, 2007a).

In a series of workshops held by the Public Service Board, the parties considered several types of structural change for the EEU. At the outset, the working group considered a fairly broad array of potential models, including:

1. Short-term contract – the current Efficiency Vermont structure
2. Long-term contract – the current structure with a longer term
3. Separate legal entity – similar to the Energy Trust of Oregon
4. Joint action agency – a private authority created by the state
5. Governmental body – similar to NYSERDA
6. Direct administration by the regulators – similar to Efficiency Maine

7. Franchise with indefinite term – a new model analogous to utility regulation with an ongoing appointment
8. Franchise with defined term – a new model analogous to utility regulation with a specified, limited term of appointment

The parties considered all of the options on this list. The working group developed a list of objectives for considering the options and applied the objectives to the eight options and potential variants. By mid-September, the focus had narrowed to two options: a longer-term contract and a franchise-like appointment. Deliberations shifted to thinking through how each component of EEU scope and operation might be implemented for each of these two options, and the group agreed that simply moving to a longer-term contract would not sufficiently address key objectives.

Therefore, the focus narrowed to in-depth consideration of all the issues and details associated with the franchise-like model. A self-selected group of the parties developed a detailed draft description of how this new structure might operate. By the end of the year, a high degree of consensus had been achieved among most of the parties regarding the alternative structure. While not all elements of the model were resolved with all parties, there was broad agreement on the approach and most of the features. A report from the workshop process was presented by regulatory staff to the Public Service Board on January 15, 2008 (Bishop & McNamara, 2008).

One of the greatest uncertainties regarding a franchise-like structure was whether the regulators had clear authority under Vermont statute to implement this model. To address this issue, the Legislature included specific language to this effect in Act 92, an energy bill signed into law on March 19, 2008.

## **A New, Regulated Energy Efficiency Utility Model**

The proposed regulated EEU has two objectives:

1. Acquiring maximum cost-effective demand-side resources through comprehensive approaches to reducing customer electricity requirements.
2. Avoiding or deferring capital investments that would otherwise be required to maintain reliability of the electric system, both statewide and in specified target areas.

### **Changes in Scope**

Many of the activities defined within the scope of the proposed regulated EEU have been conducted by the EEU in the past, while others have been added in recognition of changing needs and opportunities. Although most of these roles are common where utilities administer efficiency portfolios, they encompass a very broad scope for non-utility administration. Elements that this scope would authorize include:

- Increasing the efficiency of buildings, equipment, products, and other electricity end uses, at time of replacement and / or through retrofit.
- Reducing peak load through control.
- Reducing absolute energy use through controls, sizing, operation and maintenance practices,

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- and other end-user consumer actions;
- Participating in electric system planning with the state;
  - Empowering consumers to manage their electricity use through the provision of public information and education;
  - Developing and supporting policy instruments that can serve as useful tools for electricity savings through voluntary action or government adoption, including guidelines, codes, and standards;
  - Participating in the ISO-New England Forward Capacity Market to secure capacity payments for demand-side resource measures implemented by the EEU, for the benefit of Vermont ratepayers;
  - Assessing and facilitating fuel switching, combined heat and power, and demand response, as eligible demand-resource measures where cost-effective, appropriate, and part of optimal, comprehensive treatment;
  - Conducting appropriate levels of applied research, development, and demonstration; and
  - Training and supporting workforce development.

In addition to the above areas of responsibility, the new, regulated EEU is expected to fully assume responsibilities assigned to the EEU by regulators regarding demand-side resources in statewide transmission planning and addressing electric system reliability deficiencies. This role requires the EEU to work with the state's distribution companies and transmission company in planning for and analyzing "non-wires alternatives" (e.g., energy efficiency) to capital investments in the transmission and distribution system, including providing substantial input to regularly updated 20-year transmission plans.

Furthermore, it has been proposed that a new, regulated EEU would be designated as the default provider of detailed analyses of energy efficiency alternatives to system upgrades that address local reliability constraints. The EEU would also serve as the default implementer of targeted efficiency measures if efficiency was part of a reliability solution.

### **Legal Structure and Establishment**

The new structure can be implemented by a regulatory "Order of Appointment" that designates an entity to serve as an EEU. While the current EEU contractor is a non-profit corporation, this would not be required, nor was it a requirement in the original model. The Order would contain all the necessary terms and conditions that are currently provided through the contractual mechanism. The EEU would not be designated as a "company," as are the state's regulated electric and gas utilities, and would not be issued a Certificate of Public Good. However, a number of the requirements associated with the "company" designation that are deemed to be relevant and appropriate for regulating an EEU would apply to the appointed entity. A recently adopted Vermont statute identifies the specific utility obligations and requirements that do apply, including provisions regarding powers of the PSB and the ratepayer advocate, recordkeeping, investigations, reports, and procedures.

While the PSB has not yet decided, it is presumed that the Order of Appointment establishing the new EEU structure would be the product of a contested-case proceeding before regulators, allowing for notice and full participation by the affected parties. Initial budgets, goals, and performance indicators would be set through this process. One option could be that the



proceeding be left open, which would facilitate regular future setting of budgets, goals, and performance indicators, as well as regular performance reviews.

As now specified in Vermont statute, an EEU appointment will be for a term of 12 years, with the opportunity for the PSB to re-appoint the entity at that time.

### Long-Term Budgets and Goals

One of the compelling changes associated with this new structure is the move to routine regulatory adoption of an EEU Long-Term Demand-Side Resources Plan. This plan will consist of a set of year-by-year budgets and savings goals for the EEU that extend 20 years into the future. It would be updated no less frequently than every three years, in a public proceeding before regulators, with analyses and proposals contributed by both the ratepayer advocate and the EEU. Other parties will have the full opportunity to participate, and regulators will then adopt new budgets and goals for the next 20-year period. This Long-Term Demand-Side Resources Plan will provide short-term budgets with a high level of certainty and short-term goals against which performance can be assessed, while at the same time providing a somewhat less-certain assumption of longer-term budgets and expected savings that can be relied upon for long-term planning.

### Performance Mechanism

Just as in the current contract model, a significant hold-back in compensation (currently on the order of 2.5% of the total budget) would be paid to the appointed entity only upon attainment of specified resource acquisition goals. This could also include, as under the current contractual model, provisions for weighting and scaling incentives.

Each time budgets and goals are established, the performance goals and incentive mechanism will be reset. This includes choosing quantifiable performance indicators (MWh, MW, etc.), specifying minimum and target values, and choosing the weighting to be applied to each indicator. Assessing performance of the EEU against these quantifiable performance indicators provides a basis for regulators to treat the EEU in a manner similar to a supply utility under performance-based regulation. If EEU performance against minimum requirements or quantifiable performance indicators is below certain thresholds, it would trigger a process that could lead to loss of the appointment.

In addition to performance-based compensation for resource acquisition, the new model anticipates a (relatively small) portion of the budget as "cost-of-service" compensation. This would be cost reimbursement for certain designated activities and responsibilities that are not associated with the achievement of resource acquisition goals, such as public information and education, market assessment, planning and forecasting, support for codes and standards, and applied research and development. Budgets would be established for each of these categories, based on specific scopes of work, and included as part of the regular budget and goal-setting cycle. As it has developed, this concept has increasingly drawn on regulatory models of utility service under performance-based regulation.

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## **Periodic Reconsideration of Appointment**

One of the greatest concerns in moving to an appointment model was providing adequate checks, beyond achievement of short-term resource acquisition results, that an EEU not become complacent, operationally inefficient or not keep up with best practices from other jurisdictions. These concerns resulted in several mechanisms for reconsideration of the choice of the appointed entity. First, there was agreement that the term of the appointment would be limited to twelve years. Additionally, current plans call for a performance review of the EEU no less frequently than every six years. This review is different from the savings verification and other routine evaluations of the EEU's processes and impacts. It is a scheduled review of certain indicators that would be compared to appropriate comparative data achieved by other administrators in other jurisdictions. If this review suggests cause for reconsideration of the choice of the appointed entity, a process would be begun to consider alternative entities. Finally, while this process is scheduled every six years, any party may petition regulators to initiate such a review, for cause, at any time.

## **Evaluation**

As has been the case since the initiation of the EEU structure in 2000, required regulatory impact and process evaluations, as well as annual savings verification, would continue to be the responsibility of the Vermont Department of Public Service, the agency that acts as the ratepayer advocate in Vermont's regulatory structure. This agency would also be responsible for recommending to the PSB whether an EEU has achieved established quantifiable performance indicators in each performance period, as well as annually certifying EEU progress and general performance to the PSB.

## **Uncertain Territory**

All parties involved in moving toward this new model acknowledge that it is unprecedented and involves considerable uncertainty. One concern is that new regulatory processes may be more complex, formal and burdensome than anticipated. The past benefits of using a negotiation process to set goals and incentives may be difficult to carry forward into the new structure. Some parties continue to be concerned that planned oversight and checks may be inadequate, while others suggest the level may be excessive and not worthwhile. The extent, frequency and number of regulatory processes may prove burdensome for broad stakeholder participation. While regulatory costs are anticipated to increase for many parties, particularly for an EEU, they could increase more than foreseen. Concern has also been expressed regarding the potential negative impact of a new structure on the historically-high level of trust and collaboration among all parties. Nonetheless, there is a fairly broad consensus to proceed, weighing risks against anticipated benefits and with a level of faith in the ability to modify the new structure as experience is gained.

## **Status and Conclusions**

Vermont's contractual model for an EEU has worked well, but the potential benefits of changing to an improved model have resulted in movement toward a new structure. Of all the

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known options, a franchise-like regulated efficiency utility model appears to be the consensus choice for current circumstances.

The Vermont Legislature has supported moving to this new structure, recently passing enabling legislation and adding responsibilities for energy efficiency in the use of non-regulated fuels. The decision whether to move forward, as well as details and timing of implementing this new model now sit with Vermont regulators.

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# What Does It Take to Turn Load Growth Negative? A View from the Leading Edge

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## ABSTRACT

Utilities and policymakers are increasingly considering massive implementation of energy efficiency as a key strategy in achieving greenhouse gas reduction targets, as well as an effective mechanism for acquiring least-cost resources. While energy efficiency has historically been seen as a tool that could reduce the rate of load growth, we are now entering an era with a new, emerging priority: turning load growth negative. What will it take to do this? What might it look like? Some indications and examples in recent experience can be seen where the most aggressive efficiency efforts have been implemented. In Vermont, the underlying load growth has been approximately 1.45%, slightly less than the current national average. For several years, Vermont has had the highest statewide rate of investment in energy efficiency and a correspondingly high rate of savings. In 2007, increasing efficiency efforts in Vermont resulted in a savings rate of 1.74% of annual sales per year, effectively turning load growth negative. Getting to this point has required strong political and regulatory leadership, development of innovative approaches and strategies, high levels of partnership with key market actors, and unprecedented commitment of human resources. This paper provides the latest results from the leading-edge “laboratory” that Vermont provides in pursuing unprecedented levels of efficiency resource acquisition.

## Introduction

Policymakers are calling for energy efficiency resources to deliver unprecedented contributions to meet our future energy needs. Some analyses of what it will take to reach stabilization goals for greenhouse gas emissions are concluding that efficiency is the least-cost option to meet 25% to 50% of those goals (see, for example, McKinsey & Company, 2008). State-level and utility least-cost-planning and procurement analyses are increasingly concluding that resource plans should *start* with energy efficiency, and then anticipate that efficiency resources will meet large portions of future need.<sup>1</sup> Efficiency has historically been seen as a resource that could somewhat reduce load growth; however, it is now being recognized not only as having the potential to offset load growth, but to turn it negative.

Turning load growth negative through efficiency is uncharted territory. But experience from those who are implementing the most aggressive efficiency efforts can offer some indicators and suggestions of what sustained, deep efficiency efforts might look like.

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<sup>1</sup> Recent examples include California, Rhode Island, Connecticut, Massachusetts and Maryland in addition to Vermont.

Vermont has some factors that have facilitated progress in securing deep energy savings, including supportive legislative and regulatory policies and an environment of high public awareness and interest in environmental and energy issues. On the other hand, Vermont also faces some high barriers to achieving deep savings. These include many years of prior efficiency efforts, relatively high efficiency baselines, a highly rural distribution of customers, and very low electric space heating and air conditioning saturation (and thus less opportunity for savings in these end uses). While Vermont does not have a relatively large industrial base, Vermont's electric load is somewhat representative of the national breakdown: 1/3 residential, 1/3 commercial and 1/3 industrial. On balance, there is reason to believe that the Vermont experience can be relevant to other jurisdictions. The structural features and operating principles that are the focus of this paper are certainly not limited in their application to other jurisdictions.

### Vermont's Performance and Possibilities

Vermont's efficiency resource acquisition has grown to the point that it has offset underlying load growth--in 2007--for the first time. Due to year-to-year fluctuations in statewide energy use, associated with other variables such as weather, turning load growth negative is best evaluated by expressing the savings that were achieved as a percentage of sales:

$$(\text{energy savings}) \div (\text{actual energy requirements} + \text{energy savings})$$

The savings as a percent of statewide requirements can then be compared to estimates of underlying growth rate without efficiency. With energy efficiency savings at 1.74% of Vermont electric sales in 2007, and a forecast underlying growth rate of 1.36%, it is readily concluded that efficiency resources are now more than offsetting the underlying growth rate.

**Figure 1. Rate of Vermont Efficiency Resource Acquisition Relative to Load Growth**

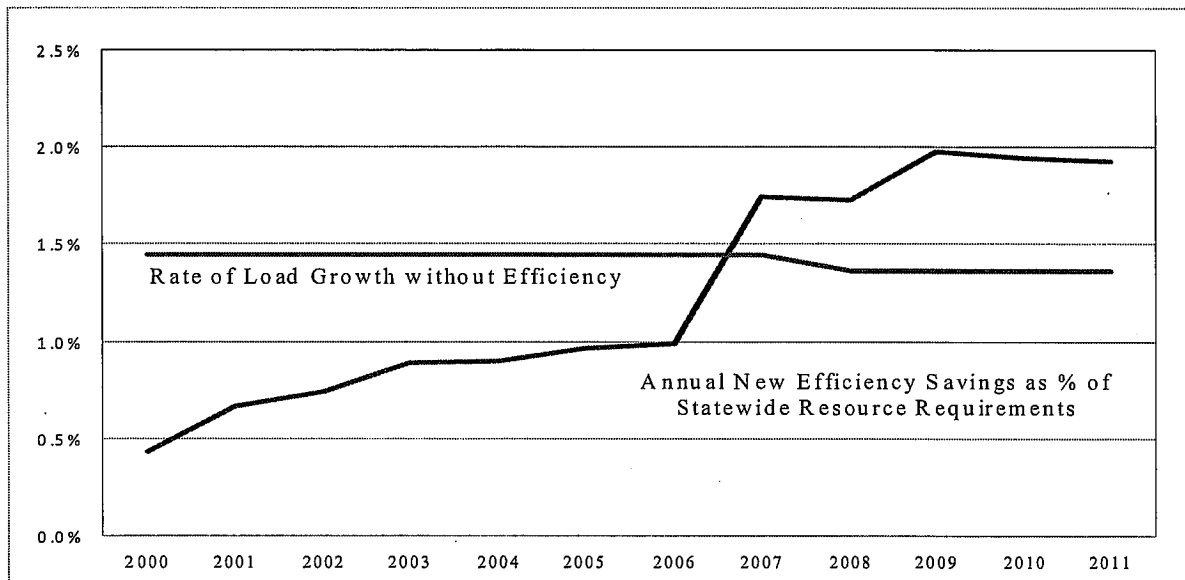


Figure 1 presents both efficiency savings as a percent of sales and the corresponding estimate of underlying growth rate for electric sales in Vermont. The Vermont Department of

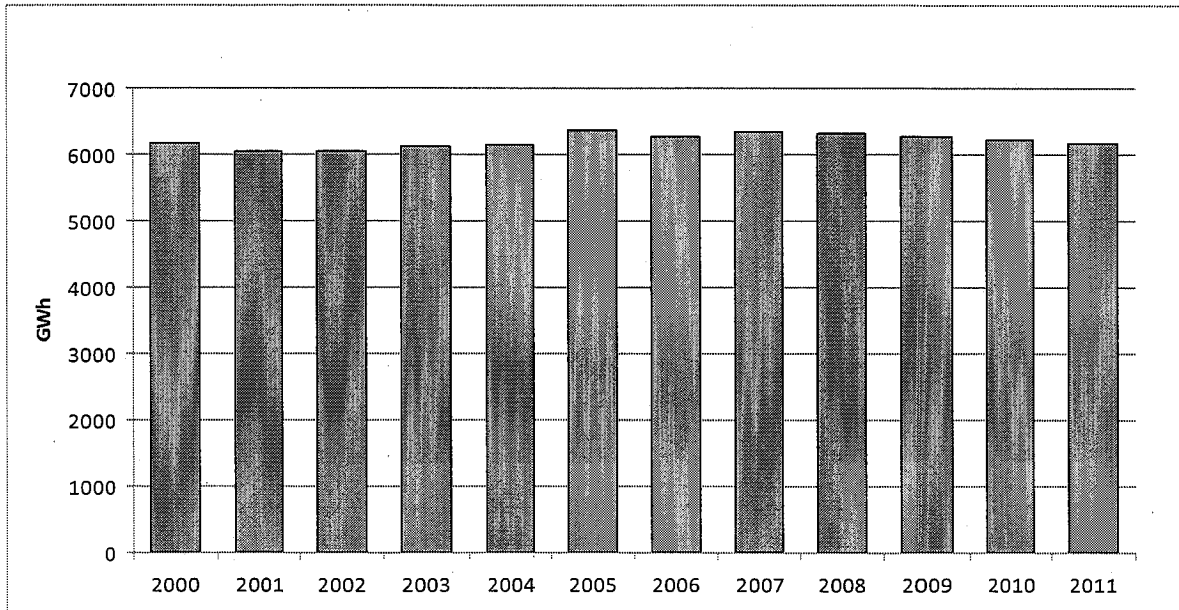
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Public Service makes estimates of average underlying growth for electric energy as part of long-range electric plans. The 2006 forecast estimates that in the absence of additional electrical energy efficiency investment, base demand for electricity would grow at an average rate of 1.36% compared to the underlying growth rate of 1.45% that Vermont experienced from 1995 to 2005 (Vermont Department of Public Service, 2006).

Figure 2 presents actual statewide energy sales from 2000 through 2007 and a projection for a further four years. Vermont's 2005 energy forecast was used to project sales without new efficiency for 2008 through 2011. To estimate the effects of new efficiency, funding was assumed constant at 2008 approved levels (\$30.75 million), as was an average savings yield rate (45 MWh per \$10,000 invested) that the Energy Efficiency Utility achieved in 2006-2007. The result is clearly negative load growth, at an average level of approximately -0.7% per year.

**Figure 2. Vermont Energy Resource Requirements**

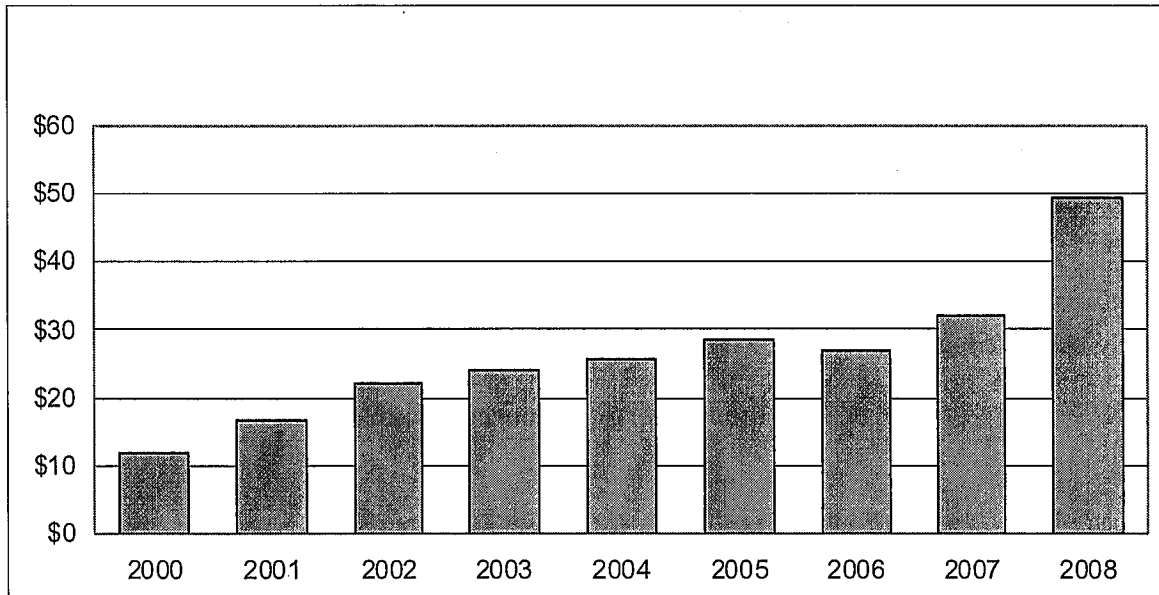


Achieving this impact on load growth has required significant investment on behalf of Vermont ratepayers. Figure 3 presents Vermont's per-capita level of investment in efficiency, year by year. Figure 4 presents Vermont's yield rates since 2000. The best year to date has been 2007, with 52 MWh per \$10,000 invested, overall.

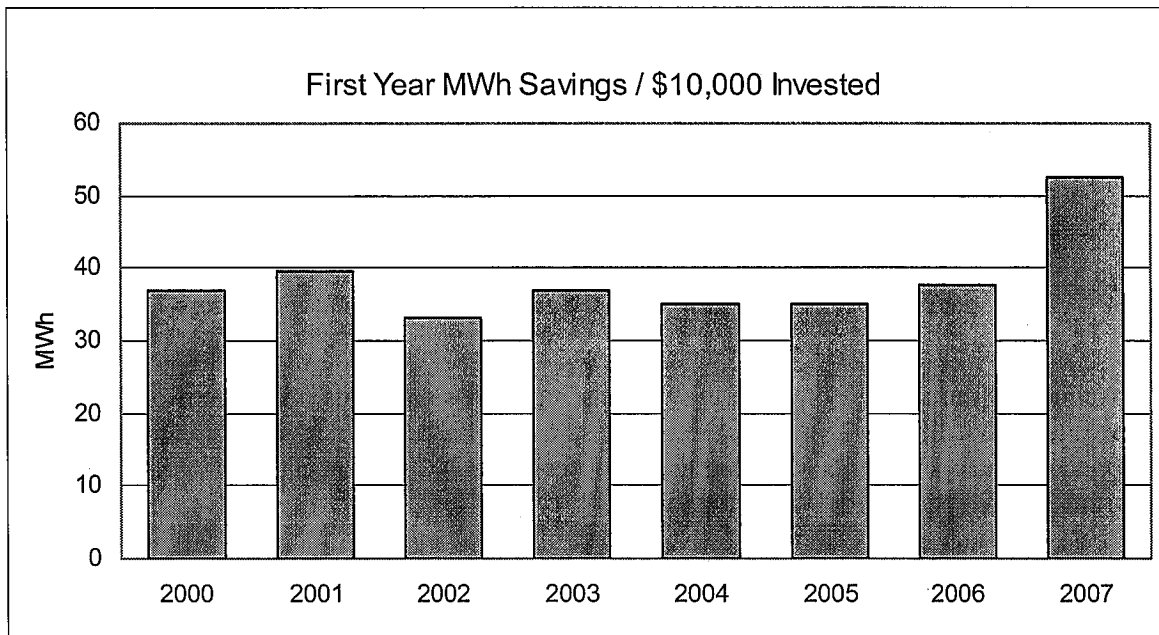
**What does it take?**

Vermont may be the first state in which efficiency resource acquisition has grown to the point where it is offsetting underlying load growth, but other jurisdictions are expected to follow in short order. The structure and strategies that this level of success requires may be substantially different from earlier efficiency efforts. We refer to this level of effort as a **Deep Efficiency Acquisition System**.

**Figure 3. Vermont's Efficiency Spending, Per Capita, by Year**



**Figure 4. Yield Rates for Vermont Energy Efficiency Utility**



Historically, many energy efficiency efforts resulting from political and regulatory “settlements” have not pursued all cost-effective resources in a comprehensive, systematic, and aggressive manner. These settlements have often taken the form of defined, agreed-upon spending levels that were based on past spending, spending levels in other jurisdictions, perceptions of acceptable rate impacts, or other forms of compromise. These approaches have served as artificial constraints to acquiring energy efficiency resources.

In many cases, analyses of energy efficiency potential (“potential” studies) drive expectations about how much resource efficiency can provide. Although these studies have been useful in assessing current potential (a snapshot of the present), they are often quite constrained in assessing the future. That is, such studies typically do not adequately account for the introduction of new, as-yet unknown technologies. The assumptions these studies make are even more significantly limited about the portion of cost-effective potential that is “achievable.” Some estimates of “achievable potential” actually use projected budget amounts as one of the constraining factors. Many studies also constrain achievable potential to what has been achieved historically in different markets. This reliance tends to bias downward the estimates of “achievable” potential. The methods and structures that have delivered relatively low levels of efficiency resources in the past are not necessarily good indicators of what we can achieve in the future.

This is not surprising. The first hurdles faced in the late 1980s and 1990s—and still faced in more jurisdictions than many of us want to admit—were: (1) persuading skeptical utilities, regulators, legislators, and some influential customers that energy efficiency was a real resource that could be relied upon to contribute substantially in meeting electric system requirements; and (2) persuading them that large-scale, systematic efforts to acquire these resources was necessary.

The environment has certainly changed, with efficiency now not only widely recognized as a large and inexpensive resource, but also relied upon by the largest utilities in their future resource planning. Further it is now recognized by regional power system markets as a resource comparable to generation (Jenkins and Hamilton, 2008). In the past, efficiency advocates had to convince the skeptics that there was gold all around them. Now, using Deep Efficiency Acquisition Systems, we have to focus on the best ways to turn that gold into one of the major currencies of a new energy economy.

The remainder of this paper offers a distillation of what Vermont efficiency implementers perceive as some of the most important considerations for an efficiency effort to become a Deep Efficiency Acquisition System. This paper is not an argument for replication of the unique Vermont structure, but it is an argument that some of the structural features and strategies the Vermont Energy Efficiency Utility (EEU) has developed provide critical information for developing further Deep Efficiency Acquisition Systems. As such, the paper is directed as much to policy leaders as to program design and implementation specialists.

## **Structural Features of a Deep Efficiency Acquisition System: *You Can't Launch a Communications Satellite with a Potato Cannon***

A stable structure is the foundation for success. This discussion of structural features calls attention to issues that are often treated as incidental—or worse, as areas of “political compromise” when utilities, legislators, regulators, and other policymakers create or modify the systems through which energy efficiency resources are acquired. It is not possible just to “buy” the quantities of off-the-shelf efficiency to turn growth negative. A Deep Efficiency Acquisition System requires sustained, intelligent support and active partnership from those with political will and resources.

This paper assumes, as a baseline, (and therefore does not discuss) many widely recognized and broadly implemented standard practices that are essential to successful resource acquisition, including clear roles and responsibilities, rigorous independent critical evaluation, and systems for establishing and maintaining high quality. This paper's focus is on some not-so-

obvious features that Vermont's experience suggests are particularly important for securing deep, ongoing savings.

### **1. Clarity on Goals**

Appropriately focusing and sustaining efficiency resource acquisition efforts requires that savings acquisition targets be clearly stated and measureable. These goals are best set at the highest policy levels, so they clearly guide regulators and implementers. The goals will be most effective when they express a consistent commitment by political and regulatory institutions to pursue efficiency in a sustained manner. The goals may be expressed as multi-year targets, or a stream of annual targets. They might also incorporate other benefits such as water and fossil fuel savings. Where there are specific components of a more aggregate objective that might create implementation tensions (e.g., targets for residential new construction or low-income-sector savings, which might cost more to achieve than commercial savings), clarity can be accomplished by using weighted performance indicators. In Vermont, a set of quantifiable resource acquisition and market impact indicators are incorporated into a performance-based contract with varying incentives to the contractor for each indicator that reflect regulatory assignment of importance of each goal.

### **2. Mission Alignment**

Implementation of efficiency efforts will only maximize savings if the mission of the implementing entity is fully aligned with the savings objectives. An entity that has energy efficiency as a primary purpose will measure its success by the higher level of savings it achieves<sup>2</sup>. If an implementing entity does not currently have a clear incentive to maximize efficiency (e.g., in many cases, utility shareholder interests now compete with efficiency efforts), it is critical that those barriers be overcome (e.g., with decoupling mechanisms and / or clear performance incentives for excellent efficiency performance). In other words, there must be a commitment at the highest policy levels to create, throughout the delivery system, incentive structures that promote and support the underlying policy objectives.

### **3. Motivation**

A powerful tool for motivating an implementation entity to meet or exceed its goals is a well-constructed, balanced risk-and-incentive mechanism. For this mechanism to be effective, it needs to have considerable weight. It should motivate exemplary effort and risk-taking by providing significant incentives for meeting and going beyond established savings goals. Such performance mechanisms can also usefully be passed through to subcontractors working for the implementing entity. To assign appropriate importance to the achievement of goals, a structural model needs to have a mechanism that communicates the value of achieving those goals—for example, a portion of compensation tied to achievement of savings goals.

In Vermont the EEU operates under a three-year contract, with a holdback of approximately 3.5% of the total contract funds that represent its "profit margin." That holdback

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<sup>2</sup> Some examples include efficiency portfolio administrators in Oregon, Wisconsin, New York, Maine, and Vermont.

is awarded, based on performance relative to the specific multi-year performance targets. Failure to perform means less revenue. Significant failure may mean loss of the contract itself.

#### **4. Accountability for Results**

To the extent that achieving very high levels of savings is the primary objective, the implementing entity should be held fully accountable for achievement of savings results.

One of the significant challenges in moving to the efficiency utility model in Vermont was to shift away from the “preapproval” mindset developed in utility-administered efficiency programs in the 1990s—a mindset that specified exactly what would be done, and then doing exactly what was proposed to assure full program cost recovery. The focus was more on expenditures to implement a program as it had been filed than on achieving results. When Vermont adopted an efficiency utility model that “relieved” utilities of the regulatory responsibility (and risk) of running efficiency programs, the utilities wanted to be part of a “committee” that would direct implementation. However, as soon as the utilities understood that utilities would retain the risk for performance, they abandoned the direct-oversight idea.

But the dangers of over-specification and micro-management are not likely to come just from utilities; legislators and regulators might also want a level of control that unduly restrains the implementing entity. Sustained and deepening acquisition of efficiency resources is about people, markets, intelligence, and innovation. Both the power to implement wisely and the accountability for performing must be placed squarely on the implementing entity.

Leaders at the highest policy levels need to recognize that an Energy Acquisition System is about thoughtfully, intelligently, and persistently partnering with and moving markets. They need to be willing to exchange a *regulatory mindset* for a *performance mindset*. They need to structure incentives and create an intelligent framework in which the commitment to efficiency will be implemented and then stand back and let implementers move with considerable freedom.

#### **5. Flexibility**

If the implementing entity is to be held accountable for results, it must have a high degree of flexibility in the details of program design, resource allocation, and implementation. For example, the implementing entity must be able to alter incentive levels in response to market experience and understanding. The flexibility to go after opportunities that present themselves (such as a community that wants to install 40,000 compact fluorescent lamps) should be both encouraged and permitted. It is these opportunities that often suggest innovative approaches to new products or strategies for deeper market penetration. The Vermont EEU has made the choice to invest heavily in people and develop longstanding relationships with vendors, trade allies and large customers. The choice to shift dollars to people and spend less on incentives should be within the purview of the implementing entity as long as performance goals are met.

#### **6. Stability and Sustained Effort**

Structural models for Deep Efficiency Acquisition Systems should provide for reasonable stability to support sustained resource acquisition strategies, long-term partnerships, long-term financial agreements, and the sustained building of experience and capability in the implementing entity. The assurance of long-term stability needs to be balanced with structural

mechanisms that can help to assure efficiency of implementation and guard against institutional complacency. A stable and predictable source of funds is critical, together with an approach that values multi-year budgets appropriate to the forecasted needs of the region. The Vermont EEU has been operating with three-year budgets and goals, but regulators are currently considering moving to an alternate structure that would add rolling 20-year budgets and goals that are adjusted triennially (Hamilton, forthcoming).

## **7. Robust IT Systems**

The types of activities that need to be planned, managed, tracked, and reported as part of a Deep Efficiency Acquisition System are extensive and complex. Rock-solid information systems are essential for credibility, reliability, and cross-functional data sharing. Data systems need to contain extensive customer information, both historical and current, including business characteristics and contacts, metered energy and demand, implemented measures, measure savings assumptions and support, contacts and communications, project tracking, and cross-references to project partners. Such rich data systems support improved planning and evaluation, and development of targeted resource acquisition initiatives; and because they provide information in real time, they serve as a tool for increasing management effectiveness and providing feedback that supports continuous improvement of strategies. The level of effort and commitment of resources necessary to develop and maintain these types of systems are typically and profoundly underestimated.<sup>3</sup>

### **Operating Principles for a Deep Efficiency Acquisition System**

As with the above discussion of structural considerations, this section identifies some critical factors that might not typically be standard practice. The most important are suggested in the following list.

#### **1. Focus on Customers; Don't Run "Programs"**

Most energy efficiency implementation has focused on defining and implementing "programs," typically a limited set of actions targeted to a specific market sector and a defined number of opportunities to secure investments in a limited set of end uses. Programs have served as the packages for aggregated strategies for implementation. The "programs" approach may be useful for planning, regulatory review, and ease of administrative organization, but it does not necessarily result in customer-friendly implementation--or in optimal results.

One danger of a program approach is that the program, not the customer, becomes the focus. That is, customers are asked to fit into programs (sometimes many of them), rather than being invited simply to work together with the implementing entity to achieve customer objectives. The Vermont EEU, after only a year of implementing programs defined in its original mandate, realized that customers cared far more about relationships and services than whether they qualified for different programs. Abandoning the program approach in favor of a more customer-focused, market approach provided a strong foundation for achieving deeper and more

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<sup>3</sup> For Vermont's EEU, annual costs of IT system maintenance and development have averaged approximately 3% of total expenditures.

comprehensive savings (Chiodo, 2004). The ability to introduce this shift to a customer-focused approach was supported by the type of flexibility in program implementation described above.<sup>4</sup>

Focusing on customers begins with careful segmentation and identification of interests and motivations in each segment. The Vermont EEU has formulated customer value propositions for key customer segments and developed corresponding “strategy maps” that have led to goals and action plans. A good action plan delivers customer value while achieving deep savings objectives. Vermont’s EEU is reaching out in a coordinated way to all Vermont grocery stores, for example, and benefiting from that effort by increasing its understanding of just what it will take to get savings beyond lighting replacement.

## **2. Human Assistance vs. Financial Assistance**

In seeking to overcome customers’ market barriers to implementation of energy efficiency, there is always a mix of human (technical and information) assistance and financial assistance (cash or financing). In the pursuit of increasing levels of savings, allocating more resources to human assistance is likely to be far more effective than spending the same amount on financial incentives. As efficiency efforts have grown in Vermont, periodic planning repeatedly has concluded that incremental spending on high-quality staff was generating more and deeper savings than putting the same level of incremental resources into incentives. This has been particularly productive with large business and institutional customers, where the Vermont EEU now has individual customer account managers assigned to maintain ongoing relationships with approximately 200 of the highest-use accounts. Customer feedback cites technical assistance in many cases as having more influence on customer investment than incentives (Cummings, 2005). Moreover, it is dedicated people who build strong partnerships with market allies, build long-term relationships with customers, and know how to pursue custom and niche savings opportunities. These resources are critically important to achieving deeper savings from a broad range of significant but more complex and longer-payback measures.

## **3. Create a Vibrant Institutional Culture**

The implementation of deep efficiency requires very high levels of expertise, excellent communications skills, a willingness to establish long-term relationships, and a culture dedicated to learning and improvement. The structure, stability, responsibility, and flexibility that are essential to institutionalization of a Deep Efficiency Acquisition System do not guarantee such a culture, but these conditions do make it easier for good managers to create an organization with these attributes. The performance incentive at the corporate level can be passed through the organization in part as an added performance benefit to staff and subcontractors in a way that enhances motivation and commitment. VEIC, the entity holding the Vermont EEU contract, has found that in addition to being an organization in which people are expected to be productive and work hard, it is also a place at which people with excellent skills and high levels of motivation want to come work.

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<sup>4</sup> From the customer perspective there are simply “services” that the EEU offers in response to customer needs. From a tracking perspective, savings are attributed and reported by various customer classes and savings end uses.

#### **4. Don't Be Afraid of Complexity**

There is an understandable urge to look for simple, broad implementation strategies and mechanisms that will require a minimum of labor and institutional resources. This is often exhibited in an over-reliance on prescriptive rebates and standard offers. Most often, however, customer situations, and the deep savings opportunities they offer, are complex. The deeper we look for savings, the less likely it is that one-size-fits-all strategies will be effective. Indeed, they may even prevent deep savings by skimming the surface savings opportunities. So while there is a role for simple prescriptive measures and rebates, and the Vermont EEU does use them, a Deep Efficiency Acquisition System requires complex, multi-faceted strategies and implementation, involving large numbers of partners and market actors.

#### **5. Leverage Market Partners**

There are so many points in the market where efficiency decisions are made every day that no one entity could ever hope to cover them all directly. To do the work of the efficiency entity, it makes sense to enlist partnerships with the market actors who are the key influencers. These market actors range from retail partners to sales representatives, to energy service providers and design professionals. The Vermont EEU discovered the value of these partnerships when it chose a market strategy in commercial new construction, focusing on securing design professionals (architects and engineers) to become the champions of energy efficiency in new projects. Intense outreach, education, and support over several years have resulted in a market in which most of the major firms in the field routinely engage Efficiency Vermont at the outset of their projects and promote high levels of efficiency in the vast majority of all large new construction. This approach has also achieved substantial participation in mid-size new construction projects (Veda and Kleinman, 2006).

#### **6. Expect to Pay Up to Avoided Cost**

There may well be a lot of very low-cost energy efficiency available, but it is dangerous to set goals or expectations about costs at a level far below avoided costs. The pursuit of deep, comprehensive savings should be limited only by avoided costs. Otherwise, there is a danger of skimming, or even implementing suboptimal measures that effectively pre-empt alternative measures with deeper and / or more lasting savings. It is easy to under-invest. And it is easy to want to see a high benefit / cost ratio, even if this is not a useful indicator for valuing investment when we are seeking to maximize cost-effective savings.

If it is important to get a high amount of savings fast, or in one location, the higher costs of direct installation may well be warranted. In such instances, there is also no reason to avoid paying the full cost of measures, if it helps to achieve the desired results. Vermont's EEU is currently implementing a targeted initiative that directly installs commercial lighting at no cost to the customer to defer anticipated transmission or distribution upgrades (Massie, Wasserman, & Hamilton, 2008).



## **7. Look for More Market-Driven Opportunities**

Many efficiency portfolios have focused largely on retrofit programs; but numerous lost opportunities slip by, still largely untapped. Market-driven savings opportunities, including new construction, replacement on burn-out, and planned replacement of equipment can be much larger than many assume. Savings in these markets typically have substantially lower costs than retrofits. This approach is successful if it relies on human assistance and ongoing relationship building, as discussed above.

## **8. Be Prepared to Learn New Things and Change the Rules (and Maybe Laws) Accordingly**

Efficiency strategy implementation is a continuous learning process. Implementation reveals both unanticipated market barriers and unanticipated opportunities. A Deep Efficiency Acquisition System must have the flexibility not only to make changes as part of routine program conduct, but also to revisit fundamental assumptions and structures. The implementing entity and the regulatory / legislative structure that support it should be partners in evolving policy and structure to maximize resource acquisition and achieve public policy goals.

Vermont has recently expanded efficiency objectives and efforts to a comprehensive “all fuels” approach that holds the promise of greater savings, broader participation, and increased greenhouse gas reduction. The Vermont EEU’s approach to supporting whole-building efficiency, and through its support of Home Performance with ENERGY STAR® and its partnership with Vermont’s low income weatherization program, helped pave the way for this step. This “all fuels” approach is expected to lead to more comprehensive savings and deeper electric efficiency in the hard-to-reach (non-electric-heated) residential market.

## **Conclusions**

Vermont’s statewide efficiency resource acquisition efforts have demonstrated that statewide load growth can be turned negative. Achieving and sustaining this level of savings requires not just adequate investment, but new structures and approaches. We can define some of the key attributes necessary for the Deep Efficiency Acquisition Systems of the future from the experience of early efforts in achieving high levels of savings.

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## Current Energy Efficiency and Conservation Programs Employed by Kansas Utilities

### Empire District Electric Company

Interruptible Service Rider – Commercial and industrial customers with a minimum monthly demand of 1000 kW and a minimum load curtailment capability of 500 kW may subscribe to this interruptible service at a reduced rate. A contract is entered into with each customer specifying the daily reduction period and the utility must give the customer at least one hour notice prior to interrupting service. The customer is not required to reduce demand for more than 400 hours per contract year. (Docket No. 190,360-U)

Net Metering Rider – After receiving approval to interconnect with the utility and approval of interconnection equipment, the parallel generator will receive a credit for energy delivered as follows:

- For residential systems less than 25 kW and non-residential systems less than 100 kW, the utility will pay an amount equal to 150% of the average system cost of energy per kWh multiplied by the kWh supplied by the customer each month.
- For residential systems greater than 25 kW (but less than 100 kW) the utility will pay the negotiated price per kWh multiplied by the kWh supplied. The negotiated price will be based on the utility's avoided energy cost.

(Docket No. 04-GIME-080-GIE)

Get Energy Active – Empire District Electric Company provides a link to the Get Energy Active web site. There, consumers can find information about electricity along with tips for using less energy.

### Kansas City Power and Light Company

Air Conditioner Load Control Rider – Residential customers agree to have the utility install, at no cost, a temperature activated cycling device (load controller) on their central air conditioner or heat pump used for air conditioning. When ambient temperature is 95 degrees or greater, the utility will interrupt service to the air conditioner for about 7 ½ minutes for each 30 minute period until the ambient temperature falls to 88 degrees. (94-KCPE-370-TAR)

Residential and Small Commercial and Industrial Air Conditioner Cycling Rider – Customers with adequate paging or radio coverage and a working central air conditioning system of at least

2 ton size may participate. Participants will receive, at no cost, a programmable thermostat that can be controlled through radio signals sent by the utility to the thermostat to cycle the air conditioner. Curtailment of use can occur during the May 1<sup>st</sup> through September 30<sup>th</sup> time frame. The utility will be able to curtail service once a day for not more than 4 hours per day. (Docket No. 06-KCPE-315-TAR)

Low Income Weatherization – Through this voluntary program, the utility assists residential customers in reducing their usage by weatherizing the home. To qualify for weatherization assistance, the residential customer must meet the following criteria: household earnings at or below 185% of the current year Federal Poverty Level guidelines for the number of persons living in the residence, the residence must have energy consumption greater than 3,000 kWh per year, and the customer has received electric service from KCPL for at least one year prior to applying for weatherization assistance. (06-KCPE-497-TAR, 09-KCPE-828-TAR)

Building Operator Certification Program – Through this voluntary program, the utility will partner with the Midwest Energy Efficiency Alliance to encourage Building Operator Certification through the Northwest Energy Efficiency Council's Building Operator Certification Level 1 and Level 2 curriculums. These are nationally recognized energy efficiency courses offered to building operators employed by large commercial customers of the utility, subject to limited enrollment and certain requirements for participation. KCPL will reimburse the annual cost to license the Level 1 and Level 2 curriculums for KCPL's Kansas service territory and reimburse portions of the tuition costs for Building Operators, associated with properties in KCPL's service area, who successfully complete the certifications. The Midwest Energy Efficiency Alliance will be reimbursed for the license for the Level 1 and Level 2 curriculums which is currently \$25,000 per class. Tuition reimbursements will be \$575 for each Level. (Docket No. 07-KCPE-683-MIS)

Energy Audit and Energy Savings Measure Rider – This program provides a rebate for an energy audit conducted on facilities of commercial and industrial customers. To be eligible for the rebate, a customer's energy audit must be performed by a certified commercial energy auditor and a customer must implement at least one of the audit recommendations which qualifies for a retrofit energy saving measure rebate. The audit rebate will be 50% of the audit cost up to \$300 for customers with facilities of less than 25,000 square feet, or a maximum of \$500 for customers with facilities of greater than 25,000 square feet. If a customer has multiple facilities, the customer may apply for multiple audit rebates. A maximum of \$16,080 per year will be provided for audit rebates. In addition, a rebate will be offered for the installation of qualifying higher energy efficiency equipment or systems, or replacing or retrofitting HVAC systems, motors, lighting, pumps or other qualifying equipment or systems. An application must be submitted through the utility's web site. Rebates will range from \$4,907 to \$35,142 depending on the size of the customer and whether the project was a retrofit or new construction. (Docket No. 06-KCPE-1232-TAR)

Residential Time of Day Service – Under this service, a residential customer will pay energy rates based on the time of day (peak or off-peak) energy is utilized. The customer charge is \$11.58 per month. During the summer season (June 1- September 30), peak the energy charge is \$0.12979 per kWh and off-peak usage is \$0.05666 per kWh. During the winter season

(October 1 – May 31) the energy charge is \$0.05666 per kWh. Peak hours occur in the summer season between 1 p.m. and 7 p.m. Monday through Friday excluding week-day holidays. Special metering equipment is required. (Docket No. 07-KCPE-905-RTS)

Parallel Generation Contract Service – The utility will pay small parallel generators 150% of the utility's monthly system average cost of energy per kWh received. For larger parallel generators providing 100 kWh or less, the utility will pay \$0.02 per kWh received. For larger parallel generators providing more than 100 kW, the utility will pay an amount set by separate agreement. (Docket No. 02-KCPE-022-TAR)

Mpower Rider – Any commercial or industrial customer with a load curtailment capability of at least 25 kW. The customer must agree to have service curtailed during the months of June through September at a maximum level of at least 25 kW less than the customer's estimated peak demand. No more than 10 separate curtailments will occur per year and each curtailment will last no less than 2 hours and no more than 8 hours. Compensation to the customer is based on the length of the contract (1 to 5 years). The utility will provide a one-time payment to allow the customer to purchase specific equipment necessary to participate. The payment will be deducted from any amounts owed to the customer for curtailment on a net present value basis. (Docket No. 07-KCPE-1119-TAR)

Voluntary Load Reduction Rider – Any commercial or industrial customer with a peak demand greater than 100 kW may agree to voluntarily reduce load during the months of June through September. Customers will be informed of the kWh credit they will receive at the time of each request for voluntary load reduction. (Docket No. 00-KCPE-808-TAR)

Real-Time Pricing – Commercial and industrial customers with a maximum of at least 500 kW may participate in the real-time pricing program. The utility provides 24 hourly prices for the following day. This permits customers to shift load to lower cost hours. (Docket No. 00-KCPE-769-TAR)

Real-Time Pricing Plus – Commercial and industrial customers with a maximum of at least 500 kW may participate in the real-time pricing plus program. The utility provides 24 hourly prices for the following day. This permits customers to shift load to lower cost hours. The determination of the customer's bill varies from the above program. (Docket No. 00-KCPE-769-TAR)

Low-Income Affordable New Homes – The utility will establish agreements with builders of new homes for low-income customers. The builders must install Energy Star rated lighting fixtures, Energy Star rated refrigerators, high efficiency central cooling equipment and increased R-factor insulation in the attic, floor or crawl space. These homes must be built for customers with household earnings at or below 185% of the current Federal Poverty Level guidelines or 60% of the current State median income, whichever is greater. The utility will pay incentives to the builder, including: up to \$100 per home for installation of Energy Star rated lighting fixtures, up to \$200 per home for installing an Energy Star rated refrigerator, up to \$800 per home for installing high efficiency central cooling equipment, and up to \$400 per home for upgrading to at

least one of the following – R42 attic insulation, R25 floor insulation or R19 crawlspace insulation. (Docket No. 07-KCPE-767-TAR)

Cool Homes Program – This program is offered to residential customers to encourage them to have their central cooling systems evaluated and brought back to factory specifications or replace less efficient working central cooling systems with high efficiency systems. The utility will identify customers eligible for this program in one of three ways: through analysis of usage data, those customers it believes have a high probability of operating less than efficient central air conditioning equipment; through recommendations of HVAC contractors; and by interested customers that contact the utility or an HVAC contractor. A properly licensed HVAC contractor participating in the Cool Homes program will be sent to evaluate the customer's cooling system. The contractor will recommend either that the equipment be brought back to specification when possible or replaced. Incentives are then offered to customers to help offset the cost of reconditioning or replacing the equipment. If reconditioning is possible, the utility will pay the entire cost. The utility will pay \$650 for installation of equipment with SEER 14.0 or SEER 15.0. The utility will pay \$850 for installation of equipment with SEER of 16.0 or above. (Docket No. 07-KCPE-909-TAR)

Energy Star New Homes Program – This program is offered to encourage the building of new homes to Energy Star specifications. The program offers incentives to builders and a rebate of a portion of the cost of the audit required to receive the Energy Star certification. (Docket No. 08-KCPE-848-TAR)

Home Energy Analyzer – This is a tool on the utility's website that allows customers to determine the efficiency level of the home and determine how much money they could save on energy usage by taking certain measures.

### **Mid-Kansas Electric Company, LLC**

Interruptible Industrial Service – Customers with the capability of curtailing at least 200 kW of load at any time may enter into a contract with the utility for interruptible service. Customers are billed based on the portion of the load that is firm and that which is interruptible with penalties imposed if load is not interrupted as promised. (Docket No. 04-AQLE-1065-RTS)

Real-Time Price Program – The real-time price program is available to residential, commercial and industrial customers. The utility provides the customer with hourly prices, a day ahead, allowing customers to shift usage to low-cost hours. (Docket No. 04-AQLE-1065-RTS)

Voluntary Load Reduction Rider – Commercial and industrial customers who do not participate in the real-time price program and who have a peak demand of more than 500 kW may agree to voluntarily reduce load during the months of May through September. When requesting load reduction, the utility will also provide the customer with the credit value of the load reduction. The customer then decides whether to reduce load as requested. (Docket No. 04-AQLE-1065-RTS)

Parallel Generation Service – Residential, commercial or industrial customers with generation facilities may enter into contracts with the utility to provide the utility with capacity and energy. The utility will pay 150% of the average system cost of energy per kWh multiplied by the kWh received. (Docket No. 04-AQLE-1065-RTS)

**Midwest Energy, Inc.**

General Service Small - Time of Day – Time of day service is available to oil field customers with a demand of 10 kW or less for oil production and pipeline power or any other commercial customer with a demand of less than 30 kW for power and energy uses at any one location. During the months of June through August and between the hours of 2:00 p.m. and 9:00 p.m. customers agree to reduce load either manually or automatically. (Docket No. 99-MDWE-272-RTS)

General Service Large – Time of Day – Time of day service is available to customers with a peak demand during June, July or August of 30 kW or more at one location. During the months of June through August and between the hours of 2:00 p.m. and 9:00 p.m. customers agree to reduce load either manually or automatically. (Docket No. 05-MDWE-1213-TAR)

Irrigation Service – Time of Day – Time of day service is available to any irrigation customer for well pumping or other incidental uses. During the months of June through August and between the hours of 2:00 p.m. and 9:00 p.m. customers agree to reduce load either manually or automatically. (Docket No. 99-MDWE-272-RTS)

Oil Field Service – Time of Day – This time of day service is available to any oil field customer having demand of greater than 10 kW for all oil well production and pipeline power and energy uses at one location through one meter. During the months of June through August and between the hours of 2:00 p.m. and 9:00 p.m. customers agree to reduce load either manually or automatically. (Docket No. 99-MDWE-272-RTS)

Parallel Service – Customers with parallel generation capability of 100 kW or less may supply energy to the utility. The utility will pay 150% of the actual cost of purchased energy and fossil fuel burned in generation as indicated in the most recent Energy Cost Adjustment filing for the period in which energy is received. (Docket No. 05-MDWE-1142-TAR)

Interruptible Service Rider to Large Power Contract Service – Customers with an interruptible load of at least 500 kW may receive service under this rider. The Customer agrees to service interruptions for a maximum agreed upon load and is given an incentive credit rate of \$3.00 per kVA plus \$75.00 per MWh of actual interruptible load received by the utility. (Docket No. 03-MDWE-421-ACQ)

HowSmart Rider – Residential, commercial and industrial customers may take advantage of this program to improve efficiency. A conservation plan will be developed by the utility and specify measures for the customer to increase efficiency. The plan will include the change in cost of resources consumed attributable to efficiency measures recommended, the charge that will be

included on the customer's bill based on the proposed measures and savings, and the number of payments for the HowSmart projects. The efficiency measures must be permanently installed fixtures at the customer premises. Compact fluorescent light do not qualify. (Docket No. 07-MDWE-788-TAR) (This was made a permanent program in Docket No. 08-MDWE-1129-TAR)  
\*\*This program is also available to Midwest Energy's natural gas customers.\*\*

Expert Energy Service Assistance – Through its web site, the utility offers services to its customers to assist with energy efficiency measures.

### **Pioneer Electric Cooperative, Inc**

Large Power-Time-of-Use (Experimental) – This service is available to a maximum of 10 customers who have monthly peak demand of 200 kW or more in at least 3 months. Under the tariff, the customers would pay an additional On-Peak Hours Billing Demand charge. The peak demand period is from 10:00 a.m. to 10:00 p.m. (Docket No. 01-PNRE-058-RTS)

Parallel Generation – This service is available to those customers capable of producing 100 kW or less through their on generation facilities. The utility will pay for metered energy output at a rate equal to 1.5 times the avoidable fuel and energy components of the utility's wholesale rate. (Docket No 04-GIME-080-GIE)

Special Interruptible Contract (Oxy, USA) – Oxy USA agrees to interrupt load upon notice from the utility. The utility attempts to give 24 hour notice of a need to interrupt load but will give at least 30 minutes notice. The total interruption in any one year will not exceed 150 hours. (Docket No. 91-PNRE-120-CON)

Home Energy Calculator and Lighting Calculator – These are features on the utility's web site that aid consumers in determining where energy savings can be achieved.

### **Tri-County Electric Cooperative, Inc.**

Parallel Generation – This service is available to customers previously served by Southwestern Public Service Company under a similar provision. Those customers offer parallel generation for the utility for a rate not less than 150% of the utility's monthly system average cost of energy per kWh. (Docket No. 06-TCEE-510-ACQ)

### **Westar Energy, Inc.**

Restricted Peak Service – Service is offered under this tariff to customers expecting to use service primarily in the off-peak period (October – May 31). There are distinct capacity charges for peak and off-peak demand. The off-peak capacity charge is substantially less to encourage off peak demand. (Docket No. 05-WSEE-981-RTS)



Religious Institution Time of Day Service – Religious institutions may subscribe to this service and pay a flat fee for the first 10 kWh used in a month and then rates distinguished by time of day and peak or off-peak season. (Docket No. 05-WSEE-981-RTS)

Interruptible Contract Service – Customers with contracts for delivery of 5,000 kVA or more may contract for interruptible service. Service is subject to curtailment upon request of the utility. If the customer is unable to curtail demand, there will be an additional capacity charge applied. (Docket No. 05-WSEE-981-RTS)

Parallel Generation Rider -- The utility will pay small parallel generators 150% of the utility's monthly system average cost of energy per kWh received. (Docket No. 05-WSEE-981-RTS)

Dedicated Off-Peak Service – Customers with average demands greater than 5 kW but less than 15,000 kW who are able to dedicate load to off-peak service receive a discounted rate for off-peak capacity. If the customer goes over the maximum allowable amount of peak load, the customer will be assessed a demand charge. (Docket No. 05-WSEE-981-RTS)

Interruptible Service Rider – Customer with an interruptible load of at least 500 kW agree to establish a minimum capacity requirement beyond which load is interruptible. Customers receive a credit on each bill as an incentive to participate. (Docket No. 05-WSEE-981-RTS)

WattSaver Air Conditioner Cycling Rider – Customers will receive a programmable thermostat at no cost. The thermostat allows Westar to manage its peak load by remotely cycling or increasing the temperature setting through a load control device within the thermostat. The company is limited to 90 hours of load adjustment during the June 1 through September 30 timeframe between the hours of 12:00 p.m. and 8:00 p.m., excluding weekends, and holidays. The maximum length of a load adjustment period is four hours. (Docket No. 09-WSEE-636-TAR)

Building Operator Certification Program -- Through this voluntary program, the utility will partner with the Midwest Energy Efficiency Alliance to encourage Building Operator Certification through the Northwest Energy Efficiency Council's Building Operator Certification Level 1 and Level 2 curriculums, along with KCPL and Midwest Energy. These are nationally recognized energy efficiency courses offered to building operators employed by large commercial customers of the utility, subject to limited enrollment and certain requirements for participation. Westar, KCPL and Midwest Energy will share in the annual cost to license the Level 1 and Level 2 curriculums for the companies' Kansas service territories. Westar will reimburse portions of the tuition costs for Building Operators, associated with properties in Westar's service area, who successfully complete the certifications. (Docket No. 09-WSEE-738-MIS)

Westar Energy has a portion of its web site devoted to energy efficiency issues. This includes a Home Energy Suite and Commercial Energy Suite resource to assist in determining energy savings that could be achieved.

## Wheatland Electric Cooperative, Inc

Parallel Generation – This service is available to those customers capable of producing 100 kW or less through their on generation facilities. The utility will pay for metered energy output at a rate equal to 1.5 times the avoidable fuel and energy components of the utility's wholesale rate. (Docket No 04-GIME-080-GIE)

Wheatland Electric Cooperative's web site offers information to consumers regarding energy audits, energy efficient appliances, and means for improving energy efficiency.

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### Parallel Generation Interconnection Standards

Within Docket No. 04-GIME-080-GIE, the Commission approved parallel generation interconnection standards, as required by K.S.A. 2007 Supp. 66-1238. While the requirement in K.S.A. 2007 Supp. 66-1238 was for parallel interconnection standards for generators of electricity from renewable resources, the Commission required the interconnection standards be applied to all parallel generation for safety and reliability purposes. These interconnection standards permit an independently owned and operated generator to interconnect with a particular electric utility and be assured of similar treatment to other independent generators that may also interconnect with the same electric utility. The tariffs containing the interconnection standards were to include:

- A flow chart describing the utility's review process
- A standard form to be completed by the applicant for interconnection
- A specified parallel generator size below which there is a described and truncated standard approval process, technical requirements, standard contract and application fee. (small interconnection)
- The standard small interconnection technical requirements, including specifications and drawings, as well as the standard contract and application fee.
- A description of the approval process, technical requirements, standard contract and fee calculation for parallel generation that exceeds the size for the small interconnection.
- Time required for approval of small interconnection applications and for larger interconnection applications.

Parallel generation interconnection standards meeting these criteria were submitted by and approved for:

Sunflower Electric Power Corporation  
Tri-County Electric Cooperative  
Wheatland Electric Cooperative  
Pioneer Electric Cooperative  
Empire District Electric Co.  
Mid-Kansas Electric Company  
Westar Energy /KGE  
Midwest Energy, Inc.  
Kansas City Power and Light

## **Staff Summary of Kansas Corporation Commission General Authority and Policy for Energy Efficiency Programs**

Based on the following orders:

- Final Order, Docket No. 07-GIMX-247-GIV (October 10, 2007) ("247 Order")
- Order Setting Energy Efficiency Policy Goals, Docket No. 08-GIMX-442-GIV (June 2, 2008)
- Final Order, Docket No. 08-GIMX-441-GIV (November 14, 2008) ("441 Order")
- Order Following Collaborative, Docket No. 08-GIMX-442-GIV (April 4, 2009)
- Order On Petition for Reconsideration, Docket No. 08-GIMX-442-GIV (June 6, 2009)

### **I. Purpose**

This document prepared by Staff of the Kansas Corporation Commission (Commission) summarizes and organizes, for the benefit of utilities and the general public, the Commission's policy and directives pertaining to energy efficiency programs set forth in the orders noted above. This is provided solely as a guide for purposes of convenience and is not an order of the Commission. The language of the referenced orders is controlling in all respects and in any conflict between this document and such orders, the orders shall control. Staff does not intend this document to modify the meaning of those orders in any respect. Any differences between this document and the controlling orders referenced above are inadvertent and not intentional.

Staff intends for this document to provide guidance to jurisdictional utilities and the public about the types of energy efficiency programs the Commission favors and believes are most consistent with its policies, as the Commission has set forth and indicated in its orders. (Order Setting Energy Efficiency Policy Goals, ¶19)

Staff also intends for this document to be used as a helpful guide to the Commission's policy framework set forth in its orders so as to facilitate review and evaluation of energy efficiency, demand-side management (DSM), and demand response (DR) programs on a consistent basis. (Order Setting Energy Efficiency Policy Goals, ¶18)

### **II. General Authority**

- A.** The Commission has general authority to approve efficiency and conservation procedures. (247 Order, Findings ¶A)
- B.** Given the current activities undertaken by the jurisdictional utilities to develop energy efficiency programs, the Commission has chosen a collaborative approach instead of requiring utilities to implement efficiency and conservation procedures (and therefore not decided the question of whether it has the authority to require such programs). (247 Order, Findings ¶A)
- C.** In light of the encouraging efforts toward energy efficiency by Kansas utilities, the Commission has chosen not to create an energy efficiency third party program administrator at this time. Accordingly, the Commission has not decided the legal question of whether it has the authority to do so. The Commission encourages

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municipal and cooperative utilities to voluntarily work together to create administrators of efficiency programs. (247, ¶¶ 15, 16; Findings ¶B)

- D. The Commission has broad authority to provide incentives to utilities to promote efficiency and conservation of energy in addition to increases in rates of return. (247 Order, Findings ¶C)
- E. The Commission has broad authority and wide discretion with regard to cost-recovery methods for energy efficiency programs, as discussed above. (247 Order, Findings ¶D).
- F. The Commission has wide discretion with regard to methodologies for approving energy efficiency programs, and this discretion extends to consideration of “externalities” such as environmental costs and benefits. (247 Order, Findings ¶E)
- G. Encouraging the implementation of energy efficiency programs is consistent with the Commission’s general mission to ensure that utilities under its jurisdiction furnish reasonably efficient and sufficient service at just and reasonable rates to all classes of customers. (Order Setting Energy Efficiency Policy Goals, ¶25)
- H. The Commission has determined that reducing or postponing the need for future construction of generation and reservation of capacity on natural gas transmission pipelines are primary goals that may have benefits for all utility customers. (Order Setting Energy Efficiency Policy Goals, ¶39)
- I. The Commission finds establishing a policy framework for review and evaluation of energy efficiency programs on a uniform and consistent basis is necessary. (247 Order, Findings ¶F)
- J. The Commission has determined that such a framework shall serve as the basis for developing a comprehensive energy efficiency and conservation plan. (247 Order, Findings ¶F)

### **III. Utility-sponsored Energy Efficiency Programs and Demand Response Programs**

#### **A. General Policy as Summarized by the Commission in the Order Following Collaborative**

- o Energy efficiency should be considered a resource, along with traditional supply-side resources, to meet present and future demands. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶ 25)
- o Energy efficiency programs have the potential to mitigate CO<sub>2</sub> emissions which is a desirable outcome but must be pursued in the context of assuring efficient and cost-effective utility programming. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶ 23)
- o Energy efficiency programs should be used as a resource to moderate bill increases that are likely to be caused as utilities build new generation, implement environmental requirements and invest

in additional transmission assets. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶ 25)

- Energy efficiency programs need to produce cost-effective, firm energy savings. Energy efficiency programs should be used to achieve both energy and demand reductions. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶¶ 26, 27)
- While recognizing that addressing societal inequities is not its primary mandate, the Commission seeks development of energy efficiency programs for all classes of customers, including low-income customers where appropriate. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶ 28)
- Education programs should be implemented to facilitate achieving the maximum benefit from energy efficiency programs. Programs should be implemented which educate consumers about the actual cost of providing energy to their homes and businesses and encourage use of energy in the most reasonably efficient manner. The Commission is particularly interested in exploring use of the monthly bill to provide information to consumers to increase their ability to make informed decisions. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶¶ 29, 30)
- Programs should address efficiency improvements in a comprehensive manner using sound building science principles. Programs should implement the most cost-effective programs in a logical sequence to maximize the energy savings per dollar spent. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶¶ 27, 71)
- The Commission seeks energy efficiency programs targeting customers residing in structures most in need of efficiency improvements. (Rental units, Low-income homes) (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶ 28)
- The Commission noted the HowSmart<sup>sm</sup> Rider pilot program developed by Midwest Energy as a program that deals effectively with problems associated with low income and rental units. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶¶ 16,66)
- The Commission believes dynamic pricing is a critical component of energy efficiency programming because of its potential to

reduce peak energy demand and, thereby, postpone or avoid the need to build or acquire additional peaking generation capacity. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶ 57)

- o The Commission seeks dynamic pricing programs and other rate designs such as time-of-use, critical peak and seasonal price differentials that send more accurate price signals to customers. (Order Following Collaborative, ¶ 196, citing Order Setting Energy Efficiency Policy Goals, ¶ 59)

## **B. The Commission Finds Certain Programs to be of Particular Value**

- i. The Commission believes certain programs may be particularly beneficial and especially encourages the development of similar programs. (Order Setting Energy Efficiency Policy Goals, ¶65)
  - a. One such program is the How\$mart<sup>®</sup> Rider pilot program developed by Midwest Energy. The Commission notes this program utilizes the “whole house” concept favored by the Commission. The Commission believes utilities can play a valuable role in promoting energy efficiency, particularly with regard to rental units, by placing the cost of energy efficiency improvements on the utility bill. The Commission notes the Legislature has encouraged this approach in promulgating K.S.A. 2007 Supp. 66-1248. (Order Setting Energy Efficiency Policy Goals, ¶66)
  - b. Another program is the Facilities Conservation Improvement Program. The Commission encourages utilities to further examine whether similar programs could be implemented for the small commercial market. (Order Setting Energy Efficiency Policy Goals, ¶67)
  - c. A third example is the MPower program, developed by KCPL, should it prove successful. (Order Setting Energy Efficiency Policy Goals, ¶68)
- ii. The Commission sees the utility bill as a potentially effective means of providing energy efficiency information to consumers and even changing consumer behavior. (Order Setting Energy Efficiency Policy Goals, ¶65)
- iii. Of course, the utility bill plays an integral role in time-of-use pricing programs. (Order Setting Energy Efficiency Policy Goals, ¶69)

## **C. Program Applications**

- i. The Commission believes utilities should make formal applications for energy efficiency program approval through a tariff filing or another form of application. The Commission provided a list of items that should be submitted as follows: (441 Order, ¶34, Appendix A)
  - a. Program Description

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- b. Program Goal – expected energy and demand savings and the relevant time horizon
  - c. Program Framework/Strategy – the program’s relationship to other programs, marketing strategy, program delivery (in-house/third-party), program partners
  - d. Program Budget – a five year budget delineating start-up cost, administrative cost, incentives (if any), marketing, evaluation
  - e. Program Beneficiaries – the expected number of participants by customer class or subclass, other beneficiaries
  - f. Program Benefit-Cost Analysis – all five benefit-cost tests and supporting documentation
  - g. Program Evaluation, Measurement and Verification Plan
  - h. Program Specific Tariff Schedule – for programs involving monetary transactions or the provision of articles of value (e.g. free thermostats or CFLs)
- ii. Programs may be submitted by a utility individually or as a combined portfolio. If submitted as a portfolio, however, the proposal must be accompanied by an agreement to waive the statutory tariff deadline. (Order Following Collaborative, ¶175)

**D. Demand-side Management (DSM) Guidelines**

- i. The Commission encourages utilities to develop energy efficiency programs for all classes of customers, including low-income customers. (Order Setting Energy Efficiency Policy Goals, ¶28)
- ii. Proposed programs should provide immediate and dependable energy savings and these savings must continue through the duration of the program. (Order Setting Energy Efficiency Policy Goals, ¶27)
- iii. Proposed programs should target customers residing in structures most in need of conservation improvements. (Order Setting Energy Efficiency Policy Goals, ¶28)
  - a. There is an inherent disincentive associated with rental units that represents an opportunity for utility-based solutions.(Order Setting Energy Efficiency Policy Goals, ¶28)
  - b. Low-income customers residing in their own homes represent another group of customers that should be targeted through these programs. (Order Setting Energy Efficiency Policy Goals, ¶28)
- iv. Proposed programs should address efficiency improvements in a comprehensive manner. Utilities are encouraged to develop programs or suites of programs that address the total home or building, utilizing sound building science principles to achieve energy efficiency. For example, a program that targets heating or cooling systems without consideration of insulation adequacy will not achieve the best result. However, the Commission recognizes these considerations must be balanced against program cost.(Order Setting Energy Efficiency Policy Goals, ¶27, 71)

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- v. Proposed programs should implement the most cost-effective programs in a logical sequence in order to maximize the energy savings per dollar spent. (Order Setting Energy Efficiency Policy Goals, ¶27)
- vi. The Commission makes particular note of the HowSmart<sup>®</sup> Rider pilot program developed by Midwest Energy as a program that deals effectively with problems associated with low-income customers and rental units. The Commission believes similar programs should be developed by all jurisdictional utilities. (Order Setting Energy Efficiency Policy Goals, ¶16, 66)

#### **E. Demand Response (DR) Guidelines**

- i. The Commission encourages utilities to propose dynamic pricing programs—that is, rate designs such as time-of-use, critical peak, and seasonal price differentials that send more accurate price signals to customers about the time-varying costs of the energy they consume and, thus, proper incentives to use energy efficiently. (Order Setting Energy Efficiency Policy Goals, ¶59)
- ii. The Commission will monitor the effectiveness of KCPL’s current MPower program and, if it is deemed successful, will encourage other utilities to consider similar types of programs. (Order Setting Energy Efficiency Policy Goals, ¶60)
- iii. The Commission will evaluate all DR programs on the basis of cost effectiveness (using the approved benefit cost analysis methodology) and on its consistency with the Commissions goals. (Order Setting Energy Efficiency Policy Goals, ¶61)
- iv. In their evaluation of DR programs, the Commission will be mindful of the effect on elderly, low-income, or disabled customers who may be unable to easily shift (or curtail) usage during the peak hours. (Order Setting Energy Efficiency Policy Goals, ¶62)

#### **F. Educational Programs Guidelines**

- i. The Commission believes all energy efficiency program portfolios should be accompanied by programs to educate consumers regarding the actual cost of providing energy to their homes and businesses. This may require new rate designs that will provide consumers with greater information about the cost of energy (see dynamic pricing discussion above). (Order Setting Energy Efficiency Policy Goals, ¶29)
  - a. In particular, educational programs are defined as programs wherein the primary objective is to inform consumers and providers about energy efficiency and encourage them to act on that information. Marketing programs are distinct from educational programs, and will be handled by a forthcoming Commission policy in Docket No. 09-GIMX-160-GIV. (Order Following Collaborative, ¶31)
  - b. The Commission believes a useful guideline for funding devoted to educational programs is 5% of total funding devoted towards energy efficiency programs. (Order Following Collaborative, ¶32)

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- ii. The Commission is particularly interested in exploring the use of the monthly utility bill as a vehicle to provide information to consumers that will increase their ability to make informed decisions regarding energy use. (Order Setting Energy Efficiency Policy Goals, ¶30)
- iii. The Commission notes the experience of Sacramento, California, and its use of expanded information on utility bills to provide education and behavioral incentives. (Order Setting Energy Efficiency Policy Goals, ¶69)
- iv. The Commission suggests the following types of information be considered for inclusion on monthly bills:
  - a. cost per unit of energy used;
  - b. meter readings;
  - c. usage comparison with prior periods, more than one year if possible;
  - d. weather adjustments to show relationship of weather on usage;
  - e. comparison of usage with that of similar homes; and
  - f. examples of how behavioral changes—e.g., adjusting thermostat—and energy-saving devices can change usage and costs. (Order Setting Energy Efficiency Policy Goals, ¶30)
- v. Educational programs will not be subject to benefit-cost analysis because of the difficulty of attributing energy savings directly to the educational programs. Utilities will, however, be required to provide (1) extensive explanations of the programs and their attendant costs, (2) evidence of their usefulness in other jurisdictions, and (3) any additional supportive information. (Order Setting Energy Efficiency Policy Goals, ¶42)
- vi. Commission Staff is directed to develop guidelines regarding the type of information and the method of presentation to be used by utilities on the monthly bills. These guidelines should be provided to the Commission within 210 days, on or before December 31, 2009. (Order Setting Energy Efficiency Policy Goals, ¶70, Order ¶E)

#### **G. Benefit Cost Guidelines**

- i. Benefit-cost tests are one tool the Commission will utilize to assure that proposed energy efficiency programs further the goals and priorities it has delineated. (Order Setting Energy Efficiency Policy Goals, ¶33)
- ii. There are five standard tests discussed in the California Standard Practice Manual: (1) Participant Test (indicates whether the program is cost-effective for the customer who actually participates in the program); (2) Ratepayer Impact Measure (RIM) Test (indicates whether the rates of all utility customers will increase as a result of the program, whether they participate or not); (3) Program Administrator Cost (PAC) Test (indicates whether utility costs will increase or decrease as a result of the program); (4) Total Resource Cost (TRC) Test (indicates whether the program will lead to lower system costs for the utility); and (5) Societal Test (indicates

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whether the program will lead to lower system costs for the utility includes estimates of the value of externalities). (Order Setting Energy Efficiency Policy Goals, ¶34, 35)

- iii. Proposed energy efficiency programs should be accompanied with results of the following benefit-cost tests: Participant, Ratepayer Impact Measure (RIM), Program Administrator Cost (PAC), Total Resource Cost (TRC) and the Societal Test. All tests should be calculated based on the formulas found within the California Standard Practice Manual. (Order Following Collaborative, ¶21, 37)
  - a. Emphasis will be placed on the RIM and TRC tests because these tests provide information that is especially relevant to the Commission's primary policy goals of (1) reducing or postponing future construction of generation, (2) reserving capacity on natural gas transmission pipelines, and (3) mitigating customer bill increases. (Order Setting Energy Efficiency Policy Goals, ¶39, 40)
  - b. The Commission will not require, as a bright-line rule, that results for both the RIM and TRC tests be equal to or greater than 1 (one) in order for a program to be approved. A program that scores less than 1 (one) on the RIM test may still be approved, depending on the degree of RIM test failure, its performance on the other tests, and if the Commission believes it will effectively address Commission goals. A program that scores less than 1 (one) on the TRC test is unlikely to be approved by the Commission. (Order Following Collaborative, ¶23, 25)
  - c. The Commission will also review the results of the other benefit-cost tests for extraordinary values that might influence the Commission's decision. (Order Setting Energy Efficiency Policy Goals, ¶41)
  - d. A program that has benefit-cost tests all equal to or greater than 1 (one) is unlikely to be denied. However, the Commission has not adopted a "bright-line rule" with regard to program approval. (Order Following Collaborative, ¶28)
  - e. Educational programs will not be subjected to benefit cost analysis. (Order Setting Energy Efficiency Policy Goals, ¶42)

#### **H. Evaluation, Measurement, and Verification (EM&V) Guidelines**

- i. A plan for Evaluation, Measurement, and Verification (EM&V) of program effectiveness should be submitted with program proposals for Commission review and approval. (Order Setting Energy Efficiency Policy Goals, ¶49)
- ii. EM&V of energy efficiency programs are essential to effective Commission oversight. However, these activities can be very expensive. As a general rule, EM&V costs for a given program should not exceed 5% of total program costs. (Order Setting Energy Efficiency Policy Goals, ¶50)
  - a. The Commission may consider spending on EM&V in excess of the 5% general rule, provided strong justification is given for doing so. (Order Following Collaborative, ¶136)

- iii. EM&V review of a program should be conducted two years after program implementation with six months given for the completion of the review. (Order Following Collaborative, ¶149)
- iv. Interim reports containing data tracking program participation, savings, and a comparison to expected goals should be provided on a semi-annual basis. (Order Following Collaborative, ¶152)
- v. There are three basic types of evaluations: (1) impact evaluations, used to determine the benefits of a program such as reductions in energy and demand usage; (2) market effect evaluations, used to examine the long run future effects off a program on market structure; and (3) process evaluations, used to determine the efficiency and effectiveness of program implementation by inspection and comparison with best practices. (Order Setting Energy Efficiency Policy Goals, ¶48)
- vi. EM&V reviews will follow the guidelines of the International Performance Measurement & Verification Protocol with the use of actual data if available. (Order Following Collaborative, ¶150)
  - a. Reviews should focus on impact evaluations until the first two-year EM&V review. Process, cost-effectiveness (an impact evaluation combined with a program's cost), and market transformation reviews may be conducted before the two-year review if the Commission Staff believes such a review is necessary and consistent with budget limitations. (Order Following Collaborative, ¶150)
  - b. The baseline utilized in the initial benefit-cost analysis will serve as the EM&V review's baseline. (Order Following Collaborative, ¶150)
- vii. Educational programs will not be subjected to impact evaluations, though education programs will undergo process evaluations and if appropriate market effects evaluations. (Order Following Collaborative, ¶137)
- viii. EM&V report review will be conducted in the following manner: comments and reply comments by interested parties after the report is filed, followed by a Commission order issued without a hearing and the option for parties to request a hearing following issuance of the order. (Order Following Collaboration, ¶151)
- ix. Third party EM&V provider or providers will be selected through a collaborative Request for Proposal (RFP) process, and must be approved by the Commission. (Order Following Collaborative, ¶154)
  - a. An exception to the third-party evaluation scheme is when the Commission Staff or the Commission itself determines a program or programs should be formally reviewed by the Commission prior to the selection of an EM&V provider through the collaborative process. In such a situation, the utility may perform their own EM&V or contract with a provider to do so. Such reviews should (1) be consistent with the guidelines in the IPMVP including the use of actual data when available; (2) utilize the benefit-cost analysis as the baseline for evaluation unless a baseline study was provided; and (3) adhere to any specific data requirements set out for benefit-cost analysis. (Order Following Collaborative, ¶163, 170)
- x. The Commission directs Staff to engage in a collaborative process with interested parties including the utilities and the Citizens Utility Ratepayer Board (CURB) to

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select a third-party Evaluation, measurement, and Verification (EM&V) provider or providers. This process will occur in the context of a new general investigation docket, Docket 10-GIMX-013-GIV. (Order Following Collaborative, ¶153; Order ¶B)

- a. This process should address such details as whether one or several EM&V providers should be utilized and whether services will be contracted with each utility or with the Commission. (Order Following Collaborative, ¶153)

#### **I. Flexibility to Adjust Programs**

- i. Utilities are granted the flexibility to adjust a program's budget up to 10% (ten percent) of the program's initial budget (or subsequent budget approved by the Commission in a two-year review or other proceeding) without seeking Commission approval. (Order Following Collaborative, ¶181)
- a. Utilities should submit a report to Staff, the Commission, and other parties involved in the initial program approval or formal program review detailing why the deviation was made, and how the change will be beneficial to customers. (Order Following Collaborative, ¶181)

### **IV. Cost Recovery and Incentives for Energy Efficiency Programs**

#### **A. General Policy**

- i. The Commission's basis for pursuing a voluntary approach is not based on the view that energy efficiency can be obtained only by rewarding shareholders. It is based on the belief that state, national and international forces are combining to make the need for energy efficiency as a resource alternative a shared vision between the Commission, utilities, and the people of Kansas. (441, ¶7) It is also based on the fact that utilities are actively pursuing energy efficiency programs. (See generally the 247 Order and 441 Order.)
- ii. While current energy costs are relatively low and there are few capacity constraints, energy costs will inevitably rise in the future. The Commission believes it is important that at least the basis and framework to enable a ramp-up of energy efficiency programs be developed now, before energy costs reach high levels. (441, ¶8)
- iii. With the national and Kansas economies headed for a recession, the Commission must consider the appropriateness of raising short term costs at this time. (441, ¶9)
- iv. The Commission favors implementation of DR programs as a means of mitigating the need for expensive new power generation. The Commission recognizes that utilities more readily pursue DR as a means of providing reliable power without the need for additional incentives or decoupling. Thus, incentives and decoupling may be less appropriate for these types of programs. (441, ¶10)

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## **B. Cost Recovery Guidelines**

- i. The Commission will permit utilities to submit energy efficiency portfolios and budgets for review prior to implementation as a means of mitigating utilities' concern over the potential for Commission disallowance of program expenditures. The Commission urges utilities to work with Staff in developing energy efficiency initiatives to minimize costs and risks for all parties. The Commission will retain its duty to review the program costs for prudence. (441, ¶13)
- ii. The Commission believes a rider recovery mechanism is the best approach to cost recovery, at least at this time. A rider reduces risk from the utility's perspective because it will provide a relatively rapid and assured recovery of program costs. A rider may also reduce potential rate shock for customers compared to deferral of costs until the next rate case. Because of the nearly contemporaneous recovery, the need for carrying cost, a creation of regulatory assets and a return on such deferred assets is reduced. This also lowers costs to customers. A rider cost-recovery mechanism provides a balanced approach between the positions of simply treating program costs in a traditional manner in a rate case without full cost capitalization and capitalizing all program costs. (441, ¶¶29-32)
- iii. Detail of rider recovery
  - a. The Commission expects utilities to provide a proposal for a rider. (441, ¶35)
  - b. The Commission prefers that program preimplementation costs be handled via traditional rate-making, but will consider applications for cost recovery through a rider. Such costs will be reviewed for reasonableness and prudence before being approved for recovery. (441, ¶37)
  - c. Costs will be reviewed for consistency with Commission policy directives set forth in Docket No. 08-GIMX-442-GIV and 09-GIMX-160-GIV. (441, ¶38)
  - d. Once approved program costs have been incurred, the rider will take effect. (441, ¶39) The Commission expects that the rider will not be implemented until the level of expense necessary to justify putting a rider on customers' bills has been incurred. (441, ¶36)
  - e. One rider will be utilized to recover all significant program costs but separate records for each program must be maintained for evaluation, measurement and verification. (441, ¶40)

## **C. Addressing the Throughput Incentive**

- i. The Commission recognizes that addressing the throughput incentive may be necessary to avoid utilities experiencing loss of margin as a result of implementing energy efficiency programs. Implementation of energy efficiency programs may cause utility revenues to decline and reduce the return on equity. Decoupling, and other methods of addressing the throughput incentive, removes the link between sales and margin recovery and should reduce the reluctance of a utility to promote energy efficiency. (441, ¶45)
- ii. The Commission recognizes the differences regarding this issue for natural gas and electric utilities. The Commission is aware that natural gas utilities face a unique situation in that natural gas usage per customer in general has declined over recent years. For electric utilities, usage per customer has grown. (441, ¶56)

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- iii. The Commission is focused on addressing the throughput incentive in the context of energy efficiency in this docket but is willing to consider applications by natural gas companies for decoupling to address revenue instability caused by other factors. (441, ¶60)
- iv. The Commission believes full decoupling is the best method of addressing the throughput incentive. The Commission prefers decoupling based on total allowable revenue over revenue per customer but will consider proposals on a case-by-case basis. (441, ¶¶62-63)
- v. The Commission believes decoupling lowers the risk for a utility because utility revenues are stabilized. The Commission will accordingly factor this lowered risk in setting rates of return in rate cases. (441, ¶64)
- vi. The Commission is highly unlikely to address a decoupling proposal without a demonstrated connection to an application for an energy efficiency program that meets Commission-established goals or to existing programs. The utility must show that the program has achieved measurable and verifiable success. The utility should also address rate volatility, and carrying charge treatment of any balancing account. (441, ¶¶70-72)
- vii. Natural gas utilities may, as an alternative to decoupling, purpose use of straight fixed-variable rate structures. Natural gas utilities must include an estimate of the impact of the proposed rate structure on low-income or fixed income customers and how the utility will address any disproportionate negative impact on those customers. The Commission strongly prefers that an energy efficiency plan targeting low-income or fixed income customers be submitted with an application for straight fixed-variable rate design. The Commission will not approve a rate design proposal that harms low-income and fixed income customers disproportionately. (441, ¶¶73-76)
- viii. The Commission believes straight fixed-variable rate design lowers the risk for a utility because utility revenues are stabilized. The Commission will accordingly factor this lowered risk in setting rates of return in rate cases. (441, ¶77)

#### **D. Performance Incentives**

- i. The Commission has an obligation to steer utilities toward resources, whether demand side or supply side, in a manner that results in just and reasonable prices. The Commission views energy efficiency as a means to an end – energy at a low cost to customers within the context of a balanced energy resource portfolio – not an end in itself that must be rewarded. (441, ¶ 89)
- ii. The Commission is aware that economic conditions may be on a downward trend. Thus, the Commission must be judicious in approving energy efficiency programs and must view adding costs to such programs via incentives with care. (441, ¶ 90)

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- iii. The Commission's responsibility is not to optimize utility profits, but to seek an appropriate balance between utility customer and shareholder interests in the context of moving toward the Commission's objectives of meeting public power needs through balanced resource means while mitigating rate increases. The Commission has not approved traditional supply-side resources in the past solely because they would result in rate-basing and a benefit to shareholders. These resources were approved because they were deemed a necessary and cost-effective means to meet energy needs. (441, ¶ 91)
- iv. The Commission believes that recently passed legislation, found in statute at K.S.A. 66-1239, provides guidance on balancing the interests of shareholders and customers. K.S.A. 66-1239 provides that utilities may seek a predetermination of ratemaking principles and the treatment that will apply to recovery in rates of the cost to be incurred by the public utility to construct or participate in an electric generating plant or improvement to an existing plant. However, the utility seeking determination must also file a description of its conservation measures, a description of demand side management efforts, its ten-year generation and load forecasts, and a description of all power supply alternatives considered to meet its load requirements. The Commission must consider whether the utility issued a request for proposal from a wide audience of participants willing and able to meet the needs identified and determine if the plan submitted by the utility is reasonable, reliable and efficient. The Commission believes this constitutes a signal from legislature that the Commission should weigh energy efficiency in at least equal terms to other potential energy resources, and, in fact, that there is an expectation that a utility has explored energy efficiency as an alternative that may be more cost-effective. The Commission does not believe this is an indication that utilities must be rewarded for pursuing energy efficiency. (441, ¶¶92-93)
- v. Given its interpretation of K.S.A. 66-1239, the Commission is reluctant to provide additional incentives, resulting in increased costs to consumers, for energy efficiency programs. If energy efficiency inherently does not result in the same amount of ratebasing, or capitalized costs, that is simply reflective of the nature of the resource. However, the Commission recognizes that utilities must attract shareholders and capital investment and that incentives are important to maintaining a sustainable business model and to encouraging utility investment in energy efficiency. (441, ¶¶94-95)
- vi. The Commission will balance these considerations by allowing incentives for specific energy programs the Commission has determined are the most beneficial for Kansas energy customers and for the long-term energy efficiency goals of the Commission. The Commission will consider incentives for programs that meet either or both of the following goals:
  - a. Proposals for programs that target low and fixed-income customers, and renters. The Commission believes these groups are vulnerable, particularly in the face of an economic downturn, and may be unable to undertake energy efficiency measures on their own for various reasons.

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- b. Proposals that target new and existing residential housing and demonstrate a potential for long-term energy savings utilizing a comprehensive whole house concept. (441, ¶¶96-97)
- vii. The Commission prefers the shared benefit approach to performance incentives. This incentive mechanism provides for the sharing of some percentage of the net benefits of an energy efficiency program with the utility. This method naturally encourages utilities to achieve the best possible results. This approach may, in fact, be viewed as a return on a utility's investment that benefits both the utility and the customer. The incentive must be linked to the achievement level of the utility in meeting the Commission's energy efficiency goals for the approved program. (441, ¶¶99-100, 109)
- viii. The Commission is aware that as a practical matter the time may not yet be right for this incentive method. The shared benefit approach can only provide a viable incentive if the net benefit of an energy efficiency program is significant. If the Total Resource Cost Test is just slightly above one, then the shared benefit approach may not provide a significant incentive to utilities because the net benefit may be small. However, as energy costs rise, the benefits from energy efficiency will increase and benefit sharing will become more advantageous. (441, ¶¶101-102)
- ix. While the Commission prefers shared savings incentives over performance target incentives, the Commission may reconsider the method of incentive as the Commission Staff continue to develop expertise in the area of program evaluation, measurement, and verification. (441, ¶104)
- x. The Commission will consider whether the incentive plan is likely to increase the utility's investment in the energy efficiency program; whether the incentive plan is compatible with the interests of utility ratepayers and other interested parties; and, whether the incentive plan ties the incentive to the utility's performance in achieving Commission-set goals. (441, ¶110)
- xi. The Commission does not believe full cost capitalization is a good option for Kansas energy customers. With cost capitalization, a utility capitalizes or ratebases energy efficiency costs, including items that would normally not be capitalized for a traditional supply-side resource, and earns a return on the unamortized portion of those costs. Because it is a method that has failed the test of experience in other jurisdictions, and because of the high potential for greater costs to consumers, the Commission will not consider cost capitalization as a performance incentive mechanism. Additionally the Commission believes the essentially contemporaneous cost recovery provided through a rider alleviates the carrying cost issues and mitigates any need to capitalize such costs. (441, ¶¶106-107)
- xii. The Commission does not favor providing an additional rate of return to energy efficiency assets that are rate-based in accordance with traditional rate case principles. However, the Commission will not rule out doing so as provided by K.S.A. 66-117(e) on a case-by-case basis. (441, ¶108)

22-14



## V. Summary of Continuing Policy Development Required by Order in Docket No. 08-GIMX-442-GIV

- i. The Commission has opened an investigation (08-GIM-160-GIV) to fully address the fuel-switching policy issue that was raised in comments submitted in this proceeding. (Order Setting Energy Efficiency Policy Goals, Order ¶F)
- ii. The Commission has opened a new investigation docket wherein the Commission Staff will be directed to initiate a collaborative process with interested parties including the utilities and the Citizen Utility Ratepayer Board (CURB) to create a request for proposals (RFP) for selecting a third-party evaluation, measurement, and verification (EM&V) provider or providers. (Order Following Collaborative, ¶153, Order B) See Docket 10-GIMX-013-GIV.

## VI. Appendixes

### A. Benefit Cost Specifics

- i. The term *externalities*, as used in the context of benefit-cost analysis of utility decisions, refers to societal costs (benefits) that are not currently reflected in price of energy as determined by regulation, the market, or law. Examples of externalities include health and environmental damage costs (avoided health and environmental damage costs) associated with pollutants from power plants that are not subject to federal or state environmental regulation. While the Commission recognizes such indirect benefits will add value to some degree to energy efficiency programs, attempting to quantify such indirect societal environmental and health benefits is difficult and the analysis may also be viewed as less closely related to the Commission's policy objectives arising from its statutory duty and role as a regulator of utility rates. However, national carbon regulation appears almost certain to occur and will directly affect rates. (Order Setting Energy Efficiency Policy Goals; ¶36)
  - a. Therefore, avoided costs of future CO<sub>2</sub> regulations should be included within the Societal Test at rates of \$10/ton, \$25/ton, and \$40/ton. (Order Following Collaborative, ¶78,79)
  - b. If/when future CO<sub>2</sub> regulations become a reality, these costs should be incorporated within the TRC test. (Order Following Collaborative, ¶78)
- ii. *Expected Useful Life* stipulations within benefit-cost tests should utilize the widely recognized Database for Energy Efficiency Resources (DEER) values until a program's first two years evaluation, measurement and verification (EM&V) review. At the first EM&V review, alternative values may be suggested with appropriate supporting documentation and study results. (Order Following Collaborative, ¶44)
  - a. If parties agree on a more accurate value, or if the useful life data is not available in Database for Energy Efficiency Resources (DEER), another value may be proposed. (Order Following Collaborative, ¶44)

- b. If a program involves more than one measure, the program's expected life value should be an average of all the measures weighted by the expected energy savings. (Order Following Collaborative, ¶46)
  - c. 20 (twenty) years is assumed to be the maximum value for a program's expected useful life. (Order Following Collaborative, ¶46)
  - d. The Commission believes a Kansas-specific database should be developed. As the Kansas database grows and the Commission, utilities, and other interested parties gain more experience with energy efficiency programs, the Commission will move toward use of Kansas specific data. (Order Following Collaborative, ¶45)
- iii. *Discount Rates*, used to calculate the net present value of costs and benefits, is a significant driver of overall cost-effectiveness. Since costs typically occur upfront and savings occur over time, the lower the discount rate the more likely the cost-effectiveness result is to be positive. (Order Following Collaborative, ¶55)
- a. Calculations of all tests except the Participant and Societal Tests should utilize the utility's most recent ROR (rate-of-return, weighted average cost of capital) as the tests discount rate. In cases where a utility does not have a recent Commission-approved ROR, the Commission will work with the utility to determine an appropriate value. (Order Following Collaborative, ¶56)
  - b. The Participant Test should utilize a discount rate of 10%. This rate may be changed by the Commission in the future to reflect changes in prevailing interest rates or other circumstances, and the Commission may also elect in the future to use different rates or rate ranges for residential and commercial customers. (Order Following Collaborative, ¶58)
  - c. For the Societal test, two separate discount rates of 7% and 3% should be used to provide the Commission with two results for comparison. (Order Following Collaborative, ¶59)
- iv. *Attrition* is the loss of efficiency of the measure or the degradation in performance of the measure over time. Attrition, also known as persistence, is a factor to be taken into account for adjusting estimated energy savings, to provide more accurate results that are directly attributable to an energy efficiency program under evaluation. (Order Following Collaborative, ¶66, 68)
- a. Attrition values are assumed to be 2% for electric measures, and 0% for gas measures, though a utility may propose other values they believe to be more accurate. Such proposed values should be based on data from similar programs in Kansas or other jurisdictions. (Order Following Collaborative, ¶68)
- v. DEER energy savings estimates, obtained from data most consistent with Kansas weather, should be used as estimates of a measure's energy savings, until the first two-year EM&V review, at which point use of different values may be suggested. (Order Following Collaborative, ¶88)
- a. If energy savings estimates are not available from the DEER, a utility may propose another estimate with supporting documentation. If there is agreement among interested parties that a different energy estimate is more accurate, the

Commission will consider those numbers. (Order Following Collaborative, ¶89)

- b. In addition, as soon as more reliable Kansas-based estimates can be developed, those estimates may be utilized. (Order Following Collaborative, ¶89)
- vi. *Avoided costs* are defined as "...reductions in transmission, distribution, generation, and capacity costs for periods when load has been reduced..."<sup>1</sup> (Order On Petition For Reconsideration, ¶17; Finding ¶B)
  - a. Avoided costs may be calculated through the use of internal cost modeling or Energy Information Administration (EIA) data weighted according to the utility's current expansion path. (Order Following Collaborative, ¶103, 104)
  - b. The Commission will not "automatically" disclose confidential modeling information to other interested parties in proceedings relating to the approval of energy efficiency programs or Evaluation, Measurement, and Verification (EM&V) review of energy efficiency programs. (Order On Petition For Reconsideration, Finding ¶A)
- vii. The *incremental cost* of a measure is the cost of the energy efficiency device in excess of what the customer would otherwise have made or incurred. Therefore, the incremental measure costs must be evaluated with respect to a baseline. This baseline changes depending on the type of measure. (Order Following Collaborative, ¶111)
  - a. For new construction and measures involving replacement of devices where the original device has failed, the incremental cost is the cost of the more efficient device minus the cost of the standard device that would have been used absent the energy efficiency program. For measure that involve retrofitting, or early replacement of a device before it would ordinarily require replacement, the measure cost is defined differently as the cost of the more efficient device plus installation costs. (Order Following Collaborative, ¶112)
  - b. If the incremental costs of a measure are not directly known, Database for Energy Efficiency Resources (DEER) estimates should be used. (Order Following Collaborative, ¶113)
- ix. *Net-to-Gross ratios*, temporarily limited to free-ridership only, shall be obtained from the Database for Energy Efficiency Resources (DEER) until sufficient data can be developed to employ Kansas-specific ratios. (Order Following Collaborative, ¶121)
  - a. However, in situations where energy savings estimates have a net-to-gross ratio embedded within them, a second net-to-gross estimate does not need to be applied. (Order Following Collaborative, ¶121)
- x. Along with the benefit-cost tests provided in an application filing, baseline data and completed studies should be provided where available. If baseline data does not exist or is too expensive or difficult to produce, estimates of the baseline data and

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<sup>1</sup> California Standard Practice Manual: Economic Analysis of Demand-side Programs and Projects (July 2002). Governor's Office of Planning and Research, State of California, page 13.

appropriate cites to any relevant studies or sources of data should be provided.  
(Order Following Collaborative, ¶127)

**Additional Information will be added as the Commission further develops energy efficiency related policy.**

22-18

## KCP&L Energy Efficiency Programs

Presented to  
**Joint Committee on Energy and Environmental Policy**

Kevin Bryant – KCP&L  
Vice President, Energy Solutions

October 28, 2009



### Executive Summary

- KCP&L has been advancing a pilot suite of innovative energy efficiency programs as a part of our Comprehensive Energy Plan, in both Missouri and Kansas, since late 2005
- These programs have provided a significant value to both our customers and our community by:
  - Deferring the need for more costly generation
  - Positively impacting our environment and reducing emissions
  - Helping our customers to reduce their energy costs
  - Economic investment and job creation in both the local and national economy
  - Reducing our reliance of fossil fuels which leads to increased energy independence
- As a result of these efforts, we believe that our modest \$41 million of program-to-date investments have:
  - Created 168 MWs of resource capacity
  - Generated \$172 million of local and national economic activity
    - Including the creation of over 70 new jobs (60 within the Kansas City metropolitan area)
  - Reduced CO<sub>2</sub> emissions equivalent to the removal of nearly 13,000 cars from the road



Joint Committee on Energy and  
Environmental Policy

Date 29 OCT 2009

Attachment # 23

## Energy Efficiency and Demand Response Pilot Programs

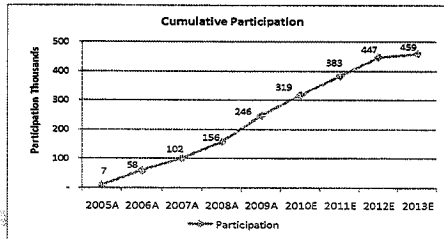
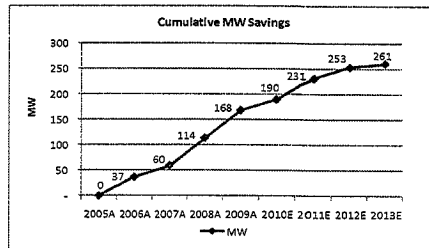
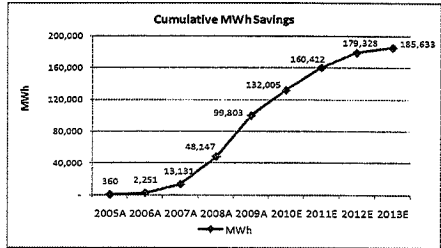
- **Affordability Programs**
  - Programs are designed to assist low income customers who have limited, if any, resources to invest in energy efficiency.
  - Targets both the retrofit and new construction markets.
  - Total 5 year budget is \$3.2M with 1,950 estimated participants triggering 661 kW savings and 2.6M kWh savings over this 5 year period.
- **Energy Efficiency Programs**
  - Consist of informational and direct impact energy efficiency programs designed to reduce energy usage.
  - Targeted to all customer classes, and targeted to both the retrofit and new construction markets.
  - Total 5 year budget is \$27M with 155,280 estimated participants triggering 30,165 kW savings and 74.8M kWh savings over this 5 year period.
- **Demand Response Programs**
  - Targeted to reduce peak demand rather than energy usage.
  - The Energy Optimizer program is targeted to residential and small commercial customers while the MPower program is targeted to large commercial and industrial customers.
  - Total 5 year budget is \$27.3M with 30,483 estimated participants triggering 170,320 kW savings and 6.8M kWh savings over this 5 year period.

## Brand Names for Pilot Programs

- **Affordable New Homes**
  - Energy efficient affordable new housing for the low-income community
- **Low Income Weatherization**
  - Works directly with local Community Action Program agencies
- **Home Performance with Energy Star®**
  - Home energy audits using ENERGY STAR brands to encourage improvements
- **Cool Homes**
  - Rebates for replacement of SEER 6 to 8 equipment with SEER 14 or higher
- **Energy Star New Homes®**
  - New homes constructed at least 15% more efficient than 2004 Intl. Residential Code
- **Home/Business Energy Analyzer**
  - On-line energy analyzer with ways to save energy and estimated paybacks
- **Commercial & Industrial Rebates**
  - Rebates for new or retrofit energy savings equipment
- **Building Operator Certification**
  - Train facility operators in efficient building operations and management
- **Energy Optimizer**
  - Programmable thermostat with ability to reduce A/C loads during peak summer days
- **MPower**
  - Large customers curtail usage during summer months when high electric demand occurs

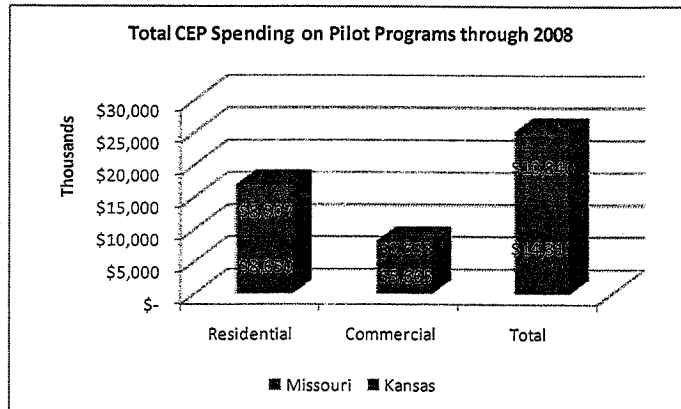
## KCP&L Overall CEP Program Impact Overview

Program Description: KCP&L's affordability, energy efficiency and demand response programs are designed to provide products or systems that use less energy to do the same or better job than conventional products or systems including programs that help with reducing demand for electricity at a specific time.

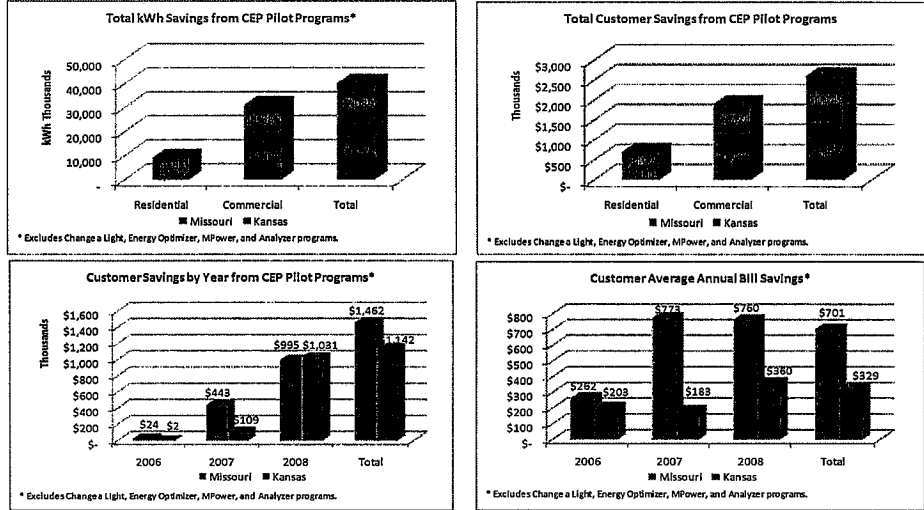


## KCP&L's Program Investments

- To date, our programs have generated over \$25 million of investments in energy efficiency within Missouri and Kansas.
- Of this, nearly \$11 million was spent in the Kansas territory.



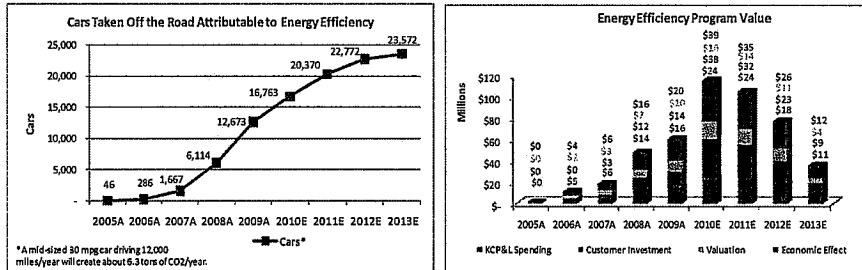
## Lower Energy Bills, Greater Customer Control, and Greater Customer Satisfaction



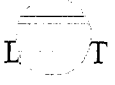
## KCP&L Overall CEP Program Continued...

Program Description: KCP&L's affordability, energy efficiency and demand response programs are designed to provide products or systems that use less energy to do the same or better job than conventional products or systems including programs that help with reducing demand for electricity at a specific time.

- KCP&L anticipates CO2 savings of nearly 149,000 carbon tons by 2013 resulting from CEP pilot programs.
- These CO2 savings equates to over 23,000 mid-sized cars taken off the roads by 2013.



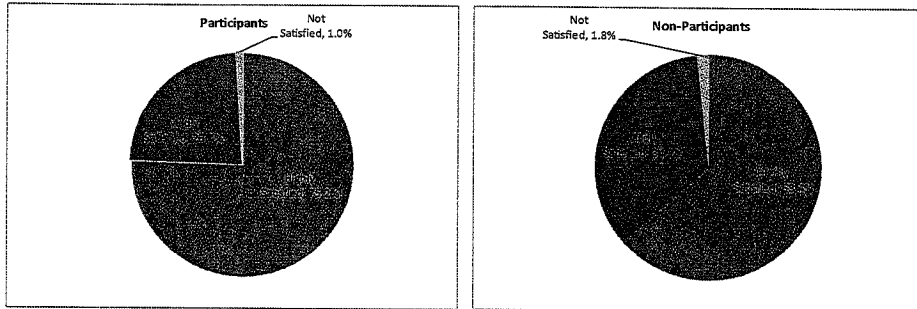




## Participant Increase in Customer Satisfaction

- According to a recent JD Powers survey:
  - KCP&L customer satisfaction is 14% greater among customers who are aware of KCP&L's plans to offer additional energy efficiency programs compared to customers unaware of such plans.
  - KCP&L customer satisfaction is 33% greater among customers with familiarity to KCP&L's energy efficiency programs compared to customers unfamiliar to the programs.

Level of Satisfaction with KCP&L by Participation



Source: Stax web survey, July 2008.



## Energy Efficiency Benefits KCP&L, Customers, Community, and Environment

- Benefits of energy efficiency include:
  - Lower cost resource than traditional generation
  - Quicker to deploy than traditional generation
  - Lower Customer Bills
  - Increased Customer Satisfaction
  - Favorable environmental impact
  - Regional economic development

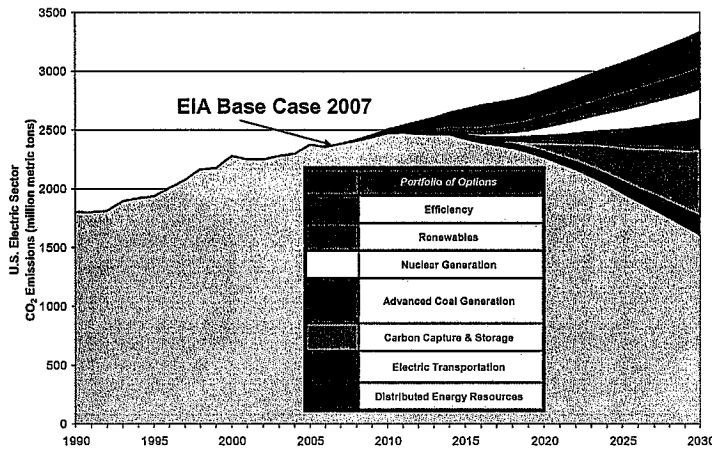


23- 5

## Favorable Environmental Impacts

- We believe that energy efficiency should serve as a solution to meet future energy requirements

Energy efficiency is the key technology to achieve 1990  $\text{CO}_2$  levels by 2030.



## Potential Third Party Administrator Issues

- Third Party systems do not integrate into long term plans for energy supply and Commission plans. Utility is provider of last resort and must be assured supply is there.
- Third Party systems cannot target T&D problem areas. Utilities have the ability to target. They also have customer bill information and can target high users better.
- Utilities have the better customer information, system information and models to determine the real value of a DSM measure and program. A third party does not have this information to refine programs.
- Quality control can be an issue. Who monitors, evaluates and watches quality? This is an issue with both systems, but utilities are more concerned about their long-term reputation with customers so are more careful.
- Customers don't know the new administrator so a whole new brand name must be built. That is costly. When customers have a question, 70% of them will ask the utility first. There is a natural trust there. Contractors and vendors are often seen by customers as "selling" something.
- States currently using third party administrators are not normally aligned with KS from a business and social perspective. They all have energy prices well above KS – Vermont, Oregon, New York, Maine, New Jersey.
- Administrative burden and overhead of third party can be high since you have another institution who will be subcontracting. Another layer. Utilities often have this administrative overhead within their programs.
- Utilities are critical in promotion of services to customers; utilities get called first by customers so there will be utility costs and interface to assure success even with a third party administrator. Utilities have natural connections to customers, through bills, offices etc. so marketing is less costly.

### Potential Issues Continued...

- ❑ Third Party can be slow, many organizations and politics involved in decisions depending on the oversight structure.
- ❑ Success depends on who is administering services and their charter, money, flexibility to respond to the market, and their management. Third parties can often be in-between the political aspects of energy and stifled.
- ❑ The third party funds are being raided in many states to cover budget shortfall. In Wisconsin the budgets are being cut 40% to be used in other parts of the State budget. These monies are through utility bills so in reality it is a hidden tax increase.
- ❑ Evaluations must be equal for both systems. Third party evaluation levels have varied by place.
- ❑ Costs usually are higher as administration had often been within utility with DSM programs; set up of new office is often required by new administrator.
- ❑ Decision-making and goals not always clear. Often there are conflicts between business needs (load reduction) and social needs (bill reductions) and political needs (are services provided in my voting area). Utility goals and motivations can be reviewed by the Commission so that goals are met and there are checks and balances.
- ❑ The Third Party system doesn't utilize the experience from utilities doing DSM. Depending on the Administrators or the Management Group of the administrator, many times they don't have the experience gained from 20 years of utility experience.

### And In Conclusion...

Utilities are in the best position to integrate natural customer market connections with utility resource planning and pricing structures given the right incentives.

Questions

**Thank You**

Kevin.Bryant@KCPL.com

Scott.Jones@KCPL.com





**Testimony of Randy Degenhardt  
Director Energy Efficiency  
Westar Energy  
Before the Joint Committee on Energy and Environmental Policy**

**October 29, 2009**

Last session, Westar Energy opposed SB 284, which created a third party administrator for energy efficiency programs in the state. Every customer of all investor-owned electric and natural gas utilities would have been assessed a special charge to pay for the administrator's expenses. Westar Energy believes that utilities can deliver more cost-effective energy efficiency programs than a third party administrator.

A 2008 study sponsored by the Kansas Energy Council (KEC) titled "DSM Potential Study and Plan" collected information from 16 utilities and 6 central agencies (third party administrators) on demand side management and demand response programs.

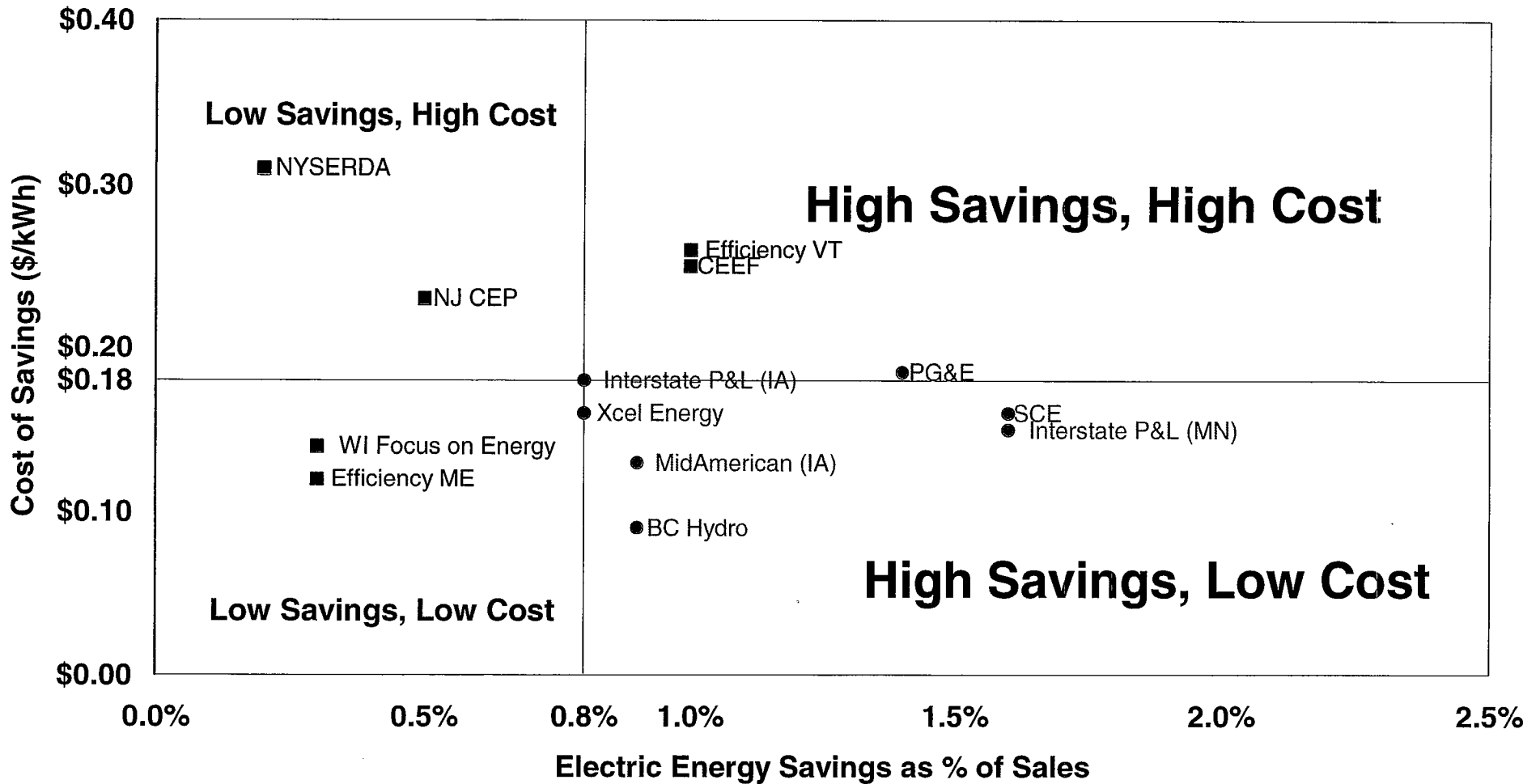
Attachment A replicates a scatter plot in the KEC study that illustrates where each organization places relative to median electric energy savings as a percentage of sales (0.8%) and median cost of electric energy savings (\$0.18 per kwh). The top (high savings-low cost) performers are as follows: Interstate P&L (MN), Southern California Edison, Pacific Gas and Electric, Mid-American (IA), British Columbia Hydro, Xcel Energy (MN) and Interstate P&L (IA). Of the six central agencies studied: two (Connecticut Energy Efficiency Fund and Efficiency VT) were on the high savings-high cost category; two (Wisconsin Focus on Energy and Efficiency Maine) were low savings-low cost; and two (New York State Energy Research and Development Authority and New Jersey Clean Energy Program) were low savings-high cost.

Attachment B illustrates where these organizations place relative to median peak demand savings as a percentage of peak demand (0.6%) and median cost of peak demand savings (\$836 per kw). As in Attachment A, all top performers were utilities.

Utilities have extensive interactions with their customers; something a third party administrator lacks. With this experience comes the knowledge and confidence to serve their energy efficiency needs. Westar Energy has been emphasizing energy efficiency programs for over two years and has initiated several programs (see Attachment C) helping over 100,000 Westar customers save energy. Westar Energy is prepared to continue to help our customers become wise users of energy.

# ATTACHMENT A: SCATTER PLOT OF ELECTRIC ENERGY SAVINGS AND COST OF ELECTRIC ENERGY SAVINGS

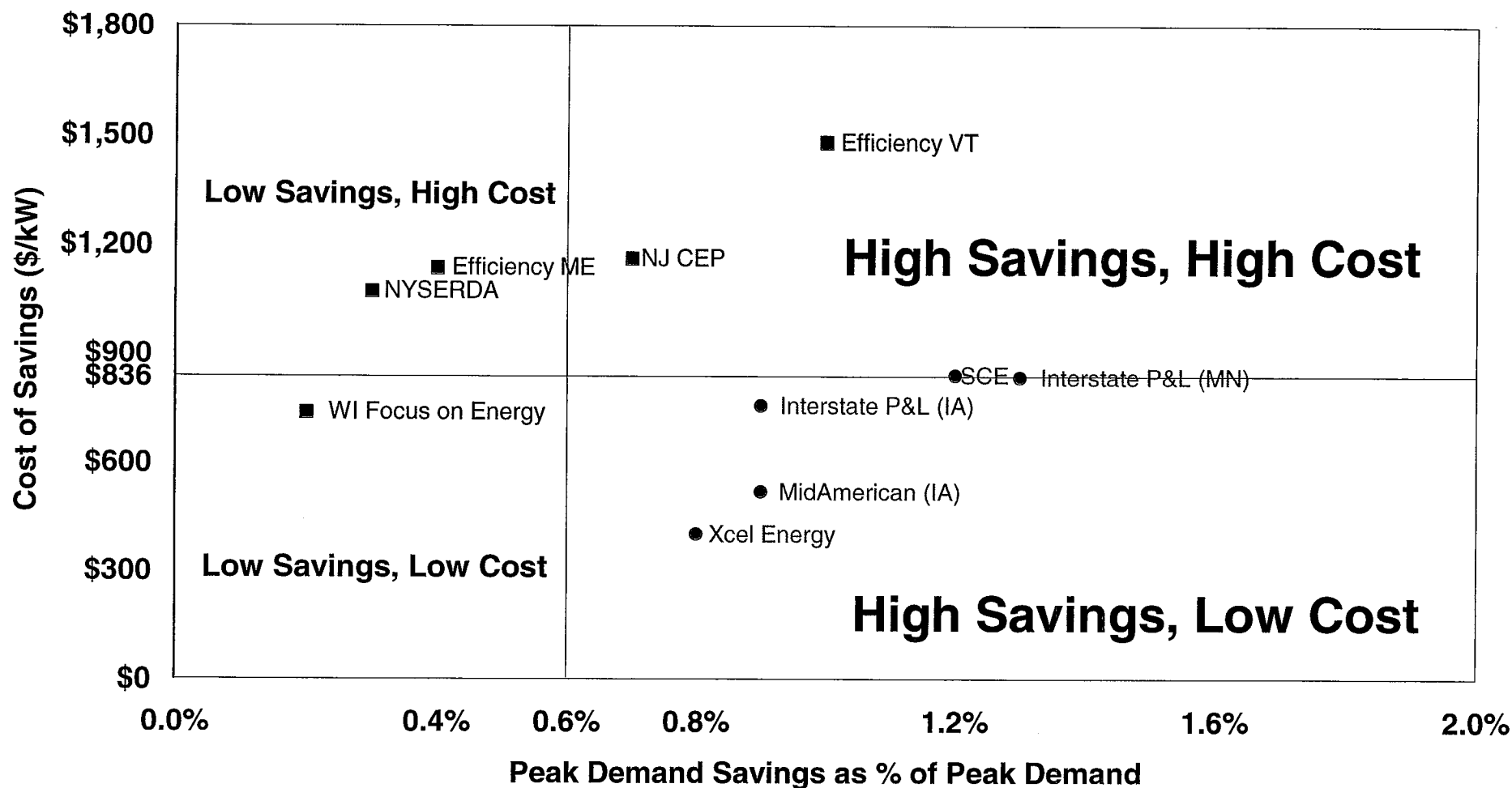
24-2



Source: Kansas Energy Council, "DSM Potential Study and Plan", August 2008, p.17 & p. B-2.

# ATTACHMENT B: SCATTER PLOT OF PEAK DEMAND SAVINGS AND COST OF PEAK DEMAND SAVINGS

24-3



Source: Kansas Energy Council, "DSM Potential Study and Plan", August 2008, p.18 & p. B-2.

# Energy Efficiency Programs - Attachment C

Westar Energy  
October 29, 2009

## Programs and implementation dates:

### High Efficient Heating/Cooling (April 2008)

2713 Heat Pumps installed  
834 of which were 15 SEER or greater

### WattSaver Thermostat A/C Cycling (October 1, 2009)

484 Thermostats installed

### Certified Real Estate (April 2009)

4 Classes  
57 participants

### Building Operator Certification (June 15, 2009)

2 classes scheduled in November  
39 enrolled

### Speaker's Bureau (May 2008)

198 Energy Efficiency presentations  
7,244 Customers reached

### Trade Shows (May 2008)

146 Trade Shows worked  
84,781 Customers reached

### Efficiency for Education (September 2008)

134 Energy Efficiency school presentations  
4,934 students/parents reached

### Low Income Weatherization (October 2008)

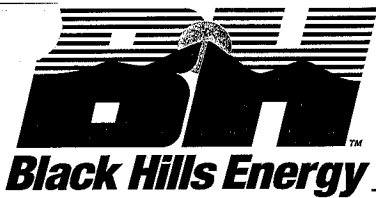
475 Homes weatherized

### Energy Efficiency Employee Volunteer Program

141 Westar employees volunteer to promote Energy Efficiency

24-4





**Legislative Testimony of Matt Daunis**

**Director of Energy Efficiency**

**Black Hills Energy**

**Before Joint Committee on Energy & Environmental Policy**

**October 29, 2009**

110 E Ninth Street

Lawrence, KS 66044

F: 785.832.3901

Black Hills Energy would like to offer our comments regarding legislation introduced last session which would create a third party administrator for energy efficiency programs. Black Hills Energy strongly supports energy efficiency programs in Kansas for our natural gas customers, but is opposed to this bill because of our track record of successful programs already in place.

Black Hills Energy strongly believes in and supports energy efficiency. We provide natural gas to customers in five states and electric services in four states to more than 750,000 customers. We believe that energy efficiency plays a vital role in our planning for utilization of resources, and that it is a critical element in providing excellent customer service. It allows us to remain faithful to the principles of environmental stewardship, and helps us meet our responsibility towards the National Action Plan for Energy Efficiency.

Black Hills Energy has been delivering energy efficiency programs to our customers in Iowa since 1990 (when we were Peoples Natural Gas). We are also currently delivering electric and natural gas energy efficiency programs in Colorado. We filed a comprehensive electric and natural gas energy efficiency plan for Cheyenne Light Fuel & Power in Wyoming in 2009 and are in the process of developing energy efficiency plans for Black Hills Power in South Dakota and Wyoming, as well as for Black Hills Energy in Kansas.

Today I want to present some background information about successful energy efficiency programs in Iowa's electric and natural gas sectors as delivered by the investor-owned utilities (IOUs). Iowa has three major investor-owned utilities. Two of them - MidAmerican Energy Company and Interstate Power and Light Company (Alliant) - sell both electricity and natural gas. A third - Black Hills Energy -- provides natural gas exclusively. Iowa's utility companies have been operating energy efficiency and load management programs, under statutory requirements for 19 years.

Iowa's investor-owned utilities spent twice as much on energy efficiency and load management in 2007 as they did five years earlier. The amount of energy saved in a given year as a result of spending on Energy Efficiency and Load Management increased substantially during the 2002-2007 period. The IOUs estimated this spending in 2002 ended up reducing electricity consumption that



year by 117,000 megawatt hours. However, by 2007, EE and LM spending had reached the point that it was reducing electricity consumption by 284,000 megawatt hours in the year of the spending.

Natural gas consumption in 2007 was 806 million cubic feet less than expected as a result of spending on gas energy efficiency that year. Energy efficiency efforts saved 509 million cubic feet in 2002. Another important measure is the overall cost effectiveness of electric and natural gas efficiency programs. An IUB analysis shows that the annual benefit/cost ratio for the IOUs' energy efficiency programs is consistently about 2-to-1, meaning that \$1 of investment in energy efficiency yields \$2 of benefits in reduced energy consumption.

With regards to our previous five year plan (2004-2008), overall the programs have been an unequivocal success. For example in 2007, the impact of the programs was nearly double the goal. At the same time, the total expenditures were only about 20% higher than the original budget.

Black Hills supports the current utility delivery structure for energy efficiency in Iowa, Colorado, Wyoming, South Dakota and Kansas. We believe that the programs have been working very well and that there is no reason to move to a different delivery structure, such as a third party administrator. In fact, in Settlement Agreements in Iowa for our new five-year plan, the Office of Consumer Advocate (OCA) in Iowa and the IOUs agree that Iowa's current approach to program administration and coordination - with separate programs operated by Iowa's three investor-owned utilities - has resulted in successful programs and should be continued.

Black Hills already makes program decisions internally, and has the knowledge, capability and experience to deliver cost-effective, comprehensive energy efficiency programs in Kansas. We are best positioned to know what our customers want and have the infrastructure and relationship already in place to administer and implement those programs.

We are committed and have experience in coordinating with other utilities (IOU's, Municipals and Coops) within the states we administer these programs. This coordination improves overall delivery success. Black Hills Energy has regular interaction with our customers and can provide a great deal of information about their use and billing that no one else can.

Thank you for the opportunity to offer testimony today and express our opposition to SB 284. I will be happy to stand for any questions on this bill at the appropriate time.

25-2



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Topeka, KS 66603

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www.aarp.org/ks

**October 29, 2009**

**The Honorable Senator Carolyn McGinn, Chair**  
**The Honorable Representative Carl Holmes, Vice-Chairperson**  
**Testimony of AARP in Support of SB 284**

**Creating an Independent Administrator for Energy Efficiency Program in Kansas**

Good morning Chairperson McGinn, Vice-Chairperson Holmes and members of the Joint Committee on Energy and Environmental Policy. My name is Ernest Kutzley and I am the Advocacy Director for AARP Kansas.

AARP is a nonprofit, nonpartisan membership organization dedicated to making life better for people 50 and over. AARP has more than 40 million members nationwide and approximately 362,000 members in Kansas. We provide information and resources and engage in legislative, regulatory and legal advocacy. Energy efficiency and efficiency programs are important issues to AARP and our members.

AARP would like to thank Chairperson McGinn and Vice-Chairperson Holms and committee members for allowing us the opportunity to bring Mr. Scudder Parker from Efficiency Vermont to this hearing. We hope his discussion on the operations, efficiencies and benefits of their program, and how Kansas utilities and consumers could benefit from a similar model, were informative to the committee.

**Kansas Needs Energy Efficiency Programs**

Growth in the demand for energy and rising prices has led to significant increases in energy bills for consumers. Increased energy efficiency is vital to address the state's energy future. In fact, the state has already established goals to reduce energy usage over the next 10 years. However, the Kansas Corporation Commission (KCC) does not require utilities to offer energy efficiency—programs are voluntary on part of the utility.

AARP supports the development of cost-effective energy efficiency programs, and customer education, for residential customers. Both the energy industry and consumers have much to gain from the adoption and implementation of energy efficiency programs that help consumers, including those on low and fixed incomes, to lower their monthly energy usage and reduce their monthly energy bills. Energy efficiency also reduces the need for utility investment in new power plants and expenditures on fossil fuels.

To insure equity of opportunity for all utility customers-state wide, AARP believes that regulators should consider giving an independent entity the responsibility of administering ratepayer-funded energy efficiency programs. Policy makers in some states, such as Vermont, have successfully charged an independent entity (Efficiency Vermont) with the responsibility of administering ratepayer-funded energy efficiency programs.

### **Background**

Despite Kansas' relatively low electricity prices, energy efficiency is important to the future affordability of electricity for Kansans. Kansas utilities are expected to embark on a significant construction program which will likely result in higher utility rates. All parties –utilities, environmental groups and consumer advocates – who participated in the energy efficiency proceedings at the KCC agreed that Kansas should do more for energy

efficiency to help mitigate the impact of higher utility rates on customer bills. During the KCC proceedings, disagreement was over how to provide energy efficiency and how to pay for it.

Other states, including Vermont, Wisconsin, and Oregon administer energy efficiency programs through a "third party" administrator, funded by fees on utility bills. By "third party" we mean that a governmental or non-profit organization, rather than the electric or gas utility, is responsible for providing energy efficiency to consumers. The actual program delivery could be done by the utility or an independent energy efficiency provider.

The advantage of a third party is that the structure avoids controversies around utility "lost revenues" and bonus incentives, and tracking whether energy conservation is the result of utility programs or other factors. A third party focuses instead only on the cost effective administration of programs. The third party does not have the dual responsibility of both selling and saving kilowatt hours. AARP and CURB supported a third party approach during the KCC energy efficiency proceedings. However, in its Order the KCC determined not to pursue a third party approach "at this time" (08-GIMX-441-GIV, para 43).

AARP and CURB also supported SB 284 during the 2009 Legislative session, which would have created and funded an independent entity guided by an independent board with one purpose: *"to achieve reductions in energy use through increasing the level of cost effective energy efficiency, conservation and education available to Kansas citizens."*

26-3

SB 284 included:

- a clear goal of helping consumers reduce energy usage and energy bills;
- a requirement that the independent entity operate under oversight of an independent board, following guidelines developed by the KCC including designing goals and objectives, setting program priorities, staffing and budgets until the board is able to take over these functions;
- allowing but not requiring customer owned cooperatives and municipal utilities to opt into the programs;
- requiring the entity to maximize the cost effectiveness of delivered energy efficiency and conservation programs and maintain accountability to the utility and customer classes
- funding through a charge on consumer bills in an amount no less than one half of one percent of utility retail revenues
- involving the state's utilities in governance of the administrator and program delivery.

**Today, Kansas is already using a "third party" to administer a significant amount of energy efficiency funding and program**

The State Energy Office has as one of its duties administration of energy efficiency programs, including ARRA funded programs and the federal low income weatherization program, as well as providing education and outreach on energy efficiency.

As a result of the federal stimulus legislation Kansas received \$52 million in federal stimulus funds for the purpose of pursuing energy efficiency. One of the ARRA funded initiatives is Efficiency Kansas. The purpose and goals of Efficiency Kansas mesh with the purpose and goals of SB 284. For example, according to its website, among the goals of Efficiency Kansas are cost-effective energy savings and reducing the state's energy consumption. Efficiency Kansas accomplishes these goals by providing energy audits and by financing energy efficient home improvements through a revolving loan fund. In effect, a non-utility entity is now responsible for providing a significant amount of energy efficiency programs for Kansans.

26-4

**AARP respectfully requests the committee explore expanding the role of Efficiency Kansas to achieve greater energy efficiency, following the model in SB 284.**

AARP and CURB proposed SB 284 because we believe that energy efficiency programs should not be available only on a voluntary, utility-by-utility basis, but should be available to all Kansans. As important, funding for programs should be clear and transparent. Debates about lost revenues due to reductions in energy usage should be considered in rate cases, not energy efficiency proceedings.

Now that Efficiency Kansas is involved with administering energy efficiency programs, we recommend the state leverage and continue the momentum. It is important to expand beyond the revolving loan program, i.e. to work with residential customers as a resource to help lower energy costs and save money and to work with businesses to provide technical help and financial incentives for energy-efficient, equipment, lighting and buildings. Kansans would also benefit from a program with a statewide focus, to create equity of opportunity for all utility customers to participate in like efficiency programs, even as some programs may be tailored to individual utility service territories.

Options for funding an expansion of Efficiency Kansas include using taxes, a "system benefit charge" paid by all customers of all utilities; or limiting participation only to IOUs, as in SB 284. Another consideration is whether to continue Efficiency Kansas as a program of the State Energy Office or spin it off into an independent entity as proposed in SB 284. These questions may be answered in utility hearings during the 2010 legislative session.

26-5

Therefore, we respectfully request that you favorably recommend SB 284 and/ or the issue of a third party energy efficiency administrator to the 2010 legislature for further in-depth study and full committee hearings.

Thank you for your time this morning and consideration of our requests

Respectfully

Attachment: Efficiency Vermont webpage

26-6



# Efficiency Vermont

Home | About Us | Press Room | Contact Us | Site Map

COMPACT FLUORESCENTS

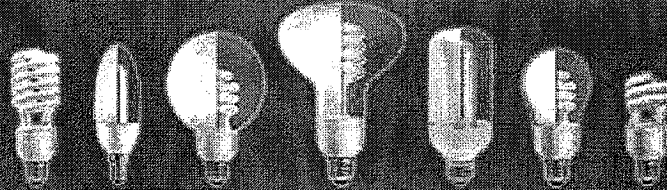
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- [The Latest on LED Lighting](#)
- [Core Performance Guide Vermont Edition](#)
- [Efficiency Vermont Launches Geographic Targeting](#)



[Compact Fluorescent Light bulbs \(CFLs\)](#)

[Energy Audits & Home Improvements](#)

[Home Performance with ENERGY STAR® Incentives](#)

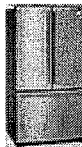


[Home Heating Help](#)


[Refrigerator Retirement program](#)

[Consumer Electronics](#)

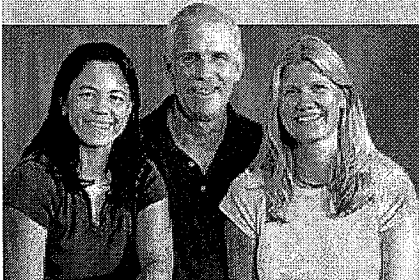
[Green Mountain Power Energy Efficiency Fund](#)



-  [American Recovery and Reinvestment Act of 2009](#)

-  [SAVE THE DATE! Better Buildings by Design February 10 & 11, 2010](#)

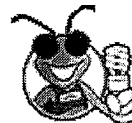
## ENERGY SAVED is MONEY SAVED




**ASK THE HOME TEAM**

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Teach us energy saving tips from our master, Watson.



Residential  Business

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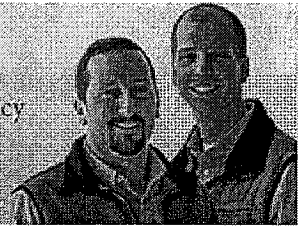
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267

Low Interest Loans Available to Vermont  
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Energy Solutions>

Find out how energy efficiency  
can help your business run  
more profitably.



For more information, call 802-860-4095, or call toll-free 1-888-921-5990.  
Please contact us with comments, questions or suggestions.  
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26.8

# Citizens' Utility Ratepayer Board

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A. W. Dirks, Vice-Chair  
Carol I. Faucher, Member  
Nancy Scott Jackson, Member  
Stephanie Kelton, Member



State of Kansas

Mark Parkinson, Governor

David Springe, Consumer Counsel  
1500 S.W. Arrowhead Road  
Topeka, Kansas 66604-4027  
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<http://curb.kansas.gov>

## Joint Committee on Energy and Environmental Policy

Comments on Third Party Energy Efficiency Providers

By David Springe, Consumer Counsel

Citizens' Utility Ratepayer Board

October 29, 2009

CURB worked with AARP to introduce SB 284 last session. SB 284 creates an independent non-profit corporation guided by an independent board with one singular purpose: *to achieve reductions in energy use through increasing the level of cost effective energy efficiency, conservation and education available to Kansas citizens.* CURB believes an entity that can offer consistent energy savings programs and a consistent energy savings message to all of Kansas is be a necessary and important part of our energy infrastructure. For several years CURB has requested the Kansas Corporation Commission use its authority to create such an entity. The KCC has so far declined to do so.

### Why an independent entity?

- An independent entity can offer consistent programs and a consistent message across different utility territories. This generates consumer focus on the entity and its purpose, and achieves economies of scale in administration and delivery of programs not possible with individual utility programs. Currently programs differ from utility to utility.
- Provides an independent source of information to consumers and avoids the incentive for electric utilities to promote electric products and for natural gas utilities to promote natural gas products. Consumer can make independent decisions.
- Independent model has been used successfully in other states<sup>1</sup>: Vermont, Oregon, New York, Wisconsin, Maine, and New Jersey. Delaware just created an independent "sustainable energy utility".
- Can leverage funds in the Federal Stimulus package intended for energy efficiency and conservation efforts.
- An independent entity with a single purpose is not conflicted about its objective. Investor owned utilities increase revenue and profit by building plant and selling units of energy.

<sup>1</sup> According to the American Council for an Energy Efficient Economy's 2008 State Energy Efficiency Scorecard, five of the top ten states ranked for Utility and Public Benefits Efficiency Programs and Policies had independent entities like that created in SB 284.

Joint Committee on Energy and  
Environmental Policy  
Date 29 OCT 2009  
Attachment # 27

Promoting conservation will decrease a utility's revenue and profit. This is a fundamental conflict.

- Avoids having to create other regulatory mechanisms or laws to "incent" utilities to offer conservation, including decoupling mechanisms, lost revenue mechanisms, capitalization of expense mechanisms, shared savings mechanisms.

### **Kansas now has an independent third party provider**

Less than one year after SB 284 was introduced it now seems clear that the question of whether Kansas should have a third party non-utility energy efficiency provider is now moot. The KCC, thanks to ARRA stimulus grants from the Department of Energy, is now operating a \$38 million, independent third party energy efficiency low interest loan program, available to all Kansas citizens and businesses. The program is called "Efficiency Kansas"<sup>2</sup>, which lists as its goals on its website ([www.encykansas.com](http://www.encykansas.com)):

- Produce cost-effective energy savings
- Create and retain local jobs
- Transform home and business remodeling to include energy-efficiency upgrades
- Reduce the state's energy consumption and emissions of regulated pollutants and carbon dioxide

To accomplish the goals, according to the website, the program:

- Establishes a revolving loan fund to finance cost-effective energy efficiency improvements in Kansas homes and small businesses
- Requires all improvements be based on a comprehensive energy audit to give customers a customized "diagnosis" and "prescription"
- Finances up to \$20,000 for approved projects in homes and \$30,000 for approved projects in small commercial and industrial building

Other key structures of the Efficiency Kansas model include:

- Giving customers a central contact point
- Comprehensive services (efficiency audits and equipment installations) that are performed by local businesses
- The customer makes his/her own decisions, finances the decision (local banks with reduced interest rates) and pays back the loan over a reasonable time period
- Service is available to all Kansans, regardless whether they reside behind an investor owned utility, local cooperative utility or municipal utility

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<sup>2</sup> The Kansas Housing Resources Corporation is also running a \$50 million low income weatherization program with ARRA stimulus dollars.

## **Reviewing scope, duties and oversight of Kansas third party provider**

Energy efficiency must be a priority for Kansas. Kansas utility customers face an increasing cost environment. Federal climate legislation being debated in congress will likely push utility rates even higher if passed. At the same time the climate bills provide several pools of funds that are directed at helping consumers at the state level increase energy efficiency and decrease energy use. Much like the federal stimulus dollars that are funding Efficiency Kansas, it is likely that additional federal dollars will arrive in Kansas in the future.

Rather than debate whether Kansas should have a third party energy efficiency provider, the real policy question now is whether the scope, duties and oversight of the existing third party energy efficiency provider should be expanded. Relevant questions include:

- Should more than low interest loans be added to the portfolio of services offered by Efficiency Kansas? If so, what services?
- Should the energy efficiency and weatherization programs currently being run by different Kansas governmental agencies be consolidated into a larger centralized program to further expand the scope of services offered?
- Is Efficiency Kansas structured in a way that will allow it to receive federal dollars under the types of proposals being discussed in the federal climate legislation?
- Should Efficiency Kansas remain at the State Energy Office with oversight controlled by the three KCC Commissioners, or should the State Energy Office be moved to an entity with a broader oversight mechanism?
- Funding sources should be discussed. Options include further federal dollars, Kansas tax dollars, a systems benefit charge and fee for service models

### **SB 284**

As drafted, SB 284 was an enabling statute creating and funding a third party energy efficiency provider aimed narrowly at customers of investor owned utilities. Cooperatives and municipal utilities could opt into the program. The shortfall in the bill is that unless the cooperatives and municipal utilities opted into the program, the third party provider would not truly have a statewide scope. CURB believes that the expansion of Efficiency Kansas, available to all Kansas customers, should be state's top priority. SB 284 can service as a second best solution if necessary. Either of these solutions is preferable to having utility specific programs that are different in every utility territory, which appears to be the path Kansas is one currently

### **Recommendations:**

- Kansas must have policy clearly stating that energy efficiency its energy top priority
- Kansas must insure energy efficiency programs available to customers on statewide basis

27-3

# Citizens' Utility Ratepayer Board

**Board Members:**  
Gene Merry, Chair  
Randy Brown, Vice-Chair  
Carol I. Faucher, Member  
Laura L. McClure, Member  
A.W. Dirks, Member



**State of Kansas**  
*Kathleen Sebelius, Governor*

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## SENATE UTILITIES COMMITTEE SB 284

Testimony on Behalf of the Citizens' Utility Ratepayer Board  
By David Springe, Consumer Counsel  
March 11, 2009

Chairman Apple and members of the committee:

The Citizens' Utility Ratepayer Board supports this bill for the following reasons:

Energy prices have been climbing in recent years and will continue to climb in the future. Utilities are spending billions of dollars to upgrade facilities to meet demand, meet environmental requirements, enhance the transmission system and make the distribution system more efficient. Add to this the cost of renewable energy and the potential cost of carbon regulation and it is clear that consumer bills will not go down in the future. Natural gas prices have also been volatile in the last few years affecting the many customers that use natural gas to heat their homes. Consumers are struggling to pay their bills and the current recession has only exacerbated this problem. Consumers need help.

SB 284 is a clear statement that the intent of the legislature to help consumers reduce energy use and reduce energy bills. To accomplish this goal, the bill mandates the creation and funding of an independent entity guided by an independent board with one singular purpose: *"to achieve reductions in energy use through increasing the level of cost effective energy efficiency, conservation and education available to Kansas citizens."*

CURB has been a strong advocate for energy efficiency and conservation, both in the legislature and at the Kansas Corporation Commission. Up to this point, the Kansas Corporation Commission appears content to let the regulated public utilities be the only source of energy efficiency and conservation programs for their customers.

### Why an independent entity?

- An independent entity can offer consistent programs and a consistent message across different utility territories. This generates consumer focus on the entity and its purpose, and achieves economies of scale in administration and delivery of programs not possible with individual utility programs. Currently programs differ from utility to utility.
- Provides an independent source of information to consumers and avoids the incentive for electric utilities to promote electric products and for natural gas utilities to promote natural gas products. Consumer can make independent decisions.

27-4

- Independent model has been used successfully in other states<sup>1</sup>: Vermont, Oregon, New York, Wisconsin, Maine, and New Jersey. Delaware just created an independent “sustainable energy utility”.
- Can leverage funds in the Federal Stimulus package intended for energy efficiency and conservation efforts.
- An independent entity with a single purpose is not conflicted about its objective. Investor owned utilities increase revenue and profit by building plant and selling units of energy. Promoting conservation will decrease a utility’s revenue and profit. This is a fundamental conflict. The board believes utilities will never take conservation seriously<sup>2</sup>.
- Avoids having to create other regulatory mechanisms or laws to “incent” utilities to offer conservation, including decoupling mechanisms, lost revenue mechanisms, capitalization of expense mechanisms, shared savings mechanisms.

**What the bill does.**

- Provides a clear statement that it is the intent of the legislature to help consumers reduce energy use and reduce energy bills.
- Requires the KCC to create a non-profit entity to pursue the goals of the act.
- Requires the KCC to appoint an independent board to oversee the entity.
- Requires the KCC to establish a charge on consumer bills to fund the entity in an amount no less than ½ of 1% of utility retail revenues.
- Requires the KCC energy programs division to begin the process of develop guidelines for the entity including designing goals and objectives, setting program priorities, developing program infrastructure and recommending appropriate staffing and budgets until the board is able to take over these functions.
- Allows, but does not require customer owned cooperatives and municipal utilities to opt into the service.

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<sup>1</sup> According to the American Council for an Energy Efficient Economy’s 2008 State Energy Efficiency Scorecard, five of the top ten states ranked for Utility and Public Benefits Efficiency Programs and Policies had independent entities like that created in SB 284.

<sup>2</sup> In response to CURB’s suggested rate design changes meant to encourage conservation in the current KCP&L rate case, a KCP&L Vice President of Regulatory Affairs filed testimony stating “Mr. Kalcic (CURB’s witness) indicated the Commission should implement policy that encourages conservation. I disagree, Commission policy should encourage the most efficient use of electricity, not conservation of electricity.” KCC Docket No. 09-KCPE-246-RTS, Rebuttal Testimony of Chris B. Giles, February 23, 2009.

- Requires the entity to maximize the cost effectiveness of delivered energy efficiency and conservation programs and maintain accountability to the utility and customer classes providing the funds that support the program.

**What the bill does not do.**

- Does not cut the KCC out of the process. The KCC is an integral part of the creation of the entity, appointing the board, beginning the process of establishing objectives and the verification of the entity's success. The bill is not prescriptive and allows KCC a level of discretion in carrying out the objectives stated in the bill.
- Does not cut the utilities out of the process. Utility participation is important to the overall success of the entity. Utilities can serve on the board of the entity. Utilities also still have very important roles to play in demand management programs and in investing in technologies and plant that allow the utility system to operate more efficiently. Utilities are free to do what utilities do best.

**Funding in comparison to other initiatives.**

- ½ of 1% of 2007 retail investor owned utility revenues equals about \$13 million for all investor owned utilities.
- By comparison.
  - Westar's 300 MW of wind is about \$45 million/year in consumer rates.
  - The Renewable Portfolio Standards passed by the Senate and House will require Westar alone to acquire an additional 600-800 MW's of wind, adding and additional \$80-\$130 million/year in rates.
  - Kansas Gas Service hedging program budget is \$14 million per year.

CURB believes that the most important thing this state can do for a consumer facing increasing energy bills is to give that consumer the tools and knowledge to manage and reduce energy use. This bill will create a customer funded, independent entity whose sole purpose is to help consumers reduce energy use. A consumer needs a simple, one stop, easy to access resource for energy efficiency and conservation information, programs, rebates and loans. A consumer needs the flexibility to access programs regardless of the utility territory in which the consumer lives. A consumer needs the independence to make decisions that are right for that consumer, not accept decisions that may further their serving utility's goals.

CURB believes that the consumer funded independent entity created in SB 284 is right answer for consumers and the right answer for Kansas. CURB strongly supports the passage of SB 284

Thank you for the opportunity to testify on this important bill.

27-6



27-7

2007 Retail Revenue

| Utility                   | Residential Revenue | C&I Revenue | Lighting Revenue | Other Sales                | Total                |
|---------------------------|---------------------|-------------|------------------|----------------------------|----------------------|
| KCPL                      | 218,510,763         | 221,947,952 | 5,073,619        |                            | 445,532,334          |
| Empire                    | 10,639,257          | 9,864,084   | 147,000          | 375,479                    | 21,025,820           |
| Kansas Gas & Electric     | 235,918,879         | 361,276,330 | 4,428,219        | 0                          | 601,623,428          |
| Westar                    | 255,243,884         | 351,908,328 | 5,428,292        | 0                          | 612,580,504          |
| Aquila (Blackhills)       | 80,551,997          | 28,845,948  |                  | 15,157,152                 | 124,555,097          |
| Atmos                     | 106,613,875         | 40,397,641  | 0                | 5,151,164                  | 152,162,680          |
| Kansas Gas Service        | 555,929,368         | 145,979,329 | 0                | 0                          | 701,908,697          |
|                           |                     |             |                  |                            | <b>2,659,388,560</b> |
|                           |                     |             |                  | 1/2 of 1% of retail sales: | <b>13,296,943</b>    |
| Midwest Energy (Electric) | 26,464,485          | 66,299,203  | 1,376,675        | 0                          | 94,140,363           |
| Midwest Energy (Gas)      | 27,425,639          | 13,273,162  | 0                | 0                          | 40,698,801           |
| Aquila                    | 10,891,662          | 22,731,499  | 381,938          | 303,464                    | 34,308,563           |

Source. 2007 FERC Form 2

## **PUCO to hear arguments in light-bulb controversy**

**Oct 15 - McClatchy-Tribune Regional News - Betty Lin-Fisher The Akron Beacon Journal, Ohio**

The Public Utilities Commission of Ohio will hear oral arguments on FirstEnergy's controversial compact fluorescent light-bulb program later this month.

The PUCO has scheduled the presentations for 1:30 p.m. Oct. 28 at its offices in Columbus. Five parties associated with the case will each be allowed eight minutes to present their side to the commissioners: FirstEnergy, the Ohio Consumers' Counsel, Industrial Energy Users-Ohio, the National Resources Defense Council and Ohio Partners for Affordable Energy.

Only the parties involved will address the commission, PUCO spokeswoman Shana Eiselstein said.

"This is their opportunity to get everybody in the same place and ask questions," Eiselstein said.

Akron-based FirstEnergy had announced it would deliver two compact fluorescent light bulbs, known as CFLs, to doorsteps of its customers in a program that was scheduled to begin this week.

The program drew criticism from consumers who said they didn't want the CFLs and the accompanying payment of \$21.45 the utility was going to bill them over three years. The payment was to cover reimbursement for the bulbs, distribution costs and a portion of the energy revenue lost by use of the bulbs by consumers.

State lawmakers, including the governor, quickly stepped in and called on the utility to delay the project. After a day, the utility agreed to the delay, until it could further discuss the issue with commissioners.

FirstEnergy officials said they believed they had the proper approvals for the program, while regulators said the utility had not been approved for any recovery of funds from customers beyond \$3.50 for the bulbs.

FirstEnergy spokeswoman Ellen Raines said company officials will be at the oral arguments.

Last week, the Ohio Consumers' Counsel also filed an application for rehearing in the case. The PUCO has 30 days to decide whether to grant the rehearing.

27-8

**THIRD PARTY PROVIDER, EE**

JCEEP, 29 October 2009

**THE POWER OF EFFICIENCY**

- 1,000 megawatts available statewide according to Summit Blue study for Kansas Energy Council
- Average cost of \$0.03/kwh versus at least double that for any new generation
- Available immediately
- Lowers customer bills
- Forestalls expensive new generation, thereby keeping rates lower longer
- Jobs plus multiplier effect for local economies

**ADVANTAGES TO EACH APPROACH**

| UTILITY PRORAMS                                 | THIRD PARTY PROVIDER                            |
|---|---|
| <input type="checkbox"/> Customer relationships | <input type="checkbox"/> Consistency state-wide |
| <input type="checkbox"/> Brand recognition      | <input type="checkbox"/> One-stop shopping      |
| <input type="checkbox"/> Data availability      | <input type="checkbox"/> Supply chain impact    |
| <input type="checkbox"/> Access to capital      | <input type="checkbox"/> Geographic targeting   |
| <input type="checkbox"/> Integration with DR    | <input type="checkbox"/> Single purpose         |

**ADDITIONAL OPTIONS**

- Building codes & standards
- Performance-based incentives for efficiency for investor-owned utilities
- Energy Efficiency Resource Standard
- Return to Integrated Resource Planning
  - Some states require utilities to demonstrate that they have exhausted cost-effective efficiency prior to new generation builds to protect consumers