



INDUSTRIAL COMMISSION OF NORTH DAKOTA

OIL AND GAS RESEARCH COUNCIL

Brent Brannan, Director
E-Mail: brentbrannan@gmail.com

Governor
Doug Burgum
Attorney General
Wayne Stenehjem
Agriculture Commissioner
Doug Goehring

Oil and Gas Research Program **North Dakota Century Code 54-17.6**

History of the Oil and Gas Research Program

North Dakota's Oil and Gas Research Program ("Program"), established by the Legislature in 2003, is a state/industry program designed to demonstrate to the general public the importance of the State oil and gas exploration and production industry, promote efficient, economic and environmentally sound exploration and production methods and technologies, preserve and create jobs involved in the exploration, production and utilization of North Dakota's oil and gas resources, develop the State's oil and gas resources, and support research and educational activities concerning the oil and natural gas exploration and production industry. The Program is funded from two percent of the State's share of the oil and gas gross production tax and oil extraction tax revenues, **up to \$10 million**, each biennium. During the 2019-2021 biennium the funding was **increased by \$6 million** to hire the Energy and Environmental Research Center to conduct an Underground Storage of Produced Natural Gas study.

Mission Statement

The Mission of the Oil and Gas Research Council/Program is to promote the growth of the oil and gas industry through research and education.

General Criteria

Priority areas of the Program that promote the growth of the oil and gas industry through research and education in no particular order include, but are not limited to, the following:

- Generate information and knowledge that will have the highest probability of bringing new oil and gas companies and industry investment to North Dakota.
- Have the highest potential for preserving and creating oil and gas jobs, wealth, and tax revenues for North Dakota.
- Most effectively educate the general public about the benefits and opportunities provided by the North Dakota oil and gas industry.
- Positively affect ultimate recovery from North Dakota's existing oil and gas pools.
- Preserve existing production levels.
- Identify oil and gas exploration and production technologies presently not used in North Dakota.
- Identify oil and gas potential in non-producing counties.
- Maximize the market potential for oil, natural gas, and the associated byproducts.
- Improve the overall suitability of the oil and gas industry in North Dakota through the development of new environmental practices that will help to reduce the footprint of oil and gas activities.
- Develop baseline information that will lead to other projects, processes, ideas, and activities.

Grant Round Timelines

Grant round deadline dates are June 1 and November 1 of each year. Additional grant round deadline dates may be established by the Industrial Commission ("Commission").

Daryl Dukart, Vice Chairman
Darren Schmidt

Steve Holen
Zachary Weis

Ryan Kopseng, Chairman
Lynn Helms

Vicky Sund
Ed Murphy

Ron Ness

Oil and Gas Research Council (OGRC)
State Capitol, 14th Floor - 600 E Boulevard Ave Dept 405 - Bismarck, ND 58505-0840
E-Mail: kfine@nd.gov PHONE: 701-328-3722 FAX: 701-328-2820



Grant Round Process & Procedures

Since the Program was implemented, the Commission has approved funding of 102 projects and studies totaling approximately \$60 million. The dollars invested by the State in these projects is also matched so that every dollar provided by the Program is leveraged. A grant may not exceed fifty percent of the total project cost. A higher priority will be given to those applications having private industry investment. As with the other Commission administered research programs, the Commission believes having a partner leads to projects being conducted that have a value to the industry and State and is not just for the sake of research. The Program during the 2019-2021 biennium has been set up to direct 47% of its funds for research, 39% for legislative directed studies, and 8% for education with the remaining 6% used for the Pipeline Authority and for administration.

Projects of Interest

Improving EOR Performance through Data Analytics and Next Generation Controllable Completions – Energy and Environmental Research Center (EERC)

The EERC was selected by the U.S. Department of Energy to field-test controllable completions (interval control valves) for active (smart) well control during CO₂ enhanced oil recovery. The goals of this field test are to 1) implement controllable completions in horizontal wells through a rigorously monitored field test in a reservoir undergoing new tertiary recovery; 2) apply data analytics and machine learning to evaluate the test performance and develop a semiautonomous active control system; and 3) assess various business case scenarios to accelerate the development and application for commercial EOR.

Total project costs are \$10,000,000 with the Oil and Gas Research Fund providing \$500,000

Western Information System to Effectively Reduce Oilfield Delays and Disruption WISE Roads – Western Dakota Energy Association

The objective of this project is to fund the installation of up to 25 weather stations in high traffic areas throughout the oil-producing region. Specifically, make available real-time weather information, especially precipitation data, to allow county/township road managers to more precisely identify those roads that require temporary restrictions and exclude those roads that do not need restrictions and provide data to guide road management policies. Also included in this project is partial funding for a meteorologist to analyze the data and serve as a source for local decision makers regarding road management policies.

Total project costs are \$625,000 with the Oil and Gas Research Fund providing \$310,000

Bakken Production Optimization 3.0 – Energy and Environmental Research Center (EERC)

The objective of this project is to continue the successful work that the EERC and its federal and private partners have accomplished under the Bakken Production Optimization Program (BPOP). Through the six years of the Program, the EERC has demonstrated that the strength of BPOP rests in its ability to rapidly address ever-changing technical priorities. Key questions that are being addressed with this funding include:

- How do we move Bakken enhanced oil recovery (EOR) from pilot to commercial scale?
- What is the best development strategy for Bakken and Three Forks resources over the next decade?
- How do we manage long-term, large-volume water and rich gas coproduction?
- How can recent technology advances (e.g., artificial intelligence, machine learning, big data analytics) be applied to oil and gas resource development in North Dakota?

Total project costs are \$12,000,000 with the Oil and Gas Research Fund providing \$6,000,000

Oil and Gas Research Council Members

The Oil and Gas Research Council is a volunteer, citizen, industry, and government group appointed by the Governor which provides advice to the Commission on policies and recommends research for funding under the Program.

Daryl Dukart County Commissioner from an oil-producing county)

Steve Holen (representing oil and gas producing counties)

Ryan Kopseng (North Dakota Petroleum Council)

Darren Schmidt (North Dakota Petroleum Council)

Vicky Sund (North Dakota Petroleum Council)

Ron Ness (President, North Dakota Petroleum Council)

Zachary Weis (North Dakota Petroleum Council)

Lynn Helms (ND Oil and Gas Division Director - non-voting member)

Ed Murphy (State Geologist - non-voting member)

The Commission Administrative Office provides the administrative support for the Program and maintains the financial records of the Program. Brent Brannan has been retained on a part-time basis to serve as the Program Director. Information on each project funded and updates on the projects are available on the Oil and Gas Research Program website at <https://www.dmr.nd.gov/ogr/>

ANALYSIS OF THE OIL AND GAS RESEARCH FUND
N.D.C.C. 57-51.1
Continuing Appropriation

	<u>2019-2021 Biennium</u>	<u>2021-2023 Biennium</u>
Beginning Balance	\$9,847,455 ¹	\$12,094,555
Add transfers and estimated revenues ²		
Transfer by State Treasurer from oil and gas taxes ³	\$16,000,000	\$16,000,000
Transfer General Fund/Legacy Fund Earnings (2021 SB 2014)	\$ 0	\$14,000,000 ⁷
Estimated applicant contributions	\$ 2,100	\$ 2,100
Estimated Interest Income	\$ 45,000	\$ 30,000
Total Available	\$25,894,555	\$42,126,655
Less estimated expenditures and commitments ⁴		
Estimated Project Expenditures & Commitments	\$ 10,000,000	\$ 20,000,000
Estimated Expenditures on underground gas storage ⁵ (2019 HB 1014)	\$ 2,500,000	\$ 3,500,000
Estimated Project Expenditures on Legislative study (2019 HB 1014)	\$ 300,000	\$ 0
Estimated Project Expenditures on Legislative Energy Storage Study (2021 SB 2014)	\$ 0	\$ 14,000,000 ⁷
Administrative and Technical Services Costs	\$ 300,000	\$ 300,000
Transfer to the North Dakota Pipeline Authority	\$ 700,000	\$ 350,000 ⁸
Total estimated expenditures	\$13,800,000	\$38,150,000
Estimated ending balance	<u>\$12,094,555⁶</u>	<u>\$ 3,976,665</u>

⁽¹⁾ The Oil and Gas Research Program/Fund was authorized by the 2003 Legislature. During the 2003-2005 biennium \$50,000 was made available for the Program. That amount was increased to \$1,300,000 by the 2005 Legislature, \$3,000,000 by the 2007 Legislature and \$4,000,000 by the 2009 Legislature. In 2013 it was increased to \$10,000,000 for the 2013-2019 biennia. For the 2019-2021 biennium a one-time increase of \$6,000,000 was added by the 2019 Legislature. The Governor's Budget proposes the \$16,000,000 level for the 2021-2023 biennium. The source of funding for the Oil and Gas Research Fund is two percent of the state's share of the oil and gas gross production tax and oil extraction tax revenues.

⁽²⁾ Revenues under the 2019-2021 biennium reflect the transfer of \$16,000,000. As of November 30, the Fund has received \$14,441,605 of that amount. Estimated interest income includes actual interest income of \$36,644 through November 2020 and an estimate of the interest income through June 30, 2021. Estimated applicant contributions reflect actual applicant contributions of \$1,900 through November 2020 with an estimate for the remainder of the biennium.

⁽³⁾ 2019 HB 1014 included an increase to the Oil and Gas Research Fund allocation from \$10,000,000 to \$16,000,000 for the 2019-2021 biennium.

⁽⁴⁾ Since 2003 through 2020 the Commission has committed funding for 105 projects or studies totaling \$65 million of OGRP funding. Total project costs are approximately \$404,000,000. This includes 11 projects approved so far during the 2019-2021 biennium with funding to be provided during the 2019-2021 and subsequent biennia. Actual project payments during the 2019-2021 biennium through November 2020 total \$3,836,331 with an estimate for

the remainder of the biennium. Actual administrative and technical services costs through November 2020 total \$132,101 (excluding the Pipeline Authority) with an estimate for the remainder of the biennium.

⁽⁵⁾ 2019 HB 1014 included funding for the 2019-2021 biennium for a pilot project to be conducted by the Energy and Environmental Research Center on underground storage of produced natural gas.

⁽⁶⁾ This funding is needed for payments of approved projects that will be completed in subsequent biennia. Outstanding commitments as of December 2020 are approximately \$14,200,000.

⁽⁷⁾ 2021 Engrossed Senate Bill 2014 includes a transfer of \$14,000,000 to the Oil and Gas Research Fund from the General Fund derived from Legacy Fund earnings for the completion of an Underground Energy Storage Study with a focus of using salt caverns for the storage of energy resources, including natural gas, liquified natural gas, natural gas liquids, and hydrogen. The Energy and Environmental Research Center may collaborate with other entities as needed.

⁽⁸⁾ This amount is determined by the Industrial Commission based on a recommendation from the Oil and Gas Research Council. It is estimated that approximately \$350,000 will be needed during the next biennium for the Pipeline Authority.