APPLICATION CHECKLIST

Use this checklist as a tool to ensure that you have all of the components of the application package. Please note, this checklist is for your use only and does not need to be included in the package.

☐	Application
☐	Transmittal Letter
☐	Tax Liability Statement
☐	Letters of Support (If Applicable)
☐	Business Plan (Appendix)
☐	Historical Financial Statements (3 years) (Appendix)
☐	Budgeted Projections (Appendix)
☐	Loan/Loan Guarantee Application (if Applicable, Appendix)
☐	Other Appendices (If Applicable)

When the package is completed, send an electronic version to sustainableenergy@nd.gov and 2 hard copies by mail to:

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

For more information on the application process please visit:
http://www.nd.gov/ndic/csea-infopage.htm

Questions can be addressed to Al Anderson (701) 595-9668.

Clean Sustainable Energy Authority

North Dakota Industrial Commission

Application

Project Title:
Solving North Dakota Flaring: Mobile Flare Gas Capture & Fueling Platform Expansion

Applicant: Valence Natural Gas Solutions

Date of Application: November 1, 2021

Amount of Request
Grant: $2,500,000
Loan: $15,000,000

Total Amount of Proposed Project:
$44,000,000

Duration of Project:
November 2021 – December 2022

Point of Contact (POC):
Stewart Wilson, President & CEO

POC Telephone: 403-463-1653

POC Email: swilson@valencengs.com

POC Address:
5812 Jefferson Lane, Williston ND 58801

ABSTRACT

Valence Natural Gas Solutions LLC ("**Valence**", and "the **Company")** is proposing a significant expansion of its proprietary Flare Gas Capture ("**FGC**") and natural gas fueling platform in North Dakota, with the objective of providing a commercial platform enabling producers and the State to further achieve their goals of increasing the total volume of gas captured. The Clean Sustainable Energy Authority Program ("**CSEA**") would aid the Company in accelerating the platform's capability to capture at least 10% of the 2021 average total statewide flared volume by the end of 2022.

Valence is proposing to invest an additional $44.0MM by year-end 2022 in its established equipment fleet and service platform to enable the capture of 24.5 million cubic feet per day (MMCFD) by 2023 of North Dakota gas that would otherwise be flared ("**the Project**"), representing ~10% of the average 2021 YTD statewide total of ~245 MMCFD. A total of $17.5mm is proposed as contribution from the CSEA program, consisting of $2.5MM in grant funds and $15mm in loan proceeds, complementing and accelerating Valence's planned expansion of the FGC platform of >$25mm over the next 18 months.

Valence's company mission is to provide economic, scalable solutions for gas flaring and mobile natural gas transportation, ultimately enabling the technologies and tools that can help producers avoid the practice altogether. The Company has developed advanced technologies in mobile natural gas processing, compression and transportation in the State over the past 8 years, resulting in the commercial offering of two FGC solutions, the Standard (4.0 MMCFD) unit and the Micro (1.0 MMCFD) unit, for producers to choose from depending on the type of flaring problem. In addition, either directly linked to the FGC offering or independently, the company offers CNG fueling services for high-horsepower fuel consumption sites, allowing producers to save costs on their fuel expenses while greatly reducing their emissions footprint.

Execution of the Project would commence immediately with long-lead equipment orders for an additional Standard FGC plant and the staged delivery of up to eight Micro FGC plants, as well as the associated CNG trailers and logistics infrastructure to support the expansion. These FGC plants would be constructed and deployed through 2022, providing immediate increased gas capture capability on Valence's already-established platform of operations and infrastructure for mobile natural gas. By year-end 2022, the Project is expected to achieve:

- Total Company flare gas capture capacity: **>20 MMCFD** with a further 4 MMCFD under construction
- Total 2022 annual emissions reduction: 346,000 tons with end-of-year annual run-rate of: 557,000 tons/yr
- Total deployed and under-construction FGC capacity equal to capturing 10% of 2021 average ND Bakken flaring, enabling the state to increase the total Gas Capture rate by ~1% or more
- Total additional local job creation: >30 jobs at average annual compensation >$70k each
- Total capture of an additional >4.5 BCF of otherwise-flared gas in 2022, valued at >$35.0MM at current market prices
- Total annual savings for producers of >$15.0MM in 2022 by monetizing wasted flared gas and reduction in fuel costs

PROJECT DESCRIPTION

Objectives and Methodology

The Project has the ultimate objective of facilitating the State's goals of increasing the total volume of gas captured by providing commercial, value-add and market-ready solutions. Natural gas is too valuable a resource to waste, and to date full-capture of all associated gas production has been hindered by physical and economic constraints of the full-build out of traditional pipelines and gas processing infrastructure. Beginning in 2013, Valence has developed and innovated upon a technology platform enabling the mobile capture, processing and subsequent sale of this otherwise flared gas, complementing the established natural gas midstream infrastructure with rapidly deployable solutions to capture the hard-to-reach production sites for as short or as long as is required.

The State of North Dakota currently (as of August 2021) flares ~8% of all the gas produced in the state, a figure which through 2021 has averaged ~245 MMCFD. This practice has been historically required due to inefficiencies of traditional midstream building and sizing infrastructure to handle variable associated gas flow rates, with transient locations as activity moves through the basin.

Valence's Flare Gas Capture Platform entails a vertically integrated series of mobile gas processing and transportation technologies and service, ultimately allowing for the capture and sale of otherwise-flared gas through an entirely mobile replication of the natural gas midstream supply chain. Valence's mobile gas capture and processing facilities ("**FGC Facilities**") are installed directly at well sites lacking sufficient pipeline takeaway capacity for the associated gas produced, who are forced to otherwise flare gas in absence of restricting/capping production of the well. The FGC Facilities are mobilized quickly onto location (<1 week), and process raw wellhead gas by removing impurities and Natural Gas Liquids ("NGLs"), creating marketable products of (i) residue gas which is then compressed to CNG and (ii) NGLs, which are both transported to market for sale.

Valence's downstream CNG distribution platform enables the delivery of CNG to any diesel, propane, or otherwise liquid-fuel consuming engine or burner-tip application. Additionally, fixed infrastructure allows for the delivery of pipeline-quality CNG directly into sales pipelines, whereby the gas can be marketed alongside other processed sales gas through Northern Border Pipeline, to end markets. Currently, Valence is supplying ~70% of the drilling rigs and frac water heating units, in North Dakota and the basin's only natural gas-capable pressure pumping fleet, with CNG sourced primarily from otherwise flared gas.

The FGC platform ultimately creates both economic and environmental incentives for Oil and Gas Producers to reduce flaring, by 1) directly lowering emissions both at the wellsite and through their drilling and completions operations through the use of CNG, saving fuel costs in the process, and 2) receiving value for gas otherwise wasted, which is one of the largest sources of wellsite emissions in the industry.

The Project entails Valence constructing an additional 18 MMCFD of flare gas capture capacity, to add to the Company's already established 6.5 MMCFD platform currently in operation. This will be comprised

of an additional Standard FGC Facility and up to 10 Micro FGC facilities, >20 high-volume CNG trailers and the associated transportation assets, for a total Project investment of $44.0MM through 2022.

In tandem, the Company will expand its operations platform with additional drivers and logistics staff, mobile gas facility operators, field support and maintenance staff, as well as a host of contract support services. Once fully operational, this platform will yield an ongoing spend of >$1.0MM per month on local salaries and wages, housing, fuel and operating supplies to support the platform.

The Project will begin contemporaneously with the CSEA Program evaluation and award, with long-lead equipment orders for further FGC Facilities to be delivered throughout 2022. Further commitments to associated CNG trailers and supporting infrastructure will be made in parallel with FGC Facility construction, to allow for immediate deployment to an active.

Anticipated Results:

Valence anticipates meaningful, measurable results from the successful execution of the Project. By the end of 2022, the Company targets achieving the following measures:

- Total Company flare gas capture capacity: **>20 MMCFD** with a further 4 MMCFD under construction
- Total 2022 annual emissions reduction: 346,000 tons with end-of-year annual run-rate of 557,000 tons
- Total deployed and under-construction FGC capacity equal to capturing 10% of 2021 average ND Bakken flaring, enabling the state to increase the total Gas Capture rate by ~1% or more
- Additional local job creation: >30 jobs at average annual compensation >$100k each
- Total capture of an additional >4.5 BCF of otherwise-flared gas in 2022, valued at >$35.0MM at current market prices
- Total annual savings for producers of >$15.0MM in 2022 by monetizing wasted flared gas and reduction in fuel costs

Facilities, Resources, Techniques: Availability and Capabilities

Standard FGC Plants

Large-volume mobile Flare Gas Capture facility which has been developed, tested and deployed over years of flare gas capture project development in North Dakota to target high-volume, short duration flaring locations.

Capability: 4,000 MCFD per facility of 100% flare gas capture and CNG fuel production

Availability: Currently deployed in ND. Construction of additional units underway and to be expanded as part of CSEA Project through 2022.

Micro FGC Plants

Valence's Patent-Pending mid-volume mobile Flare Gas Capture facility designed to target mid-volume, variable flow-rate, medium duration flaring sites.

Capability: 1,000 MCFD per facility of 100% flare gas capture and CNG fuel production

Availability: Patent-pending technology has completed design phase, and first commercial unit is currently in manufacturing, with available of wide-spread roll out commencing Q2 2022.

CNG Fueling Logistics and Distribution Platform:

Valence's fleet of CNG Trailers, Pressure Reduction Units, logistics & transportation services and field operation support platform to distribute CNG for the purpose of diesel and propane displacement to drilling rigs, pressure pumping spreads and completions operations, industrial applications and pipeline/utility supply, and any other mobile power generation customers.

Capability: CNG Transportation and Dispensing equipment fleet capable of serving:

- (30 Drilling Rigs
- (6) Pressure Pumping spreads
- (12) Frac Water Heating units
- (6) Industrial consumers

Availability: Currently available and in operation throughout North Dakota.

Mobile Gas Marketing Terminal: CNG & NGLs:

Valence's fixed infrastructure throughout North Dakota. Terminals capable of receiving and marketing captured and processed Flared Gas in the form of CNG for pipeline injection, and NGLs for further processing and pipeline marketing.

Capability: CNG Injection into Northern Border Pipeline: 20,000 MCFD
NGL Processing and Marking: 2,200 bbls/day

Availability: Currently operational through investments and build-out from 2018 to present.

Environmental and Economic Impacts while Project is Underway:

The Project will create immediate Environmental impacts, quantified by the expected reduction in emissions of:

- 2022 annual CO2e emissions reduction target of: 346,000 tons
- 2022 exit run-rate annual CO2e emissions reductions of: >550,000 tons/year

Additionally, reduced light pollution results from the elimination of flaring benefiting the surrounding communities.

The Project will provide immediate economic benefits, quantified by:

- Total capture of an additional >4.5 BCF of otherwise-flared gas in 2022, valued at >$35.0MM at current market prices
- Total annual savings for producers of >$15.0MM in 2022 through monetization of wasted flared gas and reduction in fuel costs
- Creating a revenue stream for producers from an otherwise wasted resource

Further environmental and economic benefits can be found in the accompanying Business Plan.

Ultimate Technological and Economic Impacts:

Establishment of Valence's large-scale mobile flare gas capture platform provides an economic solution to the over $700mm of natural gas that is wasted through flaring each year in North Dakota. Valence's FGC technologies, accelerated by the CSEA Program, are currently capable of addressing over 65% of all statewide flaring with a commercial, value-add solution.

Ultimately, successful scaling of the mobile FGC platform will allow the State to progress towards eliminating flaring, while creating positive economic and environmental benefits to producers and communities in the process.

Further detail on the ultimate market potential can be found in the accompanying Business Plan.

Why the Project is Needed:

The Project is critical to the overall progress of the Oil and Gas industry in North Dakota. Flaring is one of the largest sources of economic and environmental waste within the energy industry and has become one of the highest-profile and most-used examples by detractors of hydrocarbon energy development in their push to hinder the industry.

The Project provides scale to a platform that can be used by industry to:

- Further improve the environmental footprint of oil and gas development in North Dakota by reducing emissions
- Improve overall economic sustainability though the monetization and creation of a source of revenue from an otherwise wasted resource
- Give producers a tool allowing a social license to operate, and continue to improve the public reputation of responsible energy development

The Project ultimately enables the scaling a technology and commercial platform that targets what traditionally has been a very difficult problem to solve: economic gas capture solutions for marginal gas production in North Dakota. The widespread deployment of this technology further enables the State to progress beyond NDIC gas capture targets toward the ultimate goal of eliminating flaring

STANDARDS OF SUCCESS

The Project's success will be measured according to the following criteria:

- *Emissions reduction and reduced environmental impacts*
- *Increased energy sustainability*
- *Value to North Dakota*
- *Increased employment*
- *Benefits to the community*

Details of the Standard of Success can be found in the accompanying Business Plan

- *How the project will enhance the research, development and technologies that reduce environmental impacts and increase sustainability of energy production and delivery of North Dakota's energy resources.*

Details can be found in the accompanying Business Plan

- *How it will preserve existing jobs and create new ones.*

Valence's FGC platform employs local truck drivers, facility operators, maintenance and logistics personnel to enact. Every additional FGC Facility deployed requires 2 to 4 additional jobs to operate the plants and perform the transportation and logistics of the products it produces. Further expansion of the FGC platform enhances the already-existing operations, improving profitability of the base business which in turn provides additional opportunities for job activity and advancement.

- *How it will otherwise satisfy the purposes established in the mission of the Program.*

Valence's participation the CSEA Program will allow the Company to accelerate the deployment of its industry leading Flare Gas Capture technology and natural gas fueling platform, providing an example of innovation by a longstanding locally operated company that originated in North Dakota. This exemplary business model provides a scalable, commercially viable value proposition to Producers not only in North Dakota, but on a North American and global basis. Moreover, with the support of the CSEA, this platform has the capacity and resources to make immediate meaningful reductions in emissions over the next 12-24 months and enhance North Dakota's presence and economy through clean sustainable energy production.

BACKGROUND/QUALIFICIATIONS

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.***

Valence has been in operation in North Dakota since 2013 developing mobile natural gas and flare gas capture solutions. The Company has cumulatively moved over 3.0 BCF of North Dakota gas through over 20,000 CNG transportation deliveries, displacing over 25 million gallons of diesel for customers across the state.

Valence is currently lead by the same core leadership team that originally founded the business in 2013, translating all the years of experience garnered developing flare gas capture technologies and operating in North Dakota's unique environment into the innovation that the Company is seeking to expand today:

- Stewart Wilson, President:
    - The original founder of Valence's North Dakota Mobile Natural Gas business, Stewart has been instrumental in the creation of the Flare Gas Capture to CNG Fueling business model, Valence's operating platform, and the fostering of Flare Gas Capture technology development resulting in the

- John Vertz, VP Engineering:
    - John, an original founding member of the Valence management team, is a professional Engineer responsible for the design and execution of all Valence's Flare Gas Capture projects dating back to company inception. John is responsible for the design, construction, and deployment of Valence's current Standard FGC Facility and patent-pending Micro FGC Facility.

Further details on Valence's experience and expertise in mobile natural gas business can be found in the accompanying Business Plan

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.*

Valence will manage the Project through the governance and execution of the currently operating business platform in North Dakota. Valence's business is managed by an experienced management team, and governed by a board of directors comprised of 2 members of Sandton, Valence's private equity sponsor and Stewart Wilson, President.

Valence manages several key manufacturing vendors through the construction of the FGC Facilities and associated CNG trailers. Valence's Engineering team resources are dedicated in-house to these vendors throughout the construction phase, with frequent Project timeline and budget updates, design reviews, quality control checkpoints, manufacturing inspections and trial fit acceptance reviews upon completion.

Once completed, the Project equipment will be transitioned from Engineering to the Valence Operations team for deployment to customer locations and ongoing operations. Valence Sales personnel are critical to this phase of customer coordination surrounding initial deployments, and subsequent ongoing operations.

The major evaluation points for the Project are:

- Long-lead order placement for the FGC Facilities and associated CNG Transportation equipment, with expected delivery dates being secured at this time.
- Construction Progress Reports, typically at least monthly, throughout the manufacturing of the FGC Equipment, provide updates as expected delivery dates and adherence to Project budgets
- Manufacturing completion and Valence acceptance of each item of the FGC Equipment
- Flare Gas Capture customer confirmation of contract and deployment location typically occur 2 to 6 weeks from expected equipment readiness to ship
- Initial Deployment and commissioning of the FGC Equipment typically occurs within 2-4 weeks of FGC Equipment readiness to ship
- Operational performance is monitored continually after initial deployment, with major look-backs occurring monthly with Valence operations and the end customers

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.

Details on Project execution, timelines, and expected completion dates can be found in the accompanying Business Plan attached.

Interim reporting timelines will be submitted as per CSEA guidance, as developed through the confirmation of the Project's acceptance into the CSEA Program.

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.*

Please see the accompanying Confidential Business Plan, Project Cost Summary, for detailed Project Budget information

Please use the space below to justify project expenses and discuss whether the project's objectives will be unattainable or delayed if less funding is available than requested.

Please see the accompanying Confidential Business Plan, Project Budget Summary, for detailed Project Budget description, information and detail

CONFIDENTIAL INFORMATION

An applicant may request confidentiality for any information in the application packet which the applicant wants to be kept confidential (such as business plans, historical financial information, and budgeted projections.) This information should be placed in separate appendices along with the confidentiality request. The appendices must be clearly labeled as confidential. The request must include the following information: (a.) a general description of the nature of the information sought to be protected, (b.) an explanation of why the information derives independent economic value, actual or potential, from not being generally known to other persons, (c.) an explanation of why the information is not readily ascertainable by proper means by other persons, (d.) a general description of any person or entity that may obtain economic value from disclosure or use of the information, and how the person or entity may obtain this value, and (e.) a description of the efforts used to maintain the secrecy of the information.

*If you plan to request confidentiality for **reports** if the proposal is successful, a request must still be provided in a separate appendix marked confidential.*

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.

Valence's Micro Flare Gas Capture facility is protected under a Provisional Patent.

Please see the accompanying Confidential Business Plan for further information regarding Valence's IP.

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.

There are no relevant programs or incentives from the State that Valence has participated in over the last five years.