

MINUTES OF THE HOUSE ENERGY AND UTILITIES COMMITTEE

The meeting was called to order by Chairman Carl Holmes at 9:00 A.M. on February 12, 2007 in Room 241-N of the Capitol.

All members were present except:

Oletha Faust-Goudeau- excused
Annie Kuether-excused

Committee staff present:

Dennis Hodgins, Kansas Legislative Research
Mary Torrence, Revisor's Office
Jason Long, Revisor's Office
Renaë Hansen, Committee Assistant

Conferees appearing before the committee:

Trevor McKeeman, NISTAC/Sunflower
Steve Miller, Sunflower
Tom Thompson, Sierra Club
Maurice Korphag, KCC
Mark Schreiber, Westar

Others attending:

Fifteen including the attached list.

Hearing on:

HB 2419: Carbon dioxide reduction act; income tax deductions and property tax exemptions; regulation of carbon dioxide injection wells.

Proponents:

Steve Miller, Sunflower Electric Power Corporation, (Attachment 1), offered testimony in support of **HB 2419**.

Tom Thompson, Sierra Club, (Attachment 2), gave testimony in support of **HB 2419**.

Trevor McKeeman, NISTAC/Sunflower, (Attachment 3), presented testimony in favor of **HB 2419**, noting some of the benefits of the CO₂ sequestering and proclaiming that by adding the tax incentives Kansas would be a leader in the utilization of this technology.

Written Proponents:

Duane Simpson, Association of Ethanol Producers, (Attachment 4), offered written testimony in support of **HB 2419**.

Neutral:

Maurice Korphage, KCC, (Attachments 5 and 6), presented testimony that was neutral in its approach to **HB 2419** noting some of the history of CO₂ injection in the state of Kansas and its' current status. The additional attachment describes the Interstate Oil and Gas Compact Commission's Carbon Capture and Storage: A Regulatory Framework for States Summary of Recommendations. Within the KCC testimony are a few recommendations for corrections and changes in the bill.

Mark Schreiber, Westar, (Attachment 7), offered testimony that was neutral to **HB 2419** with recommendations for changes and clarifications for the bill.

CONTINUATION SHEET

MINUTES OF THE House Energy and Utilities Committee at 9:00 A.M. on February 12, 2007 in Room 241-N of the Capitol.

Questions were asked and comments made by Representatives: Tom Sloan, Vern Swanson, Vaughn Flora, Dan Johnson, Terry McLachlan, Bill Light,

Hearing on **HB 2419** was closed.


Chairman Carl Holmes communicated to the committee that minutes will be sent out via email and approval will be within 48 hours of sending out the minutes.

The next meeting was scheduled for February 13, 2007.

Meeting adjourned.



SUNFLOWER ELECTRIC POWER CORPORATION

A Touchstone Energy® Cooperative 

TESTIMONY SUBMITTED TO HOUSE ENERGY & UTILITIES COMMITTEE IN OPPOSITION TO HB2219

2419

Presented by
Steve Miller, Sr. Manager, External Affairs
February 12, 2007

Mr. Chairman, and members of the Committee, my name is Steve Miller. I am the Senior Manager, External Affairs for Sunflower Electric Power Corporation. Sunflower's interest in this legislation is driven primarily by our efforts, along with NISTAC and the Kansas Bioscience Authority, to develop the Sunflower Integrated Bioenergy Center.

Sequestration versus Utilization

This bill is primarily a carbon sequestration enabling statute. We think it should also be expanded to include the utilization of CO₂. At our bioenergy center, Sunflower and its partners intend to use CO₂ to grow algae, in other words, we are going to use the CO₂, not simply sequester it.

Carbon Dioxide Not A Pollutant

Perhaps the most important thing we want to stress today is that much of the current language treats CO₂ as though it is a hazardous pollutant. For instance, Section 2 (b) speaks of "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".

In Section 5, reference is made to "performing investigations or administrative functions relating to the prevention of escape of carbon dioxide or prevention of pollution of the soil or waters of the state".

Carbon dioxide is not a pollutant. While asphyxiation can occur in certain closed-vessel situations, the bill should not create illusions that could result in regulations similar to those developed for solid waste landfills. In our opinion, this would create unnecessary regulation and would inhibit the goal of this legislation—to capture or utilize CO₂.

Regulatory Issues

We believe it is important that this legislation identify both the purpose and the level of regulation the Legislature believes is necessary in this bill. As it now stands, our view is this legislation "over-regulates" a problem we do not think exists. It seems to us that the purpose should be to assure that carbon sequestration and utilization can be accomplished.

We believe much of the regulatory structure already exists in the oil and gas regulations; however, it is important the agencies be given the time to assess what additional regulations are necessary. The bill currently requires they be implemented by January 2008. While we may not be the ones to opine

ENERGY AND HOUSE UTILITIES
DATE: 2-12-2007
ATTACHMENT 1-1

on this matter, it seems to us that it could be difficult to accomplish this task in that timeframe even if consultants are utilized by the State to develop these regulations.

In Section 2, on line 40, the bill calls for the development of regulations pertaining to a permittee's financial ability to cover the costs of closure and long-term monitoring. These requirements remind us of the financial assurance obligations associated with a solid waste landfill. We suggest the important element associated with CO₂ sequestration is related to the underground geological formation's ability to receive the material.

For instance, the Hugoton gas field might, when depleted, be an ideal location for long-term CO₂ storage. After all, it once held the world's largest natural gas reserve. Common sense suggests that its physical structure surely can contain one of the world's largest reservoirs of sequestered CO₂.

So, what should be monitored? Should we monitor the water quality to be sure the CO₂ is not dissolved in a saline aquifer? Of course it will be, but that does no harm. Do we make sure that freshwater aquifers are not contaminated by these operations? While that's an important consideration, most of the techniques necessary to do that are already developed.

Finally, and coming back to the solid waste landfill analogy, we need to ask ourselves if we are trying to encourage the development of CO₂ sequestration fields, or are we trying to restrict their development in Kansas. By placing unnecessary and costly regulatory restrictions on their development, we are concerned these fields may never be developed.

We also encourage you to modify the bill to clearly state the regulatory fees recovered are only those amounts necessary to support the State's proper regulatory function.

Thank you for this time to comment on HB 2419.

**Testimony before the House Energy and Utility Committee
February 12, 2007
Supporting H.B. 2419**

Chairman Holmes and Honorable Members of the Committee:

My name is Tom Thompson and I represent the Kansas Chapter of the Sierra Club. I have come today to speak in support of H.B. 2419.

H.B. 2419 provides for income tax and property tax incentives for putting carbon dioxide into the earth. It also provides for regulation of these activities.

The Sierra Club supports attempts to keep carbon dioxide out of the atmosphere. The damage caused to life on this planet caused by global warming is documented in scientific journals and the news everyday. Not only is wildlife effected but it is having economic and social impact as well.

Certainly the best way to decrease carbon dioxide in our atmosphere is not to produce it in the first place. Not building new coal-fired power plants would especially help to decrease the rate of carbon dioxide from going into the atmosphere. Furthermore, using hybrid vehicles, energy efficient products and conservation are needed.

By allowing carbon dioxide to be put underground it is hoped that there will be a decrease of carbon dioxide that goes into the atmosphere. Although it is felt that individuals and corporations should be working to do this anyway, tax incentives will help to accelerate these efforts.

The Sierra Club supports H.B. 2419.

Thank you for this opportunity and your time.

Sincerely

Tom Thompson
Sierra Club

ENERGY AND HOUSE UTILITIES

DATE: 2/12/2007

ATTACHMENT 2

**TESTIMONY SUBMITTED TO
HOUSE ENERGY & UTILITIES COMMITTEE
IN SUPPORT OF HB2219 WITH RESERVATIONS**

Presented by
Trevor McKeeman,

February 12, 2007

Chairman Holmes and members of the Committee thank you for the opportunity to testify before you today on HB2219. My name is Trevor McKeeman and I serve as the Business Development Manager for National Institute for Strategic Technology Acquisition and Commercialization (NISTAC).

Sunflower Integrated Bioenergy Center

I have been fortunate in the past to present to this committee the developments surrounding the Sunflower Integrated Bioenergy Center. As I have mentioned before this is a partnership among NISTAC, Sunflower Electric, and the Kansas Bioscience Authority. It is this center as well as other interests in advanced oil recovery using CO₂ that bring me here again today.

Proactive Committee

First I would like to commend the Chairman and committee for their proactive work on this carbon sequestration bill and the biomass bill which will be heard tomorrow. Certainly the biofuels and carbon trading industries are relatively young but both industries will have broad implications for the citizens of this state. By addressing some of these issues now, this committee has an opportunity to position the state of Kansas as a leader in these emerging fields.

The Carbon Dioxide Reduction Act

The biomass bill which will be heard tomorrow addresses many of the incentives around biofuels, however I would like to briefly touch on a few points in this carbon sequestration bill which I believe could be enhanced to further promote value added industries in the state. The title of this bill contains the phrase "the carbon dioxide reduction act." This is important to note because there are a number of ways to reduce carbon dioxide emissions outside of geological sequestration. Certainly many of these methods are outside of the scope of this bill but I would like to address one new biofuels technology which could be very relevant.

CO₂ Sequestration - A Cost

The challenge with most forms of CO₂ sequestration is that they do not create any offsetting revenue and effectively act as an additional cost for the business, which is subsequently passed down to the consumer. This bill works to enable the advanced oil recovery industry within the state to not only capture carbon but create value in the form of additional oil reserves. I will comment more on this later, but along the same line of reasoning I would like to now discuss other opportunities that may create value through "recycling carbon" which essentially contributes to the goals set forth in this bill.

Algae System

One goal of the Sunflower Integrated bioenergy center is to utilize CO₂ in an algae

ENERGY AND HOUSE UTILITIES

DATE: 2/12/2007

ATTACHMENT 3-1

system. Algae like any other plant use CO₂ in the photosynthesis process effectively capturing this gas within the cell structure as they grow. The intent of our algae system is to take that algae and process it into an oil source which will be used to make biodiesel. I use the term "recycling carbon" in this process because once the biodiesel is burned the CO₂ is released. However, this has effectively allowed us to use the same carbon twice, once in producing electricity and once in powering our vehicles. The net result of this is a reduction in CO₂ through the displacement of additional petroleum transportation fuel.

Recycling of CO₂

This process is relevant to this bill because it works to accomplish the same results of advanced oil recovery, the use of CO₂ to produce a value product while reducing net CO₂ emissions. By modifying this bill to promote "recycling of CO₂" or "utilization of CO₂" for biofuels production this committee will promote not only enhanced oil recovery but the possibility of advanced biofuels production. It is also important to note the timing of this legislation. If we are successful in Holcomb this site could be one of the first commercial scale algae systems in the country. By further enhancing the economics of this innovative technology we improve the chances of Kansas leading the way in this arena. I would ask the committee to consider additions to this bill to include other uses of CO₂ beyond advanced oil recovery.

Advanced Oil Recovery

Finally I would like to just briefly mention the provisions set forth for advanced oil recovery. Certainly this bill takes great steps to promote this industry. This is another prime example of a technology that not only fits the natural resource profile of Kansas but also could add significant value to the state. While I will not get into the details, I would urge the committee to consider the amount of regulations needed for this industry. There needs to be a balance between incentives and regulations or progress in this area could be drastically restricted. I believe the intent of this bill is to promote value creation and not reduce the chances of success for these new industries.

Thank you again for the opportunity to testify before you today.



Ethanol - *Made in Kansas*

Association Of Ethanol Processors

Statement in Support of HB 2419
House Energy and Utilities Committee
Carl Holmes, Chair
February 12, 2007

Thank you, Mr. Chairman and Members of the House Energy and Utilities Committee, for the opportunity to testify on HB 2419. My name is Duane Simpson; I am the Vice President of Government Affairs for the Kansas Association of Ethanol Processors. KAEP is the trade association that represents ethanol plants and their affiliated industries in the state.

In the production of ethanol, Carbon Dioxide (CO₂) is a byproduct. Most ethanol plants in the US and in Kansas simply vent the CO₂ into the atmosphere. Of course, in some cases, CO₂ can be a valuable byproduct. For example, it is often captured by plants near soft drink bottling facilities and sold to carbonate those drinks. In the oil patch, it is injected into the ground to help increase production from oil wells. In both of these cases, the CO₂ is not released into the atmosphere.

HB 2149 both regulates and encourages the capture and injection of CO₂ in this manner. KAEP supports legislation that encourages reductions in greenhouse gases and we believe this bill is a positive step in the right direction. We urge the committee to pass HB 2419.

ENERGY AND HOUSE UTILITIES

DATE: 2/12/2007

ATTACHMENT 4

House Committee on Energy and Utilities
HB 2419
Comments by M.L. Korphage
Kansas Corporation Commission
Conservation Division
February 12, 2007

Chairman Holmes and members of the House Energy and Utilities Committee, I am M.L. Korphage, Director of KCC Conservation Division. I am here today to provide comment on House Bill 2419, which proposes to provide for income tax reductions, property tax exemptions and certain new regulations for carbon dioxide (CO₂) injection wells. As our area of expertise does not include the tax ramifications of the proposed legislation we are providing primarily background information on the current status of such injection and associated regulation. In addition we will offer some general comment and recommendations with respect to this legislation.

Background and Current Status – CO₂ Injection

The Commission has been involved in underground fluid injection in Kansas as a part of oil and gas operations since the mid 1930's. In some limited cases that injection has included the injection of CO₂ for enhanced oil production. There has also been some interest very recently in Kansas and other locations to utilize CO₂ injection to enhance Coalbed Methane gas production. In such instances where injection of CO₂ ultimately involves enhancement of oil or gas production (EOR or EGR) the Commission already has authority and regulation in place within the Conservation Division regulations (K.A.R. 82-3-400 et seq.).

Continued concern with regard to the effect of CO₂ as a "greenhouse gas" has spurred a significant amount of on-going research at the federal level into the process that has been termed Carbon Capture and Geologic Storage or CO₂ Sequestration. As a part of that research the Interstate Oil and Gas Compact Commission (IOGCC) has been working to address regulatory concerns related to CO₂ by developing a regulatory framework, which will provide guidance to States on the capture, transportation, injection, and post injection storage or sequestration of CO₂. Attached to my testimony is a brief summary of the IOGCC Geological CO₂ Sequestration Taskforce's recommendations concerning the injection and post injection storage components of that process. Phase II of the IOGCC's effort will include the publication and dissemination of approved model statutes and regulations for CO₂ injection and storage. The initial draft in the Compact's approval process for those proposed model statutes and regulations are due to be presented at an upcoming mid-year meeting.

At the federal regulatory level US EPA has recently issued a program guidance document that recommends to States like Kansas, that have elected to maintain primacy over injection operations under provisions of the Federal Safe Drinking Water Act, that any non-EOR or non-EGR CO₂ injection be issued regulatory permits under what US EPA terms the Class V experimental technology well class. US EPA's rationale is that providing authority under this class of wells will allow US EPA and the States to better

ENERGY AND HOUSE UTILITIES

DATE: 2/12/2007

ATTACHMENT 5-1

evaluate the technical issues associated with CO₂ injection while maintaining protective safeguards of underground sources of drinking water and public health and safety. At the same time such projects will assist in the development of a scientifically sound regulation for commercial-scale CO₂ injection / storage projects, if developed in the future. Development of such projects will depend heavily on the evolution of a carbon tax credit system for storing or sequestering CO₂ under future atmospheric carbon reduction efforts. Currently, KDHE has authority from US EPA to administer the Class V injection program in Kansas. For the Commission to issue non-EOR or non-EGR CO₂ injection permits as contemplated under this Bill would require US EPA, KDHE, and KCC to modify existing primacy agreements with regard to the Class V program in Kansas.

KCC believes that it can cover current levels of CO₂ injection work related to EOR or EGR using existing agency resources.

Comments / Recommendations –HB2419

- Section 2(b)(7) contains a reference to subsection (f). That reference should be corrected to read subsection (e).
- The number of future non-EOR and non-EGR projects is unknown and largely dependent on the future development and expansion of a carbon credit system. This program may need a funding mechanism for start up costs for non-EOR and non-EGR injection / storage especially if the Division hires consultants per subsection (f) to help in developing regulations.
- New Section 2 of the Bill instructs the Commission to adopt specific regulation related to CO₂ injection and storage on or before January 1, 2008. Considering the current level of on-going technical research with regard to injection and post injection operations as well as on-going efforts to develop model regulations, and the need to modify existing primacy agreements with US EPA and KDHE we would recommend additional time to complete any new regulations. At a minimum the regulation development time frame should be extended to July 1, 2008.

Thank you for this opportunity to provide comment.

Interstate Oil and Gas Compact Commission
Carbon Capture and Storage: A Regulatory Framework for States
Summary of Recommendations

***(For Injection and Post-Injection Storage)**

Injection: Injection is defined as the placement, through wells, of CO₂ under pressure into underground geological formations. There are four primary options for the geologic storage of CO₂: in depleted oil and natural gas reservoirs; in deep saline formations; in salt caverns; and adsorption within coal beds that cannot be mined. Other possible options include organic shales, fractured basalts and hydrates.

IOGCC Summary Recommendations

- Require clarity and transparency in all statute and regulation development. Existing regulatory frameworks provide a successful analogue for CCGS and should be examined to determine if they will adequately address the unique properties of CCGS.
- States and provinces with natural gas storage statutes should utilize their existing natural gas regulatory frameworks, with appropriate modifications, for CCGS.
- Should EPA recommend that injection of CO₂ for non-EOR purposes be regulated under the UIC program, the Task Force strongly recommends reclassifying such wells either as a subclass of Class II or a new classification. The Task Force strongly believes that inclusion of non-EOR CCGS wells under Class I or Class V of the UIC program would not be appropriate.
- States and provinces with regulations for acid gas injection should utilize their regulatory frameworks, with appropriate modifications, for CCGS.
- Review existing CO₂ EOR, natural gas storage and acid gas regulations to ensure that operational plans for addressing public health and safety, as well as release or leakage mitigation procedures, are adequate.
- Regulations governing permitting processes should adequately address reservoir properties relative to the interaction of CO₂ with rock matrix and reservoir fluids.
- Well and equipment operational regulations should take into account the unique properties of CO₂.
- Regulations governing permitting processes for non-EOR CO₂ injection projects should respect existing property rights dictated by state law in issuing CO₂ storage site permits.
- Existing monitoring regulations currently in use for CO₂ EOR, natural gas storage, and acid gas injection that do not adequately address monitoring and verification requirements for CO₂ storage should be amended that the CCGS is performing as expected relative to safely storing CO₂ away from the atmosphere, accounting for those volumes, and establishing leak detection protocols.

*ENERGY AND
HOUSE UTILITIES*

DATE: 2/12/2007
ATTACHMENT 6-1

- Adapt and modify established permitting regulations and standards for site characterization for purposes of CCGS. Consider results of DOE-sponsored partnership research and other ongoing research.
- Involve all stakeholders, including the public, in the rule making process at the earliest possible time.

Post Injection Storage: Post injection storage is defined as storage in depleted oil and natural gas reservoirs (including terminated CO₂ EOR projects), saline aquifers; salt caverns; and coal beds that are not able to be mined.

IOGCC Summary Recommendations

- Require clarity and transparency in all statute and regulation development.
- Consider the potential need for legislation to clarify and address the unknown issues which may arise in the ownership of storage rights (reservoir pore space) and payment for use of those storage rights.
- Research the chemical transformations that are likely to take place in the reservoirs over long periods of time which may impact, positively or negatively, reservoir integrity in CO₂ storage time frames. Some work has already been done in this area.
- Construct a regulatory framework for the storage stage that allows for the potential of future removal of CO₂ for commercial purposes.
- Given the long time frames proposed for CO₂ storage projects, innovative solutions to protect against orphaned sites will need to be developed. The current model utilized by most oil and natural gas producing states and provinces – whereby the government provides for ultimate assurance in dealing with orphaned oil and natural gas sites – may provide the only workable solution to this issue. This can be accomplished through state and provincial government administration of federally guaranteed industry-funded abandonment programs.
- Establish technical standards for well abandonment and site closure accounting for specialized concerns dealing with the unique properties of CO₂ impacts on reservoir characteristics, well construction, and cementing techniques normally used in the oil and natural gas industry.
- Establish procedures for long-term reservoir management and monitoring. A new framework will need to be established to address the long-term monitoring and verification of emplaced CO₂ to confirm that injected volumes remain in place.
- Establish a regulatory threshold requiring mitigation procedures to be initiated.
- Involve all stakeholders, including the public, in the rule making process at the earliest possible time.

Testimony of Mark Schreiber
Director Government Affairs, Westar Energy
On House Bill 2419
February 12, 2007

Chairman Holmes and members of the committee, my name is Mark Schreiber. I am the Director Government Affairs for Westar Energy. Westar Energy does not have a position on HB 2419, but would like to provide some comments.

House bill 2419 enacts the carbon dioxide reduction act. However, the focus of the bill is on carbon dioxide capture and sequestration, which does not address reducing carbon dioxide emissions.

If the intent of the bill is to reduce the production of carbon dioxide, I would like to suggest the following changes:

In New Section 6(d), line 42, include the words "or reduce" after "capture." In New Section 7, lines 5 and 20, replace the word "equipment" with the word "property." This change makes it consistent with the definition in New Section 6 lines 41 and 42. Also in this section replace the words "amortization" and "amortizable" with "depreciation" and "depreciable."

Some of these changes are technical in nature, but it would allow the incentives to be used for reducing carbon dioxide emissions. Public utilities could then potentially use the incentives if modifications are identified to reduce the production of carbon dioxide in power plants.

Thank you for the opportunity to provide these comments to the committee today. I will be glad to stand for questions at the appropriate time.

ENERGY AND HOUSE UTILITIES

DATE: 2/12/2007

ATTACHMENT

7