

Spring 2022

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The Official Publication of the Western Dakota Energy Association

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# Table of Contents



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### OPENING REMARKS

- 6 From the Desk of the Western Dakota Energy Association's President
- 8 From the Desk of the Western Dakota Energy Association's Executive Director

### ON THE COVER

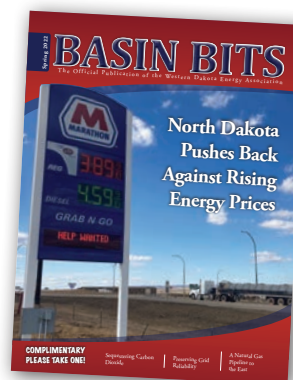
- 10 Joe Biden's War on Energy: North Dakota Pushes Back

### FEATURES

- 12 Making North Dakota a Leader in Energy Innovation: CSEA Announces 2022 Grants & Loans Recipients
- 15 Sequestering Carbon Dioxide
- 17 The State's First Factory Designed to Turn Natural Gas into Liquid Fuels
- 18 Preserving Grid Reliability
- 20 A Natural Gas Pipeline to the East

### INDEX TO ADVERTISERS

*On the cover: Bakken oilfield truckers like this one approaching the Highway 22/200 roundabout in Killdeer are paying high prices for diesel fuel, but North Dakota political leaders are trying to do something about it. Photo courtesy of Geoff Simon.*



## From the Desk of the Western Dakota Energy Association's President



**Trudy Ruland**  
President  
Western Dakota Energy Association

# Howdy from the Ruland Ranch!

**M**y husband, Scott, and I operate a ranch in the “peninsula” south of New Town. The peninsula is formed by the Missouri River on the west and south and the Van Hook Arm of Lake Sakakawea. Though most of our pasture and cropland is in Mountrail County, we have fields in McLean (far southeast side of the peninsula) and look out onto both Dunn and McKenzie; the four-county region! The peninsula is not only home to agriculture but also the always-busy oil industry.

The seasons on our ranch are defined by not only the time of year but by the activity. Our spring work starts with new life—calves—and then moves to seeding / planting. I add to the activity with goat kids, baby chicks, and starting a garden.

Our spring day begins with checking for new calves, tagging, and hoping no new mothers are having trouble. We're checking throughout the day and into the night. There's research that suggests if you feed cows in the afternoons / evenings you will get fewer calves born during the night. We tried it because helping a cow with calving trouble in the middle of the night is just not fun. But we ran into trouble; in the afternoon the ground is thawing. Feeding with tractors tore up the trails, yards, and pastures. We had to go back to feeding in the mornings, when the ground was still frozen, and take our chances with calves at night. It wasn't worth the long-lasting damage to the ground and trails.

Likewise, there's a spring season for the oil industry and the associated trucks,



which brings us to frost laws. Just like the ranch, spring brings increased activity for the oil industry. Frost laws, which restrict the size of loads allowed on county and township roads, are just not fun. So, why are there frost laws? They prevent long-lasting and costly damage to the roads as they're thawing out.

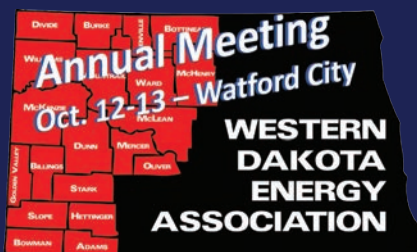
The spring season also means thunderstorms and rain—a rancher's wish! When rainy weather strikes, counties and townships may restrict or close roads until conditions improve. These road restrictions effectively shut down all truck traffic. All of the industries of our region depend on the use of county and township roads to move commodities,

*Likewise, there's a spring season for the oil industry and the associated trucks, which brings us to frost laws. Just like the ranch, spring brings increased activity for the oil industry. Frost laws, which restrict the size of loads allowed on county and township roads, are just not fun. So, why are there frost laws? They prevent long-lasting and costly damage to the roads as they're thawing out.*

deliver supplies, get to the job site / field, or just to get home.

Wise Roads is a system of nearly 50 weather stations, some with temperature probes embedded in roadways. The system provides real-time weather information for road managers to more precisely identify the roads that require restrictions or closure and the timing of the frost laws. The goal is to keep roads open as much as possible, while still protecting them from damage.





The Western Dakota Energy Association will hold its annual meeting from October 12-13, 2022 at the Rough Rider Center in Watford City.

Lt. Governor Brent Sanford has been invited to keynote the two-day event, which will also include presentations on the latest developments in energy technology, a preview of the November Election, a panel discussion on education issues, and Lynn Helms' county-by-county report on oil production.

The meeting will conclude with the annual business meeting and election of officers to the WDEA executive committee. The agenda and registration / sponsorship details will be released in August.

Still, all of us on the ranch hope for rain—or at least hope Gramma Louise was right when she said, “Seed in the dust and the grain bins will bust!”

The next activity for the ranch is getting the crop in the ground. Pre-crop spraying, fertilizing, and seeding / planting all involve large, slow-moving equipment moving from yard to field to field. Often, it's very difficult to see behind the equipment. Please, keep that in mind and be patient with all us Ag people. Let us safely share the road!

Hope y'all have a great and safe spring and summer!

#### ABOUT THE WDEA

The Western Dakota Energy Association (WDEA) is the trusted and unified voice for the betterment of the citizens of North Dakota and WDEA membership.

#### WDEA'S 2022 EXECUTIVE COMMITTEE SERVES WESTERN NORTH DAKOTA

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- Reuters January 31st, 2022

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## From the Desk of the Western Dakota Energy Association's Executive Director



**Geoff Simon**  
Executive Director  
Western Dakota Energy Association

# U.S. Energy Policy is a Threat to National Security

I know I sound like a broken record, but the people making energy policy decisions in the Biden Administration need to understand that maintaining an affordable, reliable supply of energy is vastly more important than trying to control the weather. The White House seems determined to crush the oil, gas, and coal industries with ever-more burdensome regulations, pipeline permitting obstacles, and efforts to constrain investment capital necessary to maintain production. And for what purpose other than to raise the price of energy, at which Biden and company have been all too successful?

The unfortunate reality is the White House has become consumed with the idea that it's possible to "de-carbonize" America's energy sector, ignoring the inconvenient truth that 80 percent of our energy needs, and 90 percent of our transportation needs, are supplied by fossil fuels. East Coast politicians like Sen. Edward Markey and Rep. Alexandria Ocasio-Cortez continue to promote fanciful proposals, like the *Green New Deal* to tackle "climate change, racial injustice and economic inequality." The truth these politicians fail to acknowledge is that attempting to significantly reduce greenhouse gas emissions is a fool's errand.

The notion that modern society can function without fossil fuels within a couple decades isn't only foolish; it poses a dangerous threat to America's national security, made more evident by Russia's invasion of Ukraine. European nations would undoubtedly like to do more to support Ukrainian resistance, but they have to tread

*In response to such an energy crisis, one might expect the Biden Administration to temporarily suspend its destructive political agenda to ease supply constraints and alleviate pain at the pump. But the administration shows no indication of instituting sensible countermeasures to reduce the price of energy and the soaring inflation that accompanies it.*

carefully because they've become overly reliant on Russia for oil and natural gas. By providing military or financial support to Ukraine, they risk incurring the wrath of Russian President Vladimir Putin, who might cut off energy exports to Europe. Such a disruption would create economic chaos and jeopardize people's lives.

The U.S. was on the verge of energy independence during the tenure of President Donald Trump, but the Biden Administration reversed most of Trump's policy that enabled domestic energy production to flourish. Biden cancelled the Keystone XL Pipeline, halted new oil and gas drilling

on public lands, and rejoined the Paris climate agreement, which commits the U.S to cutting greenhouse gas emissions, but not China or India.

The Environmental Protection Agency reinstated Obama-era rules to make it more expensive to produce oil and gas, issued rules to make internal combustion engine-powered cars more expensive, and gave California authority to dictate what kind of cars its citizens can drive. Biden has empowered the Federal Energy Regulatory Commission to block new oil and gas pipelines by requiring additional analysis of their impact on climate change. And



## APPLY FOR A WDEA SCHOLARSHIP

The Western Dakota Energy Association will award scholarships this fall to students in an energy-related field at a North Dakota college, university, or technical school.

Scholarship selection criteria may include, but is not limited to:

- Prior academic performance;
- Recommendations from instructors and employers;
- The applicant's career, academic, or other relevant experiences;

- Statements indicative of the applicant's motivation, character, and ability;
- The applicant's place of residence and intended career path;
- Evidence of applicant's scientific or other special talent;
- The applicant's financial need; and
- Previous military experience.

Priority will be given to students who plan to work in the oil and gas or coal industries in North Dakota.


The application deadline will be late-September 2022, and scholarship winners will be announced at WDEA's annual meeting, October 12-13 in Watford City. To learn more about how to apply, go to [www.ndenergy.org](http://www.ndenergy.org).



when a court blocked Biden's plans to require pipeline builders to factor in a "social cost of carbon," the administration responded by continuing to halt new oil and gas drilling on federal lands in defiance of a federal court order.

Biden's anti-fossil fuel actions raised gasoline prices roughly a dollar per gallon the first year after taking office. The Russian invasion exacerbated the developing global energy crisis, which was made worse by European "green energy" policies. Gas prices in the U.S. shot up to record levels, approaching \$5.00 per gallon, or higher.

In response to such an energy crisis, one might expect the Biden Administration to temporarily suspend its destructive political agenda to ease supply constraints and alleviate pain at the pump. But the administration shows no indication of instituting sensible countermeasures to reduce the price of energy and the soaring inflation that accompanies it. Instead of lessening the burden on domestic energy producers, Biden has reached out to unfriendly regimes in Iran and Venezuela, and to unreliable suppliers in the Middle East, asking them to produce more oil. More disturbing, the administration is lashing out at American producers, falsely accusing the U.S. oil industry of profiteering. Biden's press secretary, Jen Psaki, has resorted to gaslighting, blaming the oil industry for failing to develop existing speculative leases to produce more oil.

The reason for not implementing a reasonable solution to the current situation by allowing U.S. companies to produce more oil is becoming abundantly clear. The Biden Administration is determined to use the energy crisis to further advance its destructive climate agenda. The inevitable result will be more economic suffering and increasingly dangerous dependence on foreign suppliers, putting America's national security in jeopardy. 



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# Joe Biden's War on Energy:

## North Dakota Pushes Back



*Bakken oilfield truckers like this one approaching the Highway 22/200 roundabout in Killdeer are paying high prices for diesel fuel, but North Dakota political leaders are trying to do something about it.*

By Geoff Simon

**D**espite crude oil prices surging past \$100 per barrel this spring, the administration of President Joe Biden has steadfastly refused to retreat from its financial and regulatory onslaught on the oil and gas industry. But North Dakota political leaders are pushing back.

On day one of his administration, Biden cancelled the Keystone XL Pipeline that would have delivered up to 830,000 barrels of Canadian crude per day. The administration has initiated several other measures that negatively affect the industry, including a push for federal methane capture regulations, adding climate change considerations to the pipeline permitting process, and indicating support for the environmental and social

governance movement, that discourages investment in fossil fuels.

"This administration isn't serious about U.S. energy security," said Gov. Doug Burgum in response to Biden's State-of-the-Union speech. "The president needs to reverse his anti-oil policies and unleash American energy production to protect U.S. consumers and return our nation to a position where we can sell energy to our friends and allies instead of importing it from adversaries like Russia."

Burgum later praised Biden's decision to ban the importation of Russian crude oil in the wake of its invasion of Ukraine but said the administration needs to support domestic producers that are ready to fill the gap.

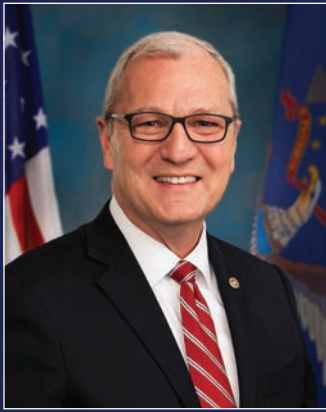
"American energy powerhouses, like North Dakota, stand ready to restore energy independence in the United States because energy security, national security, and global stability are one and the same," says Burgum.

North Dakota senators John Hoeven and Kevin Cramer have also been publicly critical of Biden's anti-oil and gas agenda. Hoeven says high energy prices are driving inflation, which is raising the cost of all goods and services.

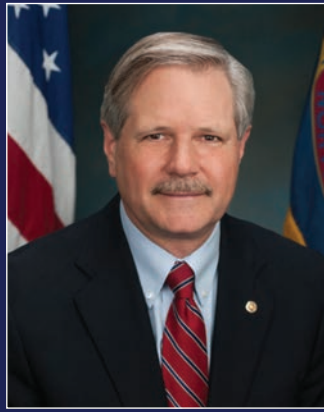
"Our farmers are out there every day, producing the food, fuel, and fiber that make America work," says Hoeven. "One of their biggest costs is energy, from fueling their equipment to the fertilizer they put on their fields."

Cramer, who is frequently invited to discuss energy on national television news programs, says the Biden Administration needs to back off





*North Dakota Senator Kevin Cramer has been publicly critical of Biden's anti-oil and gas agenda.*



*North Dakota Senator John Hoeven says high energy prices are driving inflation, which is raising the cost of all goods and services.*



*While Gov. Doug Burgum praised Biden's decision to ban the importation of Russian crude oil in the wake of its invasion of Ukraine, he said the administration needs to support domestic producers that are ready to fill the gap.*



*Congressman Kelly Armstrong wrote to the White House, inviting President Biden to tour oil and gas operations in North Dakota. Armstrong wants Biden to see first-hand the essential work that happens every day in domestic oilfields.*



*Joe Biden's campaign promised an anti-fossil fuel agenda.*

*Cramer, who is frequently invited to discuss energy on national television news programs, says the Biden Administration needs to back off its “disastrous” energy policy that’s impacting access to capital and energy financing.*

its “disastrous” energy policy that’s impacting access to capital and energy financing.

“I’ve talked to a number of producers in North Dakota and they’re capital-starved, but if the right messages were being sent to the markets, we could pick up another couple-hundred to 400,000 barrels per day,” said Cramer on CNBC’s *Squawk Box*. “Investors have to get the right message, but the administration is turning to despots in Iran and Venezuela instead.”

Cramer also pointed out that proposals supported by Biden such as the *Green New Deal* are actually bad for the planet

because other countries don’t require the same environmental protection as the United States.

“The *Green New Deal* ... paves the way for Russia to sell its much dirtier fossil fuels, and guess who doesn’t benefit from this?” asked Cramer. “The environment doesn’t because American fossil energy is so much cleaner and produced with much higher environmental standards.”

Congressman Kelly Armstrong, as well as Gov. Burgum, have sent letters to the White House, inviting President Biden to tour oil and gas operations in North Dakota. Armstrong, who grew up in Dickinson, where

his family is involved in the oil and gas business, said he wants Biden to see first-hand the essential work that happens every day in domestic oilfields.

“Only a decade ago, energy-producing states, like North Dakota and Texas, were at the heart of the American energy renaissance that unleashed domestic production of oil and natural gas,” Armstrong wrote in the letter to Biden. “The hardworking men and women of our states are ready and willing to increase domestic production, but they need the appropriate regulatory environment and support of your administration.” 🐘

# Making North Dakota a Leader in Energy Innovation: CSEA Announces 2022 Grants & Loans Recipients

By Paul Adair

**E**nvironmental and social governance principles are beginning to impact the availability of capital to energy markets—and are impacting hydrocarbon-based energy markets particularly hard. As such, it's becoming more and more difficult to fund certain projects in North Dakota, a state whose economy is heavily reliant on the oil and natural gas sector.

To remain competitive, North Dakota must seek new ways to stay ahead of the curve and bring its carbon-based energy systems into compliance with the demands of an increasingly environmental and social governance-conscious investing market. Doing so will help establish North Dakota as a world leader in the production of sustainable energy and will diversify and grow the state's economy.

Recognizing the challenge ahead, the Clean Sustainable Energy Authority (CSEA) was established as part of the 2021 legislative session to help fund and initiate projects that will help move the needle for North Dakota, while maintaining a hydrocarbon-based energy system. Chaired by North Dakota Lieutenant Governor Brent Sanford, CSEA is comprised of members of the state's energy sector and its board includes representatives across a broad swath of industry stakeholders.

As part of CSEA's creation, the 2021 Legislature appropriated \$25 million for the grant program and authorized the North Dakota Industrial Commission to borrow up to

\$250 million from the Bank of North Dakota to establish a low-interest loan program. An additional \$20 million was also approved for hydrogen project grants during a special legislative session in November 2021.

To be eligible for CSEA funding, projects must be able to support research, development, or technological advancements and have a focus on large-scale development and commercialization. Additional criteria include supporting technologies that can significantly reduce the environmental impact of North Dakota's existing energy production and delivery, make the state a world leader in production of clean sustainable energy, and diversify and grow the state's economy.

"The projects we consider need to be transformative, need to be something truly game-changing. We're looking for projects that make North Dakota more competitive, while reducing the industry's carbon footprint within that transformative lens," says Al Anderson, CSEA's executive director.

The first round of applications for CSEA funding closed in November 2021, with approvals being received through the Industrial Commission at the end of that year. The response to the first round generated a significant amount of interest from the industry

and saw 10 projects asking for \$62 million in grants and a total of \$165 million in loans. Of the 10 projects that applied, six clean energy projects were approved, including:

- Cerilon GTL's Gas-to-Liquids plant in Trenton;
- Wellspring Hydro's produced water plant in northwest North Dakota;
- Bakken Energy's Dakota H2 Hydrogen Hub in Beulah;
- Carbon dioxide sequestration investments in McLean County;
- Carbon dioxide sequestration investments at Coal Creek Station; and
- A flare reduction program from Valence Natural Gas Solutions.

"These six projects have the potential to capture more than 30 percent of North Dakota's carbon dioxide production and curb the natural gas that would otherwise





need to be flared,” says Anderson. “And the \$28 million in grants and \$135 million in loans we approved are being matched by other funding sources and will eventually result in more than \$4.5 billion in investment for the state of North Dakota.”

The second round of the CSEA program closed on March 1, 2022, with another 10 projects vying for \$10 million in hydrogen grants, \$7 million in non-hydrogen grants, and \$115 million in loans. As of the printing of this issue of *Basin Bits*, the applications are currently making their way through the approval process. To properly assess each project’s viability, the applications are evaluated

first by anonymous industry experts, then by a technical review committee, then by CSEA, and finally by the Industrial Commission, which ultimately decides whether or not to make the award.

“We take our responsibility to the taxpayer seriously and work to keep everything as public as possible—but we also have to honor the businesses’ confidential requirements as well,” says Anderson. “Because of this, the second round of applications will be made public only once they go through the process and we have the confidential approvals required sometime in May.”

Should there be money in the fund left over after the second round, a third round of applications will start in July.

“We will continue to have applications until we have exhausted the funding that provided to us through the 2021 legislative session,” says Joel Brown, McKenzie County commissioner. “Then, we hope there will be opportunities in the future for the Legislature to decide whether or not they want to continue to fund the Clean Sustainable Energy Authority in future sessions.”

The full, projected costs of the projects supported by CSEA are high and will generally far-exceed any funding they’ll receive through this program. This is intentional, as any grant that’s awarded is capped at 50

percent of a project’s total cost (with a minimum grant of \$1 million) and a maximum grant of \$10 million per project, unless extraordinary circumstances exist. Loan or loan guarantees are also a maximum of 50 percent of the project cost, with a minimum loan or guarantee amount of \$10 million. Even so, the value they receive from the grant or loan will outstrip the actual dollar amount.

“The funding we’re providing is an incentive to bring these types of projects to North Dakota, but it’s, ultimately, not going to fund even close to the majority of the project,” says Brown. “But our investment shows we want to partner with industries, companies, and projects that are going to create value for the state of North Dakota and for the people who live and work here and enjoy the benefits of having the energy industries we have in North Dakota. The funding is also an indication that the state of North Dakota has faith in a project and that, in turn, can help them line up additional investments.”

Governor Doug Burgum has long advocated for the idea that “innovation, not regulation” is the direction needed to take to enhance energy development in the state of North Dakota. The CSEA expands on this through the grants and loans programs by empowering innovation and reaping the return on investment.

Across the United States, other jurisdictions have closing funds for these kinds of projects; North Dakota doesn’t. CSEA provides the ability to out-compete those states with closing funds, while also offsetting some of the development capital at the front-end of a project, where the equity is the most expensive. CSEA ultimately helps to shine a light on North Dakota and make it more attractive for desirable energy mega-projects, rather than having them go to another state, where that development capital opportunity doesn’t exist.

“North Dakota has to compete against several other energy plays in the country and around the world for added-value projects, and CSEA presents a competitive advantage that’s augmented by access to readily available and abundant feedstock, as well as carbon capture opportunities,” says James Leiman, North Dakota’s commerce commissioner. “In fact, I think we underestimated a little just how much of a competitive advantage this program would bring to us in North Dakota. Every single one of the projects we’re helping support is, right now, on path to leverage those grants and loans to facilitate their work—and communities across the state will be seeing the benefits for years to come.”



*“These six projects have the potential to capture more than 30 percent of North Dakota’s carbon dioxide production and curb the natural gas that would otherwise need to be flared. And the \$28 million in grants and \$135 million in loans we approved are being matched by other funding sources and will eventually result in more than \$4.5 billion in investment for the state of North Dakota.”*



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# Sequestering Carbon Dioxide

By Paul Adair

**F**rom ethanol producers to coal plants, companies are looking to make use of carbon capture and storage technology to ensure their operations run cleaner and more economically over the long-term.

Midwest AgEnergy currently owns and operates two bioethanol facilities in North Dakota: Blue Flint Ethanol in Underwood, and Dakota Spirit AgEnergy in Spiritwood. At these two facilities, the company processes 50 million bushels of corn each year to produce about 150 million gallons of bioethanol and approximately 400,000 tons of DDGS (feed), six million gallons per year of corn oil, and about 400,000 tons of carbon dioxide.

“Our facilities are unique, in that they’re combined heat and power facilities

where we use low-grade energy from adjacent power production plants in our facilities, making the overall energy efficiency of both facilities better,” says Jeff Zueger, CEO at Midwest AgEnergy.

Midwest AgEnergy is developing a carbon dioxide underground storage project at Blue Flint, which will safely, securely, and permanently store biogenic carbon dioxide produced from fermentation. This will remove the carbon dioxide from the environment and lower the overall lifecycle carbon intensity of the produced fuel. The company expects to start injecting carbon dioxide at Blue Flint by mid-2023.

“Our long-term goal of Vision Carbon Zero is to produce a renewable fuel that

has zero carbon intensity, to improve the environment, and to help the states, provinces, and countries that use our product to achieve lower greenhouse gas emissions and meet their low-carbon fuel objectives,” says Zueger.

Texas-based Denbury Resources is looking to use carbon dioxide from the ExxonMobile Shute Creek carbon capture facility in southwestern Wyoming to extract more oil from aging wells in Bowman County. And while the use of carbon dioxide in conventional reservoirs is a common industry practice, its use for enhanced oil recovery (EOR) in tight oil reservoirs like the Bakken is a relatively new phenomenon.

Denbury’s tertiary recovery process injects pressurized industrial carbon dioxide, which has the properties of both a fluid



and a gas, into the oil reservoir to draw out unrealized resources by displacing the oil in the water.

"Carbon dioxide acts like a solvent that strips the oil from the rocks as we remove it, becoming a drive mechanism to push the oil out of the ground," says Matt Dahan, Denbury's senior vice-president of business development and technology. "The amount of oil and water we remove from the reservoir is then replaced with the industrial carbon dioxide, which stays locked underground and stored through the association of the process."

According to the EERC, this type of EOR produces greener oil with a smaller

carbon footprint, reduces industrial carbon dioxide emissions to the atmosphere, and provides economic incentive to capture the industrial carbon dioxide, as it can then be sold to offset the cost of capture.

Summit Carbon Solutions has partnered with 31 ethanol plants across five states (North Dakota, South Dakota, Iowa, Nebraska, and Minnesota) to capture and sequester carbon dioxide that would otherwise be emitted into the atmosphere. The carbon dioxide is dried, compressed, and transported in a supercritical state to North Dakota via pipeline, where it will be safely and permanently sequestered within

extensively researched sub-surface geologic formations.

"We're uniquely positioned, here in North Dakota, because of our geology and our primary industries: agriculture and energy," says Wade Boeshans, executive vice-president of Summit Carbon Solutions. "We also have a tremendous geologic resource here in the Williston Basin that has the capacity to store an estimated 160 to 250 billion tons of carbon dioxide—the equivalent of storing all the industrial carbon dioxide being currently emitted in North Dakota for more than 8,000 years! We're also creating new opportunities for landowners to monetize their properties, especially in areas that may have been left out of the opportunity to monetize the value of their sub-surface."

The project is on track to achieve its target of being operational in the first half of 2024. When complete, it will be the largest carbon capture and sequestration project of its kind in the world.

Minnkota Power Cooperative is currently in the process of evaluating Project Tundra, an effort to install carbon capture technology at the coal-based, Milton R. Young Station near Center, North Dakota. The project is designed to capture and sequester 90 percent of carbon dioxide emissions (four million tons per year) from the processed flue gas, which is like permanently taking more than 800,000 gasoline-fueled cars off the nation's road.

In early 2022, Minnkota received approval for its Class VI injection well permit, allowing the company to move forward with carbon dioxide storage deep underground at the Young Station and helping to ensure safe injection, protection of groundwater resources, and constant monitoring of the carbon dioxide to confirm it remains within the storage zone.

"We're in the process of working with the carbon capture technology provider, Fluor, to complete a construction-ready engineering, schedule, and pricing terms study," says Ben Fladhammer, a spokesperson for Minnkota. "This important study will produce a final, firm lump-sum price and execution schedule for the construction of Project Tundra to support financing and contractor engagement."

It's anticipated that Minnkota will make a final decision on whether to move forward with Project Tundra before the end of 2022. Construction could begin in 2023 and is anticipated to take four years to complete.

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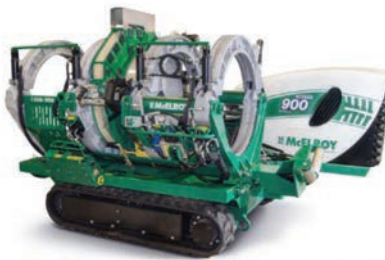
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# The State's First Factory Designed to Turn Natural Gas into Liquid Fuels

By Paul Adair

North Dakota has more than 30 natural gas processing facilities in the state but currently no natural gas-to-liquid plants. This is set to change in Williams County, thanks to \$2.8 billion in funding from the North Dakota Development Fund. The North Dakota Development Fund was created in 1991 as an economic development tool and it provides flexible funding through debt and equity investments that support new or expanding North Dakota primary sector businesses.

In October 2021, Gov. Doug Burgum announced that the fund would offer support in the effort of Cerilon GTL to bring a major gas-to-liquids project to Williams County, North Dakota. As part of the announcement, the Development Fund Board also approved \$3 million in initial developmental capital to the company, with further financial support anticipated.

Based out of Calgary, Alberta, Cerilon GTL's parent company, Cerilon Inc., develops and operates a portfolio of companies in energy, chemical, and resource-based industries. By further diversifying the energy industry and promoting clean and environmentally responsible energy development, Cerilon GTL's Phase 1 GTL complex will be part of North Dakota's commitment to make the state carbon neutral by 2030 through innovation over regulation.

*“The Cerilon GTL complex has the potential to be one of the largest economic expansion projects in the history of North Dakota. GTL facilities support the oil industry, while reducing environmental impacts. The Williams County facility will be one of many expansions that make North Dakota a leader in carbon neutrality.”*

“The global investment community and markets are demanding low-carbon energy,” Burgum said in a press release. “North Dakota is well-positioned to be a global leader and coveted location for businesses looking to expand and respond to the many factors currently shaping the future of energy.”


The primary outputs of the new Phase 1 GTL facility will consist of 24,000 barrels per day of ultra-low sulfur diesel, as well as other specialty, high-demand products such as military-grade jet fuel, naphtha, and Group III base oils. The complex will also support the growth of natural gas production in North Dakota and help to curb the flaring of gas that comes as a by-product of oil production.

“Our paramount goal is to deliver sustainable, long-term value to our stakeholders, community, and the environment. The state-of-the-art GTL facility will be the lowest carbon footprint facility of its kind in the world,” said Nico Duursema, Cerilon Inc. chairman, in a press release.

The plant will be based in Trenton, North Dakota, as the city's location within the state will allow for nearby rail and pipeline access to both domestic and global markets. The surrounding region also provides ample opportunities for carbon sequestration.

North Dakota Commerce Commissioner James Leiman believes the Cerilon GTL project has the potential to elevate North Dakota as a leader in carbon neutrality.

“The Cerilon GTL complex has the potential to be one of the largest economic expansion projects in the history of North Dakota,” says Leiman. “GTL facilities support the oil industry, while reducing environmental impacts. The Williams County facility will be one of many expansions that make North Dakota a leader in carbon neutrality.”

Following the necessary development work, Cerilon GTL anticipates construction to begin in early 2023. The complex is expected to provide thousands of good-paying jobs during construction and employ about 100 people when completed in 2026. 



# Preserving Grid

By Paul Adair

In terms of power generation, North Dakota isn't an island; the state's power grid is part of a larger network. A large portion of the North Dakota network is operated by Midcontinent Independent System Operator (MISO), with a similar amount handled by Southwest Power Pool (SPP). They, in turn, have additional operating agreements with entities such as PJM Interconnection and Southeastern Regional Transmission Planning.

While the interconnectivity can be considered the strength of the network, a weakness was exposed in February 2021, when the center of the United States was hammered

by a series of severe winter storms. Texas, in particular, experienced major blackouts, but rolling blackouts also impacted utilities in adjacent MISO and SPP territories, from the Gulf of Mexico up to the Canadian border.

The impact of the blackouts was catastrophic. Hundreds of people lost their lives, millions more lost their livelihoods, and the regional economy suffered a serious blow. It was also a critical wake-up call for the citizens of North Dakota, who—even a year later—are continuing to pay more for their natural gas service because of what happened.

"Many coal plants have been pushed out of business, so our only option was to rely

on natural gas peaking plants, and our natural gas infrastructure is far from sufficient to provide enough gas for home heating and generating large amounts of our electricity. That caused a bidding war for natural gas that will cost consumers for years," says Randy Christmann, commissioner at North Dakota's Public Service Commission (PSC). "One of the lessons we learned from the event last year is that we're heading toward a system that lacks adequate resources."

Part of the problem is that no matter how much energy a state like North Dakota produces, it remains beholden to system operators of the network, where curtailments





# Reliability

*For the North Dakota Transmission Authority, the solution for greater grid reliability partly comes down to addressing the lack of transmission capacity, both within North Dakota and in neighboring states.*

from North Dakota to the markets that want it,” says John Weeda, director of the North Dakota Transmission Authority. “We currently have thousands of megawatts of wind generation wanting to get onto the grid, but we don’t have the capacity to do that without major investments in transmission capacity.”

One of the primary factors affecting the overall reliability of the grid is that energy generation sourcing across the U.S. seems to be driven more by tax policy than by science—and a desire to meet the demands of the environmental movement.

“The federal subsidies provided to renewable generation sources, like wind and solar, have shifted both investments in generation and the electric markets to a point that it’s distorted,” says Senator Jessica Unruh Bell. “Instead of rewarding companies for investing in new intermittent generation, the market needs to provide a mechanism to reward companies that can produce electricity that’s always on. Consumers need it.”

Billions of dollars have been spent over the years to ensure North Dakota’s coal fleet is among the cleanest sources of electricity available, resulting in one of the cleanest air qualities in the nation. Still, there remains a false narrative that coal is dirty and that other sources, like nuclear, are unsafe. Yet, a complete transition to renewables isn’t the answer, since these “greener” alternative sources of energy currently don’t match up to the performance of the fossil fuel resources already in use. Additionally, a more significant reliance on renewables is only expected to drive up costs for producers and consumers.

Despite this, the push toward the adoption of renewables, like wind and solar, has been happening much more quickly than the reliability issues of those same sources can be addressed.

“Legislative policymakers at both state and federal levels tend to pass these laws and deadlines to meet arbitrary environmental milestones,” says Julie Fedorchak, a commissioner at PSC. “Policymakers need to take the time to listen to the grid operators about what isn’t yet viable, and the grid operators need to provide achievable timeframes and be upfront about the costs.”

There are no easy solutions to address the complex issue of grid reliability in North Dakota. However, going forward, part of the answer will be to not abandon the use of fossil fuels and carbon entirely, but to instead have a healthy resource mix that allows for greater grid flexibility and resilience.

“With the intermittent sources, there’s no guarantee you’ll have the generation you need when you need it—at least, not like you have with traditional baseload sources. This is just basic physics,” says Rep. Dave Nehring. “But, if we continue our current trend toward building out intermittent sources that use our current transmission structure and displace baseload, events like what happened last February will become commonplace.”

Christmann agrees.

“With North Dakota’s resources, our reliability will likely continue to be better than many other places,” he says. “But if we continue to undervalue reliability and resiliency, the reliability of the grid across the entire nation will suffer.”

are handled according to policies of the regional transmission operators. This means that, while a state may produce more energy than residents use, it may still experience service disruptions if other areas of the network are in short supply.

The North Dakota Transmission Authority says the solution for greater grid reliability partly comes down to addressing the lack of transmission capacity, both within North Dakota and in neighboring states.

“We’ve exported as much as 70 percent of the power we produce in North Dakota to help out the rest of the grid, and it’s critical we have the ability to move green energy

# A Natural Gas Pipeline to the East



By Paul Adair

**W**estern North Dakota is awash with natural gas but is quickly approaching the ceiling of its current natural gas transmission capacity. It won't be long before the industry simply won't have enough physical space to transport natural gas out of the Bakken to places where it's needed most.

The lack of future natural gas transmission capacity hurts North Dakota's overall competitiveness. Without sufficient investment into additional pipeline capacity, especially into the eastern part of North Dakota, the state runs the risk of losing out on projects going to other states that are taking the gas produced in North Dakota for projects across the U.S.

"We're seeing Bakken gas heading down the Northern Border pipeline or the Alliance pipeline into the Chicago markets for large agriculture processing projects—

but if you think about our own Ag sector here in eastern North Dakota, there's a definite lack of gas availability," says Justin Kringstad, director of the North Dakota Pipeline Authority. "We need to find solutions that will address our natural gas volumes and transmission needs in the west and provide new opportunities in the eastern part of North Dakota, so Ag projects can be located here rather than in other parts of the United States."

Recognizing this, the North Dakota Legislature last year approved a \$150 million appropriation from federal pandemic relief funds to support the construction of a major natural gas pipeline to eastern North Dakota. Split into two parts, \$140 million of this funding would be dedicated toward a west-east specific project, with another \$10 million earmarked to address natural gas needs in Grand Forks County by tapping the Viking Pipeline in western Minnesota. This funding will represent the

first significant investment, providing the natural gas produced in North Dakota to the eastern part of the state.

"Many of our northern and eastern communities are missing a key ingredient that the west has in surplus—and that's natural gas," said Gov. Doug Burgum in his November 2021 State-of-the-State message. "Matching funds for developing a major east-west natural gas pipeline along Highway 2 will support value added growth and enable more oil production."

Looking ahead, supplementary gas takeaway capacity will be required to help oil producers from constraining production to avoid flaring the associated natural gas. In addition, up to \$200 million in terms of oil tax revenue is generated every year for every 250 million cubic feet of natural gas solutions created in western North Dakota. For this reason alone, it's critical that North Dakota continues to invest in further solutions to bridge the approaching



gas transmission shortfall. Doing so will better protect the longevity of the Bakken and ensure future development opportunities across the state of North Dakota.

“Oil accounts for over half of our state’s tax collections, and without enough takeaway capacity, our production in state uses for our abundant natural gas, the rising ratio of natural gas will place a ceiling on our state’s oil production, and we’ll see lower state revenues,” said Gov. Burgum. “Developing and using these abundant natural gas resources is good for the environment. It’s good for the economy, and it’s good for taxpayers. Under one scenario, the result would generate an additional \$56 million in monthly oil tax revenues; revenue that support our schools, water projects, and other needs.”

Ultimately, the \$150 million in funding is only one piece of a much larger puzzle that still needs to be assembled, but it’s a step in the right direction. And because the \$150-million allocation might not be enough to attract a pipeline developer, there’s the option for the 2023 Legislature to consider additional funding.

The deadline for applications to come in for the \$140-million component of the announced funding is May 1, 2022. The deadline for the

*“Many of our northern and eastern communities are missing a key ingredient that the west has in surplus—and that’s natural gas. Matching funds for developing a major east-west natural gas pipeline along Highway 2 will support value added growth and enable more oil production.”*

\$10-million component has been extended to a future date, still to be determined as of the publishing of this issue of *Basin Bits*.

“Why not capture that gas and use it in North Dakota, instead of sending it to Iowa, so they can compete against North Dakota industries for investments?” asks

Ray Holmberg, appropriations chairman, in Grand Forks. “It will bring the low-cost, high-quality market natural gas to the east. It’s a game changing investment. The addition of this \$150 million will give the private sector the leverage it needs to invest in this legacy project.”

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## ENERGY PRODUCTION & RESEARCH CENTER

University of North Dakota Energy & Environmental  
Research Center .....21

## ENGINEERING CONSULTANTS

Brosz Engineering .....22

## EXCALIBUR PRODUCTS

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Badger Daylighting .....4

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## LAND RECORDS

North Dakota Recorders Information Network .....14

## OIL & GAS EXPLORATION & PRODUCTION

Petro Hunt LLC .....9

## OIL REFINERY

Hurley's Oilfield Service .....16

## OILFIELD WASTE MANAGEMENT

Fleet Energy .....3

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## 5000 Candles Celebrates Industry Workers

A new music video released this March is a tribute to the men and women of the North Dakota oilfield. The song, *5000 Candles*, is written and performed by singer / songwriter Alma Cook and describes her personal transformation from a city kid who “didn’t know the difference between a drilling rig and a cell phone tower,” to one who built unlikely friendships and learned that many of her preconceptions about oil and gas were unfounded. Through the song’s playful lyrics, Cook humanizes the North Dakota oilfield and invites listeners to think about parts of the country that are rarely seen by most Americans.

Cook was first introduced to Williston when she worked at a friend’s company after college. Little by little, she said she fell in love with the oil industry and the community. Today, she owns Cook Compliance Solutions, a firm that advises oilfield contractors on compliance and supply chain issues. Her inspiration for *5000 Candles* was a late-night flight into Williston.

“I was inspired by a sight North Dakota locals are all too familiar with: a landscape dotted with flickering natural gas flares,” says Cook. “I was struck by the beauty I saw, not just the beauty of the glowing landscape, which was a vivid representation of America’s energy dominance, but of the often-maligned oil and gas industry itself.”

“We don’t think enough about the beauty we make,” is a line in the second verse of the lyrics. The song’s chorus also makes it clear that Cook has been emotionally moved by her experience in the Bakken and that she has no regrets about her passion for North Dakota and its people, regardless of what others may think of the oil industry:

*Sight to behold—  
Nothing you could do would make me go!  
We’ll let the world judge what they don’t know.  
Giving me a heartbeat,  
Making me never wanna leave.  
We’ll let the world judge, ‘cause they don’t see...  
5000 candles,  
5000 candles burning bright,  
All the light you could handle,  
5000 candles here at night.*

The new music video features dawn-to-dusk footage of the Bakken, along with the faces of many hardworking locals, reminding the public not to take the oilfield or its workers for granted. You can watch the new video on YouTube, and the song can be added to playlists from Spotify, Apple Music, and SoundCloud.



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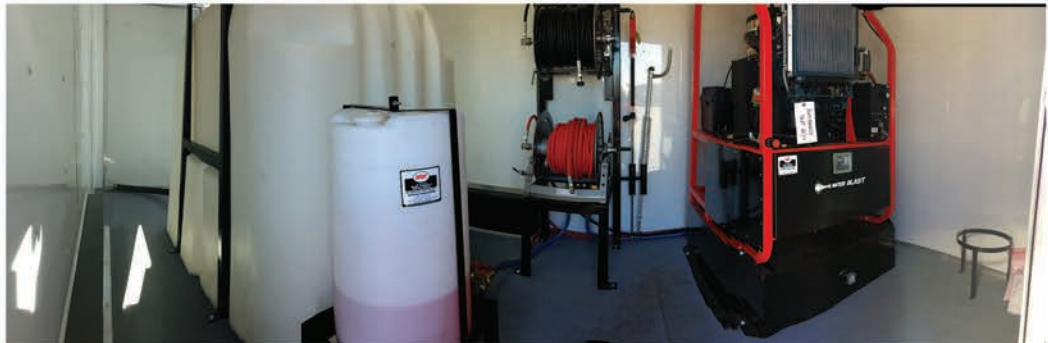


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