Prepared by the North Dakota Legislative Council staff for the Agriculture Committee
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DEVELOPMENT OF LIVESTOCK FEEDING FACILITIES AND THE USE OF BYPRODUCTS FROM BIOFUELS PRODUCTION AS A FEEDSTOCK - BACKGROUND MEMORANDUM

Section 3 of 2009 House Bill No. 1322 (attached as an appendix) directs the Legislative Management to study issues related to the development of livestock feeding facilities and the use of byproducts from biofuels production as a feedstock.

BACKGROUND

The major purpose of House Bill No. 1322 was to create an energy policy commission consisting of:

1. The Commissioner of Commerce;
2. A representative of the agriculture community appointed by the Governor;
3. A representative recommended by the Lignite Energy Council appointed by the Governor;
4. A representative recommended by the North Dakota Petroleum Council appointed by the Governor;
5. A member from the biodiesel industry appointed by the Governor;
6. A member from the biomass industry appointed by the Governor;
7. A member from the wind industry appointed by the Governor;
8. A member from the ethanol industry appointed by the Governor;
9. A representative recommended by the North Dakota Petroleum Marketers Association appointed by the Governor;
10. A member from the North Dakota investor-owned electric utility industry appointed by the governor;
11. A member from the generation and transmission electric cooperative industry appointed by the Governor;
12. A member from the lignite coal-producing industry appointed by the Governor;
13. A member from the refining or gas-processing industry appointed by the Governor; and
14. Additional nonvoting members appointed by the Governor.

The commission was charged with developing a comprehensive energy policy for the state and monitoring progress being made in pursuit of that policy.

The precursor to House Bill No. 1322 was House Bill No. 1462 (2007), which directed the Department of Commerce to convene an energy policy commission during the 2007-08 interim for the purpose of developing a comprehensive energy policy for the state. The 2009 legislation maintained the same membership as that required of the 2007 Department of Commerce study.

The 2007 legislation was, however, much more detailed with respect to that which was to be addressed. The legislation included the following:

1. The policy of this state to stimulate the development of renewable and traditional fossil-based energy within the state with the goal of providing secure, diverse, sustainable, and competitive energy supplies that can be produced and secured within the state to assist the nation in reducing its dependence on foreign energy sources.
2. The policy of this state to promote the development of new technologies, provide innovative opportunities, create additional employment and wealth that contributes to economic development, and decrease dependence on foreign energy supplies.
3. Growth of the fossil fuel and renewable energy industries within this state to encourage the state's competitiveness for both the domestic and export markets.
4. The assistance the state provides in research, development, and marketing of North Dakota-produced energy sources, including biodiesel, biomass, coal, ethanol, geothermal, hydroelectric, hydrogen, natural gas, oil, solar, and wind.
5. The need to:
   a. Expand the use of existing energy resources such as coal, oil, gas, wind, and hydropower by supporting continued research and development of technologies designed to enhance the use of traditional fuels.
   b. Examine ways to diversify the state's energy resource base by encouraging the growth of renewable sources such as wind, biomass, geological, solar, and water.
   c. Evaluate existing tax credits and incentives for all energy resources.
   d. Modernize and expand the state's energy infrastructure to ensure that energy supplies can be safely, reliably, and affordably transported to homes and businesses.
   e. Examine potential innovations that will be necessary to improve environmental conditions through the use of new technologies designed to encourage the continued use of fossil fuel as well as renewable resources.
   f. Review energy industry workforce and training needs and educational opportunities to enhance the future productivity of the energy industry.
   g. Develop a strategy to maximize the state's market opportunities in regional and global markets.

NORTH DAKOTA'S COMPREHENSIVE RENEWABLE ENERGY AGENDA

Governor John Hoeven's website references the nation's need for more domestically produced, environmentally sound energy and North Dakota's unique ability to meet some of the nation's needs through its varied energy and energy-related agricultural industries.

In order to enhance and expand these opportunities for North Dakota, the website lists a number of programs that the Legislative Assembly recently enacted, including:

- A $5 million biofuels PACE fund;
- A $3 million renewable energy grant fund;
- A biomass demonstration project;
- Tradable income tax credits of $3 million for installation of geothermal, solar, and wind energy devices;
- A discount on property taxes for wind generation units from 3 percent to 1.5 percent;
- A $7.3 million Governor's ethanol production incentive fund;
- A $2.2 million sales and use tax exemption for materials used to construct cogeneration power plants in conjunction with value-added agriculture projects;
- An incentive to purchase environmentally preferable paper and printing products by the state;
- Expansion of value-added agriculture investment tax credits; and
- A requirement for ethanol blend pumps to have an ethanol promotion label.

Ethanol Production

As of September 2009, the United States had an annual nameplate (production) capacity of 13.1 billion gallons of ethanol. Operating refineries are capable of producing approximately 11.5 billion gallons of ethanol each year, and those under construction or undergoing expansion have the capacity to produce an additional 1.6 billion gallons. The statistics indicate that there are 201 refineries in the country (see *www.neo.ne.gov/statshtml/122.htm*).

As of September 2009, North Dakota had the nameplate capacity to annually produce 353 million gallons of ethanol. The state's actual production is set at 233 million gallons.

North Dakota Producers	Location	Nameplate Capacity	Actual Production
Alchem, Ltd., LLLP	Grafton	10	N/A
Archer Daniels Midland	Walhalla	23	23
Blue Flint Ethanol	Underwood	50	50
Red Trail Energy, LLC	Richardton	50	50
Tharaldson Ethanol	Casselton	110	110
Verasun Energy Corporation	Hankinson	110	N/A
Total		353	233

North Dakota is 10th in the nation with respect to nameplate capacity, behind Iowa (3,396 million gallons), Nebraska (1,523 million gallons), Illinois (1,383 million gallons), Minnesota (1,131 million gallons), South Dakota (1,016 million gallons), Indiana (908 million gallons), Wisconsin (498 million gallons), Kansas (491 million gallons), and Ohio (479 million gallons). North Dakota would require a 33 percent increase in nameplate capacity to reach ninth place.

North Dakota, at 233 million gallons, ranks 11th in the nation with respect to actual production, behind Iowa (3,286 million gallons), Illinois (1,383 million gallons), Nebraska (1,311 million gallons), South Dakota (1,016 million gallons), Minnesota (1,002.6 million gallons), Indiana (706 million gallons), Wisconsin (498 million gallons), Kansas (411.5 million gallons), Missouri (261 million gallons), and Ohio (246 million gallons).

Biodiesel Production

The National Biodiesel Board reports that as of June 2009, 173 companies are marketing biodiesel. Existing plants have a nameplate capacity of 2.69 billion gallons per year, and when plants currently being constructed or expanded are included, the nameplate capacity increases to 3.1 billion gallons per year. However, the National Biodiesel Board also points out that due to current economic conditions, the actual production numbers are extremely low. Production numbers appear to vary considerably. The highest estimated production for 2009 was 700 million gallons.

STUDY

According to the International Energy Agency, biofuels are forecast to represent between 4 percent and 7 percent of the world's road-fuel use by the year 2030. This provides opportunities for North Dakota agriculture and particularly so when the byproducts of biofuels production can be used as supplemental livestock feed.

Many of the byproducts are known to be high in protein and energy and have high fiber content as well as high mineral levels. Some of the byproducts can be easily transported and stored indefinitely. Others have a very limited shelf life.

At the present time, the symbiotic relationship between biofuels production and the livestock industry has been recognized. Nevertheless, a great deal of research is being undertaken, in this country and abroad, to better understand that relationship. Much of the research is focused on discovering value-added compounds that result from biofuels production, detecting and mitigating against mycotoxins in the byproducts to ensure the safety of food and feed, performing economic analyses on the performance of byproducts in animal feed, and evaluating the impact of biofuels and livestock production with respect to land and water use and ultimately their effect on ecosystems and livelihoods. The research findings should be of interest as the committee examines the continued development and coexistence of these two industries in North Dakota.

ATTACH:1