

2009 SENATE AGRICULTURE

SB 2291

2009 SENATE STANDING COMMITTEE MINUTES

Bill/Resolution No. 2291

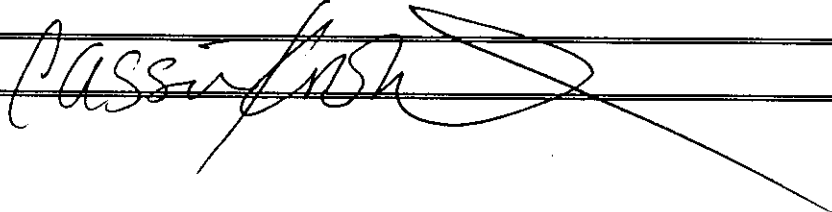
Senate Agriculture Committee

Check here for Conference Committee

Hearing Date: January 29, 2009

Recorder Job Number: 8165

Committee Clerk Signature



Minutes:

Sen. Flakoll opened the hearing on SB 2291, a bill relating to the biofuel partnership in assisting community expansion fund. Members present (7).

Sen. Erbele, district 28, testified in favor of the bill.

Sen. Erbele- Just to expand a little bit in last session we did the bio pace program, that program has had a lot of use but there are some programs in there that have not been used I understand from the last biennium and there is currently an appropriation for the current biennium. We are not asking for any more money but the area that we want to expand into is that you could use the interest buy down for bio digesters and so on. The bill also addresses that if the money is used for the dairy facilities that I believe that they could use up to \$250,000 interest buy down money for the actual facility building or toward the digester system as well.

Sen. Klein- do you want to give us a overview on how this digester system works?

Sen. Erbele- somehow it takes the waste product and breaks it down and creates the methane gas out of that and somehow they are able to reuse it as a power and an energy source.

Bob Humann, SVP of Lending, testified in favor of the bill, see attached testimony attachment

#1.

Sen. Flakoll- does it matter the useable life of bio digester when you do this interest buy down?

Bob Humann- what we would look at is the useful life of the assets.

Sen. Taylor- what is the note rate right now?

Bob Humann- the pace language is written so that the note can never go lower than 1%.

Wayne Carlson, Program manager for Livestock Services for the ND department of Ag, testified in favor of the bill, see attached testimony attachment #2.

Sen. Heckaman- is there a permitting process that you have to go through for this?

Wayne Carlson- I am not exactly sure but I am sure it would have to go through the health department.

Sen. Klein- you talked about it being expensive, what is the expensive?

Wayne Carlson- we are talking around 800-1000 per head. 500 would be a smaller operation but you would need that many to make a profit.

Gary Hoffman, executive director of the ND dairy coalition, testified in favor of the bill. See attached testimony, attachment #3.

Sen. Flakoll- do you know what the useable life is?

Gary Hoffman- some of these have run 20,000 hours with little maintenance on them.

Sen. Taylor- I assume when you heat it for bedding it cleans the bacteria out of it?

Gary Hoffman- yes it sanitizes all of it.

Sen. Miller- what kind of kilowatt are we looking at?

Gary Hoffman- 1400 cows of dairy will generate 1.5 million kilowatt hours of power.

Sen. Klein- so the technology is there we just have to go out and be able to afford it?

Gary Hoffman- yes the technology is there.

Sen. Klein- where are these located as of now?

Gary Hoffman- there are several of them in Wisconsin, there is several in Minnesota, one in South Dakota. Our main challenge right now has been the initial cost of the facility, number 2 the buy back for the power.

Sen. Flakoll- the thresh hold of 500 cow dairy operations was kind of the tipping point of those how many of those do we have that number and over in ND?

Gary Hoffman- I think that we have between 20-25 dairy farms in the state in that range.

Woody Barth, ND farmers union, testified in favor of the bill.

Woody Barth- We saw this bill and wanted to be a part of it. We would be happy to take a look at this and the life of it and the need for digesters through the bio pace program.

Sen. Klein- Do you have a estimate as to the amount that could be taken out?

Woody Barth- I do not.

No opposition to the bill.

Sen. Klein motioned for a Do Pass and was seconded by **Sen. Wanzek**. Vote 7 yea, 0 nay, 0 absent and not voting. **Sen. Klein** was designated to carry the bill to the floor.

Sen. Flakoll closed the hearing.

REPORT OF STANDING COMMITTEE (410)
February 3, 2009 3:02 p.m.

Module No: SR-21-1538
Carrier: Klein
Insert LC: . Title: .

REPORT OF STANDING COMMITTEE

SB 2291: Agriculture Committee (Sen. Flakoll, Chairman) recommends DO PASS
(7 YEAS, 0 NAYS, 0 ABSENT AND NOT VOTING). SB 2291 was placed on the
Eleventh order on the calendar.

2009 HOUSE AGRICULTURE

SB 2291

2009 HOUSE STANDING COMMITTEE MINUTES

Bill/Resolution No. 2291

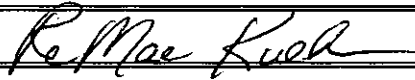
House Agriculture Committee

Check here for Conference Committee

Hearing Date: March 19, 2009

Recorder Job Number: 11286

Committee Clerk Signature



Minutes:

Senator Erbele, Sponsor: This bill is an expansion of the use of the biopace funds that were established a session or so ago. Not all the funds did get used. This does not ask for an extension to that fund but it is only asking to add another use of the fund. That would be for a biodigestive system. That would typically go into large dairies. There would be an interest buy down of \$250,000. There is a provision in there, if they have already tapped some of the funds for the facility, they can tap it again for the biodigester.

Bob Humann, Senior Vice President of Lending, Bank of North Dakota: (Written testimony attached #1) We control the money that is in the biopace fund. That started four years ago. The second page shows the activity for 18 months of the biennium. \$2.1 million of \$5 million went to livestock operations. During those 18 months we financed 18 projects and 3 were for dairy and 15 were for feedlots. There is about \$1.8 million left of the biofuels money. There is another \$1.4 million that is going through the appropriation process. In total there will be \$3.2 million available starting the next biennium for biofuels PACE. So that fund is going to go from \$5 million down to \$3.2 million with the amount of usage that has happened this biennium.

The last page has more information on how these biodigesters work. What we are trying to do with this legislation is keep it as broad as possible. I think they will be primarily linked to dairy operations. Some can be put together to use cooking oil from restaurants to generate natural gas or electricity.

Representative Mueller: This sounds like a good deal. In Wisconsin what is the energy used for?

Bob Humann: Most of these attached to a dairy provide heat back to the dairy farm. If they can generate enough energy, they will have small turbines to generate electricity for the farm and even sell back to the local co-op.

Wayne Carlson, Program Manager for Livestock Services, Dept. of Ag.: (Written testimony attached #2) There are no digesters in our state. Allowing anaerobic digesters through the Bank of ND's Biofuels PACE program gives our livestock producers another tool for their success.

Representative Froelich: How do they get the bedding out?

Wayne Carlson: After they go through the process of digesting, the manure that comes out is basically sterile. They press all the moisture out and reuse that manure for bedding.

Representative Froelich: Like a sawdust?

Wayne Carlson: It is sterile as far as bacteria, etc. It is a high heat process.

Representative Holman: Using methane as a fuel source, does it require any specialized equipment.

Wayne Carlson: Yes it does require some specialized equipment. It is like a diesel. Only it is converted to methane gas. The problem is that there are no gas lines near farms.

Gary Hoffman, Executive Director, ND Dairy Coalition: (Written testimony attached #3)

You need 1,000 cow dairy or more to be feasible. It is more reliable than wind energy because cows run 24/7. The methane runs through generators to generate electricity and they put it back into the grid. The local power company will have a buy back agreement. The heat from the generators is recycled to heat the water and heat the dairy. It is a closed loop system from the feed source to the cow to the digester and all the heat is utilized.

Representative Wall: What is the approximate start up cost?

Gary Hoffman: About \$1,000 per cow. So with a 1,000 cow dairy, it would be a million dollars.

Chairman Johnson: How many cows does it take to turn on a light bulb?

Gary Hoffman: Typically it takes 1,400 cows to produce 1.5 million Kilowatts.

The byproduct can be used for bedding or one operation was selling it to greenhouses.

Another was selling it to a company that was reconstituting contaminated soil or you can put it back into the fields. It still has some fertilizer value.

Vice Chairman Brandenburg: When you run the meter backwards with the local co-op, are they coming up with better deals?

Gary Hoffman: That is still a cost avoidance in ND. The dairy producers in Minnesota and Wisconsin are getting 10-11 cents per Kilowatt Hour for the power they produce. In ND we go strictly cost avoidance that would be 3 ½ or 4 cents. With the renewable energy emphasis, there are some carbon credits and renewable energy credits and it is becoming more feasible if you take advantage of all the other programs.

Representative Boe: In Minnesota it is called net metering. The meter runs backwards.

Cost avoidance is the cost avoided minus the cost of depreciation of idle facilities. They have a formula that fits into there.

Opposition: None

Chairman Johnson: Closed the hearing.

Representative Holman: According to my figures, one cow will run 10-15 light bulbs.

Representative Boe: Moved Do Pass.

Representative Uglem: Seconded.

A Roll Call vote was taken. **Yes: 11, No: 0, Absent: 2**, (Representatives Belter & Froelich).

Representative Boe will carry the bill.

Date: 3/19/09

Roll Call Vote #: _____

2009 HOUSE STANDING COMMITTEE ROLL CALL VOTES
BILL/RESOLUTION NO. 2291

House Agriculture Committee

Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken Do Pass Do Not Pass Amended

Motion Made By Rep. Boe Seconded By Rep. Uglem

Representatives	Yes	No	Representatives	Yes	No
Dennis Johnson, Chair	✓		Tracy Boe	✓	
Mike Brandenburg, Vice Chair	✓		Rod Froelich	AB	
Wesley R. Beter	AB		Richard Holman	✓	
Joyce M. Kingsbury	✓		Phillip Mueller	✓	
David S. Rust	✓		Benjamin A. Vig	✓	
Mike Schatz	✓				
Gerry Uglem	✓				
John D. Wall	✓				

Total (Yes) 11 No 0

Absent 2

Bill Carrier Rep. Boe

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

REPORT OF STANDING COMMITTEE (410)
March 19, 2009 1:49 p.m.

Module No: HR-50-5374
Carrier: Boe
Insert LC: . Title: .

REPORT OF STANDING COMMITTEE

SB 2291: Agriculture Committee (Rep. D. Johnson, Chairman) recommends DO PASS
(11 YEAS, 0 NAYS, 2 ABSENT AND NOT VOTING). SB 2291 was placed on the
Fourteenth order on the calendar.

2009 TESTIMONY

SB 2291

TESTIMONY TO THE
SENATE AGRICULTURE COMMITTEE
SENATE BILL 2291
BOB HUMANN – SVP OF LENDING
BANK OF NORTH DAKOTA
JANUARY 29, 2009

The proposed changes in Senate Bill 2291 would add another eligible use to the Biofuels PACE Loan Program. A single livestock operation would be able to receive up to \$250,000 of interest buy down for the purchase or installation of a biodigester system. The proposed language would also allow a livestock operation to receive \$250,000 of Biofuels PACE interest buy down funds for both the purchase or installation of a biodigester system and for the existing eligible usages as listed in section 1 of the bill.

For 18 months of the 2007-2009 biennium, over \$2.1 million of the \$5 million of available Biofuels PACE funds have been used to support livestock operations. It should also be noted that the eligibility for retailer pumps and condo grain storage sunsets July 31, 2009. With \$1,856,852 in remaining Biofuels PACE funds and another \$1.4 million going through the appropriation process during this session, a total of \$3,256,852 should be available for Biofuels PACE. Further information on the Biofuels PACE Loan Program is attached.

Although I am not an expert on biodigester systems, it appears logical that a renewable energy fund such as the Biofuels PACE fund be expanded to provide an incentive to livestock operations to make this investment in North Dakota. Further information on biodigester systems is attached from Dr. Scott Pryor of NDSU's Ag & Biosystems Engineering Department.

I did ask the NDSU experts if a biodigester system could be used to process the byproduct of a biodiesel or ethanol facility. They responded that the biofuels facility would have to complete an analysis on whether or not a biodigester system or gasification technology would be the most efficient. At this time, there is an ethanol plant in Minnesota using the gasification process to heat their plant. I bring this to your attention since the proposed legislation would allow for up to \$500,000 of interest buydown to biodiesel or ethanol production facilities that would purchase or install a biodigester system.

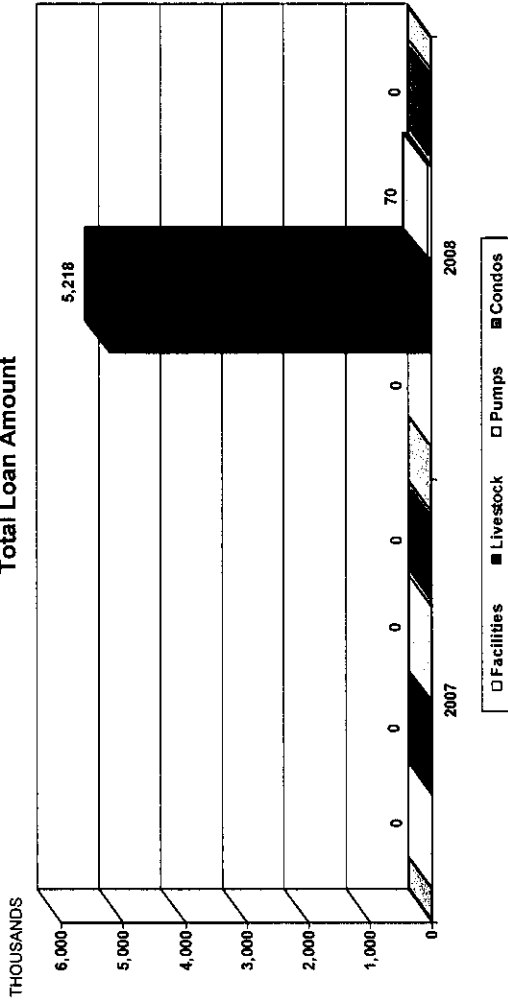
In conclusion, the proposed expanded eligibility makes sense and I support the proposed legislation.

BUSINESS PROGRAM HIGHLIGHTS

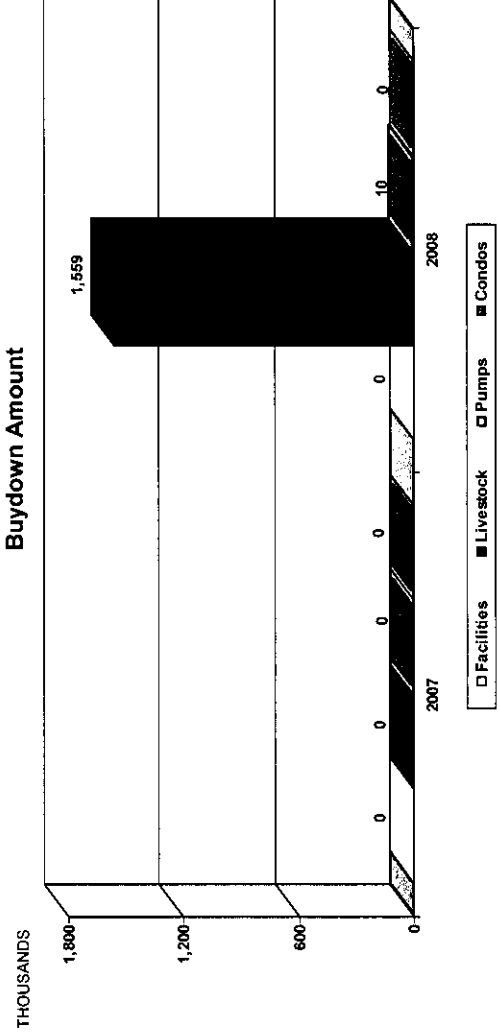
2007 - 2008

same hardware given to Home.

BIOFUELS PACE LOAN PROGRAM
Total Loan Amount



BIOFUELS PACE LOAN PROGRAM
Buydown Amount



2007-2009 Biennium Biofuels PACE Buydown Fund

Total Available Funds	\$3,971,964*
Funded/Committed Loans	\$2,115,112
Remaining Buydown Funds	\$1,856,852

* A total of \$4.2 million was appropriated with \$801,964 carry over from the previous biennium and \$30,000 transferred per HB 1515. Also reflects possible Biomass Demonstration Project Transfer of \$1MM. (An additional \$1 million may be transferred from Beginning Farmer Revolving Fund for the Biomass Project.)

Fund Breakdown:	
Biofuels Facilities/Livestock Buydown Funds -	\$3,471,964
Biofuels Facilities Funded/Committed Lns -	\$ 0
Livestock Facilities Funded/Committed Lns -	\$2,105,112
Available Funds	\$1,366,852
Retailer Pumps/Condo Storage Buydown Funds - \$ 500,000	
Retailer Pumps Buydown Funds -	\$ 10,000
Condo Storage Buydown Funds -	\$ 0
Available Funds	\$ 490,000

The demand for Biofuels PACE funds is with livestock operations with 14 of the 18 livestock loan commitments closed in 2008. 1 loan was funded in 2008 for a retail pump facility.

North Dakota

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Biofuels Pace

Biofuels PACE (Biofuels Partnership in Assisting Community Expansion) was established to buy down the interest rate on loans to biodiesel and ethanol production facilities, livestock operations, biofuels retailers, and grain handling facilities.

Ethanol Production Criteria

- Production facility must be located in North Dakota
- Facility must produce agriculturally derived denatured ethanol
- Fuel must be suitable for blending with a petroleum product for use in internal combustion engines
- Ownership must consist of:
 - Ag producers who hold at least 10% interest in the facility
 - Residents of North Dakota who own at least 50%
- Project maximum - \$500,000 of interest buy down
- Loan terms - 7 to 12 years
- Equity - 40% to 50%

Biodiesel Production Criteria

- Production facility must be located in North Dakota
- Facility must produce biodegradable, combustible liquid fuel derived from vegetable oil or animal fat
- Fuel must be suitable for blending with diesel fuel for use in internal combustion diesel engines.
- Ownership must consist of:
 - Ag producers must hold at least 10% interest in facility
 - Residents of North Dakota who own at least 50%
- Project maximum - \$500,000 of interest buy down
- Loan terms - 7 to 12 years
- Equity - 40% to 50%

Livestock Operations Criteria

- Livestock operations located in North Dakota that feed, handle, milk, or hold livestock with these operations using as part of its operation a byproduct produced at a biodiesel or an ethanol production facility.
- Eligible uses are for the purchase or construction of real property, expansion of facilities, and purchase or installation of equipment.
- Project maximum - \$250,000 of interest buy down to any single livestock

operation.

- Loan terms - 5 to 15 years.
- Equity - 40%

Retailer Pumps Criteria

- Pumps must be installed by a North Dakota biofuels retailer
- The retailer must dispense and distribute biodiesel blends with a minimum of 5% biodiesel or gasoline blends with greater than 60% ethanol
- Project maximum - \$10,000 of interest buy down to any single location of a biofuels retailer
- Loan terms - 5 to 7 years
- Equity - 25%

Grain Handling Facilities

- Grain handling facilities located in North Dakota and licensed to do business in North Dakota which provide condominium storage of grain that is principally intended for the production of biofuels.
- Eligible uses are for the purchase or construction of real property expansion of facilities and purchase or installation of equipment.
- Project maximum - \$50,000 of interest buy down to a grain handling facility.
- Loan terms - 5 to 10 years
- Equity - 25% to 40%

Biofuels PACE Parameters

- Recipients of Biofuels PACE are not eligible for regular PACE funds
- Interest buy down of 5.0% below the note rate
- No community match
- Existing PACE Program parameters (ex. interest rate buy down maximum, BND's participation amounts, default) will apply to Biofuels PACE
- Loan funds may not be used to refinance any existing debt or for relocation within the state

A maximum of \$4.5 million of the \$5 million PACE program will fund ethanol production, biodiesel production, feedlot operations and dairy operations. The remaining dollars will be fund projects related to retailer pumps and condo grain storage for a total of \$250,000 each.

For more information on this program or other Bank of North Dakota programs, contact:

Bank of North Dakota
1200 Memorial Hwy
PO Box 5509
Bismarck, ND 58506-5509
(701) 328-5672
1-800-472-2166 ext. 5672
TDD (Telephone Device for the Deaf) 1-800-643-3916

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Biodigester Fact Sheet

Process/terminology:

- **Anaerobic digestion** (AD) is a process where organic material, typically animal manure, is broken down naturally via complex microbial processes to yield *biogas* and *digestate*.
- **Biogas** typically consists of 55-70% methane and thus has a volumetric heating value of 50-70% of natural gas. The remaining 30-45% consists primarily of carbon dioxide with trace amounts of hydrogen sulfide and other gases.
- **Digestate** is the solid material remaining after anaerobic digestion. Only 4% of the influent material (30% of influent solids) is converted to biogas; the remainder is digestate. The digestate has low odor and contains all of the nutrients found in the original material. This material may be further separated into a liquid and solid fraction. Use of digestate near the facility can have a significant impact on process economics.
- **Biodigesters** are very sensitive to *temperature* and are typically operated at 100°F. Typically, 35% of biogas is used to keep the biodigester at the appropriate temperature. This fraction could be higher in cold climates such as ND.

Uses

- The most economical and efficient use of biogas is for **heating applications** on site.
- **Electricity generation** with small generators *may be* economical but will depend heavily on the agreements for how electricity can be sold and purchased from the grid.
- Biogas can be cleaned up for injection into a **natural gas pipeline**. This technology has not been economical historically due the expense of cleaning but spikes in natural gas prices in recent years have led some to consider this technology.

Applications

- **Dairies** are among the most popular systems for digesters partly because of the need for heat energy in barns and milking parlors. Manure collection is also quite easy in dairies. (Gas Production: 60 ft³ biogas/hd/day)
- **Swine facilities** are also common applications for AD because of ease of manure collection. Air permitting and the reduction of odors via biodigestion is another strong reason some producers use AD. (4 ft³/hd/day)
- **Cattle feedlots** are generally *not good* candidates for AD because of difficulty in collecting manure without dirt, rocks, or other debris that would come from an earthen feedlot. (28 ft³/hd/day)
- **Poultry facilities** may use AD but have challenges with manure flowability. (0.3 ft³/hd/day)

Factors to consider

- Finding an economical use for biogas *and* digestate is essential for profitability.
- Some digesters operate as a cost of doing business for **odor control**.
- The lower limit for economy of scale is generally considered 500-600 cows.
- **Capital costs** for digesters may be significant and **management** is not inconsequential.
- Addition of supplementary feed streams such as wastes or coproducts from **food processing or ethanol or biodiesel plants** will significantly increase biogas production.
- Additional revenue may be generated through trading of **carbon credits**.
- Economics will depend heavily on **energy costs and selling prices**.

QUESTIONS: Dr. Scott Pryor
NDSU Agricultural and Biosystems Engineering
(701) 231-7274
scott.pryor@ndsu.edu

Roger Johnson
Agriculture Commissioner
www.agdepartment.com



Attachment #2

Phone (701) 328-2231
Toll Free (800) 242-7535
Fax (701) 328-4567

600 E Boulevard Ave., Dept. 602
Bismarck, ND 58505-0020


Equal Opportunity in Employment and Services

**Testimony of Wayne Carlson
Program Manager for Livestock Services
SB 2291
Senate Agriculture Committee
Roosevelt Park Room
January 29, 2009**

*Same given
to House.*


Chairman Flakoll and members of the Senate Agriculture Committee, I am Wayne Carlson, Program Manager for Livestock Services for the North Dakota Department of Agriculture. I am here today in support of SB 2291 which would make Bio Fuel PACE loan funds eligible as a tool to finance anaerobic digesters on livestock operations.

Anaerobic digesters have been used in the livestock industry for the last 40 years. These systems have continued to evolve in efficiency and maintainability. These systems were generally used on very large operations, but today some smaller farms find the digester a good option for them. As the demand for renewable fuel resources continues and with increasing environmental regulation requirements, it is expected that more producers will look to digesters for their own operations. In addition to the energy that is produced by digesters, they also benefit producers by reducing odors of manure storage units, providing high quality fertilizer, reducing pathogens in waste and supplying operations with sufficient bedding.



Currently there are no digesters being utilized in our state. Minnesota and Wisconsin have a number of them that have shown to the livestock industry that they can be feasible. If this bill passes, I do not foresee a large amount of operations looking for these funds because of the large amount of costs associated with installation of a digester and limited pay back. However, I know a number of producers that have indicated that they may be interested in putting up a digester. This loan program which provides an interest buy down may be just the incentive needed to make the investment in a digester possible.

In conclusion, allowing anaerobic digesters through the Bank of North Dakota's Biofuels PACE program gives our livestock producers yet another tool they may utilize for their success.



Chairman Flackoll and committee members, I urge a "do pass" on SB and would be happy to answer any questions.



SB 2291

January 29, 2009
Roosevelt Park Room

Good afternoon, Chairman Flakoll and Committee members.

My name is Gary Hoffman; I'm the executive director of the North Dakota Dairy Coalition. I'm here today in support of SB 2291.

As you may know my job is to increase the number of dairy cows in North Dakota. We're currently working with several dairy producers who are considering ND as a place to relocate. The current Biofuels -Pace program has been one of the tools that we've used in our discussions to attract dairy producers to North Dakota. We believe expanding the program to include the development of bio-digesters would help our effort. Today's dairy producers are looking for ways to increase efficiencies and income streams. Bio-digesters can help do that. Bio-digesters, or anaerobic digesters, are becoming more popular as the size and scale of dairy farms increases. Digesters reduce odors, reduce green house gas emissions, lower bedding costs, and create another income stream for dairies. Bio-digester technology is not new. Bio-digester systems can be an excellent renewable energy system. Methane can be captured from animal manure and run through generators to create base line electricity generation, or If the system is close to a natural gas pipeline the methane can be scrubbed and put directly into a natural gas line.

The main challenge of a digester system is the initial cost of the system. Expanding the Biofuels-Pace program to include Bio-digesters could be one of the tools that helps us develop a digester system on a North Dakota dairy.

So again, I would encourage you to expand the current program to include bio-digesters.

It is good for the dairy industry, and it is one more opportunity to expand our renewable energy portfolio. I will try to answer any questions you may have.

Thank you.

#1

Bob Humann
3/19/09

TESTIMONY TO THE
HOUSE AGRICULTURE COMMITTEE
SENATE BILL 2291
BOB HUMANN – SVP OF LENDING
BANK OF NORTH DAKOTA
MARCH 19, 2009

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Although I am not an expert on biodigester systems, it appears logical that a renewable energy fund such as the Biofuels PACE fund be expanded to provide an incentive to livestock operations to make this investment in North Dakota. Further information on biodigester systems is attached from Dr. Scott Pryor of NDSU's Ag & Biosystems Engineering Department.

In conclusion, the proposed expanded eligibility makes sense and I support the proposed legislation.

SB 2291

March 19, 2009
Peace Garden Room

#3

Gary Hoffman
3/19/09

Good morning, Chairman Johnson and Committee members.

My name is Gary Hoffman; I'm the executive director of the North Dakota Dairy Coalition. I'm here today in support of SB 2291.

As you may know my job is to increase the number of dairy cows in North Dakota. We're currently working with several dairy producers who are considering ND as a place to relocate. The current Biofuels -Pace program has been one of the tools we've used in our discussions to attract dairy producers to North Dakota. We believe expanding the program to include the development of bio-digesters would help our development efforts. Today's dairy producers are looking for ways to increase efficiencies and income streams. Bio-digesters can help do that. Bio-digesters, or anaerobic digesters, are becoming more popular as the size and scale of dairy farms increase. Digesters reduce odors, reduce green house gas emissions, lower bedding costs, and create another income stream for dairies. Bio-digester technology is not new. Bio-digester systems are excellent renewable energy systems. Methane can be captured from animal manure and run through generators to create base line electricity generation. If the system is close to a natural gas pipeline the methane can be scrubbed and put directly into a natural gas line.

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Thank you.