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## **ENERGY DEVELOPMENT AND TRANSMISSION COMMITTEE**

Tuesday, June 2, 2020

Senator Rich Wardner, Chairman, called the meeting to order at 9:00 a.m.

**Members present:** Senators Rich Wardner, Brad Bekkedahl, Kathy Hogan, Ray Holmberg, Merrill Piepkorn, David S. Rust; Representatives Dick Anderson, Mike Brandenburg, Alisa Mitskog, Todd Porter, Don Vigesaa

**Member absent:** Representative Tracy Boe

**Others present:** Senator Jessica Unruh, Beulah

**It was moved by Senator Hogan, seconded by Representative Vigesaa, and carried on a voice vote that the minutes of the February 13, 2020, meeting be approved as distributed.**

### **ENERGY AND ENVIRONMENTAL RESEARCH CENTER**

#### **Research Projects and Activities**

Chairman Wardner called on Mr. Charles Gorecki, Chief Executive Officer, Energy and Environmental Research Center, for testimony ([Appendix A](#)) regarding the Energy and Environmental Research Center's (EERC) research projects and activities.

In response to a question from Senator Rust, Mr. Gorecki said for the 2019 fiscal year, the state contributed 14 percent of the \$41.2 million funding amount provided to EERC. He said the private sector contributed 25 percent and the federal government provided 61 percent of the \$41.2 million funding amount.

Senator Rust said the state should consider providing additional funding to EERC because the center's research projects and activities have the potential to create economic growth for the state.

#### **Underground Gas Storage Pilot Project and The Formation Homogenization Project**

Chairman Wardner called on Mr. John Harju, Vice President for Strategic Partnerships, Energy and Environmental Research Center, for testimony ([Appendix B](#)) regarding EERC's results and recommendations of the underground gas storage pilot project and an update on the formation homogenization project.

In response to a question from Senator Rust, Mr. Harju said the Inyan Kara Formation is part of the Dakota Group and is a particularly sought after injection zone.

In response to a question from Representative Mitskog, Mr. Harju said reusing or recycling produced water is constrained by its high salinity. He said the water is considered hypersaline because the water contains 30 percent salt. He said the challenge is not a regulatory issue because the Industrial Commission has stringent rules regarding the storage of the water due to the water's detrimental effect on the environment if released. He said produced water is required to be triple contained when used in a project.

### **STATE ENERGY RESEARCH CENTER**

Chairman Wardner called on Mr. Tom Erickson, Director, State Energy Research Center, Energy and Environmental Research Center, for testimony ([Appendix C](#)) regarding the State Energy Research Center's (SERC) research activities and accomplishments.

In response to a question from Senator Piepkorn, Mr. Erickson said SERC is exploring value-added methods of disassembling wind turbine blades to separate the concentrated high-density materials from the low-density

materials because the two materials would be reused for different applications. He said there is not an effective way to recycle wind turbine blades. He said some countries in Europe grind and crush the low-density wind turbine blade material and use the crushed material in cement kilns. He said SERC is exploring ways to destroy the epoxy material binding the wind turbine blade fibers to recover the fibers for a value-added material. He said this exploratory project is funded through SERC's activities.

In response to a question from Representative Anderson, Mr. Erickson said wind turbine blades usually are designed to have a lifespan of 20 to 30 years but, because of the production tax credit, it is not unusual in North Dakota for wind turbine blades to be taken down after 10 to 12 years of use. He said taking down wind turbine blades early and replacing the blades with higher efficiency blades allows the owner to receive the production tax credit again.

In response to a question from Senator Piepkorn, Mr. Erickson said there are a few different manufacturers producing graphene quantum dots and graphene sheets but he is unaware of the specific locations of production. He said the manufacturers produce the graphene quantum dots and graphene sheet from natural gas to create precursors, which create the graphene. He said graphene is used in commercial applications. He said the market for graphene is projected to exceed \$1 billion a year in the very near future. He said if graphene were available in higher quantities at a lower price, the automobile industry ideally could use graphene to reduce the weight of vehicles while also making vehicles more durable.

### ETHANOL INDUSTRY

Chairman Wardner called on Mr. Jeff Zueger, Chief Executive Officer, Midwest AgEnergy and Chairman, North Dakota Ethanol Council, and Mr. Gerald Bachmeier, Chief Executive Officer, Red Trail Energy and President, North Dakota Ethanol Producers Association, for testimony ([Appendix D](#)) regarding an update on the importance and status of the ethanol industry in North Dakota.

In response to a question from Senator Piepkorn, Mr. Zueger said some incentives for corporate average fuel economy standard credits for automobile manufacturers producing flex-fuel vehicles no longer exist. He said the incentive is now on the production and manufacturing of electric, renewable natural gas, and compressed natural gas vehicles. He said the shift in incentives from flex-fuel vehicles to other vehicles was a blow to the ethanol industry. He said flex-fuel vehicles still are being manufactured but the number is decreasing.

No further business appearing, Chairman Wardner adjourned the meeting at 12:00 p.m.

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