



Catalyst Midstream (USA) LLC
3877 E Caley Ln
Centennial, Colorado 80121
303-842-5551

November 1, 2023

Clean Sustainable Energy Authority
North Dakota Industrial Commission
600 East Boulevard Avenue
Dept 405, 14th Floor
Bismarck, ND 58505-0840

Re: CSEA Application

Dear Clean Sustainable Energy Authority:

Find attached the formal CSEA application for your review. An original and one (1) copy will be submitted via mail.

Catalyst Midstream (USA) LLC is ready, willing, able and committed to complete this project on time and on budget. Permitting for the project including the CCS facility was started in October 2023 and the Front End Engineering and Design (FEED) will begin in November 2023. Therefore, the timeline as shown in the application is on schedule.

Please call with any questions.

Kind regards,

A handwritten signature in blue ink, appearing to read 'Edward Neibauer'. The signature is fluid and stylized, with a long horizontal stroke extending to the right.

Edward Neibauer
President & CEO

Clean Sustainable Energy Authority
North Dakota Industrial Commission

Application

Project Title: BLUE AMMONIA FACILITY

Applicant: CATALYST MIDSTREAM (USA) LLC

Date of Application: NOVEMBER 1, 2023

Amount of Request

Grant: \$10,000,000

Loan: \$27,500,000

**Total Amount of Proposed Project:
\$960,000,000**

**Duration of Project: 40 MONTHS
CONSTRUCTION PHASE. 25+ YEARS PROJECT
LIFE.**

Point of Contact (POC): EDWARD NEIBAUER

POC Telephone: 303-842-5551

POC Email: eneibauer@catalystmidstream.com

**POC Address: 3877 E CALEY LN, CENTENNIAL,
COLORADO 80121**

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ABSTRACT

Objective: Catalyst Midstream (USA) LLC (Company), a North Dakota limited liability company formed in 2019, purposes to design, build, own and operate a 3000 MTPD (1.08 million tons/yr) Blue Ammonia Facility in Berthold, ND. The natural gas feedstock supply of 120,000 dekatherms per day will be sourced from various Bakken oil and gas producers in the Williston Basin and transported to the site by WBI Energy Transmission, Inc (WBI) from their Tioga, ND pipeline terminal. The Company has executed a Natural Gas Transportation Agreement and an Interconnect Agreement with WBI. The Company has secured an existing 330-acre rail terminal owned by Enbridge Inc. which includes an office building, 2 warehouse buildings and a load-out building with 14 Loading Arms and double loop rail track located on the western side of Berthold.

The primary market for the Blue Ammonia product is the Asia Pacific region to be used as a clean burning fuel with Japanese entities having expressed the most interest in a long-term contract for the Blue Ammonia. Japan is projected to be requiring 4 million tons of ammonia as a clean burning fuel in 2030 and growing to 30 million tons by 2050.

BNSF has agreed to rail the Blue Ammonia product to the Rivergate Terminal in the Port of Portland, OR where it will be loaded onto Very Large Gas Carriers (VLGC) and exported to these markets. The secondary market of approximately 250,000 tons/year will be the North Dakota agricultural industry.

KBR (Houston, TX) has been selected to license their PurifierPlus™ Blue Ammonia proven technology to the Company and has completed a Pre-FEED feasibility study on the project. KBR is ready, willing and able to begin the detailed engineering FEED work and estimates that a 9-month period would be acceptable to completing the work. The FEED work will include the design for the Carbon Capture and Storage (CCS) facility as 96% of the carbon dioxide (2.5 million tons/year) will be captured and stored into a permitted underground formation. TERRACOH, Inc. has been retained to obtain the Class IV injection permit for the CCS plant which will be located on the property site.

The Catalyst Midstream (USA) LLC Blue Ammonia project will demonstrate strong economic GDP growth for the State and diversification by the manufacturing of ammonia as a clean sustainable energy source to the Asia Pacific marketplace making North Dakota a world leader. The CCS facility will capture and sequester approximately 2.5 million tons per year of carbon dioxide emissions from the production of Blue Ammonia. The estimated GDP growth for the period of 2024-2027 during the construction period is \$244 million (see attached REMI Model).

Expected Results: 3000 MTPD (1,080,000 tons/yr) Blue Ammonia resulting in a GDP of \$830 million in 2027, job growth to 150-200 of skilled and unskilled laborers and additional local and state tax revenues.

Duration: The expected duration of the construction phase is 40 months. The project life of the facility is expected to be 25+ years.

Total Project Cost: The total pre-FEED estimated project cost is \$960,000,000. Once Front End Engineering and Design (FEED) is completed a detailed cost estimate will be obtained.

Participants: Catalyst Midstream (USA) LLC owns 100% of the project.

PROJECT DESCRIPTION

Objectives: The primary objectives in spending \$37.5 million in pre-construction funding are the purchase of the Berthold Terminal and obtaining the construction, air quality and carbon capture and storage (CCS) permits. Once these permits have been secured, project financing is readily available to build the 3000 MTPD Blue Ammonia facility and place it into production.

Methodology: The methodology in investing \$37.5 million in development funding for the period of 2023-2025 is shown below on Table 1:

TABLE 1

| Description | 2023 | 2024 | 2025 | Total |
|----------------------|---------------------|---------------------|--------------------|---------------------|
| KBR FEED | \$1,000,000 | \$2,000,000 | | |
| CCS Permit | \$3,000,000 | \$10,000,000* | | |
| Ramboll Air Permit | \$600,000 | \$600,000 | | |
| Terminal Acquisition | \$9,200,000 | | | |
| Management/Salaries | \$1,400,000 | \$4,600,000 | \$4,900,000 | |
| Working Capital | \$200,000 | | | |
| TOTAL | \$15,400,000 | \$17,200,000 | \$4,900,000 | \$37,500,000 |

*Includes stratigraphic test well.

Anticipated Results: The anticipated results after the \$37.5 million expenditure are obtaining the permits necessary to complete the project financing phase and start the construction phase. It is estimated the ground-breaking will occur on June 1, 2024 assuming FEED and Permitting is initiated in October 2023. The federal IRS 45Q tax credit program will generate in excess of \$120 million/year in carbon sequestration and storage revenues towards the feasibility of the project. The estimated increase in GDP during the construction period 2024-2027 is \$244 million.

Facilities: The facilities including property description, CCS site and asset list are shown in the attachments.

Resources: The list of resources including consultants retained for the project are as follows:

| | |
|--------------------------------------|----------------------|
| CCS Permit: | TERRACOH Inc |
| Air Quality Construction Permit: | Ramboll USA |
| FEED (Front End Engineering Design): | KBR LLC |
| Technology Provider and License: | KBR LLC |
| EPC Contractor: | TOYO USA Engineering |

Techniques to Be Used, Their Availability and Capability: The techniques to be used, availability and capability is referenced in the attachments under the Blue Ammonia technology provider (KBR) pre-FEED Technical Report.

Environmental and Economic Impacts while Project is Underway: The environmental and economic impacts are as follows:

1. Reduction in carbon dioxide emissions of 2.5 million tons per year
2. GDP growth of \$244 million during the construction period of 2024-2027

Ultimate Technological and Economic Impacts: The ultimate technological and economic impacts are the demonstration of blue ammonia manufacturing using carbon capture technology and the creation of up to 200 skilled and unskilled good paying jobs in Ward County, ND.

Why the Project is Needed: The project is needed to create a “value-added” revenue source for North Dakota using the existing natural gas resources that is currently being exported to other states and markets. North Dakota will benefit greatly from this project as it will provide a clean burning fuel primarily to the Asia Pacific marketplace but can easily grow to other world markets.

STANDARDS OF SUCCESS

The standards of success will be measured by the following:

1. Reduction of carbon dioxide emissions in the amount of 2.5 million tons/year
2. The 3000 MTPD of Blue Ammonia will increase energy sustainability by using the vast amount of Williston Basin natural gas reserves towards the manufacturing of a clean burning fuel.
3. This project will demonstrate its value to North Dakota in many ways such as an increase in GDP, creating new jobs, supply the world in clean burning fuels and provide a low cost source of anhydrous ammonia for the state agriculture sector.

BACKGROUND/QUALIFICATIONS

*Please provide a summary of prior work related to the project conducted by the applicant and other participants as well as by other organizations. **This should also include summary of the experience and qualifications pertinent to the project of the applicant, key personnel, and other participants in the project.***

See attached Exhibit A

MANAGEMENT

*A description of **how** the applicant will manage and oversee the project to ensure it is being carried out on schedule and in a manner that best ensures its objectives will be met, **and a description of the evaluation points to be used during the course of the project.***

Applicant will strictly adhere to the management and construction rules and principles as outlined in Edward W. Merrow’s “Industrial Mega Projects” and shown in attached Exhibit B. This management technique is a proven and successful model resulting in reduced capital costs and a reliable project timeline.

TIMETABLE

Please provide a project schedule setting forth the starting and completion dates, dates for completing major project tasks/activities, and proposed dates upon which the interim reports will be submitted.

| Phase 1: Project Development Q3/19 to Q3/23 | Phase 2: Project Execution Q4/23 to Q3/27 | Phase 3: Operations Q3/27 |
|---|---|---|
| <ul style="list-style-type: none"> Secure Site/Utilities Access Seed Capital (\$37.5 million) Initiate FEED Set up Corporate Office Licensing Agreements Regulatory Establish Board of Directors 1st Institutional Round Begin Commercial Complete pre-FEED Order Long Lead Items | <ul style="list-style-type: none"> Receive Approvals Execute Commercial Agreements Execute Project Financing 2nd Institutional Round Initiate FEED Initiate and Complete Construction Create Operations team Construction (40 months) Natural Gas Feedstock Pipeline (40 months) Commissioning | <ul style="list-style-type: none"> Start-Up Commissioning |



BUDGET

*Please use the table below to provide an **itemized list** of the project’s capital costs; direct operating costs, including salaries; and indirect costs; and an explanation of which of these costs will be supported by the financial assistance and in what amount. The budget should identify all other committed and prospective funding sources and the amount of funding from each source. **Please feel free to add columns and rows as needed.** Higher priority will be given to projects with a high degree of matching private industry investment.*

| Project Associated Expense | NDIC Grant | NDIC Loan | Applicant’s Share (Cash) | Other Project Sponsor’s Share | Total |
|----------------------------|--------------|--------------|--------------------------|-------------------------------|---------------|
| Equipment | | | | | \$260,000,000 |
| Material | | | | | \$200,000,000 |
| Construction | | | | | \$300,000,000 |
| Engineering | | | | | \$ 38,000,000 |
| Misc | | | | | \$162,000,000 |
| | | | | | |
| Total | \$10,000,000 | \$27,500,000 | \$200,000 | \$922,300,000 | \$960,000,000 |

PATENTS/RIGHTS TO TECHNICAL DATA

*Any patents or rights that the applicant wishes to reserve must be identified in the application. If this does not apply to your proposal, please note that below. **Any patents or rights are held by KBR on their Blue Ammonia PurifierPlus™ Technology.***

STATE PROGRAMS AND INCENTIVES

*Any programs or incentives from the State that the applicant has participated in within the last five years should be listed below, along with the timeframe and value. **Catalyst Midstream (USA) LLC has made a loan application to the Department of Commerce.***