

Chairman Porter and Members of the House Energy and Natural Resources Committee:

HB 1491 is a bill that would provide an appropriation to the North Dakota Industrial Commission for contracting with the Energy and Environmental Research Center to develop a plan for the implementation of hydrogen energy roadmap or plan in North Dakota.

As North Dakota forges ahead as a leader in a diversified, above all energy producing state. It is important that we engage in research and emerging technologies.

The EERC has been involved in hydrogen research for number of years. Recently, there has been renewed interest in hydrogen with its potential in helping tackle some of the critical challenges facing the energy sector, namely the carbon issue.

Hydrogen is the simplest and most abundant element in the universe. It is a versatile energy carrier and can be used to store and deliver energy. Hydrogen offers advantages that could bridge our nation’s energy resources, renewables, fossil fuels and nuclear. It enables innovations in energy production and end uses that can help decarbonize three of the most energy intensive sectors of our economy: transportation, electricity generation, and manufacturing. There are three colors of hydrogen derived from different sources with different carbon footprints. A separate handout shows these sources.

	Transportation Applications	Chemicals and Industrial Applications	Stationary and Power Generation Applications	Integrated/Hybrid Energy Systems
Existing Growing Demands	<ul style="list-style-type: none"> • Material-Handling Equipment • Buses • Light-Duty Vehicles 	<ul style="list-style-type: none"> • Oil Refining • Ammonia • Methanol 	<ul style="list-style-type: none"> • Distributed Generation: Primary and Backup Power 	<ul style="list-style-type: none"> • Renewable Grid Integration (with storage and other ancillary services)
Emerging Future Demands	<ul style="list-style-type: none"> • Medium-and Heavy-Duty Vehicles • Rail • Maritime • Aviation • Construction Equipment 	<ul style="list-style-type: none"> • Steel and Cement Manufacturing • Industrial Heat • Bio/Synthetic Fuels 	<ul style="list-style-type: none"> • Reversible Fuel Cells • Hydrogen Combustion • Long-Duration Energy Storage 	<ul style="list-style-type: none"> • Nuclear/Hydrogen Hybrids • Gas/Coal/Hydrogen Hybrids with CCUS • Hydrogen Blending

Hydrogen is a relevant and important issue for our state. I also believe this could be a part of the necessary ERG policy. In order to remain competitive in the quickly evolving energy industry, North Dakota needs to embrace innovation and adopt a plan. We can do this by investing in the EERC. This will ensure that we are not left behind in this emerging aspect of the energy sector.

I ask the committee to support this bill.