Cerilon GTL ND Inc.
First Canadian Centre
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October 31, 2023

North Dakota Clean Sustainable Energy Authority
North Dakota Industrial Commission
State Capitol 14th Floor
600 E. Boulevard Ave. Dept. 405
Bismarck, ND 58505-0840

Subject: Transmittal Letter for the Clean Sustainable Energy Authority Grant Round 4

Dear Commissioners,

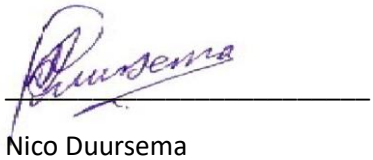
I am writing this letter to formally submit our application for funding consideration by the North Dakota Clean Sustainable Energy Authority (CSEA) for advancing the next stage (FEL-3) of our Gas to Liquids project in North Dakota. This letter serves as a binding commitment on behalf of Cerilon GTL ND Inc. ("Cerilon") to complete the project as described in our submitted application, contingent upon the award from the CSEA.

Cerilon has carefully reviewed the project scope, timelines, and financial projections. We are confident in our capabilities to carry out this project efficiently and effectively, thereby contributing to the sustainable energy landscape in North Dakota.

By signing this letter, I am affirming that Cerilon GTL ND Inc. commits to fulfill all the project's requirements as presented in our application. This includes, but is not limited to, project planning, execution, management, and delivering the project within the stipulated budget and timeframe.

Please consider this letter as an official representation of our intent and commitment. We look forward to your positive response and are open to providing any further information that you may require for evaluation.

Yours sincerely,



Nico Duursema

CEO, Cerilon Inc.

Clean Sustainable Energy Authority

North Dakota Industrial Commission

Application

Project Title: Cerilon GTL

Applicant: Cerilon GTL ND Inc. (Cerilon)

Date of Application: October 31, 2023

Amount of Request:

Grant: $20 million

Loan: $80 million

Total Amount of Proposed Project:

$ 3.6 billion

Duration of Project: 5 years

Point of Contact (POC):

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Abstract

Objective:

Cerilon's GTL facility in North Dakota will convert abundant associated natural gas into high-value, environmentally sustainable products. The facility will reduce the need for flaring of excess gas in the state, supporting a critical state objective to be net zero by 2030 while continuing support the growth and viability of its energy industry. The CCUS component will serve as a model for environmental responsibility in the oil and gas sector by capturing and sequestering initially 450,000 Ton Per Annum (TPA) and with extension to post combustion capture, up to 2 million tons per annum (MTPA) of CO_2.

This project was previously approved for funding under the CSEA program for initial engineering work (FEL 2: Feasibility Study and Conceptual Engineering) which has now been materially completed.

Cerilon aims to further advance this project and is seeking financial assistance for the FEL 3 (Front-End Engineering and Design) stage of the project, along with advancing the implementation of Carbon Capture and Underground Sequestration (CCUS) and securing long-lead items such as compressors and separators crucial to the operational success and timelines of the facility.

The Cerilon GTL facility aims to enable continued growth in local oil production by converting associated natural gas into value-added products, thereby reducing the need to curtail oil production and further support a critical state objective to be net zero by 2030 by minimize gas flaring.

Together, these objectives strategically align with North Dakota's economic and environmental goals, fostering a more resilient and sustainable energy ecosystem.

Expected Results:

The following are the expected results from final completion of construction of the facility, being a direct result of the development funding sought in this application:

1. Consume 240-280 mmcf/d of natural gas from state pipelines, reducing the risk of production curtailments and minimizing flaring, supporting the State's endeavor to be net zero by 2030.
2. Energy security enhancement. Produce 24,000 bpd of high quality, strategically important transition energy products. This will be the only North American supply of Group III+ base oils, the main feedstock for synthetic lubricants, in North America.
3. Establish the initial infrastructure and enable the development of a CCUS hub.
4. Support the energy transition by providing the world's lowest carbon footprint GTL products in the world.
5. Enable and initiate the large-scale development of a ND downstream industry that set up ND for a more robust energy industry. This will assist to North Dakota's downstream energy industry, countering the impacts of the oil and gas boom and bust cycles.
6. Establish new technology jobs in a rural area supporting community development and stability.
7. Support local community in developing services and provide support for fiber optic cable, services, emergency and health services, water supply, and road transport infrastructure development.

The specific funding sought (together with the expected matching non-State funds) will enable Cerilon GTL to complete the remaining development work to reach an affirmative final investment decision ("FID") and to raise the necessary capital to thereafter complete the construction and startup of the GTL project facility.

Duration:

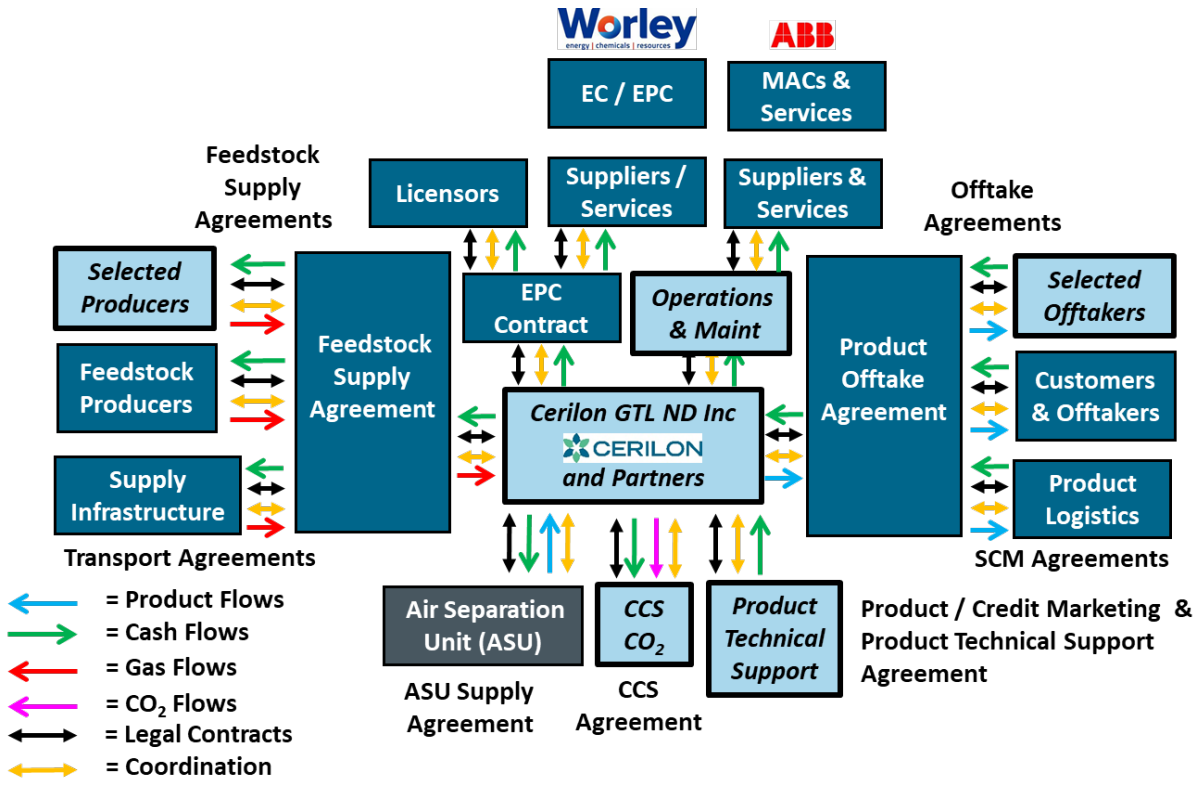
The development of this project is expected to span 5 years. Upon completion, the Cerilon GTL project is expected to remain operational for at least 30 years, contributing long-term environmental and economic benefits.

Total Project Cost:

The estimated cost of the project is estimated at this stage of development is $3.6 billion.

Participants:

Cerilon is the primary participant, engaging various industry leading partners for commercial and engineering contracting support and technical licenses. Please refer to **Appendix A** for more details on the project partners. The key commercial structure partners outlined below. Each participant has clearly defined roles and responsibilities tailored to their expertise, which collectively contribute to the project's robustness and viability.



During the development stage the project is utilizing local ND companies, like BARR Engineering, Crowley Fleck, and Diamond Resources. Various other local companies will be utilized.

1 Project Description

1.1 Objectives

The project primary objectives are:

- **Regional Leadership and Energy Security:** Establish the first 24,000 bpd sustainable products business providing a distributed and standalone energy facility in North Dakota and the USA.
- **Energy Transition and CCUS Integration:** To establish a platform in transition energy to lower North Dakota's carbon footprint using gas that would otherwise be flared, and by adding a dedicated CCUS facility that complements the environmental benefits of the GTL facility.
- **HSSE Compliance:** To not only meet but exceed all health, safety, security, and environmental (HSSE) targets throughout the development and operational phases.
- **Stakeholder Engagement and Community Support:** To proactively involve key stakeholders, ensuring their active participation and buy-in throughout the project lifecycle. The project will also make the local economy more robust to boom and bust cycles while providing access to infrastructure and services like roads, fiber optic internet, medical, emergency response and business opportunities.
- **Environmental Sustainability:** To apply best practices in sustainability, aiming for appropriate minimized emissions, and effective CO_2 sequestration to produce the lowest carbon footprint GTL products in the world.
- **Job Creation and Knowledge Transfer:** To leverage data and insights from previous global large-scale GTL projects to mitigate risks in development and improve business performance.

The project secondary objectives are:

- **Scalability:** To create an operational model that can serve as a platform for future projects.
- **Project Templates:** To continuously update our set of best practice guidelines, process workflows, and project templates for rapid implementation in future projects.

The Project Health, Safety, Security, Environmental (HSSE), and ESG objectives are:

- **Safety Culture:** To establish protocols that ensure the health, safety, and security of all employees and contractors involved in the project and business.
- **Environmental Stewardship:** To commit to practices that protect the environment and align with the latest applicable HSSE regulations.
- **Lower Carbon Future:** To design and implement processes that contribute to reducing the carbon footprint.
- **Social Responsibility:** To create a social and community environment around the project that fosters care, respect, and active contribution to society.
- **Good Governance:** To govern all project activities with an emphasis on responsible stewardship, compliance, and ethical conduct.

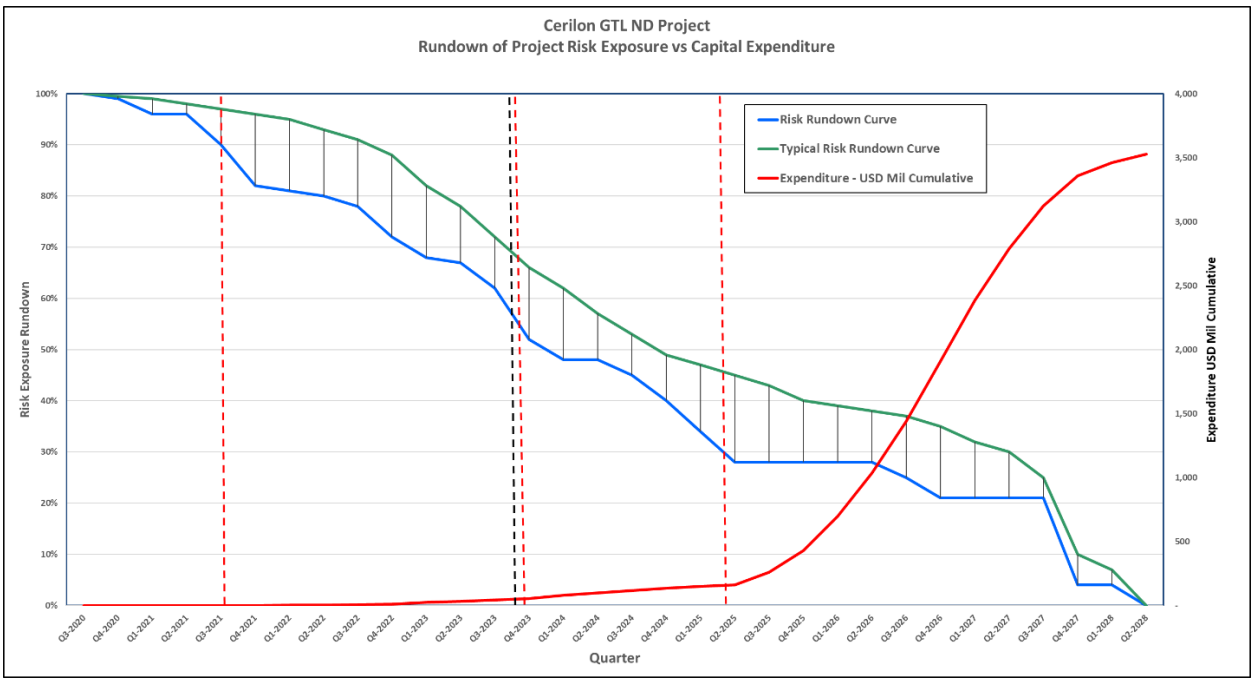
1.1.1 Achievements to Date to Fulfill Objectives

It is pertinent to highlight that the team successfully accomplished numerous objectives as outlined in the successful 2021 CSEA application.

- The FEL 2 report has reached its draft phase.
- The site has been acquired, appropriately zoned, and the environmental baseline has been established.

- FEL 2 engineering has been finalized, preparations for the subsequent phase are in place, and simulation studies concerning the facility tanks have been executed.
- Reliability modeling is complete, and the commercial division has finalized several agreements encompassing feedstock, product offtake, licensing, and utilities.
- The operations division has devised an operational framework, supplemented by the necessary policies and procedures to bolster the project's evolution.

Collectively, these advancements contribute to the project's risk mitigation.



1.2 Methodology

1.2.1 Technology and Process Methodology

The Project is based on converting lower-value natural gas into hydrogen and higher value synthetic fuels and lubricant feedstock. The first step in the GTL process is the production of syngas which is the building blocks for the Fischer-Tropsch (F-T) process. Syngas is comprised mainly of hydrogen (H_2) and carbon monoxide (CO), which is produced by the partial oxidation of methane (CH_4) over a catalyst. The syngas is then converted into the higher value chain by the synthetic production of hydrocarbon liquids, wax, and light hydrocarbon condensate (LHC) over a catalyst in what is known as the F-T reactors. These hydrocarbons end up as the feed to the product work-up unit (PWU) in the hydro processing upgrading section. The products from the hydro processing section result in high-value saleable products. The block flow diagram for the GTL process can be found in the attached Technology and Process Plan.

With respect to the production of the syngas, the selected technology for the GTL process is known as secondary or autothermal reforming. The syngas is then presented to the F-T reactors where wax and LHC is produced. Further processing is required to transfer the F-T products into usable synthetic hydrocarbons, which is accomplished by using standard refinery type hydro processing. The production of fuels and base oils can be separated into four major steps (Figure 1).

- Feedstock acquisition. Obtaining the correct feedstock to be used in the production of fuels and oils, in this case natural gas (detailed information is provided in the Feedstock Plan).

- Feed gas preparation and Syngas generation.
- F-T where wax and LHC is produced.
- Upgrading or conversion of the F-T products into synthetic base oils and fuels.

The GTL process produces multitude of catalytic reactions which are exothermic resulting in the production of waste heat. Waste heat is recovered and used to produce power for internal use and export the excess power. This process will produce carbon dioxide (CO_2), which will be partially recovered and sequestered to reduce the carbon footprint of the process.

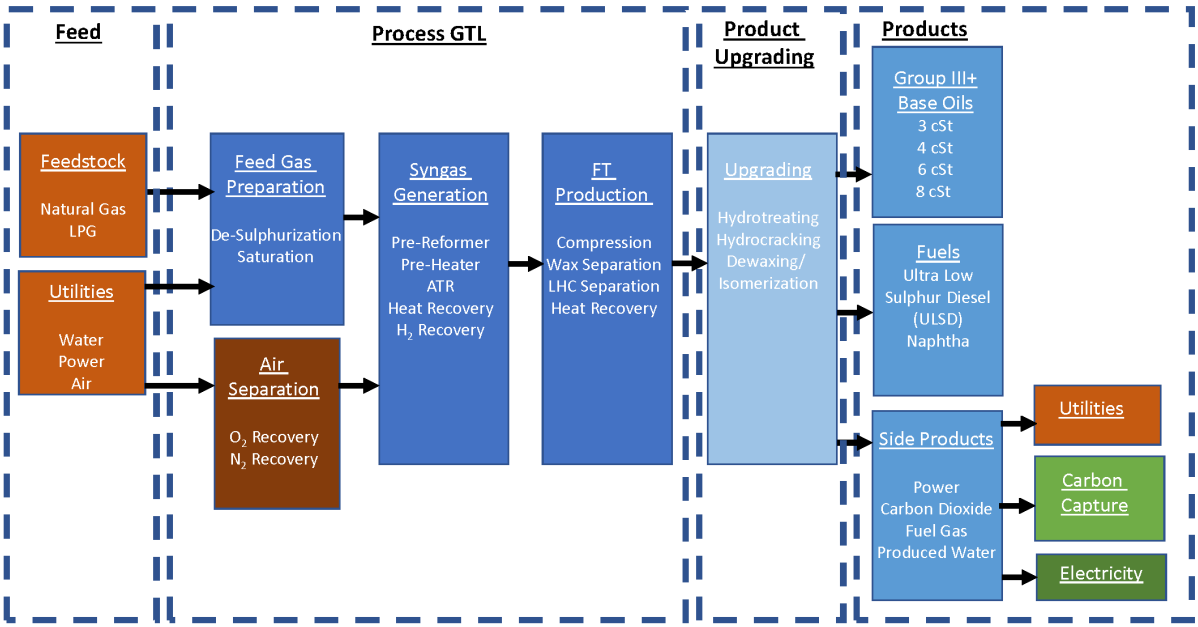


Figure 1 GTL Process

The current GTL design basis is to produce a minimum of 24,000 barrels per day of total product out of the F-T reactors, wax + LHC, which is fed to the PWU or upgrading unit. The PWU is a series of hydroprocessing operations that requires H_2 to produce the synthetic products: group III+ base oils, ultra-low sulphur diesel and naphtha. During the hydroprocessing operations the H_2 addition causes volumetric swell resulting in yields greater than 100%.

The process units making up the Project are composed of licensers syngas, F-T and refinery designs. The syngas and F-T portion was split into two trains, keeping the sizing of the equipment of these units within the experience band of the licensor, while at the same time maximizing as much common equipment as possible to minimize capital expenditures. This philosophy also increases the reliability of the overall facility by allowing the different sections to be taken offline for catalyst changes. Catalyst life will vary between 2 and 4 years depending on the operation and the system, the inability to take individual sections down for catalyst change would have resulted in site-wide unit outages.

1.2.2 Carbon Capture

Carbon dioxide generated during the various stages of the GTL process is captured using state-of-the-art absorption technologies. This enables sequestration of CO_2 emissions captured, aligning with our commitment to environmental responsibility. The captured CO_2 will then be compressed and transferred via a dedicated pipeline to a nearby third-party Carbon Capture and Underground Sequestration (CCUS)

operator. This partnership facilitates efficient utilization and long-term storage of the CO_2, further enhancing the eco-friendliness of our entire operation.

In addition to our pre-combustion capture strategy, we are also incorporated post-combustion carbon capture technology into our plot plan, fortifying our commitment to environmental excellence. Utilizing advanced solvent-based systems, the post-combustion unit is designed to capture the residual CO_2 emitted during the GTL combustion stages. This anticipated expanded capture option will increase our total capture rate to over 90% of produced CO_2. Detailed scope work for this unit is underway, considering multiple suppliers with cutting-edge capture technologies. The integration of both pre-combustion and post-combustion capture mechanisms allows us to optimize CO_2 sequestration and furthers our collaborative relationship with the nearby third-party CCUS operator in establishing the CCS hub, thereby elevating the environmental sustainability of the entire operation.

1.2.3 Project Execution Methodology

The project will employ a stage-gate model, ensuring rigorous review of deliverables and criteria at each gate. The Cerilon GTL board will oversee the transition to subsequent stages, contingent on meeting prior gate criteria.

1.2.4 The Business and Operations Methodology

The business and operations methodology being applied is:

1. Business: Learning organization design to adapt rapidly to the markets. Integrate the processes, facility and markets with Machine Learning (ML) and Artificial Intelligence (AI). People centered with collaborative approach methodologies.
2. Operations: Smart Manufacturing Design and Methodologies being applied. This enables the use of IoT, sensors, ML and AI via state-based control and Ethernet APL methodologies.

Cerilon GTL has partnered with ABB, a global automation, energy efficiency, and equipment supplier, to work with us to design and optimize our design for optimum efficiency and availability.

1.3 Anticipated Results

With the initial funding from the previous CSEA grant and other funders, the Cerilon team procured and zoned the land, established an environmental baseline, advanced permitting, and FEL 2 engineering. With the funding sought from this application, the incremental results are anticipated to be:

1. Process Methodology Results:
    a. Seamlessly transition from FEL2 to FEL3/FEED, ensuring technical continuity. Bridging activities are already being executed to set up the design basis for the FEL 3 / FEED stage of the project.
    b. Confirm the pathway to determine our carbon footprint.
    c. Adoption of cutting-edge CCUS, water treatment, and gas conversion technology.
    d. Determine the reliability through detailed RAM model.
    e. Achieve the HAZOP of the design.
    f. Conclude all the applicable specifications and standards for the design.
    g. Confirm the site plot plan.
    h. Produce the Process and Instrumentation Diagrams (P&ID)s.
    i. Confirm the Heat and Energy Balance as well as the utility balance for the design.
    j. Confirm all of the long lead items.
    k. Establish a product base that can be expanded into downstream petrochemical operations.

l. Update the Main Automation Contractor (MAC) design and strategy.

2. Execution Methodology Results:
   a. Deliver the project to the FID stage, including capital raise, on time and within budget.
   b. Ensure the quality of design and construction meets or exceeds industry standards.
   c. Obtain all permits required for the construction of the facility.
   d. Add to and enhance the network of world-class partners and suppliers.
   e. Implement risk mitigation strategies tailored to the FEL 3 phase and beyond.
   f. Confirm the approval for the route to transport the FT reactors via Duluth.
3. Business and Operations Methodology Results:
   a. Cultivate the right culture and team setup to achieve optimal results.
   b. Aim for increased plant operational availability.
   c. Conclude the major agreements for feedstock and product offtake based on current interim agreements.
   d. Confirm all major utility agreements for the facility.
   e. Develop a more detailed plan for the recruitment and training of the people for the facility in conjunction with the State of ND and the development and training entities.

1.4 Facilities

The Project features the construction and operation of a Gas to Liquids Facility near Trenton in North Dakota, USA. The GTL facility will convert 240 to 280 million standard cubic feet per day (MMscf/day) of natural gas to 24,000 barrels per day (bpd) of liquid hydrocarbon products. It is being developed to produce transition energy, explicitly embracing a low-carbon strategy. The design produces approximately 13,560 bpd of ultra-low sulfur diesel (56.5% of production), 4,920 bpd of naphtha (20.5%) and 5,520 bpd of Group III+ lubricant base oils (23%).

The Project will contain the following key components:

- Process equipment to facilitate the conversion of natural gas firstly into hydrogen and then to liquid hydrocarbon products:
- Group III+ Base Oils: these base oils are the primary component of many premium lubricants (e.g., synthetic motor oil). Their primary market is lubricant manufacturers who combine them with their proprietary additives to produce saleable products.
- Ultra ultra-low sulfur diesel (ULSD): the ULSD to be produced by the Project is a unique, premium quality, synthetic, middle distillate. The ULSD produced by the Project is a fully fungible, drop-in alternative for petroleum-based diesel.
- Naphtha: the naphtha to be produced by the project is a mixture of hydrocarbons that may be either sold to petroleum refineries or chemical plants for further processing or used as a diluent to reduce the viscosity of bitumen. Bitumen from the Canadian oil sands is too viscous to be efficiently transported via a pipeline. Diluents are added to the bitumen to reduce its viscosity for pipeline transport.
- Electric energy generation using excess heat generated by the conversion of natural gas to liquid hydrocarbon products. This will produce between 30 to 50 MW of excess power than can be provided back into the grid for other users.
- Carbon capture for off-site, third-party sequestration of carbon dioxide (CO_2).

- Utilities and other support services.
- Temporary facilities to support construction.

Figure 2 Cerilon's GTL Location

Cerilon owns a large portion, and is under contract to acquire some additional parcels, all for a contiguous land block of approximately 370 acres in Sections 25 and 36, Township 153 North, Range 103 West in Williams County on which the Project will be constructed (the Project Site). The Project Site is approximately 1.5 miles southwest of Lake Trenton and the unincorporated community of Trenton, 2.75 miles northwest of the Missouri River, 5 miles northeast of the unincorporated community of Buford, and 7.5 miles southwest of the city limits of Williston. The Project Site is bordered to the west by Savage Services' Bakken Petroleum Servicers Hub (Savage), to the north by the Great Northern Railroad, and to all other sides by agricultural land, homesteads, and farmsteads.

Project Site Layout, Suitability and Acquisition

The Bakken Formation in western North Dakota contains both crude oil and natural gas deposits. The production of crude oil therefore also results in the production of associated natural gas. This gas can be recovered and processed into natural gas, turning a byproduct of oil production into a saleable product. However, if the gas cannot be recovered, it must be vented to a flare per NDAC 43-02-03-45. The flare

combusts the methane in the gas to form carbon dioxide, which significantly reduces the greenhouse gas emissions from the venting of the gas.

The North Dakota Industrial Commission (NDIC) issued order no. 24665 with the goal to reduce the volume of flared gas in the state [reference (2)]. The NDIC issued its current policy and guidance document pertaining to this order on September 22, 2022 [reference (3)]. Among other policies identified in the document, it sets a goal of 91% recovery of this gas and restricts oil production for operators that cannot meet this goal. Individual operators have also established their own goals to reduce flaring as part of their environmental, social, and governance (ESG) goals.

However, capacity constraints within the infrastructure to collect, process, and transport coproduced gas to market have limited the ability of oil and gas wells in western North Dakota to maximize oil production while meeting the requirements to reduce the volume of flared gas. The Project would consume 240 to 280 MMscf/day of natural gas in western North Dakota, where the infrastructure constraints are the tightest. This consumption would greatly facilitate NDIC's targets for reducing the volume of flared gas.

Cerilon considered locations in several North American jurisdictions including Alberta, Oklahoma, and Louisiana as well as potential locations in the Middle East before concluding that the first facility would be in North Dakota. Once this decision was made, Cerilon undertook a site selection study to identify an optimal location for the Project within the state. Critical site location criteria that were included in the study are:

1. Proximity to the following infrastructure:
    a. Existing natural gas pipelines for feedstock supply.
    b. Suitable for geology for CO_2 sequestration or an existing CO_2 pipeline to geology that is suitable for sequestration.
    c. Rail line and product pipelines for economical product shipping.
    d. Electric transmission lines for access to both sufficient electric power for the site when not generating electricity, and for interconnection to the grid to supply excess electricity.
2. Sufficient distance from airports and air force bases that would be impacted by tall structures to be constructed.
3. Reasonably flat and level land suitable for the construction of large industrial structures and equipment.
4. Zoned for industrial development or eligible for rezoning.
5. Sufficient acreage available for purchase.

Western North Dakota was identified as a promising jurisdiction for the Project due to the abundant natural gas supply, suitable geology for carbon sequestration, and available transportation to markets. The North Dakota Department of Commerce identified nine potential sites and provided information that Cerilon incorporated into the site selection study. Cerilon then met with local development authorities and municipal officials to evaluate their interest in industrial development of the type proposed. The Project Site was identified as the ideal candidate as it met all the criteria noted above.

Cerilon subsequently acquired some of the parcels and has agreements in place to acquire the remaining parcels, making up the Project Site. Cerilon has also received conditional approval from Williams County to zone the Project Site for heavy industrial, contingent upon receiving a Conditional Use Permit from Williams County.

The next diagram indicates the preliminary plot plan design that was reviewed and approved by the insurance providers for safety and suitability. The construction, operability and safety reviews ensure that the site is optimized.

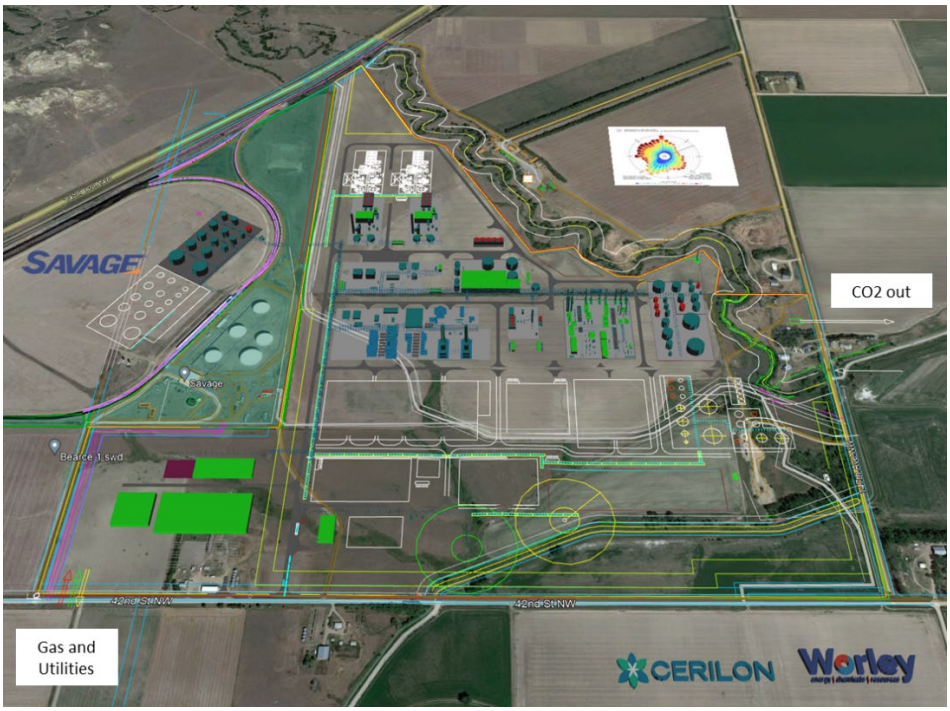


Figure 3 Preliminary Site Layout (Cerilon GTL FEL 2 Report)

The site potentially requires the re-routing of some pipelines and will utilize existing infrastructure.

Plans are coordinated with Willaims County on the supply of potable water, upgrading of the Marley Crossing, and services that will support the facility but also benefits the local community.

The feedstock pipeline is planned to be a short pipeline from the Northern Border Pipeline.

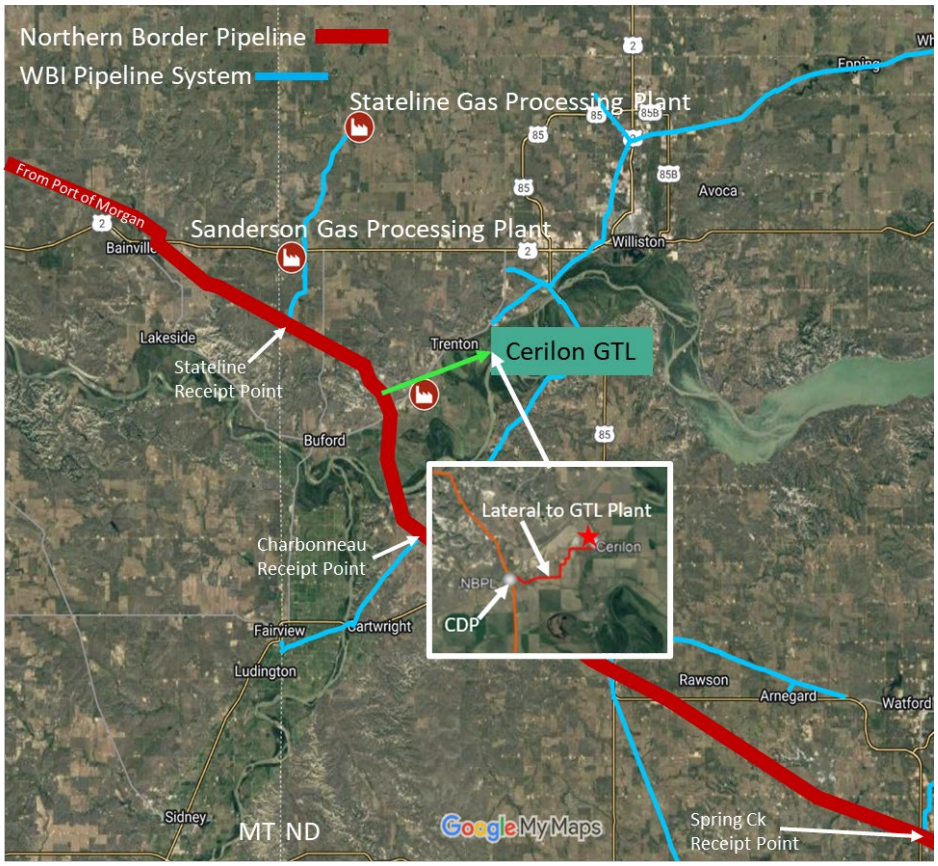
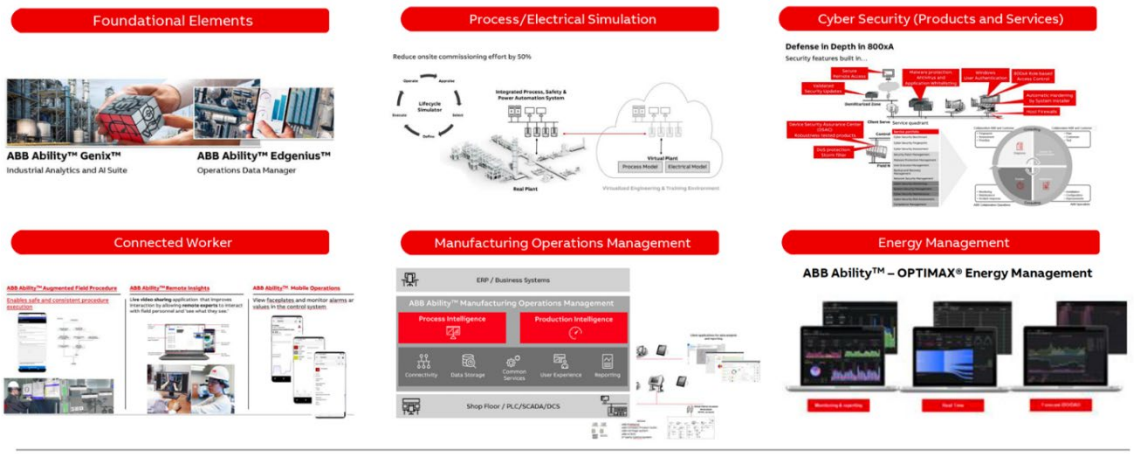


Figure 4 Northen Border Gas Supply and Lateral Pipeline to Site

1.5 Resources

Facility operational resources:

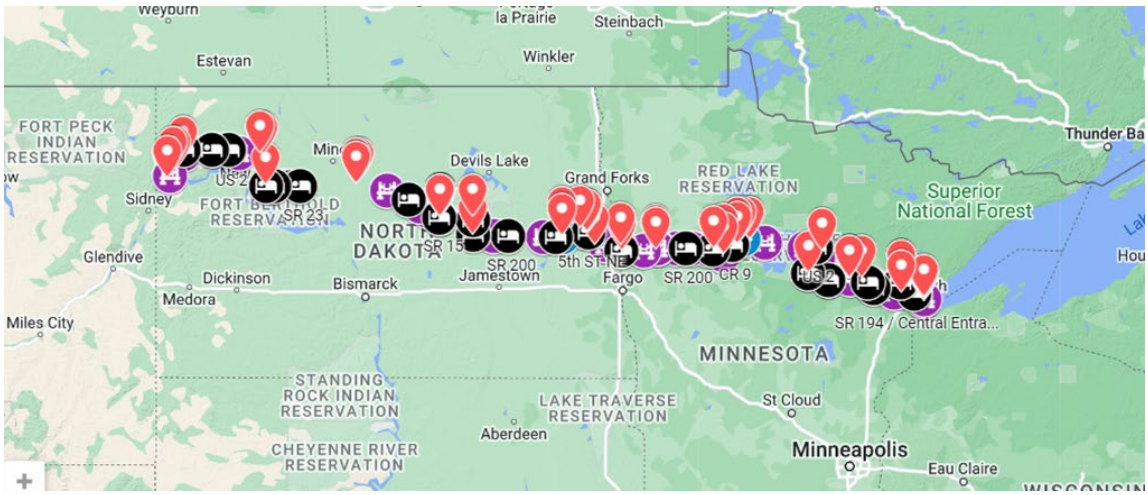
- The facility will require 6 MW of power to start up but will be self-sustaining to supply its own power. The facility will potentially supply between 30-50 MW of additional power to the grid.
- The facility will require water during the startup for pressure testing and commissioning but will be self-sustaining during normal operations. The GTL will also have water treatment facilities to treat process water.
- The facility effluents will be normal facility effluents that can be treated by the city sewage treatment and the catalyst can be treated by the ND precious metal recovery facility.
- Access to the fiber optic communications will be required and discussion continues with Nemont.
- The Cerilon GTL facility will provide the platform to establish other services to the local community that will be resources that can be optimized.
- The Cerilon GTL ND facility will be supported by a team of global resources from various contractors. This includes various simulation models and energy optimization tools to ensure the support of this state-of-the-art facility.



- The facility will require 141 facility people during operations. Cerilon GTL ND plans to do training of the necessary people and utilize state of the art monitoring to mitigate people requirements over time.

During construction:

- The facility will be constructed with a modular approach to design and build modules, skids, and units that can be manufactured in ND and North America fabrication shops and shipped to site. This will reduce the number of people required on site. The shortage of ND labor can be partially mitigated. High level studies were concluded to determine the level of modularization and the number of modules to be shipped to site.



- The design of the controls of the facility will enable the testing of modules and other units in the cloud prior to shipment and assembly on site. The facility will be monitored to enable global support of the facility.

- Local support services in restaurants, hotels, general, IT, and other resources will be required to support the construction of the GTL facility.

The support of our world class licensors will be required to support the detail design, construction, and startup of the GTL facility.

Various global support services will be contracted to support the project startup and later operations. The team will bring global expertise and we will train local ND people to be the future support companies.

1.6 Techniques to Be Used, Their Availability, and Capability

The availability of all of the different techniques with state-of-the-art capability are being utilized. The team has embraced new learning and techniques and utilized for instance Large Language Models (LLMs) to assist with the generation of the policies and procedures for reviews.

Design Phase:

- Process Design: Latest techniques in process design, Value Improving Practices (VIPs), and plant optimization will be employed.
- Tools: Utilization of state-of-the-art simulation modeling tools such as Hyses for process, Arena for SCM design, Corys for Controls, and Aspen for Optimization.
- Contractors: Our anticipated contractors for these tasks include Worley, Wood, ABB, BARR Engineering, and EERC.
- Decision-making: The team will apply Kepner Tregoe (KT) analyses, risk models, Value optimization models, and various value and effectiveness techniques to ensure that correct options and decisions are made.
- The Intellectual Property (IP) team scrutinized over 3,600 patents to ensure that the Cerilon GTL ND facility will have the Freedom to Operate (FTO). These reviews were concluded with a combination of database searches in IP databases and this FTO plan will be updated during FEL 3.

Project Execution:

- Team Management: Collaborative approaches like action logs, DOAG matrices, and RASCI matrices will be utilized.
- Risk and Change Management: Management of Change (MOC) and Risk Registers will be regularly updated. Risk Management is central to the successful completion of a project and receives extensive focus by the project management team.

- Reporting: Monthly reviews, trending, and monthly reconciliation will be conducted.
- Monthly interface meetings are taking place to ensure different perspectives are aligned in the execution of the project.
- Cost and Scope: Cost management and estimating will adhere to AACE principles, while stakeholder and scope management techniques will be rigorously applied.

Business Operations:

- Organizational Learning: Learning organization systems thinking techniques will be incorporated in design and operations.
- Integration: Business Process Mapping (BPM) will be used to ensure aligned integration across different facets of the project.

Standards and Principles:

- All utilized techniques and principles are known to us or available to us, and we are capable of deploying them effectively to support the project's design, development, and operations.
- The team created over 200 specifications and standards to ensure that the procurement of equipment will align with the requirements. This will continue.

1.7 Environmental and Economic Impacts while Project is Underway

Environmental Impact:

- The site and ground will be resurfaced and graded to be level for the construction.
- EPC firm will contain any spillage, effluents, or any material being used such as water for the pressure testing.
- All waste material, excess will be collected and properly treated or removed.
- No air or water pollution during construction. Dust to be suppressed and water sprayed on the ground to minimize dust movement.
- Noise to be controlled during construction as much as possible.

Economic Impact – Construction Phase:

- The State of ND compiled a REMI model and the summary below is an extract from the report in **Appendix B**. A newer edition has been drafted by North Dakota and is under review.
- This indicates significant job creation, state sales/value added taxes payable, and revenue to the state.
- The model results are attached for reference.

Economic Impacts[1] from the Operation Phase of the GTL Facility and ASU Facility								
Employment (Job Creation)								
Category	Units	2026	2027	2028	2029	2030	Annual Average	5-years Impact
Total Employment	Individuals (Jobs)	1,697	2,207	2,338	2,786	2,289	The employment concept is the same as used by the U.S. Bureau of Economic Analysis, so it captures full-time, part-time and sole proprietors as one. Because employment is a stock concept, the results cannot be aggregated over multiple years. They should be only interpreted as the impact in the single year relative to base year.	
Direct Employment	Individuals (Jobs)	99	101	101	101	101		
Indirect Employment	Individuals (Jobs)	656	741	736	757	679		
Induced Employment	Individuals (Jobs)	388	463	490	589	503		
Other Employment	Individuals (Jobs)	554	902	1,011	1,339	1,006		
Wages and Salaries								
Category	Units	2026	2027	2028	2029	2030	Annual Average	5-years Impact
Wages and Salaries	Millions of Fixed (2020) Dollars	$105.25	$129.57	$138.56	$164.53	$140.05	$135.59	$677.96
State Gross Domestic Product (GDP) & Output								
Category	Units	2026	2027	2028	2029	2030	Annual Average	5-years Impact
State GDP	Millions of Fixed (2020) Dollars	$491.45	$577.53	$590.88	$634.14	$576.68	$574.14	$2,870.69
State Output	Millions of Fixed (2020) Dollars	$1,167.74	$1,339.20	$1,351.80	$1,412.80	$1,306.65	$1,315.63	$6,578.17
Total Impacts on the State Tax Revenue[10]								
Category	Units	2026	2027	2028	2029	2030	Annual Average	5-years Impact
Tax Revenue from Sales & Use Tax[11]	Millions of Fixed (2020) Dollars	$58.50	$67.09	$67.73	$70.78	$65.46	$65.91	$329.57
Tax Revenue from Individual Income Tax[12]	Millions of Fixed (2020) Dollars	$5.11	$6.30	$6.73	$8.00	$6.81	$6.59	$32.95
Total Tax Revenue[13]	Millions of Fixed (2020) Dollars	$63.62	$73.39	$74.46	$78.78	$72.27	$72.50	$362.52

Figure 5 Economic Impacts

1.8 Ultimate Technological and Economic Impacts

Technology Impacts:

- Combinations in process technologies and the application of CCUS will create the lowest carbon footprint GTL facility in the world in North Dakota.
- The business systems thinking, and systems integration will create advantages in business operations.
- The operational optimizations and application of Machine Learning (ML) and Artificial Intelligence (AI) will improve the availability of the operations for the next 30 years.
- The process technology platform will create a base from which many other downstream technologies can be implemented, and new businesses created.
- The technologies will enhance the ability to recruit and retain people in ND as the leading technologies will create sought after jobs.

Economic Impacts – Operations Phase:

- The economic impact was modelled by the State of ND in their REMI model, and the results are provided in **Appendix B** - REMI Model - Operations.
- The financial impact to the state is above $6 billion in the first 5 years of operations.
- The return for the state and economic impacts cannot be measured only in the financial impact but should also consider the impact in times of downturns when oil prices are low, the robustness of a more stable economy with a strong downstream sector. This will not be achieved with one GTL project, but it ignites the pathway to many more developments.
- The multiplier effect on adding value, opportunities, and secondary business to ND will be more than just one project impact.
- The measure of people with hope open to challenge the status quo and wanting to do more for the state of ND is of huge value.

1.9 Why the Project is Needed

The project will deliver the following benefits for North Dakota:

1. Environmental Impact:

a. Carbon Footprint Reduction: Significantly lowers the carbon footprint of energy products compared to conventional methanol facilities.
b. Carbon Capture and Sequestration: Establishes and supports the infrastructure for capturing and sequestering CO_2 emissions.
c. Flaring Reduction: Mitigates the need for and the occurrence of flaring natural gas in North Dakota.
d. The ULSD being produced has lower NOx and SOX emissions with a high cetane value making it a beautiful product for use as a transport energy source with a lower carbon footprint than conventional products.

2. Economic Benefits:
   a. Resource to Value Transition: Shifts the energy industry from focusing solely on resource extraction ('resource play') to adding value to local gas ('value play').
   b. Industry Diversification: Promotes a more robust, integrated oil and gas industry capable of weathering economic cycles.
   c. Economic Stimulation: Fuels economic growth through high-value products and new technology jobs.
   d. This facility anticipates a revenue stream above $ 1billion per annum which will also provide extensive tax benefits to the State of ND.
   e. The Cerilon GTL ND facility will also have very little impact on the water resources as it is mostly water self sufficient once the plant is in operation. The size of the impact in comparison with the size of the facility is minute.
3. Social Impact:
   a. Community Benefits: Generates local economic benefits including high-caliber new technology jobs.
   b. Stakeholder Engagement: Creates momentum for further investment in North Dakota from other major organizations.
   c. Access to services: The Cerilon GTL will create the need for services like emergency response, firefighting, and ambulance services. Further services to the community includes catering, suppliers, office support services, cleaning, and others.
4. Infrastructure and Industry Support:
   a. Natural Gas Utilization: Enhances the environmental performance of a project that will use 240 to 280 million scf/day of natural gas within North Dakota, supporting continued oil production.
   b. Reduce Flaring: The state is committed to reduce flaring and the utilizing of natural gas that otherwise would have been flared, is utilized in the facility as feedstock.
   c. Pipeline Infrastructure: Addresses limitations in existing pipeline infrastructure by creating local demand for natural gas, alleviating the need to transport it to distant customers.
   d. The facility enables a strategic decision by the State of ND to develop and more robust energy industry and establishes a platform for downstream developments. This reduces the impact of the boom-and-bust cycles of the oil and gas industry as low oil prices benefit the petrochemical industry in downturns.
   e. The Cerilon GTL ND facility enables the development of the CCUS hub with a critical base load of CO_2 required for the feasibility of these facilities and infrastructure.

f. The Cerilon GTL ND facility also produces ULSD winter diesel that can be utilized in cold climates. The product has a very high cetane value and low emissions making it a beautiful product to use.

g. The benefit of energy security is only valued in times of hurricanes and shortage. The Cerilon GTL ND facility is way from the hurricane corridor and provides a strategic energy security source in ND.

h. The excess power generated by the Cerilon GTL ND facility will support the oil and gas and other new energy demanding industries that can utilize the excess power.

2 Standards of Success

1. Carbon Intensity and Emissions Reduction:
   a. Aim to reduce the Carbon Intensity (CI) score relative to a typical or GTL facility. This will be the lowest carbon footprint GTL facility in the world. The synthetic lubricant Group II+ feedstock will be the best carbon footprint products in the world and the energy efficiency generated by it is world class.
   b. Capture up to ~2 MTPA of CO_2 with both pre- and post-combustion technologies.
   c. Implement state-of-the-art adsorption and solvent-based CO_2 capture.
2. Environmental Impact and Sustainability:
   a. GTL products biodegradable within 3 weeks and non-toxic to aquatic life.
   b. Provide an energy transition path by capturing and storing CO_2.
   c. Improve the energy sustainability of North Dakota's Oil and Gas sector by adding a large consumer of natural gas and reducing gas flaring in the State.
3. Economic and Value Impact:
   a. Shift from resource play to value play, thereby enhancing state revenue.
   b. Contribute to job creation in tech sectors like computing centers supported with machine learning and artificial intelligence Cerilon GTL will utilize.
   c. Impact financial contributions from a growing downstream industry in North Dakota.
   d. Develop a community in Trenton ND that will receive economic benefits and stable income for the community. It will further support the development of necessary infrastructure that forms the base of future development.
4. Commercialization and Industry Leadership:
   a. Establish North Dakota as a leader in both GTL and CCUS technologies.
   b. Attract additional investments and projects through public and private sector utilization.
5. Innovation and R&D:
   a. Collaborate with leading experts in GTL and CCUS for local R&D.
   b. Further improvements in CO_2 capturing technologies will be utilized in the facility to improve the CO_2 capture efficiency.
   c. Explore technological improvements for environmental benefits.
   d. Provides state of the art smart manufacturing facility by utilizing ethernet APL and state base control.
   e. Engage in active research to keep enhancing existing technologies.

6. Job Preservation and Creation:
    a. Create new job opportunities requiring a variety of skill sets in both GTL, ML, AI, Automation and Control, and CCUS.
    b. Safeguard existing upstream Oil and Gas jobs by ensuring a long-term offtake of gas.
7. Alignment with Program Mission:
    a. Offer cleaner, green transition energy solutions.
    b. Facilitate CO_2 sequestration through the development of new CCUS infrastructure.
    c. Enable the utilization of new Automation and Control technologies in a ND facility.
8. Sector Utilization and Community Impact:
    a. Make CCUS technologies and infrastructure accessible to the public and private sectors.
    b. Enhance community sustainability through job creation and environmental initiatives.

3 Background/Qualifications

Cerilon's team brings together a wealth of expertise specifically in GTL (Gas to Liquids) and associated technologies. With hands-on experience in some of the world's largest GTL facilities, the team is adept in a range of functions, from process engineering to operations management. Additionally, members have prior involvement in large-scale technical projects, including those with relevancy to CCUS (Carbon Capture, Utilization, and Storage) facilities. This depth of experience is complemented by specialists in key functional areas, enhancing the team's capabilities across the board.

Sasol 1 (1955) Sasolburg * 20,000 bpd

PetroSA Mossgas (1992) Mosselbay * 15,000 bpd

Escravos GTL (1997) Nigeria * 34,000 bpd

Shell Pearl GTL (2012) Qatar * 144,000 bpd

Sasol 2 (1980) and Sasol 3 (1984) Secunda * 160,000 – 168,000 bpd

Shell Bintulu (1993) Malaysia * 12,000 – 15,000 bpd upgraded

Sasol Oryx (2007) Qatar * 34,000 bpd

OLTIN YO'L GTL (2021) Uzbekistan * 34,000 bpd

The team has reviewed lessons learned from previous GTL facilities and applied the knowledge and know how to benefit the design of the Cerilon GTL ND facility.

The team has been expanded and during the FEL 2 stage we had at the peak about 160 people from a variety of disciplines working on the project to deliver the results required. This includes functions like tax, ERP systems, FOREX, marketing, sales, logistics, operations, maintenance, engineering, reliability modelling, transport logistics, construction, commissioning and startup, financing, economic modeling, sustainability, people skills and training, simulation modeling and many others to ensure success.

See **Appendix F** for the Cerilon Team Resumes.

4 Management

After analyzing a wide array of projects, our team has distilled the critical success factors necessary for optimal execution. These insights inform our strategic approach, a blend of global best practices and lessons learned from past projects.

4.1 Execution Fundamentals

Collaborative Culture: Our approach fosters collaboration among all project stakeholders, ranging from operations and engineering to suppliers and EPC contractors, to collectively contribute to project success.

End Goals: Before commencing any project, we define the desired outcomes across various aspects: business operations, environmental impact, stakeholder relationships, and construction methodologies.

Proven Methodologies: We adhere to globally accepted execution practices, ensuring alignment with project goals throughout each stage. This includes steadfastly managing scope, schedule, quality, and costs, without sacrificing the project's core objectives.

Communication and Governance: Transparent, accountable communication is a cornerstone of our process. We clearly delineate roles and responsibilities for all team members and partners.

Standardization: Templates for engineering, business, and operations are standardized to not only serve the current project but also to ensure easy replication in future projects.

4.2 Risk and Contract Management

Our risk assessment involves third-party validation, including consultations with fabricators, EPC, and insurance firms. This ensures that all involved parties are carrying appropriate risks. Similarly, our contracting structure is designed with the interests of the owner as a priority.

4.3 Ongoing Review and Control

Gate reviews and control points are integrated at crucial stages to ensure project compliance and alignment with initial goals, post the FEL 2 gate and at the end of the FEL 3/FEED.

5 Timetable

Interim progress reports will be provided each quarter and a Stage report after the remaining FEL 3, and Execution stages. The schedule will be monitored closely by the team to ensure the delivery to schedule.

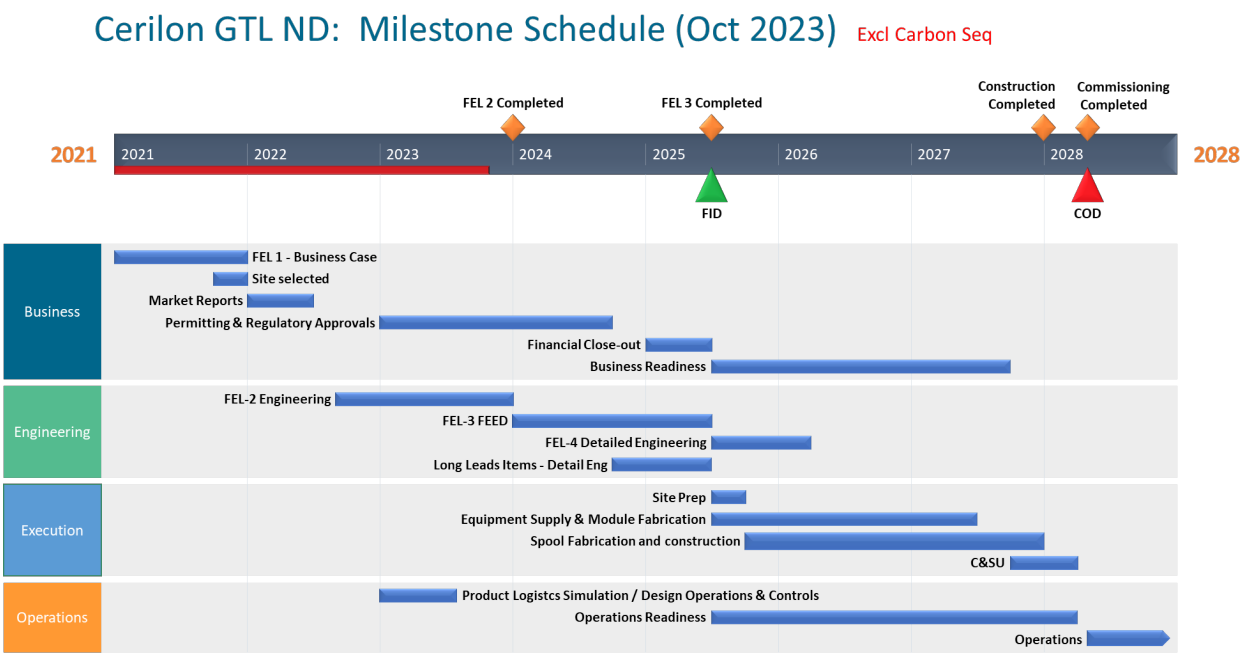


Figure 6 Cerilon GTL ND: Milestone Schedule (Oct 2023)

Appendix C is a summary of cumulative costs by quarter for this stage of the project, along with a summary of major milestones. These will be funded with the CSEA grant and CSEA loans, along with matching equity and vendor financing funds as required. It is assumed that the CSEA grant and CSEA loan will be requested in tranches.

6 Budget

Project Stage	Status	NDIC Grant	NDIC Loan	Applicant's Share (Cash)	Other Project Sponsor's Share	Total
FEL 1 & 2	Substantially complete	$7.0M	$13.7M	$1.0M	NDDF Loan: $3M Williams County Loan 1: $6M Williams County Loan 2 (Land Bridge): $10M McKenzie County Loan: $5M	**$45.7 M**
FEL 3 and Long Lead Items	To commence in 2024	-	$26.3M CSEA Approved Loan ($1.3M released, $25M to be released upon equity raise)	-	$25M of current $80M Equity Raise	**$51.3M**
		$20M (this application)	$80M (this application)	-	Up to $55M of current $80M Equity Raise Up to $45.7M of Vendor Financing	**$200.7M**
Total Pre-FID		**$27M**	**$120M**	**$1.0M**	**$149.7M**	**$297.7M**
FID / Execution	2025	-	-		$2.0B DOE Title 17 Loan $1.3B Investor Equity	**$3.3B**
Project Total		**$27 M**	**$120 M**	**$1.0M**	**$3.4B**	**$3.6B**

To align with the project development execution timeline, timely access to financial resources is crucial. To facilitate Cerilon's overall funding strategy, Société Générale has been appointed as a financial advisor, spearheading a $80 to 100M equity raise with institutional investors. This allows for flexibility to protect the schedule and order long lead items like compressors and transformers. This equity raise will be instrumental in unlocking a portion of the previously approved CSEA grants, in addition to the new FEL 3 Stage grants and loans sought in this application. The importance of these grants cannot be overstated; they not only solidify the State of North Dakota as a key co-sponsor but also set the stage for future tranches of funding.

Cerilon is also actively engaged with the U.S. Department of Energy to secure low-cost debt financing under the Title 17 Loan program, with a Part I application currently in progress. This move further diversifies funding options, aligning with a strong institutional partner, and enhancing project credibility.

In the absence of timely funding, the effects would be detrimental to the project's progression, necessitating alternative financing solutions that could detract from our core development activities. While a delay in funding would not halt the project, it would certainly impede our timeline, affecting our role as a gas consumer and delaying the development of a downstream industry, thereby impacting North Dakota's strategy for addressing rising trapped gas production.

Given the ongoing advancements in our financial strategy, we are keen to ensure that the CSEA grant and other funding mechanisms are in place to fulfill our financial requirements as per the stipulated timeline, thereby securing the project's success.

7 Patents/Rights to Technical Data

The Cerilon team will establish patents and rights that will be owned by Cerilon GTL ND Inc.'s affiliate ND Ventures Ltd. for all the intellectual property added to the wide range of intellectual property and templates to be licensed by ND Ventures to Cerilon GTL. In addition, the Cerilon team will be completing its own development of the Manufacturing Execution System (MES) platform, and the ML and AI platforms that will be incorporated into the project.

Cerilon GTL will also be using licensed technology from the previously mentioned internationally recognized licensors, whose technology will need to be kept confidential.

8 State Programs and Incentives

Cerilon GTL ND Inc. has received the following State and County financing to date:

- $3 million NDDF loan
- $6 million Williams County loan
- $10 million Williams County Land Bridge Loan
- $7 million CSEA grant
- $5 million McKenzie County Loan
- $40 million CSEA loan (of which $15 million has been released under matching requirements)

Cerilon is in the process of raising up to $80 million of additional investor capital. In the event the full amount of $100 million in this application is provided by the CSEA, additional matching capital will be sourced from equipment vendors or other long lead suppliers.

Industrial Commission

Tax Liability Statement

Applicant:

Cerilon GTL ND Inc. ("Cerilon")

Application Title:

Cerilon GTL

Program:

- ☐ Lignite Research, Development and Marketing Program
- ☐ Renewable Energy Program
- ☐ Oil & Gas Research Program
- ☑ Clean Sustainable Energy Authority

Certification:

I hereby certify that the applicant listed above does not have any outstanding tax liability owed to the State of North Dakota or any of its political subdivisions.

_____

Signature

Ron Opperman, Chief Executive Officer

_____

Title

October 31, 2023

_____

Date

Appendix F Cerilon GTL Team

Nico Duursema

Chief Executive Officer, Cerilon Inc.

Executive Leadership Team

Nico Duursema has been a leader in the global energy business for over 25 years, with roles in North and South America, Africa, and the Middle and Far East within the petrochemical, transportation, mining, and oil and gas industries. As CEO of Cerilon Inc., Nico's core areas of specialty are low carbon, gas-to-liquid (GTL), renewables, bio-to-liquids (BTL), and downstream petrochemicals.

Nico Duursema is an energy business executive with experience in North and South America, Africa, and the Middle and Far East within the technology, petrochemical, transportation, mining, and oil and gas industries.

He is the CEO of the Cerilon Group of companies. Core specialty areas are low carbon energy, gas-to-liquids (GTL), renewables, bio-to-liquids (BTL), Ammonia, other downstream petrochemicals, and new technology integration. Cerilon supports global energy security with a strategic green transition energy commitment to changes toward a new energy future.

He has a BSc (Industrial Eng) from the University of Pretoria, South Africa, and Honors in Business. He has an MBA from Stellenbosch University, South Africa, and concluded an Executive Leadership Development Program at Daniels College of Business, Denver, Colorado, USA.

Nico serves on Cerilon's corporate boards and as Chairman of the Cerilon Kingdom Fund. He is a member of the Canadian Energy Executive Association (CEEA) and has served for three years as CEEA board governor. Nico is the founder of the Global XTL Summit, enabling the growth of anything to liquids (XTL).

Believes in Ownership, Leadership, Stewardship, and Excellence.

Ron Opperman

Chief Executive Officer, Cerilon GTL Inc.

Executive Leadership Team

Ron has more than 35 years of industry experience in managing and leading complex businesses at the executive level. Ron is skilled in managing a wide range of business functions, including sales and marketing, supply chain, health, safety, environment, research and development and project management.

Ron has managed international businesses in real Volatile, Uncertain, Complex, and Ambiguous (VUCA) environments. He was based in the Middle East for 11 years, leading diverse, multicultural teams. As CEO, Ron managed a petrochemical business with annual revenues of USD $800 million.

Ron has broad experience in various chemical industries, including gas, petrochemicals, metallurgy, and water treatment. He was also responsible for developing business strategies, supply chain design and enterprise resource planning business systems for a multi-billion project based in the US. Ron has also served as the COO of ND Ventures, Cerilon's project management and execution arm.

He holds an MBA from North-West University in South Africa.

Peter Farkas

Chief Financial Officer

Executive Leadership Team

Peter is a Calgary native and a University of British Columbia commerce and law graduate and has spent more than 35 years in senior executive financial, operations and legal roles throughout western Canada.

Mr. Farkas is a strategic executive with practical executive leadership and business development work experience in various industries: oil and gas, mining, energy services, manufacturing, investment, real estate, pipelines, petrochemicals, transportation, and food production. Often advising businesses through critical growth stages, including through corporate mergers and acquisitions, his knowledge from CFO, operational and legal perspectives guide the organization's significant decisions.

Peter is an active member of the Alberta Bar and is an entrepreneur. Peter brings a synthesis of analysis and effective execution for truly unique solutions. He is the quintessential corporate problem solver who controls legal risk while ushering complex projects, business development, and growth scenarios to successful completion.

Renelle Bryden

Vice President, Financial Planning & Analysis

Senior Leadership Team

Renelle has over 20 years of expertise in upstream/midstream oil and gas accounting and finance. Areas of expertise include internal and external reporting, performance management, governance & regulatory reporting, treasury and project management. She was responsible for preparing consolidated financial statements for Nexen, a Canadian company with worldwide operations.

She is adept at providing high-level analysis to enhance decision-making, strengthen internal controls and facilitate process improvements while incorporating and suitably weighing operational, corporate, administrative and accounting goals. She was responsible for cash management activities that included cash flow forecasting, a foreign exchange program of over one billion annually, investments averaging three hundred million, and short-term borrowing. Renelle is a Chartered Professional Accountant of Canada.

Jacques Botha

Vice President, Project Services

Senior Leadership Team

Jacques has more than 30 years of experience in all phases of project development and implementation, with a specific focus on project services. This includes estimating, project controls, document management, human resources, and information technology both from the corporate office and field locations working within various cultures.

Jacques has executed projects in South Africa, Kuwait, United Arab Emirates, the Netherlands, and Canada with values up to USD $14 billion. He has experience in oil refining, mining and ore processing, in-situ heavy oil facilities, LNG, and oil pipelines. Jacques has extensive coal- and gas-to-liquids and oilsands experience working in both owner and engineering firms.

Jacques has a Bachelor's in Mechanical Engineering, a Master's in Industrial Engineering, and an Honours in Business Administration.

Kellie Donohue

Director, Human Resources, Cerilon Inc.

Senior Leadership Team

Kellie is a highly accomplished HR professional with two decades of experience spanning various industries, including oil and gas services, professional services, Indigenous organizations, construction, veterinary clinics, and low-income housing boards. Armed with a Master's degree in Leadership, a Certified Human Resources Leader designation, and a Psychosocial Health and Safety Advisor standing, she possesses deep expertise in the strategic development and implementation of human resource departments.

Kellie's career has been marked by a keen ability to build and nurture relationships, effectively communicate with diverse audiences, and leverage historical insights to forge a healthier future. Her core strengths lie in HR team development, civility program implementation, organizational reviews, coaching, and the design and delivery of training programs aimed at risk mitigation, fostering respect, and enhancing the bottom line.

With her comprehensive skill set and extensive industry experience, Kellie is an invaluable asset for organizations seeking to optimize their HR functions and foster a culture of productivity and respect.

Rochelle Harding

Director, Sustainability and Engagement

Senior Leadership Team

Rochelle has over 20 years of experience as a regulatory affairs and environmental assessment specialist. Her work includes permitting in multiple jurisdictions and industries, developing and implementing strategies to manage regulatory, stakeholder, and environmental issues, stakeholder engagement, and Indigenous consultation. Rochelle has experience in major energy projects from concept development through to operations.

Rochelle has experience working on projects that require extensive environmental and socio-economic issues management due to their location in sensitive environments, potential risks or specific stakeholder concerns, including work on multiple in-situ oil sands developments, large pipeline projects, LNG facilities, flood mitigation structures, and carbon capture and sequestration projects. Rochelle also has experience as an air quality assessment specialist.

Rochelle has a B.Sc. in Chemical Engineering and an M.Sc. in Biochemical Engineering from the University of Saskatchewan

Niel Erasmus

Project Director, CGTL ND Engineering

Senior Leadership Team

Mr. Niel Erasmus is a results-oriented senior manager known for his strategic acumen and solution-focused approach. With a track record of successfully leading high-profile resource projects from concept to commissioning and operation, he consistently delivers on time and within budget while ensuring safety and securing commitment from diverse stakeholders. His exceptional communication skills, grounded in a customer and safety-focused mindset, have earned him trust and rapport across cultural communities. He excels at lateral thinking, using innovative methods to optimize processes and expand operations while maintaining strict fiscal control.

He has also led and coordinated innovative engineering projects for oil sands mature fine tailings treatment, successfully attracting interest from Tier 1 operators. Niel has extensive project management experience, including delivering a complex tailings treatment facility, managing small projects portfolios, and leading EP and EPCM proposals.

Niel holds a Bachelor of Engineering (Metallurgical) from the University of Pretoria and a Master of Engineering Management. He is a Professional Engineer registered with the Association of Professional Engineers and Geoscientists of Alberta and a member of the Canadian Institute of Mining, Metallurgy, and Petroleum.

Jeff Pendrel

General Counsel

Senior Leadership Team

Mr. Jeff Pendrel is a highly engaged, results-oriented professional with over 20 years of energy experience internationally (U.K. and Middle East) and in Canada. He has held executive-level positions with overall responsibility for multiple functions, including Legal, Marketing, Supply Chain, JV, Land Corporate Communications and Government Relations.

Jeff is a passionate, commercially oriented and impactful leader with superior communication and leadership skills and a proven ability to lead high-performing teams. Jeff has advised on carbon sequestration, net-zero (blue hydrogen) energy projects and other ESG-friendly infrastructure projects throughout his career. He has successfully led negotiations to enable multiple First Nation Communities' participation in carbon capture projects.

He has implemented a significant change in strategy for the Marketing Business unit, including acquiring midstream assets, optimizing legacy assets, implementing a gas and crude hedging program, and developing numerous new customer relationships in Canada, the US and Europe. The Marketing Business Unit generates sustainable annual cash flows of over $125 Million.

Jeff is a member of the Law Society of Alberta and British Columbia. He completed his MBA at the University of Cambridge and his Bachelor of Laws at the University of Saskatchewan. In addition, he has a Bachelor of Management. He is a life-long learner and active volunteer with youth sports.

Peter Barry

Engineering Manager, Cerilon Inc.

Senior Leadership Team

Peter has over 30 years of experience in project management, project engineering, and civil/structural design for commercial and institutional buildings, industrial oil and gas, LNG, offshore, port facilities, oilsands mining, and bridge projects. His fields of expertise include leadership and coordination of multi-discipline teams, organization, and management of design work for small and large projects as well as the design of onshore and offshore structures in structural steel and reinforced concrete, module and skid design for structures.

He is experienced in the coordination of design teams for project definition, FEED and detailed design, progress monitoring, quality assurance, certifying authority approvals, modularization, coordination of brownfield maintenance, modifications, package engineering and subcontractor management.

Peter's building experience includes projects ranging from residential houses to large commercial and institutional buildings. His LNG experience includes being the lead structural engineer in the Project Management Team assisting the Owner of the Woodfibre LNG Project in British Columbia, Canada. His

offshore experience includes projects on the east coast of Canada, in the Gulf of Mexico, and in Africa. His oil sands experience includes Teck Resources' Frontier Mine Prefeasibility Study, Shell's Albian Oilsands Debottlenecking, Syncrude's Tailings Systems, Imperial Oil's Kearl project and Petro-Canada's Fort Hills study.

Rudi Heydenrich

Technology Management & GTL Venture Development

Senior Leadership Team

Rudi is an experienced Chemical Engineer with extensive experience in providing technical and research support to one of the largest industrial complexes in the world – initially by doing it himself but also by leading multi-disciplinary teams. An individual with demonstrated experience in the art of technology decision-making and governance, the art of in-and out-licensing of proprietary technologies and direct involvement in the commercialization of three major technologies during a career at Sasol.

Over a period of circa 25 years, Rudi has established himself as a leader in the fields of New Business Development, Research and Development and technology transfer in the field of Energy and Chemicals technologies. He spearheaded the development and, ultimately, the commercialization of the Sasol Slurry Phase Distillate™ technology (Sasol's GTL Technology) in Qatar, Nigeria and currently Uzbekistan. During this period, he served on several Divisional Boards, Advisory Boards and JV constructs. A recipient of many awards for his contributions to the field, most notably the World CTL Award in 2011.

Rudi's extensive experience and knowledge in most aspects of Gas-to-Liquids technologies, the unique products from it and the efforts to implement complex GTL ventures acquired over the last 20+ years makes him extremely suitable to advise prospective owners, project and technology developers in this field. His preference is to work in the strategic domain, but he has also demonstrated the ability to translate strategy into tactical plans and then provide oversight on the delivery against the plan. He is an adaptable individual with a preferred collaborative leadership style and strongly believes in setting direction but then creating the space and removing obstacles in the way of the professionals who are best suited to execute the plans.

During his career, he has demonstrated a track record in the ability to successfully engage and collaborate with people across the globe. This covers people in industry, private and public sectors. He has a passion for technology and the skill of bridging the gap between the R&D and commercial worlds.

Additional Team Members

Name	Title	Description
Jeanne Mather	Corporate Investment Advisor	Project Financing of power, renewable and LNG projects and Reserve Based Finance (upstream oil & gas).
Ryan Galloway	Director, Corporate Investment	Finance, accounting, capital markets, and equity research and institutional sales expertise
Richard Mather	Corporate Investment Advisor	Investment, Advisory and Corporate Strategy expert with a focus on Oil & Gas and Renewable Energy.
Ed Cameron	International GTL Business Development	Led major GTL businesses and international GTL projects to develop complex joint ventures. Expert in GTL commercial negotiations, securing and expanding natural gas supply, licensing, utilities, and offtake agreements.

Name	Title	Description
Greg Farkas	Senior Business Analysis	Specializing in economic evaluations, modelling, data analysis and strategic planning.
Barry MacNamara	Corporate Development & Marketing	M&A and natural gas marketing lead negotiator striking deals with E&P companies, Utilities, and LNG stakeholders. Experience in CSS.
Heinrich Holt	O&M Specialist, Central Support Services, XTL Facilities	Experience in developing GTL commercial and safety frameworks, improving underperforming operational units, and elevating well-performing organizations.
Holger Maul	Global Operational Expert	Lead large-scale performance improvement efforts in complex petrochemical plants, including running operations and ensuring continuous improvement in XTL facilities.
Michiel Coetzee	Process Engineering and Licensing	GTL process specialist with 30 years of GTL licensing experience. Technology development and optimization for small to medium-sized enterprises and process engineering activities expertise
Andrew Nagy	Snr Manager, Process Engineering	Led the engineering, including initial scoping, FEED, DBM, HAZOP, project implementation, and start-up
Sujit Sarkar	Mechanical Engineering Advisor	Specialist in design, engineering, and applications for combustion systems applicable to all industries. Specifically in power generation design and engineering start-ups.
Rigard du Plessis	Marketing & Business Development	GTL International marketing and business development, particularly within the specialty chemicals, GTL products, and energy environments.
Nick Meijer	Automation & OT Integrator	Design, manufacturing operations, process control, and asset maintenance optimization. Experience in MES and XTL facility optimization and availability improvement.
David Wedlock	Principal Scientist, Base Oils	Recognized as a prominent figure in the global lubricants and base oils industry and particle science and engineering.
David Whitby	Business Development & Marketing	Business development consultancy owner of international downstream oil, gas and energy industries with a focus on Base Oils and lubricants.
Joe Rousmaniere	International Sales & Marketing	Authority in the international trade and marketing of lubricant base oils and waxes.
Joe Boom	Senior Advisor	GTL commercial and previous GTL financing experience. Proficiency in transportation, labor consultancy, technology licensing, capital project contracting and procurement, supply chain management, commercial deal-making, and mega project contracting and procurement
Madelein Kleyn	Patent & IP Commercial Specialist	Technical expertise includes petrochemicals, chemistry, process engineering, explosives, agriculture and software. Focus on IP and GTL IP expertise includes deal negotiations, Due Diligence, IP Portfolio Management, IP policy and strategy development and implementation, data privacy and data monetization.

Name	Title	Description
Megan Keith	Senior Manager, Accounting	US and Canadian tax project, which consists of managing multiple disciplines and organization of information to achieve various tax incentives and credits, liaising with external auditors, writing accounting policies and setting up the financial reporting process. Managing IRA impacts.
Tristan Hahn	Carbon Management Advisor	Pivotal role in the global GTL and coal-to-liquids (CTL) projects, employing in-house FT synthesis and coal gasification technologies to convert hydrocarbons into premium diesel and chemical feedstock
Anbu Shanmugam	Engineering Systems Expert	Development and implementation of the SmartPlant suite of products, including Smart3D, Schematics, SmartPlant Foundation, and SmartPlant Operations, contributing to enhanced project efficiency.
Graham Lea	Process Engineer, Water Specialist	Strength in the GTL process engineering design of water and wastewater treatment plants.
Francois Van Huyssteen	RAM&SCM Specialist	Pivotal in driving the adoption of simulation, production scheduling, and Industry 4.0 transformation.
PJ Vlok	Reliability Expert	Systems design and analysis, data mining, stochastic process modelling, multivariate regression modelling, numerical methods, predictive statistics, statistical analysis of failure data, and mathematical programming.
Maggi Long	Business Systems Manager	Quality management projects in accordance with ISO 2009:2015 requirements demonstrated through internal audits.
André Steynberg	GTL Process Specialist / Technologist	Specialist in GTL and Fischer-Tropsch (FT) technologies. Along with developing programs for commercial readiness
Jan Boshoff	Commissioning & Start-up Technologist	GTL research and development of gas conversion, chemicals, synthetic fuels, filtration, as well as fundamental molecular dynamics simulations of polymer systems