

2009 SENATE FINANCE AND TAXATION

SB 2034

2009 SENATE STANDING COMMITTEE MINUTES

Bill/Resolution No. 2034

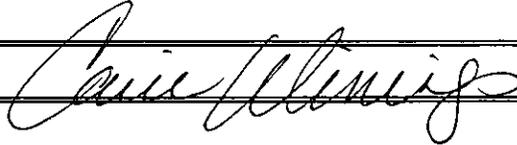
Senate Finance and Taxation Committee

Check here for Conference Committee

Hearing Date: 01/20/2009

Recorder Job Number: 7288

Committee Clerk Signature



Minutes:

Chairman Cook: Opened hearing on SB 2034.

Senator Rich Wardner, District 37: Testified to introduce the bill.

Chairman Cook: You said that tertiary recovery usually involves CO2, if it does not, what does it involve?

Senator Wardner: I don't know of any other gas. It is my understanding that this bill involves CO2. The more technology we have and the more incentives we have to encourage the industry to use these, the better off we will be as a state.

Senator Triplett: Do we need an incentive for the industry to use CO2?

Senator Wardner: We have a project going on with Antelope Valley trying to capture CO2 and get it out into the oil field, and we want the companies coming after it.

Senator Triplett: I am having a hard time with this bill, and how we justify it with tax policy; I don't see that it is necessary.

Senator Wardner: I think your points are good, but I think that this is frosting on the cake that they go after it harder. The oil industry would work to do the technology and use this resource to extend and grow the production.

Senator Triplett: This is not new technology; we have been using carbon for many years in Texas.

Senator Wardner: That is correct, but there are new technologies in the way to do it within injecting the CO2.

Tim Dawson, Legislative Council: Review of the bill.

Ron Ness, President of the North Dakota Petroleum Council: See attachment #1 for testimony in support of the bill.

Chairman Cook: So we do have? recovery going on, it is just not using CO2?

Ron Ness: You are correct, it is using gas.

Senator Triplett: Has the 10 year exemption ever been used in North Dakota for Carbon Dioxide?

Ron Ness: No, only in testing.

Vice Chairman Miller: What is identified as a "project"?

Ron Ness: A group of wells that come together, form a unit, and share the profit.

Senator Anderson: You said you are using a gas, if you are not using CO2 which is a gas, than what are you using?

Ron Ness: I will defer to Lynn Helms.

Lynn Helms, Director of Department of Mineral Resources: See Attachment #2 in Support of SB 2034.

Chairman Cook: Besides CO2 for tertiary recovery, the other gases are?

Lynn Helms: We currently have several projects going on in Bowman County that use air. It burns part of the oil and forces oil out of the reservoir. We have also had projects where methane gas was used; caustic materials can be used, bacterial projects. The only one going

in North Dakota is high pressure air. The point is the \$25 gap between capturing the carbon dioxide and being able afford it.

Chairman Cook: Is air affordable compared to Carbon Dioxide?

Lynn Helms: Air is cheaper. You don't have to buy it, but the process of compressing it is probably similar to the \$15 per ton. It is less effective/efficient. You are putting 78% useless material into the reservoir to get the 21%. You are looking at the same cost, but much less efficient. We prefer Carbon Dioxide.

Vice Chairman Miller: What is your estimation of the future of CO2? Are we making headway on bringing the cost down?

Lynn Helms: I expect the \$40 per ton to decline as we gain experience. Stability in the oil market would help close the gap as well. No one thing is the silver bullet. I think it is going to take carbon credits on the part of the federal government. I think it will take improved oil prices. I it will take new technology for the capture, and tax incentives.

Senator Triplett: You mentioned the increased efficiency in the Canadian oil fields because of it being all together and ours are more spread out, could you explain how the carbon dioxide gets from the coal fields to the oil fields in terms of the pipelines and the cost of that etc.?

Lynn Helms: There are currently two CO2 pipelines in the world. One is from Colorado to west Texas, and the other one goes from Beulah to Saskatchewan, and this pipeline was enhanced and built by Basin Electric and Dakota Gasification, but it was based on long term contracts that would payback that pipeline. It is 200 miles long, and to build one today, it would cost around \$95,000 per inch mile. If it is a 10" pipeline you are talking about \$950,000 a mile. A significant distribution system needs to get built. The only way to pay for it is to close the gap and for the trade to take place. We need to build 300-400 miles.

Senator Triplett: Is the cost of the pipeline built into the numbers?

Lynn Helms: Yes it is built into that \$40 per ton number.

Senator Oehlke: You mentioned that it is a lot riskier to do this development here compared to Texas or Canada, is that risk dollars?

Lynn Helms: There are two risks, one being that the oil fields are so deep making them much hotter and we do not know how carbon dioxide is going to behave, and secondly it is a safety issue with the drilling of additional wells in order to use the carbon dioxide and you have to dig twice as deep. You don't know whether that drilling investment will work or not.

Senator Dotzenrod: Is fire flooding something that we do?

Lynn Helms: Yes, that is the high pressure air injection. The air ignites part of the oil and burns the heaviest part of the oil, and that is called fire flooding.

Senator Triplett: In respect of the \$15 per ton on the cost side being helped by the stability of the market?

Lynn Helms: Predictions are really difficult. The \$15 per ton is tied to the \$50 per barrel. Basically I am saying that if the oil recovers in price then it will move the \$15 per ton will move up and then the gap will close.

Robert Harms, President of Northern Alliance of Independent Producers: I would like to point out a couple of things. I want to make sure that the incentive we are talking about is a tax policy and why it is important. We have two taxes in North Dakota; a gross production tax which is 5% and an extraction tax which is 6.5%. Law allows tertiary recovery for CO2 on the incremental oil produced from that project to be exempt from that 6.5% tax. What we are trying to do is extend that 10 year exemption and make it permanent. The reason it is important is because long term planning for a project, like the one in Bowman County, had internal resources begin planning that project in the mid 80's, and it did not actually began until a decade later. Some of the other policy activities that are taking place in this session are

setting a proper frame work to have the oil industry take advantage of the CO2 the coal industry produces.

Senator Dotzenrod: You are saying you want the 10 years to go away, yet the bill looks as though the 10 years does not drop off for other techniques of oil extraction, so you are saying that the goal is to promote the use of carbon dioxide?

Robert Harms: You are correct.

Sandy Tabor, Lignite Energy Council: We just want to go on the record that we support this bill.

Senator Triplett: Can you confirm or give us more clarification about that fact that the credit would not completely close the gap?

Sandy Tabor: In general Lynn Harms is correct, and the gap will not be closed. He was right in suggesting how long it will take for the prices to come together. Until we have more demonstration projects that it will work, we are all assuming risks that it will work. We are concerned about the costs in moving forward, and timing wise we have a long road ahead.

Curtis Jabs, Basin Electric Power Cooperative and Dakota Gasification Company:

Testified in support of the bill. The construction of the pipeline would be additional in cost to the \$50 per ton in my opinion, but this is an industry that we need to nurture in North Dakota. This is oil that would not be gotten if we did not start injecting carbon dioxide.

Discussion: Some discussion between Curtis Jabs and Senator Triplett regarding some figures he gave compared to Lynn Helms.

Chairman Cook: Any other testimony in support? (No) Opposed? (No) Neutral? (No)

Closed hearing on SB 2034

2009 SENATE STANDING COMMITTEE MINUTES

Bill/Resolution No. SB 2034

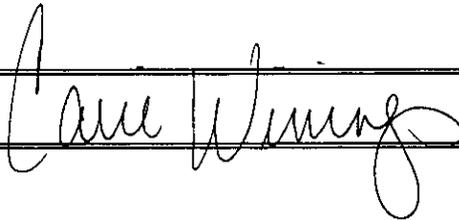
Senate Finance and Taxation Committee

Check here for Conference Committee

Hearing Date: 02/10/2009

Recorder Job Number: 9106

Committee Clerk Signature



Minutes:

Chairman Cook: Reopened discussion on SB 2034. Reminded committee what the bill was about.

Senator Oehlke: Commented on some information from the original testimony.

Moved a Do Pass.

Vice Chairman Miller: Seconded.

Senator Dotzenrod: Questioned what was exempt under that section.

Senator Hogue: It is the oil extraction tax.

Senator Triplett: It is the oil extraction tax. This came from Rich Wardner's committee and he would never do anything that would change the gross production tax.

Chairman Cook: It is part of the empower recommendations.

Senator Hogue: This would exempt any well even if the production never dropped to a stripper well status, so if you are going 100 barrels a day and you decide it is worthwhile to inject Carbon Dioxide and go from 100 to 200, then would that next 100 are exempt?

Discussion: A discussion occurred between the committee members on whether that would actually happen and requested Ron Ness to come down to answer some questions.

Chairman Cook: Asked what the qualifications to be certified as a qualified project were.

Ron Ness, Petroleum Council: That is certified by the North Dakota Industrial Commission.

Chairman Cook: Is there a threshold or a production level?

Ron Ness: No, to unitize any field or move into a unitization system you have to certify it. This bill deals only with CO2.

Chairman Cook: The tax we are exempting them from is the extraction tax?

Ron Ness: The extraction tax on incremental oil.

Chairman Cook: Do they do this when the wells are producing well, or do they wait until production is quite low?

Ron Ness: You always try and keep your pressure up when they are in decline. You don't want to go into a field that is achieving peak performance because it costs money to do this.

Senator Hogue: What the qualified criteria are?

Ron Ness: To be a qualified project, you first have to have 60% of the interests agreeing to participate in the agreement. It is a signed agreement, a contract amongst all the parties that you share. It is a lengthy process; ultimately ratified by the Industrial Commission.

Chairman Cook: By being qualified you then define how wealth is going to be distributed?

Ron Ness: That and how it is going to be conducted. You have a lot of owners and it has to be well orchestrated.

Senator Dotzenrod: Could you envision any circumstances that this could be manipulated?

Ron Ness: No. The CO2 projects we are talking about are in the hundreds of millions of dollars. North Dakota wells are twice as deep as others.

Chairman Cook: Any further discussion? (no)

A Roll Call vote was taken: Yea 7, Nay 0, Absent 0.

Senator Oehlke will carry the bill.

FISCAL NOTE
Requested by Legislative Council
12/08/2008

Bill/Resolution No.: SB 2034

1A. State fiscal effect: *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2007-2009 Biennium		2009-2011 Biennium		2011-2013 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

1B. County, city, and school district fiscal effect: *Identify the fiscal effect on the appropriate political subdivision.*

2007-2009 Biennium			2009-2011 Biennium			2011-2013 Biennium		
Counties	Cities	School Districts	Counties	Cities	School Districts	Counties	Cities	School Districts

2A. Bill and fiscal impact summary: *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

SB 2034 creates a permanent exemption from the oil extraction tax for incremental production from a tertiary recovery project that uses carbon dioxide.

B. Fiscal impact sections: *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

Current law allows a ten-year exemption for incremental production from any tertiary recovery project. SB 2034 makes this exemption permanent for those tertiary projects that use carbon dioxide. There is no fiscal impact for at least the next five biennia.

3. State fiscal effect detail: *For information shown under state fiscal effect in 1A, please:*

A. Revenues: *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

B. Expenditures: *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

C. Appropriations: *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation is also included in the executive budget or relates to a continuing appropriation.*

Name:	Kathryn L. Strombeck	Agency:	Office of Tax Commissioner
Phone Number:	328-3402	Date Prepared:	12/31/2008

REPORT OF STANDING COMMITTEE

SB 2034: Finance and Taxation Committee (Sen. Cook, Chairman) recommends DO PASS (7 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). SB 2034 was placed on the Eleventh order on the calendar.

2009 HOUSE NATURAL RESOURCES

SB 2034

2009 HOUSE STANDING COMMITTEE MINUTES

Bill/Resolution No. 2034

House Natural Resources Committee

Check here for Conference Committee

Hearing Date: 2-27-09

Recorder Job Number: 9854

Committee Clerk Signature

Nancy L. Gerhardt

Minutes:

Vice Chairman Damschen – Open the hearing on SB 2034.

Senator Rich Wardner – This bill came out of the Interim. The empowerment committee established by the legislature last session which had all players involved with energy. They discuss energy policy for the state of ND. This is not a major bill, it's a minor thing. Go to part "B" of your fiscal note, current law allows a 10 year exemption for incremental production from the tertiary recovery project. Incremental means anything over and above what you would get from regular production, you get a 10 year from the extraction tax. This bill makes the exemption permanent when you use CO2. CO2 has become a major player in energy policy throughout the world and also will affect the state of ND.

Rep. Hunskor – What does Tertiary mean?

Senator Wardner – It means the 3rd step. You have the initial production out in the field, they go down and drill and pump it. Secondary recovery is they unitize the field and they can do water injection or other things where they force the oil to a central location and everybody shares in it. Then you have Tertiary recovery which is the 3rd step. There they use CO2 to move the oil to a central location. We haven't done any in the state of ND, however we do

take the CO2 from the Gasification plant in Beulah and we're taking it right on up to the Wayburn oil field and they're doing it up there. They're getting this enhanced recovery.

Rep. Pinkerton – The stainless steel they put in for the fittings is that quite an expense for the CO2 recovery?

Senator Wardner – I can't really comment on that. Lyan Helms would be better able to comment on that.

Tim Dawson – Legislative Council – The title says it all. It is an exemption from oil extraction tax on tertiary recovery. If you look at page 1, lines 11 & 12, you will see the incremental production on tertiary recovery project that does not use carbon dioxide is exempt from any oil extraction taxes for a period of 10 years. Lines 15 & 16 incremental production from a tertiary recovery project that uses carbon dioxide doesn't have the 10 year limitation. Those are the words that do what Senator Wardner described to you.

Ron Ness – ND Petroleum Council – See **Attachment # 1**.

Curtis Jabs – Basin Electric Power Cooperative – Basin Electric supports SB 2034. The Great Plains Syn Fuel Plant does capture the carbon dioxide; we send it up a 205 mile pipeline to Wayburn, Saskatchewan for enhanced oil recovery. To date we've probably sent up about 15 million tons and it's worked very well. The provincial government and the federal as well did give some tax incentives to Wayburn so this project could move forward. It is a very expensive proposition for them, to put in the pipelines they have to recapture any carbon dioxide that comes up with the oil. They have to recompress that and put it down the wells so none of it is ever released. This is a new industry for ND. Questions?

Lyan Helms – ND Industrial Commission – See **Attachment # 2**. The map shows where the impacts of this bill is felt. The U.S. has private mineral ownership, in Canada it's owned by the crown. The province of Saskatchewan and the federal government of Canada stepped in and

offered royalty relief to the operators of Wayburn and Mydeal to make those projects happen.

You can't offer that in the state of ND, but what you can offer is tax relief. Questions?

Chairman Porter – On the right side of your sheet the 93 million metric tons of CO₂, is that annual or is that total?

Mr. Helms – That is total. For the life of the initial recovery project in those 24 fields. That's pretty comparable with what you see for Wayborn & Mydel. Questions

Rep. Pinkerton – Is it cheaper in Canada than the US?

Mr. Helms – The primary driver for the producers in Canada, is the size – it is much less expensive.

Rep. Hunsakor – Even with the tax incentive, the oil industry still would have to come up with another \$ 20 a ton in order to purchase the CO₂. How are they going to do it?

Mr. Helms – What is happening in Washington, D.C. is leading us to believe we are going to see a carbon market. CO₂ is going to become a traded commodity on a carbon market.

There are going to be carbon incentives that will also equalize the difference. The person willing to take the CO₂ and put it into his oil reservoir will be able to get a carbon credit from somewhere around the world to offset a major part of that cost. The person producing the CO₂, if they're willing to put the capture technology into place and permanently sequester that CO₂ into an oil reservoir will also be able to get a payment.

Rep. Pinkerton – I had understood they had to retrofit the wells with stainless steel because of the CO₂ pH factor it would corrode normal steels.

Mr. Helms – That is correct. That's a major part of the limit on how much they can afford to pay per ton of CO₂. Anyplace the CO₂ and water contact each other then they have to go to stainless steel. From the source of the CO₂ to the well head carbon steel is fine, once you reach the wellhead you are going to have both water and CO₂ together. From that point on

the wellhead, the tubing, and the packers have to be made out of stainless steel. All of these water injection wells have to be retrofitted.

Rep. Pinkerton – That will create a lot of local work. There will be crews hired.

Mr. Helms – Absolutely, it creates a huge number of jobs. Retrofitting and working over the wells, on top of that the natural gas plants that are gathering CO₂, are going to have to be retrofitted with CO₂ technology on the front end. We are going to see a huge investment in welders and pipes and people building a gas plant on the front end of our gas plant. It will generate a lot of jobs.

Rep. Pinkerton – The CO₂ has some chemical action on the oil so it would dissolve the oil and make it freer to flow. Is that correct?

Mr. Helms – That is correct. If you can envision for me one of those pour spaces. Typically toward the end of one of the water flood what you have is a tiny little drop of oil in the middle of the pour space and the water is flowing around it. The oil is just stuck there and I've actually seen movies of this stuff where they've done it in the laboratory and this little droplet of oil is just sitting in their spinning. Once carbon dioxide enters that pour space the oil droplet swells, because the carbon dioxide dissolves in oil. The first thing it grows in size by 50 or more %. The second thing is it has the same effect as the ??? reducers in your motor oil. It will drop from 40 weights to 5 weights. Then the water going by will knock that droplet of oil from that pour space and move it to a producing ????? It's a great solvent. It swells it and lowers the viscosity.

Rep. Pinkerton – There's water injection the same time as the CO₂ is injected.

Mr. Helms – There is actually water injection at the time as CO₂. What we have learned is, we use a process called WAG – water alternating gas. If you just go in and pump carbon dioxide in, it finds its way through the pour spaces and you don't get much efficiency. But, if you inject

carbon dioxide for a period of weeks and then turn that valve off and open the valve to water you will fill these walls of water between the carbon dioxide slugs that will move the oil and also make the carbon dioxide seek out new paths. So, yes there is alternating stages of carbon dioxide and water. About ½ the time you're injecting water.

Chairman Porter - Where will the water come from?

Mr. Helms – The water will come from the same place that it is coming from for the water flood. Most of it is reinjected produced water, but there's always some additional water make up. There's some waste water that has to be disposed of and some make up water that has to come out of the Dakota formation. Some saline water supply – always saline water.

Chairman Porter – With the bill we passed yesterday regarding who owns the new space for the pour space. Does that affect the tertiary recovery that the company will have to go back to the surface owner because ½ of the CO₂ will be retained inside of these tertiary recovery fills?

Mr. Helms – We purposely wrote a section in the bill to exempt this recovery process from those terms. At the end, when they convert one of these to ????? there is going to have to be a settlement with the pour space owners. At that point there are going to no longer be replacing minerals that were in that pour space, but they are going to be actually filling them up with carbon dioxide and storing something in there.

Sandi Tabor – Lignite Energy Council – The council supports this bill and recommends a Do Pass on this legislation.

Robert Harms – Northern Alliance of Independent Producers – The Alliance also supports SB 2034.

Vice Chairman Damschen – Further testimony in favor of SB 2034? Opposition? Close the hearing on SB 2034.

Rep. Hofstad – Move Do Pass.

Rep. DeKrey – 2nd.

Vice Chairman Damschen – We have a motion from Rep. Hofstad for a Do Pass for SB 2034 and a 2nd from Rep. DeKrey. Discussion? Seeing none the clerk will call the roll for a Do Pass on SB 2034.

Yes 10 No 0 Absent 3 Carrier Rep. Hofstad

Date: 2-27-2009
Roll Call Vote #: _____

2009 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. SR 2034

House Natural Resources Committee

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass Do Not Pass As Amended

Motion Made By Hofstad Seconded By DeKrey

Representatives	Yes	No	Representatives	Yes	No
Chairman Porter	✓		Rep Hanson	✓	
Vice Chairman Damschen	✓		Rep Hunskor	✓	
Rep Clark	✓		Rep Kelsh		
Rep DeKrey	✓		Rep Myxter	✓	
Rep Drovdal			Rep Pinkerton	✓	
Rep Hofstad	✓				
Rep Keiser					
Rep Nottestad	✓				

Total (Yes) 10 No 0

Absent 3

Floor Assignment Hofstad

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2034: Natural Resources Committee (Rep. Porter, Chairman) recommends DO PASS
(10 YEAS, 0 NAYS, 3 ABSENT AND NOT VOTING). SB 2034 was placed on the
Fourteenth order on the calendar.

2009 TESTIMONY

SB 2034



Ron Ness
President
Marsha Reimnitz
Office Manager

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Senate Bill 2034
Senate Finance & Tax
January 20, 2009

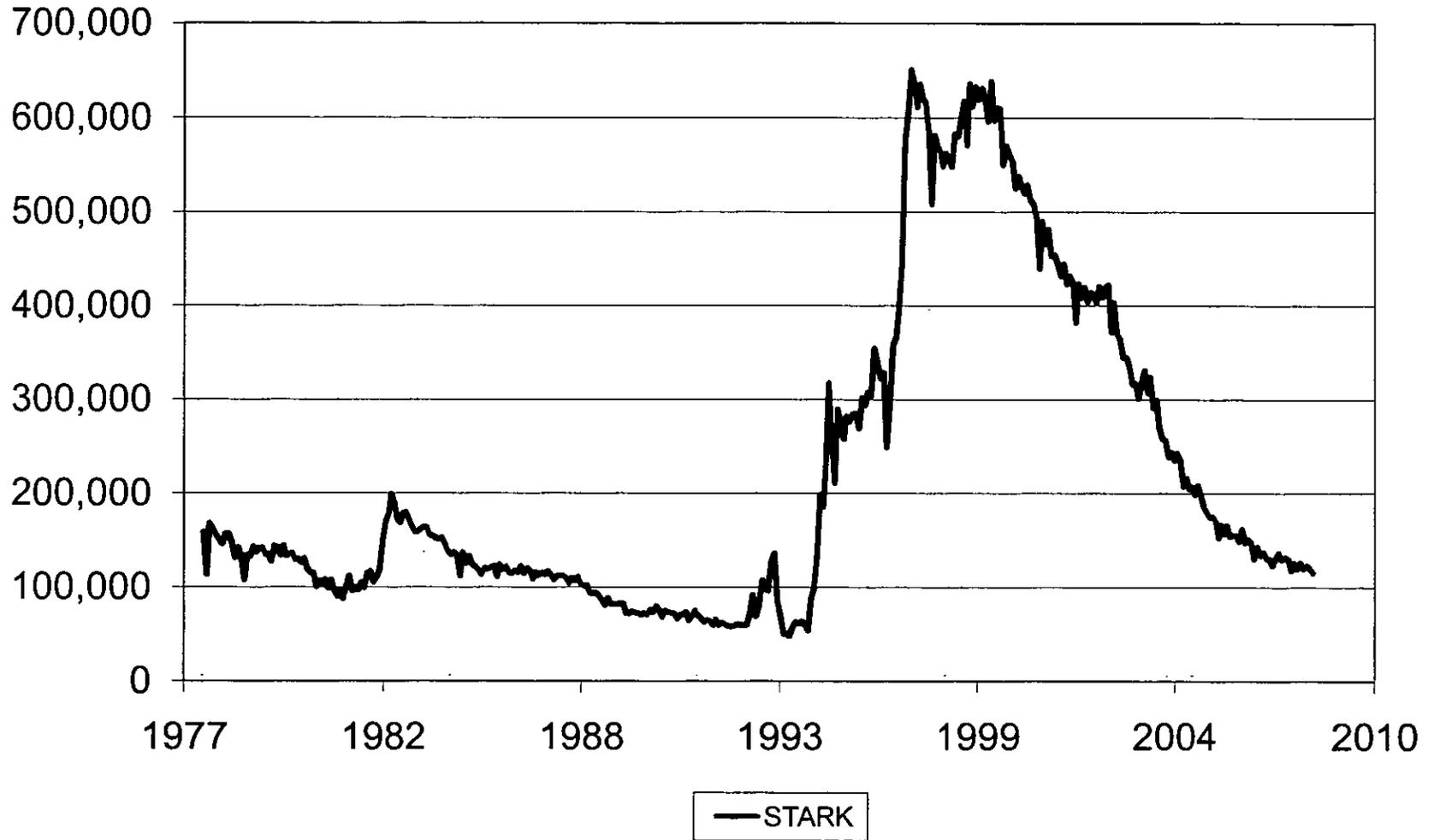
Chairman Cook and members of the Committee. My name is Ron Ness; I am the President of the North Dakota Petroleum Council. The North Dakota Petroleum Council represents 160 companies involved in all aspects of the oil and gas industry and has been representing the industry since 1952.

I appear before you today in support of SB 2034. We have been trying for years to get a CO2 Enhanced Oil Recovery project in place in North Dakota. Now the stakes have been increased as Congress and other states continue to push for carbon capture standards placing our coal and fossil fuel industry's at risk. The Empower ND Commission studied this issue at length and SB 2034 is one of the primary incentives we determined that could be a valuable carrot to encourage a CO2 Enhanced Oil Recovery project in the state. There is no fiscal impact, since this creates an incentive after a project has been producing oil for 10 years to continue injecting CO2 when the economics of a project begin to decline and the oil operator is hit with a 130% tax increase. The carbon capture facility does not want the operator to stop injecting CO2 as a result of declining economics.

SB 2034 is just one more carrot to try and encourage carbon capture and sequestration in North Dakota. To date, there has not been a tertiary oil recovery project using CO2. The costs and risks associated with such a project are enormous. We urge you to support the bill.

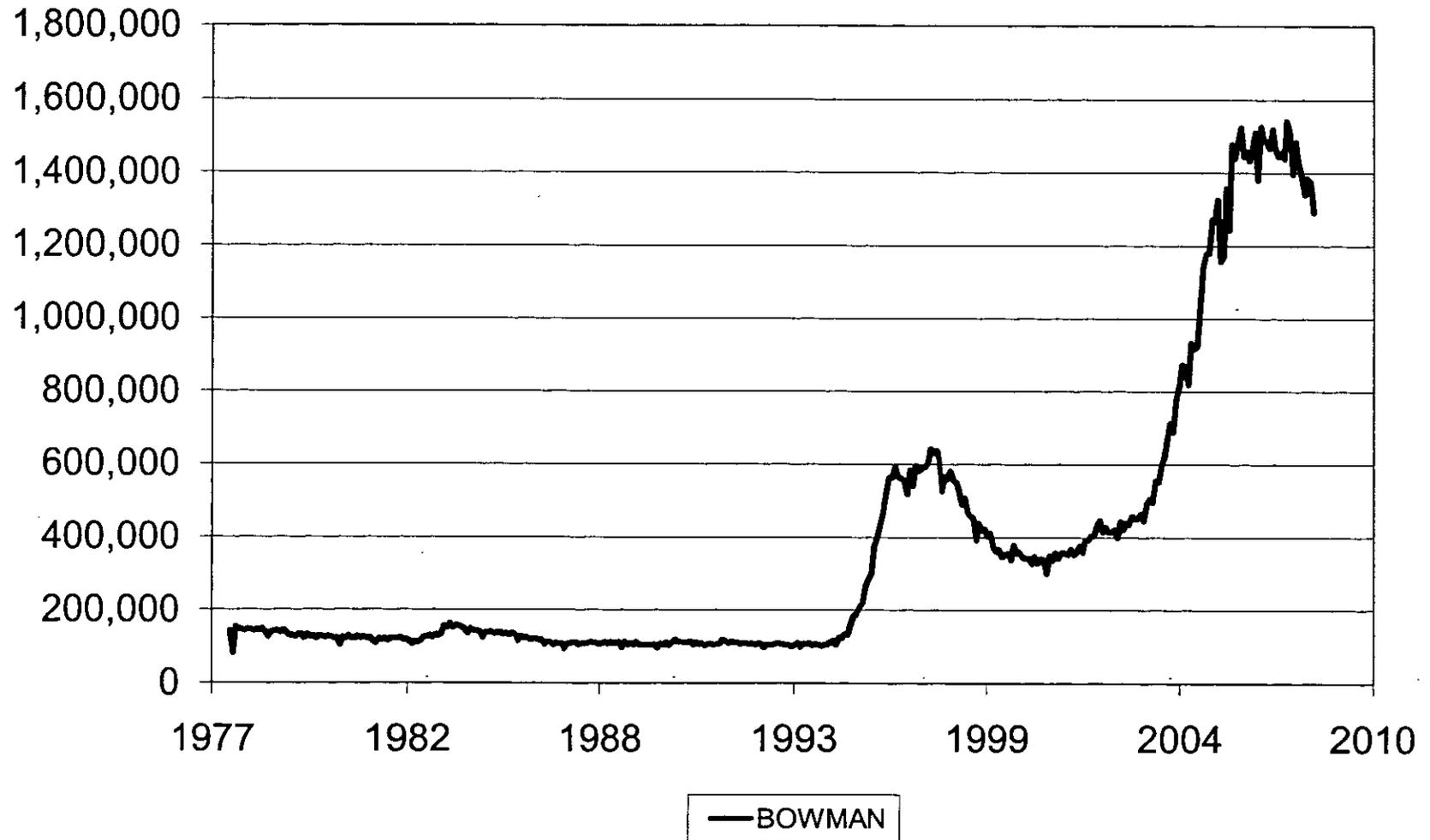


MONTHLY OIL PRODUCTION FOR LOCAL COUNTIES





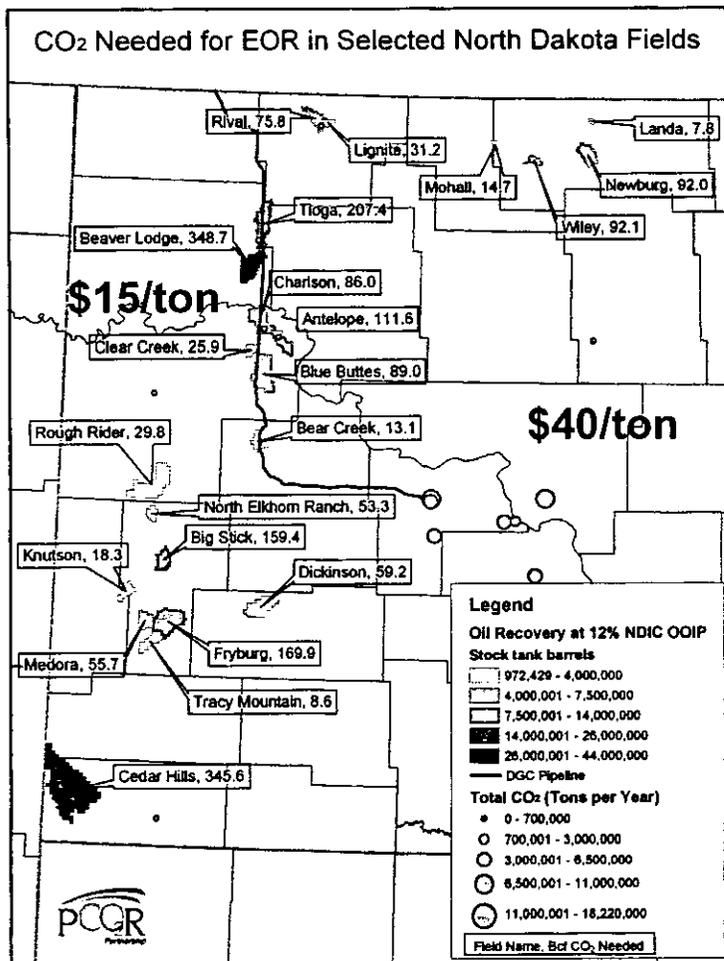
MONTHLY OIL PRODUCTION FOR LOCAL COUNTIES



EOR CO₂ Demand

TCF - Trillion Cubic Feet
 MMT - Million Metric Tons
 EOR - Enhanced Oil Recovery
 BBL - Barrel of Oil
 MMTCE - Million Metric Ton

Carbon
 Equivalents



- Estimated 1.6 TCF 93 MMT of CO₂ needed for maximum tertiary EOR operations in 24 selected fields in North Dakota.
- Represents over 200 million barrels of incremental oil. At \$50/bbl = \$10 billion.
- Tax incentive = 1/3 of the gap
- Weyburn - 20 MMTCE
 - 130 million barrels
- Midale - 15 MMTCE
 - 85 million barrels





Attachment # 1

Ron Ness
President

Marsha Reimnitz
Office Manager

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Senate Bill 2034

House Natural Resources

February 27, 2009

Chairman Porter and members of the Committee. My name is Ron Ness; I am the President of the North Dakota Petroleum Council. The North Dakota Petroleum Council represents 160 companies involved in all aspects of the oil and gas industry and has been representing the industry since 1952.

I appear before you today in support of SB 2034. We have been trying for years to get a CO₂ Enhanced Oil Recovery project in place in North Dakota. Now the stakes have been increased as Congress and other states continue to push for carbon capture standards placing our coal and fossil fuel industry's at risk. The Empower ND Commission studied this issue at length and SB 2034 is one of the primary incentives we determined that could be a valuable carrot to encourage a CO₂ Enhanced Oil Recovery project in the state. Currently, the incremental oil in a Tertiary Oil Recovery Unit is subject to a 5% gross production tax for 10 years and then the 6.5% oil extraction tax is applied. This bill extends the incentive beyond 10 years to encourage the operator to continue injecting CO₂ once the economics of a project begin to decline. Under current law the oil operator is hit with a 130% tax increase about the time the economics drop. SB 2034 will help extend the life of the Enhanced Oil Recovery project by keeping the tax rate low as production declines. The carbon capture facility does not want the operator to stop injecting CO₂ as a result of declining economics.

SB 2034 is just one more carrot to try and encourage carbon capture and sequestration in North Dakota. To date, there has not been a tertiary oil recovery project using CO₂. The costs and risks associated with such a project are enormous. We urge you to support the bill.

57-51.1-01 Section 8. "Qualifying tertiary recovery project" means a project for enhancing recovery of oil which meets the requirements of section 4993(c), Internal Revenue Code of 1954, as amended through December 31, 1986, and includes the following methods for recovery:

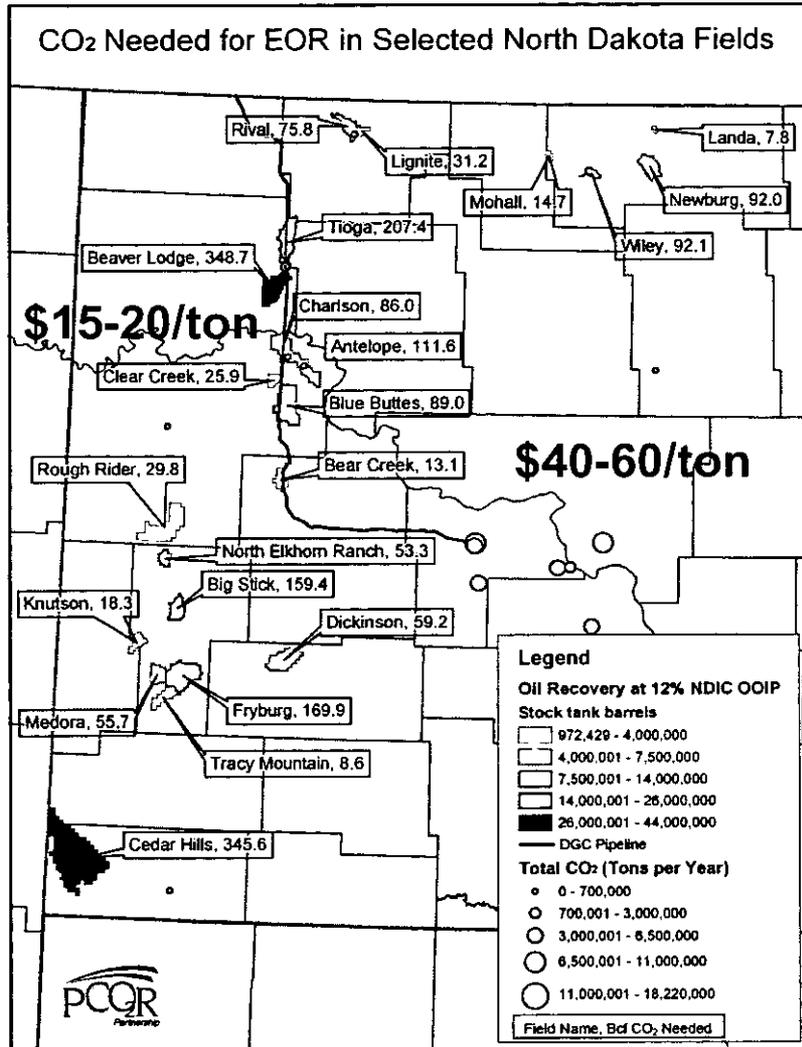
- a. Miscible fluid displacement.
- b. Steam drive injection.
- c. Microemulsion.
- d. In situ combustion.
- e. Polymer augmented water flooding.
- f. Cyclic steam injection.
- g. Alkaline flooding.
- h. Carbonated water flooding.
- i. Immiscible carbon dioxide displacement.
- j. New tertiary recovery methods certified by the industrial commission.

It does not include water flooding, unless the water flooding is used as an element of one of the qualifying tertiary recovery techniques described in this subsection, or immiscible natural gas injection. To be eligible for the tax reduction provided under section 57-51.1-02, a tertiary recovery project must be certified as qualifying by the industrial commission, the project operator must continue to operate the unit as a qualifying tertiary recovery project, and the project operator must have achieved for at least one month a production level of at least fifteen percent above the level that would have been recovered under normal recovery operations. To be eligible for the tax exemption provided under section 57-51.1-03 and subsequent thereto the rate reduction provided under section 57-51.1-02, a tertiary recovery project must be certified as qualifying by the industrial commission, the project operator must continue to operate the unit as a qualifying tertiary recovery project, and the project operator must have obtained incremental production as defined in subsection 5 of section 57-51.1-03.

Senate Bill 2034 - House Natural Resources - February 27, 2009

Lynn D. Helms, Director, DMR-NDIC

EOR CO₂ Demand



- Estimated 1.6 trillion cubic feet or 93 million metric tons of CO₂ needed for maximum tertiary Enhanced Oil Recovery operations in 24 selected fields in North Dakota.
- Represents over 200 million barrels of incremental oil.
- Tax incentive = 1/3 of the gap
- Weyburn - 60 million metric tons
 – 130 million barrels
- Midale - 40 million metric tons
 – 85 million barrels

