

# MICROFILM DIVIDER

OMB/RECORDS MANAGEMENT DIVISION

SFN 2053 (2/85) 5M



ROLL NUMBER

DESCRIPTION

1496

2005 HOUSE FINANCE AND TAXATION

HB 1496

2005 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

House Finance and Taxation Committee

Conference Committee

Hearing Date **January 26, 2005**

| Tape Number                                   | Side A | Side B | Meter # |
|---|--------|--------|---------|
| 2   | X      |        | 10.2    |
|   |        |        |         |
|   |        |        |         |
| Committee Clerk Signature <i>Janice Stein</i> |        |        |         |

Minutes:

**REP. WES BELTER, CHAIRMAN** Called the committee hearing to order.

**REP. JON NELSON, DIST. 7** Introduced the bill. See attached written testimony together with amendments to the bill.

**REP. DAVID MONSON, DIST. 10** Co-Sponsor of the bill. He stated this is an area he has been very interested in and sponsoring for years. It has just been in the last couple years that we have been moving on this. There is no fiscal note on this bill, because this industry is so new, that there is absolutely no tax out there right now. There probably won't be for a number of years.

**REP. SCOT KELSH, DIST. 11, FARGO** Co-Sponsor of the bill. We think it is wise as North Dakota is an energy producing state, and we think it is a good investment in our future, to create one more basket in which to put our energy eggs. It is a wise investment. We think hydrogen is the energy of the future.

**BRUCE CARLSON, VERENDRY ELECTRIC POWER COOPERATIVE, MINOT**

Testified in support of the bill. Shared a project which they are a partner in involving the North Central Research Experiment Station, south of town. He stated they are planning to convert electrons generated at their two wind machines, into hydrogen at the experiment station. This is a great project, we have federal funding, and are now in phase one. We are working with NDSU, the EERC, folks in Grand Forks, Senator Dorgan, Basin Electric, Central Power and Cooperative and Verendry Electric Cooperative in the city of Minot. With sixty percent of our nation's energy needs presently being imported, projected to be seventy percent by 2010, we think energy independence is critical, and hydrogen is the way to go.

**BRAD CRABTREE, POWERING THE PLAINS PROJECT, GREAT PLAINS**

**INSTITUTE, ASHLEY, ND** Testified in support of the bill. See attached written testimony.

**DAVID MARTIN, CHAMBER OF COMMERCE, FARGO, ND** testified in support of the bill. There is strong interest in Fargo/Moorhead and the Red River Valley in this technology. If we look at the two bills you are considering back to back this morning, HB 1480 and HB 1496, they do represent research and development and new technology and new opportunities for the state of North Dakota, to be literally, a leader in providing energy resources, to the upper midwest.

**JOAN GALSTER, STATE TAX DEPARTMENT** Appeared to answer questions.

**REP. CONRAD** Can we track this, is there some way we can track how much is being used?

**JOAN GALSTER** At this time, no. I don't know that there is a way to track this, insofar, as it is used in a vehicle. There would be no way to track this at this given time.

**REP. CONRAD** As far as the installation, etc.?

Page 3

House Finance and Taxation Committee

Bill/Resolution Number **HB 1496**

Hearing Date **January 26, 2005**

**JOAN GALSTER** Possibly through sales tax, in businesses starting up, if there would be

businesses starting up, there would be a way then, we would be able to identify something.

Using it as a fuel source, is a little bit different.

With no further testimony, the committee hearing was closed.

2005 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

House Finance and Taxation Committee

Conference Committee

Hearing Date **January 26, 2005**

| Tape Number               | Side A | Side B | Meter # |
|---------------------------|--------|--------|---------|
| 2                         |        | X      | 10.2    |
|                           |        |        |         |
|                           |        |        |         |
| Committee Clerk Signature |        |        |         |

Minutes:

**COMMITTEE ACTION**

**REP. GRANDE** Suggested that the effective date be two sessions from now, then it could be revisited and see what was needed at that time.

It was suggested that the intern draft amendments to that effect.

2005 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

House Finance and Taxation Committee

Conference Committee

Hearing Date **February 1, 2005**

| Tape Number               | Side A | Side B   | Meter #     |
|---------------------------|--------|----------|-------------|
| <b>1</b>                  |        | <b>X</b> | <b>17.5</b> |
|                           |        |          |             |
| Committee Clerk Signature |        |          |             |

Minutes:

**COMMITTEE ACTION**

Committee members discussed amendments which were presented to the committee.

**REP. KELSH** Suggested the expiration date should be changed to 2009 or 2010.

**REP. BELTER** Stated the expiration date should be 2010, so it can be revisited in the 2009 session.

**REP. BRANDENBURG** Made a motion to adopt the amendment as stated to change the date to 2010.

**REP. OWENS** Second the motion. Motion carried by voice vote.

**REP. BELTER** Wanted to wait with action on the bill as there was another amendment suggested in testimony during the hearing. He wanted to get some clarification on that.

2005 HOUSE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

House Finance and Taxation Committee

Conference Committee

Hearing Date **February 8, 2005**

| Tape Number               | Side A | Side B | Meter # |
|---------------------------|--------|--------|---------|
| 1                         | X      |        | 4.2     |
|                           |        |        |         |
|                           |        |        |         |
| Committee Clerk Signature |        |        |         |

Minutes:

**COMMITTEE ACTION**

**REP. KELSH** Made a motion to amend the bill on page 1, line 17 of the bill to change the date from 2015 to 2010.

**REP. GRANDE** Second the motion. Motion carried by voice vote.

**REP. CONRAD** Made a motion for a **do pass as amended**.

**REP. DROVDAL** Second the motion. **MOTION CARRIED.**

11 YES      0 NO      3 ABSENT

**REP. KELSH** Was given the floor assignment.

**FISCAL NOTE**  
 Requested by Legislative Council  
 03/23/2005

Amendment to:           Engrossed  
                                   HB 1496

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.*

|                | 2003-2005 Biennium |             | 2005-2007 Biennium |             | 2007-2009 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.*

| 2003-2005 Biennium |        |                  | 2005-2007 Biennium |        |                  | 2007-2009 Biennium |        |                  |
|--------------------|--------|------------------|--------------------|--------|------------------|--------------------|--------|------------------|
| Counties           | Cities | School Districts | Counties           | Cities | School Districts | Counties           | Cities | School Districts |
|                    |        |                  |                    |        |                  |                    |        |                  |

2. **Narrative:** *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

Engrossed HB 1496 with Senate Amendments creates a sales tax exemption for hydrogen sales, and for equipment used in the production, storage, and transportation of hydrogen by a hydrogen generation facility. The bill also exempts sales of certain qualifying hydrogen from the special fuels tax.

Hydrogen fuel technology is new and evolving. There are just a few projects currently in the preliminary planning stages in North Dakota. It is not known to what degree the provisions of Eng. HB 1496 with Senate Amendments would impact revenues in the 2005-07 biennium.

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, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.*

|                      |                      |                       |                            |
|----------------------|----------------------|-----------------------|----------------------------|
| <b>Name:</b>         | Kathryn L. Strombeck | <b>Agency:</b>        | Office of Tax Commissioner |
| <b>Phone Number:</b> | 328-3402             | <b>Date Prepared:</b> | 03/24/2005                 |

**FISCAL NOTE**  
**Requested by Legislative Council**  
01/18/2005

Bill/Resolution No.: HB 1496

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.*

|                | 2003-2005 Biennium |             | 2005-2007 Biennium |             | 2007-2009 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.*

| 2003-2005 Biennium |        |                  | 2005-2007 Biennium |        |                  | 2007-2009 Biennium |        |                  |
|--------------------|--------|------------------|--------------------|--------|------------------|--------------------|--------|------------------|
| Counties           | Cities | School Districts | Counties           | Cities | School Districts | Counties           | Cities | School Districts |
|                    |        |                  |                    |        |                  |                    |        |                  |

2. **Narrative:** *Identify the aspects of the measure which cause fiscal impact and include any comments relevant to your analysis.*

HB 1496 creates a sales tax exemption for hydrogen sales, and for equipment used in the production, storage, and transportation of hydrogen by a hydrogen generation facility. The bill also exempts sales of hydrogen from the special fuels tax.

Hydrogen fuel technology is new and evolving. There are just a few projects currently in the preliminary planning stages in North Dakota. It is not known if the provisions of HB 1496 would impact revenues in the 2005-07 biennium, or beyond.

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, of the effect on the biennial appropriation for each agency and fund affected and any amounts included in the executive budget. Indicate the relationship between the amounts shown for expenditures and appropriations.*

|                      |                      |                       |                            |
|----------------------|----------------------|-----------------------|----------------------------|
| <b>Name:</b>         | Kathryn L. Strombeck | <b>Agency:</b>        | Office of Tax Commissioner |
| <b>Phone Number:</b> | 328-3402             | <b>Date Prepared:</b> | 01/25/2005                 |

Date: 2-1-05  
Roll Call Vote #: 1

2005 HOUSE STANDING COMMITTEE ROLL CALL VOTES  
BILL/RESOLUTION NO. HB 1496

House FINANCE & TAXATION Committee

Check here for Conference Committee

Legislative Council Amendment Number \_\_\_\_\_

Action Taken Do Pass as amended

Motion Made By Rep. Conrad Seconded By Rep. Drovdal

| Representatives         | Yes | No | Representatives | Yes | No |
|-------------------------|-----|----|-----------------|-----|----|
| BELTER, WES, CHAIRMAN   | ✓   |    |                 |     |    |
| DROVDAL, DAVID, V-CHAIR | ✓   |    |                 |     |    |
| BRANDENBURG, MICHAEL    | X   |    |                 |     |    |
| CONRAD, KARI            | ✓   |    |                 |     |    |
| FROELICH, ROD           | ✓   |    |                 |     |    |
| GRANDE, BETTE           | X   |    |                 |     |    |
| HEADLAND, CRAIG         | X   |    |                 |     |    |
| IVERSON, RONALD         | ✓   |    |                 |     |    |
| KELSH, SCOT             | ✓   |    |                 |     |    |
| NICHOLAS, EUGENE        | ✓   |    |                 |     |    |
| OWENS, MARK             | X   |    |                 |     |    |
| SCHMIDT, ARLO           | ✓   |    |                 |     |    |
| WEILER, DAVE            | ✓   |    |                 |     |    |
| WRANGHAM, DWIGHT        | ✓   |    |                 |     |    |

Total (Yes) 11 No 0

Absent 3

Floor Assignment Rep. Kelsh

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

REPORT OF STANDING COMMITTEE (410)  
February 8, 2005 1:14 p.m.

Module No: HR-25-2125  
Carrier: S. Kelsh  
Insert LC: 50697.0101 Title: .0200

**REPORT OF STANDING COMMITTEE**

HB 1496: Finance and Taxation Committee (Rep. Belter, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (11 YEAS, 0 NAYS, 3 ABSENT AND NOT VOTING). HB 1496 was placed on the Sixth order on the calendar.

Page 1, line 17, replace "2015" with "2010"

Renumber accordingly

2005 SENATE FINANCE AND TAXATION

HB 1496

2005 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. HB 1496

Senate Finance and Taxation Committee

Conference Committee

Hearing Date **March 8, 2005**

| Tape Number                                     | Side A | Side B | Meter #     |
|---|--------|--------|-------------|
| # 1   | X      |        | 10.0 - 44.9 |
|   |        |        |             |
|   |        |        |             |
| Committee Clerk Signature <i>Sharon Kenzler</i> |        |        |             |

Minutes:

**CHAIRMAN URLACHER** CALLED THE COMMITTEE TO ORDER AND OPENED THE HEARING ON HB 1496.

**REP. J. NELSON:** prime sponsor of the bill appeared in support with written testimony.

**SEN. COOK:** where would you buy hydrogen in ND now?

**ANSWER:** there is a research project with some wind generation where hydrogen is being developed or being captured and explored at the north central research station.

**SEN. COOK:** can you buy it now in ND?

**ANSWER;** not ware of any place.

**SEN. URLACHER:** this would relate to transmission equipment as well as transmission line of the future exemption I take it?

**ANSWER:** transmission I don't think is a big part of this industry, its mostly for the infrastructure needs as I understand it but as we move forward their are experts in the field

entering the room that can answer that question better than I. Transmission to my knowledge is not a big part of this industry. That's one of the reasons why I think hydrogen has such a future for our state because of the transmission problems.

**SEN. WARDNER:** there is a 5% sales tax on hydrogen gas if you were to buy it now a facility in the state, when it says we're going to exempt the sales and use tax on the sale of hydrogen and my question is, is that to the end user if they had a hydrogen car when they buy it, would they pay a 5% sales tax?

**ANSWER;** that's the way I understand that

**SEN. WARDNER:** then the second part of the bill that's for production, storage, transportation equipment, used by a facility that is generating hydrogen then there would be a sales tax exemption on those pieces of equipment, so this is really 2 parts, right?

**ANSWER:** yes it does, I guess the rationale would be that we begin to develop this industry and when its developed, storage is a pretty sizable component in the development of this industry and obviously if we can provide some incentives to begin this industry in ND, we've got research facilities that would be complimentary to the industry, it works well with some of the renewable sources of energy, wind energy for example and this completes that circle so to speak providing a business climate that can allow that industry to flourish.

**SEN. COOK:** 25 years ago in a previous life, I sold hydrogen, transported hydrogen, it was generated right here in Bismarck and it is a common rare gas out there that is purchased to equated degree right now, so my question to you is, as you introduce this bill then the sales tax exemption that you are creating, is it your intent to create it for the existing hydrogen sales that is

going on or is it just for some how to encourage a new production of some other means that hydrogen might be used for.

**ANSWER:** we did offer an amendment in the House that would have only been for new generation and not the industrial applications and for the life of me I don't know why that didn't get added in the House. Certainly I would offer that amendment again if its your desire.

**REP. MONSON:** cosponsor of the bill appeared in support stating the reason he signed onto this bill was because he believes in alternative energy sources and also stating there is and has been production for years, this bill would work towards renewable resources.

**SEN. URLACHER:** the existing exemptions are not real huge in affect, but I'm wondering about down the road whether we're getting into something that is a lot larger than we anticipate.

**ANSWER:** there is a sunset in this, I believe its 2011 that this takes off, so we've got really 5 - 6 years of the exemption. My feeling is, its probably going to take a lot longer than 5 or 6 years for this to have much of a financial impact in lost revenue in sales tax

**SEN. TOLLEFSON:** would research fit into this at all, marketing, etc.?

**ANSWER;** not sure, there has been research going on, I would guess that some of this equipment will be research and it depends on who buys it.

**SEN. TOLLEFSON:** it should included in there not, or is it, I don't read it that way.

**ANSWER:** It doesn't look like research is in there, but I have no problem with adding it.

**BRAD CRABTREE:** with Great Plains Institute appeared in support with written testimony.

Also suggesting that recommending passage of this bill, you will be signaling that ND that we're putting our shingle out and ready for business in this new industry.

**SEN. COOK:** Rep. Monson made the comment that this was focused at renewable sources for hydrogen, is there a source for hydrogen today that his not deemed local?

**ANSWER;** yes, I think this bill would be open to hydrogen from fossil fuels as well particularly coal gasification.

**SEN. COOK:** but then you made the comment that hydrogen is the most abundant element to earth and believe it is, its an existing element of earth that we have a tremendous supply. The cost is bottling it?

**ANSWER;** yes, extremely abundant

**SEN. COOK:** are there different grades?

**ANSWER:** their are different grades or levels? And the same hydrogen that we sold 25 years ago that is being sold today right here in town, is that the same hydrogen that is needed for an automobile?

**ANSWER;** Al Lookes of Dakota Gasification told me that the refinery has been producing hydrogen for a long time in ND and that the hydrogen produced at the refinery is not of the commercial grade that would be needed in fuel cells or that would be used in an internal combustion engine.

**SEN. URLACHER:** now in the normal ethanol protection, I've been told that hydrogen is a by product of the process.

**ANSWER:** I'm not sure if there is any hydrogen that is omitted as a by product, what I know about is actually using ethanol as the speed stop for producing hydrogen. What's exciting about the potential there is that there is some technologies, the benefit of being able to produce hydrogen from ethanol, one of the major costs of ethanol production is that the ethanol that

comes from the fermentation process is full of water. You've got to still the water out in order to have it be a useful vehicle fuel.

**SEN. TOLLEFSON:** the marketing of hydrogen seems to be a huge factor, is it not? I'm back to research again.

**ANSWER:** yes, your correct.

**SEN. WARDNER:** (asking Gary Anderson) I just want to make sure who the taxpayers are and what they have to do in this particular case. Example: talking about retail, the person that drives their vehicle, they have hydrogen powered vehicle, they are the ones who are going to get the 5 cent exemption on the hydrogen gas, am I correct on that?

**GARY ANDERSON:** Tax Dept.: the way it would work is 2 exemptions exist in the bill.

Section 1 refers to a sales tax exemption, section 2 is the fuel tax. If the hydrogen fuel is being used in a licensed motor vehicle, section 2 would apply for fuel tax exemption. Section 1 applies to the retail sales of hydrogen for any other purpose and in that instance, the 5% sales tax would be exempt on the sale of that fuel or hydrogen. So actually there is 2 uses, you have the industrial use for hydrogen, which is generally subject to the 5% sales tax, if hydrogen is used as a fuel in a licensed vehicle, it is subject to 21 cent, I'm not sure how the calculation goes, on the hydrogen it applies a special fuel tax at that point.

**SEN. WARDNER:** an entity that purchases equipment for production, storage and transportation, they get a sales and use tax exemption on that and that entity could be a cooperation, a corporation, partnership, limited liability or whatever, is tat correct?

**ANSWER;** based upon exemption stated in section 1, there is no restriction on who would receive the exemption, it simply indicates exemption applies to the equipment of the purposes you recognized.

**SEN. COOK:** why is there no fiscal note? I can't understand that all the trucks that they have, to transport hydrogen, the facility where they generate hydrogen and bottle the hydrogen, how this bill as written, would not make all of that exempt to sales tax and why there wouldn't be a fiscal note.

**ANSWER;** I believe they were looking at new hydrogen facilities and I think what was specific based on renewable resources. I don't believe we were aware of any hydrogen producing activities in the State other than what was being mentioned.

Closed the hearing.

2005 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

Senate Finance and Taxation Committee

Conference Committee

Hearing Date **March 9, 2005**

| Tape Number                                    | Side A | Side B | Meter #     |
|--|--------|--------|-------------|
| #2   | X      |        | 40.2 - 44.7 |
|  |        |        |             |
|  |        |        |             |
| Committee Clerk Signature <i>Sharon Kenyon</i> |        |        |             |

Minutes:

**COMMITTEE WORK**

**SEN. WARDNER:** we do have some concerns and we should discuss them. Did anyone get the amendments from Crabtree?

**SEN. EVERY;** I did have a conversation with Brad right after the hearing and he said that the issue that Sen. Cook had brought up was very legit and needed to be addressed and he wouldn't have a problem with.

**SEN. COOK:** this whole issue, I don't know how your going to fix it, you could take a look at section one and it talks about, but then you look at section 2, the meat of the bill sales of hydrogen to be used for any purpose are exempt from taxes. So there you got right back into the same problem. Hydrogen is used a lot in ND and is subject to sales tax right now. Then they say they want this for cars, is that the only, if they were going to get specific of what they are trying to do here. I'm not too sure what it is. Is it so that they anticipate a large need of having hydrogen available for cars? I believe we have that right now. Hydrogen exists here.

**SEN. EVERY:** we don't have a place to refuel the cars and that's where the project that Brad is working on comes in in Fargo and Minot and the other thing that he's talking about doing with hydrogen is for storage and you can store energy, if we are over producing from these coal plants, you can actually use hydrogen to store it. There's lots of uses and he's the expert but the jest of this is the fueling station.

**SEN. COOK:** can you tell me what a gas tank is like or whatever the storage vehicle is on a car is like?

**SEN. EVERY:** haven't got a clue.

**SEN. COOK:** I remember at a NCSL convention they had all kinds of hydrogen powered cars, but I don't recall and that's a question we need to get answered. Hydrogen is hydrogen and I don't believe there are 2 different grades, hydrogen is hydrogen, its an element.

**SEN. WARDNER:** its package is H2.

**SEN. COOK:** its the most common element we have, its compressed and its a tank and that's storage and its just like an oxygen tank. This bill is way ahead of its time, if you ever want to do a study, study of needs of hydrogen, are we able to supply hydrogen right now. They didn't even know that welder distributors could supply hydrogen.

**SEN. EVERY:** we thought the same thing of wind not so many years ago and now we are way behind in wind and this suggestion would be that at least we, I would like for you to have an opportunity to talk with Rep. Nelson about some of this stuff because I can't answer the questions. I've been involved these discussions as well and Brad knows all about it and John's been much more into than I have, but in fairness to him, we should at least wait. I hate to see the bill get killed because we're confused.

**SEN. WARDNER:** I agree, I want Rep. Nelson or if Brad comes back to get this amended up so it does what they want it to do and get this other stuff out, I think that's only fair.

**SEN. TOLLEFSON:** this is basically for research, this is what its all about and if there is a tax advantage to get into research with hydrogen, that's what they are after.

**SEN. COOK:** that isn't what the bill does, its a sales tax exemption on the sale of hydrogen.

**SEN. BERCIER:** its going to take 2 years at least for the research.

**SEN. COOK:** we generate hydrogen today, right here in Bismarck.

**SEN. URLACHER:** lets get some information, there is no fiscal note.

**SEN. BERCIER:** in Mr. Crabtrees testimony in the 3rd paragraph it talks about a potential production of hydrogen fuel for renewable energy sources.

**SEN. EVERY:** I will get Mr. Crabtree back to see what we can do.

End of discussion.

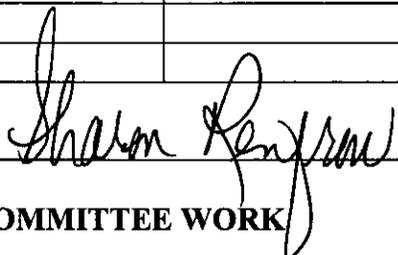
2005 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

Senate Finance and Taxation Committee

Conference Committee

Hearing Date **March 15, 2005**

| Tape Number   | Side A | Side B | Meter #    |
|---|--------|--------|------------|
| #1  | X      |        | 2.6 - 19.9 |
|   |        |        |            |
| Committee Clerk Signature  |        |        |            |

Minutes:

**COMMITTEE WORK**

**SEN. WARDNER:** presented amendments to the committee.

**BRAD CRABTREE:** Great Plains Institute appeared to explain the amendments. The rationale for adding the amendment on line 9 is the concern that Sen. Cook had, we want this to be limited to the types of activities that we're trying to incent with this bill and those are all in the realm of hydrogen being used as a fuel source, either burned in an internal combustion engine or in a fuel cell. A fuel cell is an electric chemical devise that takes the hydrogen, its broken down chemically and in that process, electricity and heat are produced. In regard to fuel cells, its probably the next big jump in the Industrial Revolution in terms of energy use. One of the reasons for that is that its much more efficient than an internal combustion engine is at least twice as efficient as an internal combustion engine. So what we would be doing then with this insertion of language is excluding some of the current hydrogen applications that don't merit any kind of tax exemption. Al Lookes of Dakota Gasification spoke with some folks at his plant that

are welding experts and the specific use of hydrogen and welding as I understand it, second hand through his folks is that its added to argon for welding with stainless steel. On line 10 inserting of "such". The such makes sure we're referencing the qualification of the hydrogen. On line 11, North Dakota is inserted so that we're giving a tax exemption only for hydrogen production in the State, that was always the intent of the bill. On the fuels portion line 14, this was the part that Rep. Nelson and I tried to get changed in the House and it never got done to be used for any purpose, taking that out and replacing it with to power an internal combustion engine or fuel cell, again the applications above that we're trying to restrict this to and the only reason we don't include ND in section 2 is that raises constitutional issues. If you're talking about the sale of fuel you can't restrict it to from a ND source but Al Lookes was very clear that given the economics of hydrogen production is very unlikely that we're going to see hydrogen trucked into ND for fuel purposes and then just removing purpose

**SEN. COOK:** I mentioned welding distributor and right away I think of welding hydrogen and its used as a mixture with argon gas for stainless steel tig welding, but its got many industrial applications, my concern here still is or a question that I think we need to have an answer for and that is can the hydrogen that is being produced in ND right now and transported and sold in ND fuel a hydrogen car?

**ANSWER;** all I can do is repeat what Al Lookes said and he's aware of no hydrogen production in ND that is now being used for commercial purposes. It's used at the power plants for cooling purposes.

**SEN. COOK:** somewhere there is information that we can get that talks about the type of hydrogen that's needed for to fuel a car and what is the difference in that hydrogen compared to

the hydrogen compared to the hydrogen that is already generated in ND and when I say generated that's put into individual cylinders. If you need a large quantity of hydrogen then you would go to a tube trailer and bring it in and I can see where that would come out of state. What's the gas tank on a car that holds hydrogen?

**ANSWER:** if it turns out that the plant, and if Al Lookes is wrong and that hydrogen is of a quality that's suitable to be used in an internal combustion engine in a motor vehicle, I know its not quality to be used in a fuel cell, I've had that concurred, but they will say it is usable in a internal combustion engine, more power to them, because under this bill then if they would want to take that hydrogen and open a hydrogen fueling station in Mandan, that would be great, they'd get their equipment tax exemption and we'd have a demonstration project. That's exactly the kind of application we would want. The tax exemption would only apply if they are using that hydrogen for these limited purposes which is an internal combustion engine or in a fuel cell. So Sen. Cook I think that this language basically lets a thousand flowers bloom, if they can deliver the hydrogen of a quality to the market place, there are so many hurdles to getting a fueling station built and actually getting vehicles to use this, that if there are existing ways to produce hydrogen that we're not aware of and can do it I think that's a benefit, not a negative. The second question was relative to the gas tank. I have not seen the actual on board storage tank on a car myself. The problem as I understand it with storage whether its on board in a vehicle or at a central location, its not a technical barrier to doing it, it can be done, its the economics of getting the storage affordable is the challenge right now.

**SEN. COOK:** I'm trying to get this bill so that it has no unattended consequences that it actually does that we do, when we think of gasoline, gasoline is stored in our vehicles and at a filling station in a liquid form, we are talking a compressed gas here are we not?

**ANSWER;** yes we are

**SEN. COOK:** we're talking over 22, 000 pounds psi?

**ANSWER;** I don't remember the psi but yes and I don't remember how many atmospheres, yes, its very high pressure because its a very dispersed gas you need to compress it down into a usably small space.

**SEN. COOK:** again these are questions that we need to have answered because we're not going to have a typical person out there that's sticks a nozzle, we are dealing with high pressure gas, the key is not only having it available but your going to have to have some people who are trained to even fill a vehicle.

**ANSWER;** I agree with that, but I'm not sure how that relates to this bill, because that would be handled in a regulatory environment as far as citing and approving a hydrogen fueling station, not exempting a station, the taxation of that station.

**SEN. EVERY:** can you comment on the Tax Dept.'s assessment of sales tax collected from hydrogen as we see it in the State right now?

**ANSWER:** they could not, I was contacted after they went to the power companies and others and they kind of traced it back through Rep. Monson and to me and asked me what the fiscal impact would be and they came out with no fiscal note, so that was the Tax Dept.'s conclusion now there may be some modest commercial applications of hydrogen in the market place that may in deed have sales tax and probably do, their clearly very small, even if its the industrial

application that we talked about with Praxair, the tube trailers we're still talking about very small amounts of hydrogen from a commercial standpoint. But thanks to the suggestions of the members of this committee, the Legislative language that's being proposed in this amendment will preclude all of that anyway.

**SEN. BERCIER:** Right now the hybrid cars they have that fuel cell, correct?

**ANSWER;** yes and no, there are 2 kinds of vehicles, there is the internal combustion hybrid electric vehicle, those are still internal combustion based on terms of the fuel side and there are fuel celled vehicles.

End of discussion.

2005 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

Senate Finance and Taxation Committee

Conference Committee

Hearing Date **March 16, 2005**

| Tape Number                                    | Side A | Side B | Meter #     |
|--|--------|--------|-------------|
| #1   | X      |        | 54.5 - 61.5 |
|  |        | X      | 0.0 - 16.1  |
| Committee Clerk Signature <i>Sharon Kenyon</i> |        |        |             |

Minutes: COMMITTEE WORK

**SEN. WARDNER:** went over the amendments and made a **MOTION TO ADOPT THE AMENDMENTS**, seconded by Sen. Every.

**SEN. COOK:** We found out from Praxair that they were generating hydrogen here in Bismarck but they quit because of federal regulations imposed on them, mainly the paperwork and everything that they had to do. They found it better off to bring the hydrogen in from Minneapolis. My concern by what we did with this bill could possibly offer a sales tax exemption on all the equipment, trucks and storage that a welding distributorship would currently have. I questioned why there wasn't a fiscal note and found out it doesn't apply to them. They quit because of paperwork and federal regulations, the size of this sales tax exemption, would that be significant enough for them to say we're going to start again just like we did before, so then they start generating hydrogen and all of a sudden apply to this exemption.

**SEN. WARDNER:** if they did, I think that would be good, if they decided to do it.

**SEN. COOK:** I don't it would be good and I would hope that before we take action that we then tie a fiscal note to this bill. Somehow Dakota Gas has got to get hooked up with Praxair to generate hydrogen for Praxair that is shipped all over the country then, that's the goal we want to work at. That's what we're not doing here with this bill which causes me my concern.

**SEN. WARDNER:** to me, so Praxair has outlets all over the state, when it says the hydrogen generating facility, I would say that this tax exemption would be to that facility and to that facility only, that's the way it would read.

**SEN. EVERY:** 2 concerns; one they wouldn't apply according to Al Lookes, number two there would be a fiscal note and that would minimal and would be undetermined in the end. With regard to shipping in and out as far as hydrogen, this Al Lookes brought up yesterday that if we were to ship hydrogen (takes the cylinder is supposedly super thick) the same way we were to ship petroleum, it would take 40 tankers that size that Praxair tanker that ships the petroleum to ship 1 tank full of hydrogen. Its unlikely that there is going to be this huge amount of hydrogen coming into the estate or going out of the state for a long time until the technology can be.

There's a lot of things we need to look at, but all this technology stuff we're talking 5, 10, maybe 15 or 20 years down the road.

**SEN. URLACHER:** but it is being now

**SEN. COOK:** they can deliver hydrogen tomorrow.

**SEN. EVERY:** but it's not cost effective to do it. I think it would be more cost effective for the gasification plant to make their own than it would be to ship it into Minneapolis.

**SEN. COOK:** when I go back to experience of selling industrial gases, the price of the gas is the smallest part of the total price.

**SEN. EVERY;** I would remind the committee that the sales tax collected on the sales of hydrogen today in ND is zero, according to the information that we got.

**SEN. BERCIER:** my take on this is this is legislation that will set some policy to help us start looking at developing the hydrogen market in the state.

**SEN. URLACHER:** there seems to be some confusion, they told us it wasn't being developed for the purpose it intended and yet we find it is today.

**SEN. COOK:** first off, there is no sales tax being collected under hydrogen today. I would guess that all industrial gases are subject to sales tax and would probably all get classified as industrial gas. Coal Creek used to buy a tremendous amount of hydrogen in these tube trailers and Coal Creek has put in their own generated facility, they generate all their own hydrogen up at the power plant right now. To me this bill was introduced as a means of promoting or providing a source in ND to have hydrogen available to fill up cars. We now know that that is available right now

**SEN. EVERY:** one of those unintended consequences could very well be that if the use of hydrogen in cars and busses and public transit is good for the environment and for these burdensome EPA regulations that would relieve some of those high costs that the coal plants and the refinery are incurring, because we just gave them a tax break the other day to take care of some of those costs, maybe that would help them with some of those costs as well.

**SEN. WARDNER;** section 1 talks about a hydrogen generated facility in ND, we don't have none now, so it is my feeling, maybe this piece of legislation would encourage the research at the EERC and the industry to look at possibly having one, until there is a hydrogen generated facility in the state, section one is not going to kick in. However the second part says that if I

have a hydrogen powered car and I pull up to Praxair down here and they fill it up, there not going charge me sales tax on it, that's what it says. I think its encouraging the industry.

**SEN. URLACHER:** its a long term signal.

**SEN. WARDNER:** that's the way I look at it.

**SEN. COOK;** I would suggest we move on the amendments but after this discussion, I think we should run this back up to the tax dept. and let them do some work as far as how this is worded and what the fiscal impact of that might be.

**ROLL CALL VOTE: 5-0-1                      AMENDMENT PASSES**

**RICK CLAYBURGH:** Tax Commissioner wanted clarification of something he heard in discussion. We've become aware of two facilities that do produce hydrogen in ND and the facts are that there are not any hydrogen producing facilities in ND , there are two, one being Tesoro and the other being Coal Creek operation. It's already being produced I don't think its being produced for retail though at those 2 facilities, I think they are taking it and using it as a byproduct burning it back in their facilities but they could begin to sell it at retail if there was the market for it.

**SEN. URLACHER:** but if that came into being, that could be addressed whenever.

**ANSWER;** section 1 doesn't say new, it just says the sale of hydrogen for retail in the equipment and production and all of that, so that could potentially pull the two existing operations.

**SEN. URLACHER:** so it probably should have been new

**ANSWER:** the language doesn't say new, it probably could encompass that depending on what they do, certainly if they sell it for retail, those existing operations would be covered under the statute and they would be exempt from sales tax on what hydrogen and sell at retail.

**SEN. WARDNER:** I would concede that right there is one of the things that Sen. Cook has brought up , that those two plants could then start selling it and we could end up having to exempt their whole plant.

**SEN. URLACHER:** but if we inserted new.

**SEN. WARDNER:** new or an effective date, any plant after a certain date that comes into being. That's what the plan does, only the part of the plant or the new plant that is for generating hydrogen. I wouldn't want to give coal creek exemptions for their plant up there, we have to make sure its only the part that generates hydrogen would qualify for commercial.

**RICK CLAYBURGH:** Gary was just commenting that we already have language within our manufacturing exemption that is exclusively , would cover the term exclusively used for production of whatever the product. From a policy perspective, we try not to grab exemptions for competition, for companies to compete against in each other in ND , should tax policy subsidize a competitor in ND.

**SEN. WARDNER:** we do have it amended, so its for to power an internal combustion engine, we've already amended it for that.

**SEN. URLACHER;** I think we need to consider it

End of committee work.

2005 SENATE STANDING COMMITTEE MINUTES

BILL/RESOLUTION NO. **HB 1496**

Senate Finance and Taxation Committee

Conference Committee

Hearing Date **March 21, 2005**

| Tape Number                                     | Side A | Side B | Meter #     |
|---|--------|--------|-------------|
| #1  |        | X      | 18.8 - 31.5 |
|   |        |        |             |
| Committee Clerk Signature <i>Sharon Renfrew</i> |        |        |             |

Minutes: COMMITTEE WORK

**SEN. WARDNER:** presented amendments and stated that we did already amendment it so this would be further amending and were prepared and gone over by the Tax Dept. What it does is it restricts it down so that they can't get any sales tax exemptions for the actual truck but it can only be the vessel that holds the hydrogen. I think that we're just sending a message that when this industry is ready to go, we've got something there encouraging them to get started. If the refinery over here in Mandan decides to start producing hydrogen and having a terminal, and there are some hydrogen cars in the area, great. This bill is set up that it can only be directly and exclusively for that purpose and with that I would **MOVE THE AMENDMENTS .02tx**, seconded by Sen. Bercier.

**VOICE VOTE:** 6-0-0

**SEN. BERCIER:** made a **MOTION FOR DO PASS AS AMENDED**, seconded by Sen.

Every.

**SEN. COOK:** the refinery or to the power plant, we know now we have 2 places that are producing hydrogen in ND right now, we know that for a fact. How would this ever affect the refinery?

**SEN. WARDNER:** if they put in equipment to actually do hydrogen for hydrogen cars, this would affect them. It would be only that equipment and expanded equipment. If they've got other equipment already there that is used in producing hydrogen, that doesn't affect them, its if they expand and it is directly for hydrogen production.

**SEN. COOK:** considering we have vessels here and that vessels are, I still question what your trying to do will work and its simply because of, I know with the shipping, high pressure vessels, I know some of the federal laws require \_\_\_ go around them. They have to be owned by somebody which is going to be a licensed welding distributorship. My other question is, section 2 of the bill, special fuel tax exemption for hydrogen, is that still in the bill?

**SEN. WARDNER:** yes

**SEN. COOK:** then my question regarding that special fuel tax exemption, I imagine and I don't \_\_\_ open up the book, but that's in reference to gasoline and its a fuel tax exemption based on so many cents a gallon or something like that.

**SEN. WARDNER:** its not gallons, its cubic pounds per square inch or something.

**GARY ANDERSON:** I know what your saying because LP is in that same range. Again when its used in a vehicle we're going to equate it to 21 cents per gallon and we have to do the translation in order to get there. Its going to be treated much like LP but can be used in a motor vehicle.

**SEN. COOK:** hydrogen is not sold in gallons, but how would you even apply the fuels tax exemption for hydrogen?

**ANSWER;** we do it now with LP so we should be able to convert it, there will be a way.

**SEN. WARDNER:** from my teaching Science days, I can guarantee you there is a conversion, we just don't know the formula right now.

**SEN. EVERY:** although Section 2 remains in the bill, its worded different than they amended

**GARY:** this is very restrictive, if somebody should buy a tanker, a truck with the vessel on it already, that's treated as a motor vehicle and the whole thing is subject to motor vehicle excise tax. They do not enjoin exemption. Generally a motor vehicle is sold or leased as a unit, they are not going to be exempt under this. This is very restrictive and generally the pressure vessels are going to be very large tanks and if their leased, again sale as you know for sales tax purposes involves leasing as well. So if a piece of equipment is leased under this scenario they are exempt as well.

**ROLL CALL VOTE:** 5-1-0      Sen. Cook voted no.      Sen. Bercier will carry the bill

PROPOSED AMENDMENTS TO ENGROSSED HOUSE BILL NO. 1496

Page 1, line 9, after "hydrogen" insert "to power an internal combustion engine or fuel cell"

Page 1, line 10, after "of" insert "such"

Page 1, line 11, after "facility" insert "in North Dakota"

Page 1, line 14, replace "be used for any" with "power an internal combustion engine or fuel  
cell"

Page 1, line 15, remove "purpose"

Renumber accordingly



PROPOSED AMENDMENTS TO ENGROSSED HOUSE BILL NO. 1496

Page 1, line 9, after "used" insert "directly and exclusively"

Page 1, line 10, remove the first comma, after "production" insert "and", and remove ", and transportation"

Page 1, line 11, after the period insert "For purposes of this subsection, "storage" means stationary and portable hydrogen containers or pressure vessels, piping, tubing, fittings, gaskets, controls, valves, gauges, pressure regulators, safety relief devices, and other accessories intended for hydrogen storage containers or pressure vessels."

Renumber accordingly





**REPORT OF STANDING COMMITTEE**

**HB 1496, as engrossed: Finance and Taxation Committee (Sen. Urlacher, Chairman)** recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO PASS** (5 YEAS, 1 NAY, 0 ABSENT AND NOT VOTING). Engrossed HB 1496 was placed on the Sixth order on the calendar.

Page 1, line 9, after "hydrogen" insert "to power an internal combustion engine or fuel cell" and after "used" insert "directly and exclusively"

Page 1, line 10, replace the first comma with "and", remove ", and transportation", and after "of" insert "the"

Page 1, line 11, after "facility" insert "in this state" and after the period insert "For purposes of this subsection, "storage" means stationary and portable hydrogen containers or pressure vessels, piping, tubing, fittings, gaskets, controls, valves, gauges, pressure regulators, safety relief devices, and other accessories intended for hydrogen storage containers or pressure vessels."

Page 1, line 14, replace "be used for any" with "power an internal combustion engine or fuel cell"

Page 1, line 15, remove "purpose"

Renumber accordingly

**2005 TESTIMONY**

HB 1496

Rep. Jon Nelson

Good morning Chairman Belter and members of the House Finance and Tax Committee.

I am pleased to appear before you this morning to introduce HB 1496. This bill would allow and exemption from sales and use tax in the developing hydrogen generation industry.

This industry is in its infancy in this state as well as the country and we have an opportunity to become leaders in this developing renewable industry with policies that promote our states business climate, research capabilities, and vast renewable and recyclable resources.

This bill would provide a strong business signal to developers that North Dakota is serious and very interested in hydrogen generation to grow in our state.

I became involved with this issue through my involvement with the Legislators Forum, which is comprised of legislators from Minnesota, South Dakota, North Dakota, and Manitoba. This group meets annually on various regional issues and hydrogen generation development in the region became one of the issues that was identified by Legislators Forum for promotion within our focus region.

Attached in my testimony is a proposed amendment in Section 2 of the bill. This amendment if adopted would only qualify hydrogen in the energy sector. We discovered that some industrial applications of hydrogen currently take place and we felt there was not a need for this industry to be included in this bill.

As you can see by the fiscal note, there is only a modest effect in the next biennium but I would like to make your committee aware of several projects that are moving forward in the near future and we have representatives from both of these projects here today to discuss with you the possibilities of each project.

I respectfully ask you to recommend HB 1496 for a DO PASS and thank you for the opportunity to appear before you today.

**House Bill 1496:  
Sales and Use Tax Exemption for Hydrogen Production Facilities**

**Testimony to the Finance and Taxation Committee of the  
North Dakota House of Representatives  
January 26th, 2005**

**Brad Crabtree  
Powering the Plains Project  
Great Plains Institute  
Ashley, North Dakota  
(701) 647-2041  
[bcrabtree@gpisd.net](mailto:bcrabtree@gpisd.net)**

Thank you Chairman Belter and members of the Committee for this opportunity to testify in favor of House Bill 1496. I would also like to thank Representative Dave Monson for his efforts to advance hydrogen policy in North Dakota, as well as Representative Jon Nelson and the other sponsors from both parties who support this legislation.

I am here today as director of the Powering the Plains project. PTP brings together representatives of industry and agriculture, government officials and legislators, and environmental advocates from the Dakotas, Iowa, Minnesota, Wisconsin and Manitoba to develop regional energy strategies, policies and projects.

A major objective of PTP is to help our region develop its potential for the production of hydrogen fuel from renewable energy sources such as wind, ethanol, biomass and hydro and from the gasification of coal. Toward that end, PTP launched the Upper Midwest Hydrogen Initiative. UMHI is a public-private consortium whose membership includes Fortune 500 companies such as 3M to small technology companies to research institutions such as UND's Energy and Environmental Research Center.

Two years ago, Representatives Nelson and Monson joined other bipartisan legislative delegates to the Legislators Forum asked PTP and UMHI participants to recommend how legislators in the Dakotas, Minnesota and Manitoba could advance hydrogen development on a regional basis. PTP and UMHI participants worked throughout 2004 to develop a set of recommendations for legislative consideration. The sales and use tax and fuels tax exemptions in this bill are part of that package.

Why hydrogen? Since 9/11, Americans have devoted increasing attention to the need to develop greater energy independence for reasons of national security. Hydrogen has been a major focus of that attention, notably in President Bush's initiative to promote hydrogen-powered vehicles and in major urban states such as California, New York and Ohio, among others, that have committed tens of millions of dollars each to hydrogen and fuel cell research, development and commercialization. Indeed, CEOs of some of the world's largest companies and top policy-makers see a transition to hydrogen fuel as the most viable long-term path to U.S. energy security.

Earth's most abundant element, hydrogen can be produced from multiple energy sources for use as a fuel through combustion or, more efficiently, in a fuel cell to produce electricity. All of North Dakota's

renewable energy sources can produce hydrogen—wind energy and hydropower through electrolysis of water, and ethanol and biomass through a variety of emerging technologies. In addition, hydrogen is an immediate product of coal gasification, along with carbon dioxide, which can then be captured and stored underground, as Dakota Gasification has pioneered with an oil company in Saskatchewan.

Our global leadership in coal gasification, world class wind potential, and significant ethanol and biomass resources leave our State well-positioned to be a North American leader in the production of hydrogen. Ensuring that North Dakota leads a future hydrogen transition requires that we begin today to demonstrate hydrogen production, storage and delivery technologies suited to our particular energy resources.

Two such demonstration projects in North Dakota would benefit from the sales and use tax and fuels tax exemptions in this bill. The first is a wind power-to-hydrogen project near Minot, involving Basin Electric, UND EERC, Stuart Energy Systems Corp., NDSU North Central Research Extension Center, Verendrye Electric Power Cooperative, and the City of Minot. In addition to the partners' commitments of nearly \$125,000, a federal grant of \$497,050 has been awarded to produce, store and distribute for vehicle use hydrogen fuel produced from an electrolyzer powered by wind turbines.

The second project is a proposed hydrogen fueling station for Fargo-Moorhead that would serve as a north-south and east-west hub in a larger regional hydrogen fueling station network spanning the entire Upper Midwest. Dubbed the "Northern H", the network concept is supported by all eight U.S. senators from the Dakotas, Iowa and Minnesota last year, and efforts to secure federal funding in FY 2006 are underway. Locally, the cities of Fargo and Moorhead jointly support the proposed fueling station, which would be located in Fargo, near the junction of I-94 and I-29. The station would be supplied with wind power from Moorhead Public Services to produce the hydrogen on-site to power local hydrogen fleet vehicles.

Fueling stations elsewhere in the region will demonstrate hydrogen produced from other renewable energy sources such as ethanol. The province of Manitoba just unveiled last week a fuel cell bus and hydrogen station in Winnipeg that will anchor the build-out of the regional network between now and 2010.

Like all new technologies, the production of hydrogen fuel is currently expensive. Yet, technologies are advancing rapidly, and costs are falling. The history of wind energy illustrates the opportunity. The first wind farms in California in the 1980s cost around 40 cents per kilowatt hour. Today, new wind power in our region comes in at below 4 cents per kilowatt hour without the federal production tax credit, and wind is the fastest growing source of electric power generation nationwide.

While the tax provisions in this bill will not make early hydrogen demonstration projects financially viable on their own, they will reduce the cost of these first North Dakota hydrogen projects and increase the prospects for others. Just as important as the incentive itself, this bill provides North Dakota legislators with the opportunity to send a signal, at no up-front fiscal cost, that our State is committed to a hydrogen future and that we are open for business in this enormously important future industry.

Please recommend passage of House Bill 1496 today. Thank you.

## Attachment: North Dakota Wind-to-Hydrogen Demonstrations

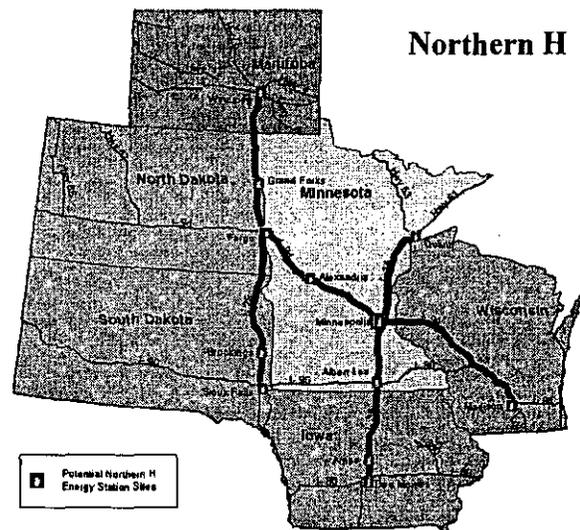
**Project rationale:** There is a large economic prize for those who perfect wind-powered hydrogen production. It is one of the lynchpins of a clean and secure hydrogen-powered economy. The DOE estimates that the U.S. would need 40 million tons of hydrogen per year to serve 75% of the vehicle fleet. One estimate suggests that North and South Dakota have enough cost-effective wind-power potential to make 50 million tons of hydrogen per year. Wind-to-hydrogen demonstrations in North Dakota would provide the ideal laboratory for beginning to tap this exceptional native resource and for demonstrating the potential for wind-to-hydrogen systems to produce cost competitive electricity and fuel.

**Minot Demonstration:** North Dakota has already been awarded a federal grant of \$497,050 to produce, store and distribute hydrogen fuel. The consortium consists of Basin Electric Power Cooperative, the University of North Dakota Energy and Environmental Research Center (EERC), Stuart Energy Systems Corp., the North Dakota State University (NDSU) North Central Research Extension Center, Verendrye Electric Power Cooperative, and the City of Minot. These partners will contribute an additional \$124,262 to the project.

The initial phase will analyze the economics and environmental impacts of wind-powered hydrogen production. The second phase will add an electrolyzer to Basin Electric's wind energy farms and use "dynamic scheduling" to produce hydrogen for use as a vehicle fuel both on and off site. The hydrogen electrolyzer would be constructed at the NDSU North Central Research Extension Center with the support of Verendrye Electric.

### **Fargo-Moorhead Demonstration:**

Mayors of both cities support the construction of a multi-fuel hydrogen station in Fargo that would support hydrogen-powered transit between the two towns and other fleet or off-road applications. The station would also serve as part of a broader network of planned hydrogen stations stretching from Winnipeg to Chicago (see map of Northern H). Moorhead Public Service also supports the project, and MPS has wind turbines in service that could be used for hydrogen production. Eight U.S. Senators in the region and the Electric Power Research Institute have endorsed the development of such stations as part of the Northern Hydrogen Corridors Initiative (Northern H).



Offering hydrogen together with conventional gasoline, ethanol, and biodiesel will make these stations more practical and financially viable as transition infrastructure while various fuel and vehicle technologies evolve. This will help further diversify domestic fuel options while advancing hydrogen. For more information on the Northern H go to: [www.umhi.org](http://www.umhi.org).

Good morning Chairman Urlacher and members of the Senate Finance and Tax Committee.

I am pleased to appear before you this morning to introduce HB 1496. This bill would allow and exemption from sales and use tax in the developing hydrogen generation industry.

This industry is in its infancy in this state as well as the country and we have an opportunity to become leaders in this developing renewable industry with policies that promote our states business climate, research capabilities, and vast renewable and recyclable resources.

This bill would provide a strong business signal to developers that North Dakota is serious and very interested in hydrogen generation to grow in our state.

I became involved with this issue through my involvement with the Legislators Forum, which is comprised of legislators from Minnesota, South Dakota, North Dakota, and Manitoba. This group meets annually on various regional issues and hydrogen generation development in the region became one of the issues that was identified by Legislators Forum for promotion within our focus region.

As you can see by the fiscal note, there is only a modest effect in the next biennium but I would like to make your committee aware of several projects that are moving forward in the near future and we have representatives from both of these projects here today to discuss with you the possibilities of each project.

I respectfully ask you to recommend HB 1496 for a DO PASS and thank you for the opportunity to appear before you today.

*Ron Nelson*

Proposed amendment:

Tax exemption for qualified hydrogen production. Qualified hydrogen generation defined by this act is exempt from sales tax until 2015 if the hydrogen is used for transportation fuel, electricity generation, heating, cooling, fertilizer production or other new commercial productive use.

# **HB 1496: Sales and Use Tax Exemption for Hydrogen Production Facilities**

**Testimony to North Dakota Senate Finance and Taxation Committee  
March 8, 2005**

**Brad Crabtree  
Powering the Plains Project  
Great Plains Institute  
Ashley, North Dakota  
(701) 647-2041  
[bcrabtree@gpisd.net](mailto:bcrabtree@gpisd.net)**

Thank you Chairman Urlacher and members of the Senate Finance and Taxation Committee for this opportunity to testify in favor of House Bill 1496. I would also like to thank Representatives Dave Monson, Jon Nelson and Scot Kelsh and Senator Mike Every for their efforts to advance hydrogen policy in North Dakota during this legislative session.

I am here today as director of Powering the Plains, a project of the Great Plains Institute. PTP brings together representatives of industry and agriculture, government officials and legislators, and environmental advocates from the Dakotas, Iowa, Minnesota, Wisconsin and Manitoba to develop regional energy strategies, policies and projects.

A major objective of PTP is to help our region develop its potential for the production of hydrogen fuel from renewable energy sources such as wind, ethanol, biomass and hydro and from the gasification of coal. Toward that end, PTP launched the Upper Midwest Hydrogen Initiative. UMHI is a public-private consortium whose membership includes Fortune 500 companies, small and medium-sized technology companies and major regional research institutions.

Over the past two years, Representative Monson, Representative Nelson, Senator Rich Wardner and other North Dakota legislative delegates to the Legislators Forum have joined their colleagues from Manitoba, Minnesota, and South Dakota in asking PTP and UMHI participants to recommend how legislators can advance hydrogen development on a regional basis. PTP and UMHI participants formed a Policy Work Group that met throughout 2004 to develop a set of recommendations for legislative consideration, and Representative Nelson and Senator Every served on that Work Group. The sales and use tax and fuels tax exemptions in HB 1496 are part of that larger package of recommendations.

So, why hydrogen? Since 9/11, President Bush, governors of both political parties, and CEOs of some of the world's largest companies have devoted increasing attention to hydrogen for reasons of national security, energy independence and economic development. Earth's most abundant element, hydrogen can be produced from multiple energy sources for use as a fuel through combustion or, more efficiently, in a fuel cell to produce electricity. All of North Dakota's renewable energy sources can produce hydrogen—wind energy and hydropower through electrolysis of water, and ethanol and biomass through a variety of emerging technologies. In addition, hydrogen is an immediate product of coal gasification, along with carbon dioxide, which can then be captured, sold and injected underground for enhanced oil recovery, a process that our state's very own Dakota Gasification has pioneered with an oil company in Saskatchewan.

Our global leadership in coal gasification, world class wind potential, and significant ethanol and biomass resources leave our State well-positioned to be a North American leader in hydrogen production. Ensuring that North Dakota leads a future hydrogen transition requires that we begin today to demonstrate hydrogen production, storage and delivery technologies suited to our particular energy resources.

Two such demonstration projects in North Dakota would benefit from the tax provisions in this bill. The first is a wind power-to-hydrogen project near Minot, involving Basin Electric and other industry, state and local partners to produce, store and distribute for vehicle use hydrogen fuel produced from an electrolyzer powered by wind turbines. A federal grant of \$497,050 has already been awarded for the project.

The second project is a proposed hydrogen fueling station for Fargo-Moorhead that will serve as a north-south and east-west hub in a larger regional hydrogen fueling station network spanning the entire Upper Midwest. Dubbed the "Northern H", the regional network concept was supported by all eight U.S. senators from the Dakotas, Iowa and Minnesota last year, and efforts to secure federal funding in FY 2006 are underway. State funding for the Fargo fueling station is currently included in North Dakota Senate Bill 2018, and a Minnesota appropriations bill will be introduced shortly. Locally, the cities of Fargo and Moorhead support the proposed fueling station and are exploring the contribution of a new transit bus that the project will equip to run on hydrogen. Senior executives at John Deere are actively considering dedicating a state-of-the-art hydrogen fuel cell powered Gator utility vehicle to the project that be serviced by the local Deere subsidiary, Phoenix International. The station will be physically located in Fargo, near the junction of I-94 and I-29, but Moorhead Public Service will supply the station with wind power to produce the hydrogen on-site for local hydrogen fleet vehicle use.

Fueling stations elsewhere in the region will demonstrate hydrogen produced from other renewable energy sources such as ethanol. The province of Manitoba just unveiled last week a fuel cell bus and hydrogen station in Winnipeg that will anchor the build-out of the regional network between now and 2010.

Like all new technologies, the production of hydrogen fuel is expensive. Yet, technologies are advancing rapidly, and costs are falling. The history of wind energy illustrates the opportunity. The first wind farms in California in the 1980s cost around 40 cents per kilowatt hour. Today, new wind power in North Dakota costs less than 4 cents per kilowatt hour without the federal production tax credit, the lowest cost form of new electric power generation in America today.

While the tax provisions in this bill will not make early hydrogen demonstration projects financially viable on their own, they will reduce the cost of these first projects and increase prospects for others. Just as important as the incentive itself, this bill provides North Dakota legislators with the opportunity to send a signal, at no up-front fiscal cost, that our State is committed to a hydrogen future and that we are open for business in this enormously important future industry.

Please recommend passage of House Bill 1496 today. Thank you.

**SECTION 1.** A new subsection to section 57-39.2-04 of the North Dakota Century Code is created and enacted as follows:

Gross receipts from the sale at retail of hydrogen to power an internal combustion engine or fuel cell and equipment used directly and exclusively in production and storage of such hydrogen by a hydrogen generation facility in North Dakota. For purposes of this subsection, "storage" means stationary and portable hydrogen containers or pressure vessels, piping, controls, tubing, fittings, gaskets, valves, gauges, pressure regulators, safety relief devices, and other accessories intended for hydrogen storage containers or pressure vessels.

**SECTION 2.** A new section to chapter 57-43.2 of the North Dakota Century Code is created and enacted as follows:

**Special fuels tax exemption for hydrogen.** Sales of hydrogen to power an internal combustion engine or fuel cell are exempt from the taxes imposed by sections 57-43.2-02 and 57-43.2-03.

**SECTION 3. EFFECTIVE DATE – EXPIRATION DATE.** This Act is effective for taxable events occurring after June 30, 2005, and before July 1, 2010, and is thereafter ineffective.