# SB 1383 Dairy Biomethane Pilot Project

# Selection Committee Score Card

# Summary

## Contents

# Overview

This Scorecard contains the Selection Committee's Dairy Biomethane Pilot Project application selection recommendations pursuant to direction received in Senate Bill (SB) 1383 (Lara, 2016)[1] and Decision (D.) 17-12-004, December 14, 2017.[2] The Selection Committee consists of members from the California Public Utilities Commission (CPUC), the California Air Resources Board (CARB), and the California Department of Food and Agriculture (CDFA). The Scorecard includes an overview of the Selection Committee 2018 selection process.

## Introduction

Consistent with SB 1383 and pursuant to Commission Decision, the Selection Committee must choose at least five project applications from the pilot project solicitation for participation in the dairy biomethane natural gas pipeline injection pilot project process. The Selection Committee also has the discretion to choose projects to ensure that the pilots selected are found in a variety of geographic locations and are developed by at least two or more developers in order to achieve project diversity.[3] All of the selected pilot projects are required to participate in pilot project evaluation studies with the member agencies of the Selection Committee and the California Energy Commission (CEC) and to report specified data so that the state can learn valuable California dairy-specific information concerning the feasibility and cost effectiveness of these pilot projects.[4]

The Selection Committee selected the five highest scoring projects pursuant to the scoring rubric determined by the formal Commission process. The Selection Committee also selected a sixth project. The sixth project was submitted by a third developer, is positioned in a unique geographic location, and utilizes the most advanced digester technology of all pilot application submissions. For these reasons, the sixth project is also included in the project selection list as it meets the spirit and intent of the Dairy Biomethane Pilot Project Solicitation (Pilot Solicitation) process. This sixth project will also serve as a back-up project in the event that one of the five highest scoring projects is unable to proceed for any reason.

The Selection Committee recommends selecting the following six projects to receive project funding and participate in ongoing pilot project evaluation:

1. South Tulare – California Bioenergy (CalBio)
2. North Visalia – California Bioenergy
3. Buttonwillow – California Bioenergy
4. Merced CEE – Maas Energy Works (Maas)
5. Lakeside – Maas Energy Works
6. Weststeyn – DVO, Inc.

[1] Health and Safety Code § 39730.7(d)(2)
[2] D. 17-12-004 can be found at http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K352/201352373.PDF
[3] D. 17-12-004, December 14, 2017, p. 3. The CPUC representative on the Selection Committee has the discretion to authorize more than five projects.
[4] *Ibid*, p. 3; SB 1383 (Lara 2016).

With the selection and development of these six projects, the State of California will learn valuable information about dairy biomethane production and the processes and costs associated with the interconnection of a dairy biomethane project to the natural gas pipeline system.[5]

## Background

SB 1383 required, among other things, that the CPUC implement "at least 5 dairy biomethane pilot projects to demonstrate interconnection to the common carrier pipeline system." Rulemaking (R.) 17-06-015 opened in June of 2017 to develop the regulatory framework necessary to implement this direction. Decision (D.) 17-12-004, approved on December 14, 2017, developed definitions for the various parts of the dairy biomethane pilot projects, the cost recovery and ownership framework, and the scoring criteria that the Selection Committee would use to evaluate applications received in the Pilot Solicitation.

The Selection Committee consists of staff members and attorneys from the CPUC, CARB, and CDFA. There are two utilities participating in the pilot project process, Pacific Gas & Electric Company (PG&E) and Southern California Gas Company (SoCalGas). The utilities provided a first draft of the Pilot Solicitation and draft Scoping and Project Estimation tool that was used to estimate project expenses for the Selection Committee. The utilities submitted their first drafts on January 18, 2018. The utilities used elements from CDFA's Dairy Digester Research and Development Program selection process[6] as well as CARB's greenhouse gas (GHG) reduction estimator tool in developing the draft solicitation.[7] The draft documents were posted to the CPUC Renewable Natural Gas website.[8]

On January 31, 2018, a workshop was held at CDFA's Sacramento office to invite feedback on the draft Pilot Solicitation and Estimation tool. At the workshop, several topics were emphasized including a need for safety in the development of these projects, the pilot nature of these projects and thus the ability to innovate and utilize new technology, and the need to learn from the pilot project experience.

After the workshop, the Selection Committee edited the Pilot Solicitation documents and published the final solicitation on March 7, 2018.

## The Selection Process

The Selection Committee's goal was to select projects that inject biomethane into the natural gas pipeline system and are financially sustainable in the long-term so that State investments provide the expected environmental benefits to ratepayers and the State of California. The Selection Committee considered the viability of the dairy biomethane industry while addressing safety, environmental concerns, impacts and benefits to disadvantaged communities, and project development timelines.

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[5] This information relates to 1) health and safety issues, 2) the natural gas pipeline interconnection process in various locations across the state, 3) information about different types of methane-producing anaerobic digesters, and 4) producer gas offtake agreements for a variety of uses and technological outcomes.

[6] https://www.cdfa.ca.gov/oefi/ddrdp/ This program provides financial assistance for the installation of dairy digesters in California, which will result in reduced greenhouse gas emissions.

[7] CARB developed a Quantification Methodology and associated Calculator Tool to estimate net GHG reduction benefits of each proposed dairy digester project.
https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/cdfa_ddrdp_finalqm_17-18.pdf?_ga=2.251290630.1669794145.1536877302-517226865.1510597097

[8] http://www.cpuc.ca.gov/renewable_natural_gas/

The Selection Committee met weekly to review pilot project applications. First, the Selection Committee developed a standardized Score Card using the scoring metrics determined within the formal regulatory process.[9] Then, the Selection Committee discussed and deliberated on each project individually to ensure a standardized review. Each project was evaluated on the following categories delineated by the Decision:

1. Technology Plan
2. Marketing Plan
3. Scalability
4. Project Team Qualifications
5. Long-Term Viability of Project
6. Economic Viability
7. Greenhouse Gas Reduction
8. Cost Effectiveness
9. Justification and Reference
10. NOx and Criteria Pollutants
11. Mitigate Emissions On-Site
12. Mitigate Emissions Off-Site
13. Project Co-Benefits
14. Community Impacts and Mitigation
15. Localized Economic Benefits
16. Project Readiness and Implementation

The following topics were additionally elevated within Selection Committee discussions: 1) did the developer showcase an appropriate commitment to safety to conform with the CPUC's strategic plan; and 2) did the developer utilize the pilot application to investigate new technology opportunities from which the state could learn.

## Pilot Project Cost Recovery and Financing

Senate Bill 1383 directed gas corporations to implement not less than five dairy biomethane pilot projects to demonstrate interconnection to the common carrier pipeline system. The pilot projects solicitation was designed to allow for rate recovery for reasonable infrastructure costs.

Pursuant to D. 17-12-004, the pipeline infrastructure at issue for rate recovery for these pilot projects includes the biogas collection lines, the interconnection facilities at the point of receipt at the common carrier natural gas pipeline, the pipeline extension to the existing common carrier natural gas pipeline network, and the required interconnection facilities. While the pipeline infrastructure will predominantly be owned and operated by the utility, the biogas collection lines are part of the definition of utility pipeline infrastructure for purposes of cost recovery and funding but not for ownership purposes. This means that while the costs of installing biogas collection lines will be put into ratebase, these lines will be owned, operated, and maintained by the project developer. Other elements of the dairy pilot projects are either funded by the developers or may have received funding from CDFA's Dairy Digester Research and Development Program.

[9] D. 17-12-004, December 14, 2017, Appendix A- Dairy Biomethane Implementation Framework p3.

## The Applicants

Three project developers submitted applications to the Pilot Project Solicitation. Two developers showcased their familiarity with the submission process related to programs developed by State of California agencies. The third developer was relatively new to developing an application to be submitted to government agencies. This developer, however, has appropriate project development credentials, proposes to use proven technology, offers technical innovations, and utilized all of the pilot project development suggestions discussed during the development of the solicitation and incorporated those elements into their pilot project application.

The Selection Committee received a total of eight applications on June 25, 2018, in response to the pilot solicitation. CDFA's Dairy Digester Research and Development Program grants were awarded shortly after the pilot project solicitation applications were received. The Selection Committee immediately checked with applicants to determine the financial viability of their project applications, if the projects were reliant on the grant program, and if the projects could continue forward without the grant funding. The Selection Committee evaluated each of the eight applications on the merits pursuant to the scoring rubric developed in the formal proceeding.

## Five Highest Scoring Projects

The Selection Committee selects the following five highest scoring applications for development to demonstrate interconnection to the common carrier pipeline system:

| Scoring Rank | Project Name | Developer | Location | Anticipated Average Biomethane Production* | Ratepayer Funding Requested |
|---|---|---|---|---|---|
| 1 | South Tulare | CalBio | Tipton and Tulare County | 3,813 MMBtu/day | $38,329,718 Installed cost<br>$1,861,812 Annual O&M |
| 2 | North Visalia | CalBio | Visalia, Tulare County | 772 MMBtu/day | $26,473,379 Installed cost<br>$1,629,078 Annual O&M |
| 3 | Buttonwillow | CalBio | Kern County | 206 MMBtu/day | $28,349,036 Installed cost<br>$1,509,312 Annual O&M |
| 4 | Merced – CEE | Maas | Chowchilla and Merced, Merced County | 867 MMBtu/day | $12,444,824 Installed cost<br>$1,780,267 Annual O&M |
| 5 | Lakeside | Maas | Tulare County and Kings County | 1,064 MMBtu/day | $18,960,739 Installed cost<br>$2,215,481 Annual O&M |

***** *Pipelines must be designed to accept maximum possible biomethane gas production. Dairy biomethane production amounts, however, will vary widely based on summer and winter conditions. Daily production*

*numbers here are a rough estimate based on maximum and minimum seasonal production amounts provided by the utilities.*

## The Sixth Project

Pursuant to the Decision, the Selection Committee has the discretion to choose a project that is not among the highest scoring to ensure that the pilots selected are a) developed in a variety of geographic locations, and b) are developed by two or more developers in order to achieve project diversity.[10] The Selection Committee is exercising its discretion to choose a project that is not among the highest scoring to ensure that a third developer with a unique pilot proposal in a diverse location is included in the project development mix. The Selection Committee chooses the Weststeyn project, developed by DVO, as the sixth project.

The Weststeyn project application puts forward a mix of advanced digester technology and an innovative biomethane offtake agreement contract to produce hydrogen for fueling stations.[11] The five highest scoring applicants have secured offtake agreement contracts for their biomethane production in the transportation industry as compressed renewable natural gas, so this sixth project offers two innovative technologies for further evaluation. Furthermore, the sixth project proposes to develop biomethane at a single dairy site, rather than a cluster project. These factors permit the Selection Committee to evaluate and select the project notwithstanding its lower score.

The sixth project did receive a lower score on its application than other projects not selected. This low score is partially associated with inconsistencies using the GHG mitigation calculation tool required by the solicitation. While the Selection Committee does not doubt that this project can be successfully built, the Selection Committee requests a number of additional assurances be provided by the developer within 30 days of being noticed of selection so as to safeguard the ratepayer contribution to the development of this project. The Selection Committee proposed conditions to be met in conjunction with the selection of the project including responding to supplemental questions.

The Selection Committee expects that the State of California will learn a great deal of new information from the selection of this sixth pilot project regarding new dairy digester technology and hydrogen production. Additionally, this project can provide information on the potential viability of smaller scale biomethane production and pipeline injection projects while diversifying fuel production beyond the more commonly produced compressed renewable natural gas.

## Total Costs

The total cost of the SB 1383 pilot projects, including the sixth project:

| Total Construction Costs | Total O&M Costs for 20 years | Total All-In Costs | Total Biomethane Produced - 20-year estimates | Estimated GHG Reduction- 20-year estimate based on applications |
|---|---|---|---|---|
| $131,635,795 | $187,349,480 | **$318,985,275** | 47,357,433 MMBtu | 15,694,034 mtCO2e* |

[10] *Ibid*, (D.) 17-12-004, December 14, 2017, p. 3. The CPUC representative on the Selection Committee has the discretion to authorize more than five projects.
[11] There is a known buyer for their biomethane gas production.

* *metric tons of carbon dioxide equivalent*

Approximately $319 million dollars in infrastructure investments permits the collection and natural gas pipeline injection of biomethane from dairy digesters and conditioning facilities at six pilot projects. The dairy digesters yield significant GHG emissions reduction and the infrastructure investment permits those dairy emissions to be put to beneficial use as a renewable natural gas product available for purchase in the transportation industry.

## Conclusion

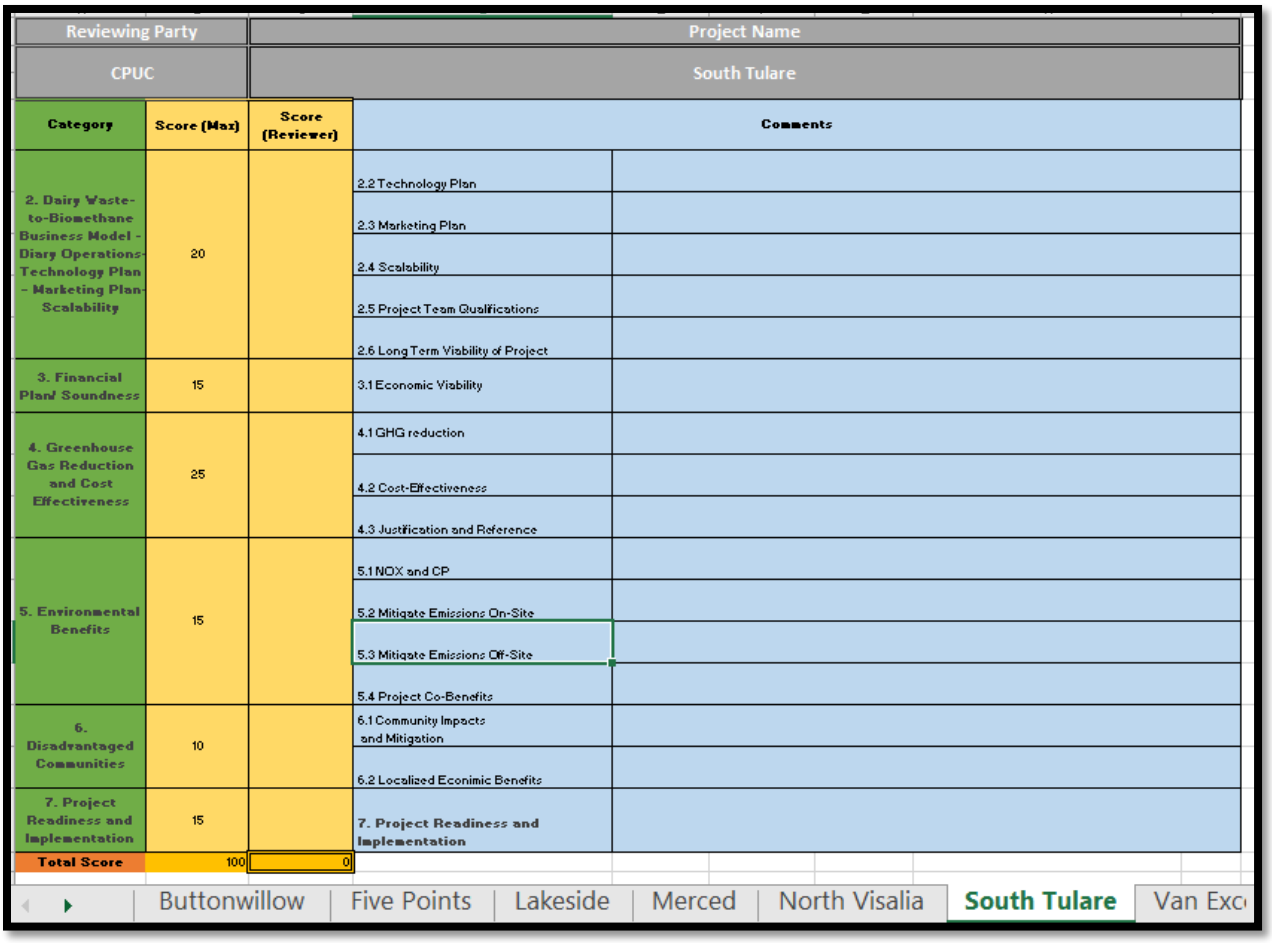
It is important to acknowledge and thank the members of the Selection Committee who dedicated time and energy to reading, analyzing, scoring and deliberating throughout the pilot project selection process. The success of this selection process is a result of the dedicated attention and experience of the members of this Committee.

Below, the Selection Committee's official Score Card represents the abbreviated consensus of many months of deliberation and does not purport to contain an exhaustive deliberation of each project.

This SB 1383 Dairy Biomethane Pilot Project Application Score Card Overview Summary describes the three state agencies' combined efforts to evaluate eight pilot project applications using a standardized methodology. Pursuant to Decision (D.) 17-12-004, December 14, 2017[12], the Selection Committee, consisting of analysts from the California Public Utilities Commission, the Air Resources Board, and the Department of Food and Agriculture, harnessed their areas of expertise and scored each project on the basis of specified criteria using a standardized score card. Each project was discussed individually, and after a preliminary investigation, the members of the Selection Committee met to discuss each project and score each pursuant to the delineated criteria.

[12] http://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M201/K352/201352373.PDF

The specified criteria and preliminary scorecard are as follows:



| Reviewing Party | Project Name | |
|---|---|---|
| CPUC | South Tulare | |
| **Category** | **Score (Max)** | **Score (Reviewer)** | **Comments** | |
| 2. Dairy Waste-to-Biomethane Business Model - Diary Operations- Technology Plan - Marketing Plan- Scalability | 20 | | 2.2 Technology Plan | |
| | | | 2.3 Marketing Plan | |
| | | | 2.4 Scalability | |
| | | | 2.5 Project Team Qualifications | |
| | | | 2.6 Long Term Viability of Project | |
| 3. Financial Plan/ Soundness | 15 | | 3.1 Economic Viability | |
| 4. Greenhouse Gas Reduction and Cost Effectiveness | 25 | | 4.1 GHG reduction | |
| | | | 4.2 Cost-Effectiveness | |
| | | | 4.3 Justification and Reference | |
| 5. Environmental Benefits | 15 | | 5.1 NOX and CP | |
| | | | 5.2 Mitigate Emissions On-Site | |
| | | | 5.3 Mitigate Emissions Off-Site | |
| | | | 5.4 Project Co-Benefits | |
| 6. Disadvantaged Communities | 10 | | 6.1 Community Impacts and Mitigation | |
| | | | 6.2 Localized Econimic Benefits | |
| 7. Project Readiness and Implementation | 15 | | **7. Project Readiness and Implementation** | |
| **Total Score** | 100 | 0 | | |

Buttonwillow | Five Points | Lakeside | Merced | North Visalia | **South Tulare** | Van Exc

*Note: All projects were scored using individualized score cards. The Selection Committee met, deliberated, and together determine the score that each project received.

Based on the Scorecard and the deliberation of the Selection Committee, the Selection Committee recommends funding the development of the six dairy biomethane pilot projects noted above.

## Final Scores

| Project Name | Dairy Waste-to-Biomethane Business Model - Dairy Operations-Technology Plan – Marketing Plan-Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
|---|---|---|---|---|---|---|---|
| **South Tulare** | 20 | 14 | 22 | 14 | 9.5 | 14 | 93.5 |
| **North Visalia** | 19 | 14 | 22 | 13 | 9 | 13 | 90 |
| **Buttonwillow** | 17.5 | 13.5 | 20 | 13 | 8.5 | 13 | 85.5 |
| **Merced-CEE** | 16 | 12 | 20 | 12 | 7 | 14 | 81 |
| **Lakeside** | 14 | 10 | 19 | 11 | 7 | 11 | 72 |
| **Five Points** | 14 | 10 | 18.5 | 9.5 | 8 | 11.5 | 71.5 |
| **Van Excel** | 12 | 12 | 17 | 9 | 7 | 9 | 66 |
| **Weststeyn** | 13 | 10 | 13 | 9 | 7 | 9 | 61 |

A further breakdown is provided below.

# 1. South Tulare, CalBio

| Project Name | South Tulare | | Developer | CalBio | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model - Dairy Operations- Technology Plan – Marketing Plan- Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 20 | 14 | 22 | 14 | 9.5 | 14 | 93.5 |

## Scoring Criteria — Technology Plan

### Positive Feedback

- Good use of technology. Digesters appear to be the most well designed and engineered for long-term operation, employing state of the art digester, biogas conditioning/upgrading, and solid-liquid separation technology. Technology selected is proven to be reliable and robust and is currently in use today in nearly all California digester applications. Proposed technology is similar across all applications by this developer and similar to that proposed by other developers.
- Innovative use of digester effluent that can potentially reduce follow-on methane emissions by eliminating long-term digester effluent storage. May also improve water quality and crop yield with proper monitoring and usage. Good discussion of this feature seems to alleviate this potential concern, though more information on the nutrient management plans of the dairies using this technology would be useful.
- Applicant had one of the best and most comprehensive safety plans of the solicitation.
- Applicant evaluated multiple interconnection options to improve long-term reliability potential and reduce cost to ratepayers.

### Negative Feedback

- Additional discussion of fueling facility issues could improve clarity and could have improved project score.
- Improperly managing the digester effluent buffer could result in water quality impacts.

### Overall Feedback

Overall, with more projects already funded, the applicant provided a clear and detailed discussion of their technology plan that has multiple benefits including emission reductions, selection of robust and reliable technology options, cost reduction measures, and innovative technology approaches. The applicant provided the most detailed, comprehensive, and

complete discussion of technology for their project. Overall the safety provisions put in place seem to be reasonable and should help ensure worker safety.

## Scoring Criteria — Marketing Plan

### Positive Feedback

- Applicant has clearly defined, executed energy product offtake agreements with multiple potential offtakers including options to sell directly to converted natural gas fleets and to Chevron for use in its refining processes to offset natural gas.
- Applicant evaluates multiple product revenue streams as well as multiple scenarios for biomethane credit (Low Carbon Fuel Standard & Renewable Identification Number (LCFS & RIN)) valuation which helps demonstrate that marketing is in order.
- Marketing materials developed and provided by the applicant are clear and professional.
- The applicant has identified two large dairy fleet operators (CDI and Land o' Lakes) to work with on converting diesel trucks to natural gas with the intent of providing fuel for these fleets for local milk and feed deliveries, which improves economics for partners and reduces local air pollution impacts for disadvantaged communities.

### Negative Feedback

- There were no significant points deductions in this category.
- Having more concrete agreements for vehicle fleet conversions could have improved the scoring in this area.

### Overall Feedback

Overall the applicant provided a clear and detailed marketing plan that shows that the applicant has considered multiple revenue streams at different price points, has secured product offtake agreements with multiple offtakers, and has identified multiple potential fleets for heavy duty truck conversions. Having more concrete agreements for vehicle fleet conversions could have improved the scoring in this area.

## Scoring Criteria — Scalability

### Positive Feedback

- The applicant has committed to oversizing gathering collection lines at their own cost to allow additional unsigned dairies to be added to the system in the future. The applicant will pay for additional interconnection costs. This cluster could double in size.

### Negative Feedback

- Dairies within the cluster are not as large as some other projects.

• Additional upgrading capacity may be needed at some point and applicant suggests this will be decided based on the economics at the time.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion regarding the scalability of this project. The applicant is proposing to oversize system components necessary for adding future unsigned dairies at their own cost, to the benefit of ratepayers. There is *significant* potential for expansion.

## Scoring Criteria — Project Team Qualifications

**Positive Feedback**

• Project team is very well qualified to design, construct, operate, and maintain both the digester systems and the infrastructure.
• The project team consists of a proven successful developer and designer utilizing previously used construction teams, coupled with help from SoCalGas, the most active utility in this sector. The Committee does not expect any project team qualification issues.
• The applicant has teamed up with a major pipeline construction company with decades of experience in gas line construction in Anacapa and PCL and has teamed up with SCS and Air Liquide for biomethane upgrading.
• 4Creeks will be engineering the projects and has successfully engineered some of the longest operating projects in the state.
• This is a top-tier team with some of the most experienced companies in the sector.

**Negative Feedback**

• There were no significant points deductions in this category.

**Overall Feedback**

Overall the applicant has assembled a top-tier team of some of the most experience and reliable partners in the sector, with demonstrated expertise and reliability. It would be difficult to improve the score in this area.

## Scoring Criteria — Long-Term Viability of Project

**Positive Feedback**

• The applicant has secured and sufficiently detailed their project financing approach and it appears the applicant has sufficient financial resources to complete and operate/maintain the project for the duration of the project lifetime.
• The applicant provided a clear marketing plan that clearly shows potential revenue streams and details potential economic scenarios and revenue potential.

• The applicant has a clear and solid business model that encourages long-term operation of the project.
•The project dairies are also financially involved, providing an incentive to optimize the operation of the system.
• The project is designed to limit downtime due to clear maintenance schedules, and onsite storage of commonly replace parts.
• The applicant is utilizing PCL to construct the pipelines, a company well known for completing quality work and maximizing safety.
• The applicant has selected a suite of technologies that can not only reduce methane emissions but can do so reliably over the lifetime of the project.

**Negative Feedback**

• There were no significant points deductions in this category.
• The applicant could have provided more information on the long-term operation and maintenance of the applicant-owned infrastructure and vehicle refueling portions of the project.

**Overall Feedback**

Overall the applicant has provided a clear and detailed discussion regarding the long-term viability of the project. The applicant has selected a suite of technologies that not only reduce methane emissions but do so reliably over the lifetime of the project. The project is likely to provide long-term viability as long as there is a market for renewable compressed natural gas (RCNG), especially if LCFS and RIN credits remain available. Even in the absence of that market, the gas could be sold to natural gas customers via the same pipelines. The applicant has proposed to use a very experienced team to assemble some of the most advanced projects using robust and reliable technology and high-quality materials. They have explored long-term economic viability under multiple scenarios and carefully considered business models and project payback periods. It is unlikely that any component of the systems, including the dairy digesters themselves, will experience any significant, long-term downtime. The applicant could have provided more information on the long-term operation and maintenance of the applicant-owned infrastructure and vehicle refueling portions of the project, which would improve the scoring in this area.

## Scoring Criteria — Economic Viability

**Positive Feedback**

• The applicant provided clear and detailed discussion regarding the financing associated with the project, addressing public and private funding sources, including dairy equity and private lending.
• The applicant provided a clear description of their business model, which appears to be viable and based on reasonable assumptions. Good use of documentation to prove additional agreement claims.
• The applicant clearly details its expectations for revenue from fueling offtake agreements and generation and sales of environmental credits (LCFS and RIN).

• The applicant clearly outlines potential risk areas and possible solutions and secured multiple insurance policies for the project.

**Negative Feedback**

• The applicant could have potentially obtained more grant funding (but did not apply) through CDFA, which would potentially improve the financial viability of the project and potentially reduce project payback periods.
• The applicant could have more clarity on how the financing is being applied to which areas of the project and which sources are paying for which components.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion of the economic viability of the project. They have clearly laid out financing and funding sources and expected revenue streams, and they addressed potential risks by offering reasonable solutions. The applicant clearly described their business model, which appears to have reasonable payback periods based on fuel and environmental credit sale revenue. Good use of documentation to showcase agreements regarding future commitments.

## Scoring Criteria — Greenhouse Gas Reduction

**Positive Feedback**

• The applicant provided clear and detailed discussion of the proposed GHG reductions associated with the project.
• The applicant proposed to install an innovative effluent buffer system to reduce long-term storage of digestate, and thereby reduce follow-on methane production activity that might occur with long-term digestate storage. This proposed system is sufficiently described, along with the potential impacts disclosed.
• The applicant provided both a modified and unmodified calculator as per the instructions in the solicitation for comparison purposes, and therefore the application should not be heavily penalized for unjustified changes to the defaults.
• The applicant appears to have completed the GHG calculator correctly. It is positive to see investments described in the application in anticipation of future successes.

**Negative Feedback**

• The applicant provided cost-effectiveness calculations based on the version of the calculator where they modified defaults without proper justification, potentially inflating the reductions and ultimately improving the cost-effectiveness.
• The applicant has proposed unsupported changes to the default values in the GHG calculator corresponding to unusual and potentially impossible manure collection rates.
• Additional information on some sections of the calculator would be ideal, especially regarding diverted solids and diesel fuel usage.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion of the potential GHG reductions associated with the project, along with discussion of their proposed innovation in the effluent buffer system. The applicant also provided two versions of the GHG calculator, allowing the comparison of the default values to their proposed changes to the defaults. The project score could be improved by providing additional information regarding the inputs used in the calculator regarding manure collection and diesel fuel usage and more sufficient justification for changes to GHG calculator defaults. Positive to see investments described in application in anticipation of future successes.

## Scoring Criteria — Cost-Effectiveness

**Positive Feedback**

- The applicant provided clear discussion of the cost-effectiveness of the project.
- The applicant appears to be committed to reducing ratepayer costs by paying for oversize pipelines for future capacity, exploring multiple interconnection sites/costs, and the installation of a solar array to provide electricity for biomethane compression activities at no ratepayer expense.
- The applicant is clearly taking ratepayer impact into account and actively trying to improve the cost-effectiveness of the project.

**Negative Feedback**

- The project is the fourth most cost effective of the solicitation.

**Overall Feedback**

Overall the applicant provided a clear discussion of the cost-effectiveness of the project, along with detailing multiple attempts to improve its cost-effectiveness, including installation of solar to offset grid electricity costs, paying for oversizing the project for future capacity, and exploring multiple interconnection sites. The project score could be improved in this area by providing cost effectiveness calculations based on the appropriate calculator and reducing costs associated with the project to improve its overall cost-effectiveness.

## Scoring Criteria — Justification and Reference

**Positive Feedback**

- The applicant provided both a modified and unmodified calculator as per the instructions in the solicitation for comparison purposes, and therefore the application should not be heavily penalized for unjustified changes to the defaults.

**Negative Feedback**

- There were no significant points deductions in this category.
- The justifications provided by the applicant for the changed defaults in the GHG calculator are based on observational data that may or may not be accurate, even with "verification" by The Climate Trust representative. It is difficult to verify the validity of these changes and the justification is not sufficient to allow for the changing of default values.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion regarding their suggested changes to GHG calculator defaults, alongside an unmodified version of the calculator, as per the instructions in the solicitation, going beyond the efforts of any other applicant. The score for this area could have been improved with a more robust justification and use of references for the suggested calculator default changes.

## Scoring Criteria — NOx and Criteria Pollutants

**Positive Feedback**

- The project offers significant statewide reduction numbers of all cluster project applications.
- Applicant provides clear description of potential reductions in nitrogen oxides (NOx), diesel particulate matter (PM), and criteria pollutants (CP) from using RCNG as vehicle fuel. Good to see traffic and population studies included in application.
- Project will be venting off-spec gas rather than flaring it, as per preference of the Air District.

**Negative Feedback**

No significant negative feedback.

**Overall Feedback**

Overall the applicant clearly describes the NOx and criteria pollutant impacts and reductions associated with the project, including the potential reductions associated with the transportation sector and avoiding the flaring of biogas. Good to see traffic and population studies included in application.

## Scoring Criteria — Mitigate Emissions On-Site

**Positive Feedback**

- The applicant provided a clear and detailed discussion of the of their plans to mitigate on-site emissions.
- The applicant appears to make very conservative assumptions on waste handling emissions and the associated local emissions reductions.
- The project will be venting off-spec gas rather than flaring it, as per the preference of the Air District, reducing local emissions of criteria pollutants/NOx.

• The applicant suggests that the project has as much as five days of onsite gas storage, further reducing the likelihood for flaring of biomethane, even in emergency situations.
• The applicant is committed to adhering to Air District rules, including dust control during construction.
• Applicant is committed to converting trucks and including renewable natural gas (RNG) fueling stations.

**Negative Feedback**

- No significant negative feedback.

**Overall Feedback**

Overall the applicant clearly describes the mitigation measures it is undertaking to reduce on-site emissions through the installation of solar and the venting of biogas rather than flaring it. Applicant is committed to converting trucks and including RNG fueling stations.

## Scoring Criteria — Mitigate Emissions Off-Site

**Positive Feedback**

• The applicant provided a clear description of the proposed mitigation of emissions off-site including a discussion of the reductions associated with vehicle fueling, heavy duty truck conversions, and use of on-site solar generation to offset remote, combustion-generated grid electricity necessary for operation of the compression and upgrading systems.

**Negative Feedback**

• The project will utilize solar to mitigate offsite emissions.

**Overall Feedback**

Overall the applicant clearly describes the mitigation measures it is undertaking to reduce off-site emissions from the transportation sector, as well as the electricity generation sector. Good inclusion of solar to mitigate offsite emissions.

## Scoring Criteria — Project Co-Benefits

**Positive Feedback**

• The applicant claims to be working closely with Dairy Cares who supports the project.
• The applicant provided a clear and detailed discussion of the co-benefits associated with the project including benefits to air and water quality, soil health, economic improvements for the community, and vector and pathogen control.

• The applicant clearly describes their proposed effluent buffer system and its potentially beneficial effect on methane reduction and manure management and appropriately acknowledges the potential impacts and limitations associated with improper management.
• The project will be venting off-spec gas rather than flaring it, as per the preference of the Air District, reducing local emissions of criteria pollutants/NOx.

**Negative Feedback**

• The applicant is only committed to working with member farms to explore using RCNG produced on-site. Committing to convert on-site equipment and vehicles would be preferable.
• The applicant could have provided more information on the potential impact to dairy nutrient management plans from the use of their proposed effluent buffer system.
• The applicant could have cited a study or source for claims related to increased crop yield from land application of digestate.

**Overall Feedback**

Overall the applicant clearly describes the potential co-benefits associated with the project, including benefits to air and water quality, soil health, economic improvements for the community, and vector and pathogen control. Good writeup on co-benefits.

## Scoring Criteria — Community Impacts and Mitigation

**Positive Feedback**

• The applicant provided a clear, accurate, and well-documented discussion and quantification of emissions reductions and potential emissions impacts, including the impact of solar generation installation and vehicle changeovers.
• The applicant has completed a community benefits agreement for the project.
• The applicant reached out to prominent environmental justice community leaders through its outreach campaign to determine benefits and impacts.
• The applicant sets a high bar for community engagement.

**Negative Feedback**

• There were no significant points deductions in this category.
• The applicant provided one community benefit agreement where other applications have included more than one.

**Overall Feedback**

Overall the applicant clearly described the potential impacts and benefits that may result from the project, including GHG and combustion emissions from transportation, as well as the emission and economic benefits associated with solar generation installation. The applicant has completed a community benefits agreement and has reached out to some of the most prominent environmental justice community members. Overall, the applicant set a high bar for

community engagement. The score in this area could be improved by securing additional community benefit agreements.

## Scoring Criteria — Localized Economic Benefits

**Positive Feedback**

- The applicant provided a clear and detailed discussion of the potential localized economic benefits resulting from the project, including job creation and potential training/internship programs.
- The applicant completed a community benefits agreement for the project.
- The applicant reached out to prominent environmental justice community leaders through its outreach campaign to determine benefits and impacts.
- The applicant set a high bar for community engagement.

**Negative Feedback**

- There were no significant points deductions in this category.
- The applicant could have provided discussion of potential certifications employees could have obtained.
- The application contained a potential copy and paste error regarding the number of jobs created.
- The analysis of jobs resulting from the project may provide slightly exaggerated numbers.
- The applicant provided one community benefit agreement where other applications have included more than one.

**Overall Feedback**

Overall the applicant clearly describes the potential localized economic benefit that may result from the project, including job creation and employment training. The applicant has completed a community benefits agreement and has reached out to some of the most prominent environmental justice community members. Overall, the applicant set a high bar for community engagement. The score in this area could be improved by securing additional community benefit agreements and addressing the issues noted on the job creation numbers.

## Scoring Criteria — Project Readiness and Implementation

**Positive Feedback**

- The applicant provided a detailed list of safety procedures and a comprehensive safety plan
- The applicant clearly demonstrates an understanding of the necessary permits to complete the project and provides a clear description of the status of each permit, including a quick reference chart.
- A significant amount of pre-project work has been completed on permitting, engineering, financing, and product offtake agreements.

- The applicant has demonstrated through past project development that they understand the necessary project permitting requirements and can secure these permits and complete the projects within expected deadlines.

**Negative Feedback**

- The applicant could potentially be further along in terms of project permitting had they begun the processes for these projects at an earlier date.

**Overall Feedback**

Overall the applicant clearly demonstrates the project readiness status of the project, clearly detailing the necessary permitting processes and their respective completion status. The applicant has completed a significant amount of pre-project work, demonstrating that they have considered the most significant factors in project readiness.

## 2. North Visalia, CalBio

| Project Name | North Visalia | | Developer | CalBio | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model - Dairy Operations- Technology Plan – Marketing Plan- Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 19 | 14 | 22 | 13 | 9 | 13 | 90 |

### Scoring Criteria — Technology Plan

**Positive Feedback**

- Good use of technology. The digesters appear to be the most well-designed and engineered for long-term operation, employing the latest digester, biogas conditioning/upgrading, and solid-liquid separation technology. Technology selected is proven to be reliable and robust and is currently in use today in nearly all California digester applications. Proposed technology is similar across all applications by this developer and similar to that proposed by other developers.
- Innovative use of digester effluent that can potentially reduce follow-on methane emissions by eliminating long-term digester effluent storage. May also improve water quality and crop yield with proper monitoring and usage. Good discussion of this feature seems to alleviate this potential concern, though more information on the nutrient management plans of the dairies using this technology would be useful.
- Applicant had one of the best and most comprehensive safety plans of the solicitation.
- Good mix of dairy sizes within the cluster, allowing for smaller dairies to participate.
- Good discussion of vehicle fleet conversions.
- Evaluated multiple interconnection options to improve long-term reliability potential and reduce cost to ratepayers.

**Negative Feedback**

- No solar included in the project.
- Slightly less information on fueling is provided in this application compared to other applications by the same applicant but more information provided than any other applicant.
- Although innovative, improperly managing the digester effluent buffer could result in water quality impacts.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion of their technology plan, which does not include solar but does have multiple benefits including emission reductions, selection of robust and reliable technology options, cost reduction measures, and innovative technology approaches. The applicant provided discussion of future plans for the cluster and the operation of the proposed effluent buffer system. A lot of information was provided about the future fueling station, including a map and details of where this station would be located and the customers who would be served, in particular the trucks of a collaborating company which would also be converted to RCNG due to this project.

## Scoring Criteria — Marketing Plan

**Positive Feedback**

- Applicant has clearly defined, executed energy product offtake agreements with multiple potential offtakers. Options to sell directly to converted natural gas fleets and to Chevron for use in its refining processes to offset natural gas.
- Applicant evaluates multiple product revenue streams as well as multiple scenarios for biomethane credit (LCFS & RIN) valuation which helps demonstrate that marketing is in order.
- Marketing materials developed and provided by the applicant are clear and professional.
- The applicant has identified two large dairy fleet operators (CDI and Land o' Lakes) to work with on converting diesel trucks to natural gas with the intent of providing fuel for these fleets for local milk and feed deliveries, which improves economics for partners and reduces local air pollution impacts for disadvantaged communities.

**Negative Feedback**

- There were no significant points deductions in this category.
- Having more concrete agreements for vehicle fleet conversions could have improved the scoring in this area.

**Overall Feedback**

Overall the applicant provided a clear and detailed marketing plan that shows that the applicant has considered multiple revenue streams at different price points, has secured product offtake agreements with multiple offtakers, and has identified multiple potential fleets for heavy duty truck conversions. Having a more concrete agreements for vehicle fleet conversions could have improved the scoring in this area.

## Scoring Criteria — Scalability

**Positive Feedback**

• The applicant has committed to oversizing gathering collection lines at their own cost to allow additional unsigned dairies to be added to the system in the future. The applicant will pay for additional interconnection expenses to ensure future biomethane development. Lots of potential for additional biomethane production at this cluster.

**Negative Feedback**

- No deductions were found here.

**Overall Feedback**

Overall the applicant provided clear and detailed discussion regarding the scalability of this project. The applicant is proposing to oversize the system components necessary for adding a significant number of future unsigned dairies at their own cost, to the potential benefit of ratepayers.

## Scoring Criteria — Project Team Qualifications

**Positive Feedback**

• Project team is very well qualified to design, construct, operate, and maintain both the digester systems and the infrastructure.
• The project team consists of a proven successful developer and designer utilizing previously used construction teams, coupled with help from SoCalGas, the most active utility in this sector. No project team qualification issues are expected.
• The applicant has teamed up with a major pipeline construction company with decades of experience in gas line construction in Anacapa and PCL and has teamed up with SCS and Air Liquide (similar to Maas Energy Works projects) for biomethane upgrading.
• 4Creeks will be engineering the projects and has successfully engineered some of the longest operating projects in the state.
• This is a top-tier team of some of the most experienced companies in the sector.

**Negative Feedback**

• There were no significant points deductions in this category.

**Overall Feedback**

Overall the applicant has assembled a top tier team of some of the most experience and reliable partners in the sector, with demonstrated expertise and reliability. It would be difficult to improve the score in this area.

## Scoring Criteria — Long-Term Viability of Project

**Positive Feedback**

- The applicant has secured and sufficiently detailed their project financing approach, and it appears the applicant has sufficient financial resources to complete and operate/maintain the project for the duration of the project lifetime.
- The applicant provided a clear marketing plan that clearly shows potential revenue streams and details potential economic scenarios and revenue potential.
- The applicant has a clear and solid business model that encourages long-term operation of the project.
- Limited downtime due to clear maintenance schedule and onsite storage of commonly replace parts.
- The applicant is utilizing PCL to construct the pipelines, a company well known for completing quality work and maximizing safety.
- The applicant has selected a suite of technologies that not only reduce methane emissions but do so reliably over the lifetime of the project.

**Negative Feedback**

- There were no significant points deductions in this category.
- The applicant could have provided more information on the long-term operation and maintenance of the applicant-owned infrastructure and vehicle refueling portions of the project.

**Overall Feedback**

Overall the applicant has provided a clear and detailed discussion regarding the long-term viability of the project. The applicant has proposed to use a very experienced team to assemble some of the most advanced projects using robust and reliable technology and high-quality materials. They have explored long-term economic viability under multiple scenarios and carefully considered business models and project payback periods. It is unlikely that any component of the systems, including the dairy digesters themselves, will experience any significant, long-term downtime. The applicant could have provided more information on the long-term operation and maintenance of the applicant-owned infrastructure and vehicle refueling portions of the project, which would improve the scoring in this area.

## Scoring Criteria — Economic Viability

**Positive Feedback**

- The applicant received full CDFA grant funding and provides clear and detailed discussion regarding the financing associated with the project, addressing public and private funding sources, including dairy equity and private lending.
- The applicant provides sufficient evidence that the project may not need grant funding from CDFA to be viable.
- The applicant has completed offtake agreements for vehicle fuel production with multiple potential offtakers, including Chevron, BP, and Loves, along with potential partnership with Land O'Lakes and CDI.

• The applicant provides a clear description of their business model, which appears to be viable and based on reasonable assumptions.
• The applicant clearly details its expectations for revenue from fueling offtake agreements and generation and sales of environmental credits (LCFS and RIN).
• The applicant clearly outlines potential risk areas and possible solutions and secured multiple insurance policies for the project.

**Negative Feedback**

• There were no significant points deductions in this category.

**Overall Feedback**

Overall, although the cost is a bit higher than other projects in the applicant's portfolio, the cost is consistent with other projects. The applicant provides a clear and detailed discussion of the economic viability of the project. They have clearly laid out financing and funding sources and expected revenue streams, and they addressed potential risks by offering reasonable solutions. The applicant clearly describes their business model, which appears to be reasonable with reasonable payback periods based on fuel and environmental credit sale revenue.

## Scoring Criteria — Greenhouse Gas Reduction

**Positive Feedback**

• The applicant provides clear and detailed discussion of the proposed GHG reductions associated with the project.
• The applicant is proposing to install an innovative effluent buffer system to reduce long-term storage of digestate and thereby reduce follow-on methane production activity that may occur with long-term digestate storage. This proposed system is sufficiently described, along with the potential impacts disclosed.
• The applicant provided both a modified and unmodified calculator as per the instructions in the solicitation for comparison purposes, and therefore the application should not be heavily penalized for unjustified changes to the defaults.
• The applicant appears to have completed the GHG calculator correctly.

**Negative Feedback**

• The applicant does not appear to commit to continuing to generate electricity under the existing BioMAT comment, which could lead to loss of capacity in the BioMAT program if it is not continued.
• The applicant could have provided more information on the GHG emission reductions and potential nutrient management plan impacts associated with the proposed effluent buffer system.

• The applicant provided cost effectiveness calculations based on the version of the calculator where they modified defaults without proper justification, potentially inflating the reductions and ultimately the improving the cost-effectiveness.
• The applicant has proposed unsupported changes to the default values in the GHG calculator corresponding to unusual and potentially unachievable manure collection rates.
• Additional information on some sections of the calculator would be ideal, especially regarding diverted solids and diesel fuel usage.

**Overall Feedback**

Overall the applicant provides a clear and detailed discussion of the potential GHG reductions associated with the project, similar to other projects in the developer's portfolio, along with discussion of their proposed innovation in the effluent buffer system. The applicant also provided two versions of the GHG calculator, allowing the comparison of the default values to their proposed changes to the defaults. The project score could be improved by providing additional information regarding the inputs used in the calculator regarding manure collection and diesel fuel usage and more justification for changes to GHG calculator defaults.

## Scoring Criteria — Cost-Effectiveness

**Positive Feedback**

• The applicant provides clear discussion of the cost-effectiveness of the project.
• The applicant appears to be committed to reducing ratepayer costs by paying for oversize pipelines for future capacity, exploring multiple interconnection sites/costs, and the installation of a solar array to provide electricity for biomethane compression activities at no ratepayer expense.
• The applicant is clearly taking ratepayer impact into account and actively trying to improve the cost-effectiveness of the project.

**Negative Feedback**

- The project is the fifth most cost effective of the solicitation, pursuant to the second round of utility-provided estimates.

**Overall Feedback**

Overall the applicant provided a clear discussion of the cost-effectiveness of the project, along with detailing multiple attempts to improve its cost-effectiveness, paying for oversizing the project for future capacity, and exploring multiple interconnection sites. The project score could be improved in this area by providing cost effectiveness calculations based on the appropriate calculator and reducing costs associated with the project to improve its overall cost-effectiveness.

## Scoring Criteria — Justification and Reference

**Positive Feedback**

- The applicant provided both a modified and unmodified calculator as per the instructions in the solicitation for comparison purposes, and therefore the application should not be heavily penalized for unjustified changes to the defaults.

**Negative Feedback**

- There were no significant points deductions in this category.
- The justifications provided by the applicant for the changed defaults in the GHG calculator are based on observational data that may or may not be accurate, even with "verification" by The Climate Trust representative. It is difficult to verify the validity of these changes and the justification is insufficient to allow for the changing of default values.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion regarding their suggested changes to GHG calculator defaults, alongside an unmodified version of the calculator, as per the instructions in the solicitation, going beyond the efforts of any other applicant. The score for this area could have been improved with a more robust justification and use of references for the suggested calculator default changes.

## Scoring Criteria — NOx and Criteria Pollutants

**Positive Feedback**

- Applicant provides clear description of potential reductions in NOx, diesel PM, and criteria pollutants from using RCNG as vehicle fuel.
- Project will be venting off-spec gas rather than flaring it, as per the preference of the Air District.

**Negative Feedback**

- No use of solar in this application.

**Overall Feedback**

Overall the applicant clearly describes the NOx and criteria pollutant impacts and reductions associated with the project, including the potential reductions associated with the transportation sector and avoiding the flaring of biogas.

## Scoring Criteria — Mitigate Emissions On-Site

**Positive Feedback**

• The applicant provides a clear and detailed discussion of the of their plans to mitigate on-site emissions.
• The applicant appears to make very conservative assumptions on waste handling emissions and the associated local emissions reductions.
• The project will be venting off-spec gas rather than flaring it, as per the preference of the Air District, reducing local emissions of criteria pollutants/NOx.
• The applicant suggests that the project has as much as five days of onsite gas storage, further reducing the likelihood for flaring of biomethane, even in emergency situations.
• The applicant is committed to adhering to Air District rules, including dust control during construction.

**Negative Feedback**

• There were no significant points deductions in this category.

**Overall Feedback**

Overall the applicant clearly describes the mitigation measures it is undertaking to reduce on-site emissions through the installation of solar and the venting of biogas rather than flaring it.

## Scoring Criteria — Community Impacts and Mitigation

**Positive Feedback**

• The applicant provided a clear, accurate, and well-documented discussion and quantification of emissions reductions and potential emissions impacts, including vehicle changeovers.
• The applicant has completed a community benefits agreement for the project.
• The applicant reached out to prominent environmental justice community leaders through its outreach campaign to determine benefits and impacts.
• The applicant sets a high bar for community engagement.

**Negative Feedback**

• There were no significant points deductions in this category.
• The applicant provided one community benefit agreement where other applications have included more than one.

**Overall Feedback**

Overall the applicant clearly describes the potential impacts and benefits that may result from the project, including GHG and combustion emissions from transportation. The applicant has completed a community benefits agreement and has reached out to some of the most prominent environmental justice community members. Overall, the applicant sets a high bar for community engagement. The score in this area could be improved by securing additional community benefit agreements.

## Scoring Criteria — Localized Economic Benefits

**Positive Feedback**

- The applicant provided a clear and detailed discussion of the potential localized economic benefits resulting from the project, including job creation and potential training/internship programs.
- The applicant has completed a community benefits agreement for the project.
- The applicant reached out to prominent environmental justice community leaders through its outreach campaign to determine benefits and impacts.
- The applicant sets a high bar for community engagement.

**Negative Feedback**

- There were no significant points deductions in this category.
- The applicant could have provided discussion of potential certifications employees could have obtained.
- The application contained a potential copy and paste error regarding the number of jobs created.
- The analysis of jobs resulting from the project may provide slightly exaggerated numbers.
- The applicant provided one community benefit agreement where other applications have included more than one.

**Overall Feedback**

Overall the applicant clearly describes the potential localized economic benefit that may result from the project, including job creation and employment training. The applicant has completed a community benefits agreement and has reached out to some of the most prominent environmental justice community members. Overall, the applicant sets a high bar for community engagement. The score in this area could be improved by securing additional community benefit agreements and addressing the issues noted on the job creation numbers.

## Scoring Criteria — Project Readiness and Implementation

**Positive Feedback**

- The applicant provides a detailed list of safety procedures and a comprehensive safety plan.
- The applicant clearly demonstrates an understanding of the necessary permits to complete the project and provides a clear description of the status of each permit, including a quick reference chart.
- A significant amount of pre-project work has been completed on permitting, engineering, financing, and product offtake agreements.

• The applicant has demonstrated through past project development that they understand the necessary project permitting requirements and can secure these permits and complete the projects within expected deadlines.

**Negative Feedback**

• There were no significant points deductions in this category.
• The applicant could potentially be further along in terms of project permitting had they begun the processes for these projects at an earlier date. As of the filing of this application the applicant had completed as much of the permitting processes as it was able, pending various agency processing timelines, which could potentially lead to delays in project completion.

**Overall Feedback**

Overall the applicant clearly demonstrates the project readiness status of the project, clearly detailing the necessary permitting processes and their respective completion status. The applicant has completed a significant amount of pre-project work, demonstrating that they have considered all the most significant factors in project readiness. The applicant could have improved the score in this area by having previously completed more of its pre-project permitting requirements, however all other applicants and projects could have done this as well.

## 3. Buttonwillow, CalBio

| Project Name | Buttonwillow | | Developer | CalBio | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model -Dairy Operations- Technology Plan – Marketing Plan- Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 17.5 | 13.5 | 20 | 13 | 8.5 | 13 | 85.5 |

### Scoring Criteria — Technology Plan

**Positive Feedback**

- Good and current use of technology for manure collection, digester projects, and biogas conditioning. Digesters appear to be the most well-designed and engineered for long-term operation, employing state of the art digesters, biogas conditioning/upgrading and solid-liquid separation technology. The digester technology selected by the applicant and proposed in the application has been proven to be reliable and robust as it is currently in use by nearly all California digester applications. The proposed technology is similar across all applications by this developer and like that proposed by other developers.
- Installation of solar panels to offset grid electricity use to compress captured biogas. The use of solar energy has multiple benefits, among them are reduced cost to ratepayers, reduced remote combustion emissions in disadvantaged communities, and reduced lifecycle GHG emissions for the capture and production of biogas.
- Innovative use of digester effluent that can potentially reduce follow-on methane emissions by eliminating long-term digester effluent storage. May also improve water quality and crop yield with proper monitoring and usage. Good discussion of this feature seems to alleviate this potential concern, though more information on the nutrient management plans of the dairies using this technology would be useful.
- Applicant had one of the best and most comprehensive safety plans of the solicitation.
- Diversity of dairy sizes included in the cluster, encouraging the participation of smaller dairies.
- Detailed discussion of vehicle fleet conversions.
- Evaluated multiple interconnection options to improve long-term reliability potential and reduce cost to ratepayers.

**Negative Feedback**

- No discussion of BioMAT program impacts.
- Weak on future operational plans, fueling facilities, and explanation of fueling activities. Additional discussion of these aspects of the project could improve clarity and could have improved project score, especially for fueling facility. Less information on fueling is provided in this application compared to other applications by the same applicant.

• Concerns with improper management of digester effluent buffer and its impact on water quality.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion of their technology plan that has multiple benefits including emission reductions, selection of robust and reliable technology options, cost reduction measures, and innovative technology approaches. The applicant could have provided further discussion of future plans for the cluster, its expected fueling station facility, the impact the project may have on the existing BioMAT contract, and the operation of the proposed effluent buffer system. Addressing these areas of the application in greater detail could have improved the scoring in this area.

## Scoring Criteria — Marketing Plan

**Positive Feedback**

• Applicant has clearly defined, executed energy product offtake agreements with multiple potential offtakers. Options to sell directly to converted natural gas fleets and to Chevron for use in its refining processes to offset fossil-based natural gas.
• Applicant evaluates multiple product revenue streams as well as multiple scenarios for biomethane credit (LCFS & RIN) valuation that helps demonstrate that marketing is in order.
• Marketing materials developed and provided by the applicant are clear and professional.
• The applicant has identified two large dairy fleet operators (CDI and Land O' Lakes) to work with on converting diesel trucks to natural gas with the intent of providing fuel for these fleets for local milk and feed deliveries, which improves economics for partners and reduces local air pollution impacts for disadvantaged communities.

**Negative Feedback**

• There were no significant points deductions in this category.
• Having more concrete agreements for vehicle fleet conversions could have improved the scoring in this area.

**Overall Feedback**

Overall the applicant provided a clear and detailed marketing plan that shows that the applicant has considered multiple revenue streams at different price points, has secured product offtake agreements with multiple offtakers, and has identified multiple potential fleets for heavy duty truck conversions. Having more concrete agreements for vehicle fleet conversions could have improved the scoring in this area.

## Scoring Criteria — Scalability

**Positive Feedback**

• The applicant has committed to oversizing gathering collection lines at their own cost to allow additional unsigned dairies to be added to the system in the future. The applicant will pay for additional costs associated with these future dairies' pipeline interconnection.

**Negative Feedback**

• In comparing all of the projects received and reviewed, this project was the least scalable with the fewest number of unsigned dairies.
• Limited expansion potential due to few dairies close enough to be added to the cluster via gathering lines.
• Dairies within the cluster are not as large as some other projects, making the infrastructure investment slightly less cost effective.
• Additional upgrading capacity may be needed at some point, and applicant suggests this will be decided based on the economics at the time.

**Overall Feedback**

Overall the applicant provided clear and detailed discussion regarding the scalability of this project. The applicant is proposing to oversize system components necessary for adding future unsigned dairies at their own cost, to the potential benefit of ratepayers. The project, however, is not one of the most scalable projects of the solicitation, only being able to add two additional dairies. Increased potential to add additional unsigned dairies would improve the score in this area.

## Scoring Criteria — Project Team Qualifications

**Positive Feedback**

• The project team has provided sufficient evidence to indicate that they are well qualified to design, construct, operate, and maintain both the digester systems and the infrastructure.
• The project team consists of a proven successful developer and designer utilizing previously used construction teams, coupled with help from SoCalGas, the most active utility in this sector. The selection committee does not currently anticipate any project team qualification concerns.
• The applicant has teamed up with a major pipeline construction company with decades of experience in gas line construction in Ancapa and PCL and has teamed up with SCS and Air Liquide (similar to Maas Energy Works projects) for biomethane upgrading.
• 4Creeks will be engineering the projects and has successfully engineered some of the longest operating projects in the state.
• This is a top-tier team of some of the most experienced companies in the sector.

**Negative Feedback**

• There were no significant points deductions in this category.

**Overall Feedback**

Overall the applicant has assembled a top-tier team of some of the most experienced and reliable partners in the sector, with demonstrated expertise and reliability. The selection committee does not currently have additional suggestions for improvement of this scoring criterion.

## Scoring Criteria — Long-Term Viability of Project

**Positive Feedback**

- The applicant has secured and sufficiently detailed their project financing approach and it appears the applicant has sufficient financial resources to complete and operate/maintain the project for the duration of the project lifetime.
- The applicant provided a clear marketing plan that clearly shows potential revenue streams and details potential economic scenarios and revenue potential.
- The applicant has a clear and solid business model that encourages long-term operation of the project.
- Limited downtime due to clear maintenance schedules, nearby service provided, and onsite storage of commonly replace parts.
- The applicant is utilizing PCL to construct the pipelines, a company well known for completing quality work and maximizing safety.
- The applicant has selected a suite of technologies that not only reduce methane emissions but do so reliably over the lifetime of the project.

**Negative Feedback**

- There were no significant points deductions in this category.
- The applicant could have provided more information on the long-term operation and maintenance of the applicant-owned infrastructure and vehicle refueling portions of the project

**Overall Feedback**

Overall the applicant has provided a clear and detailed discussion regarding the long-term viability of the project. The applicant has proposed to use a team with experience with digester technologies that are proving to be robust, reliable, and made of high-quality materials. They have explored long-term economic viability under multiple scenarios and carefully considered business models and project payback periods. It is unlikely that any component of the systems, including the dairy digesters themselves, will experience any significant, long-term downtime. The applicant could have provided more information on the long-term operation and maintenance of the applicant-owned infrastructure and vehicle-refueling portions of the project, which would have improved the scoring in this area.

## Scoring Criteria — Economic Viability

**Positive Feedback**

- The applicant provided clear and detailed discussion regarding the financing associated with the project, addressing public and private funding sources, including dairy equity and private lending.
- The applicant provided sufficient evidence that the project may not need grant funding from CDFA to be viable.
- The applicant has completed offtake agreements for vehicle fuel production with multiple potential offtakers, including Chevron, BP, and Loves, along with potential partnership with Land O'Lakes and CDI.
- The applicant provided a clear description of their business model, which appears to be viable and based on reasonable assumptions.
- The applicant clearly details its expectations for revenue from fueling offtake agreements and generation and sales of environmental credits (LCFS and RIN).
- The applicant clearly outlines potential risk areas and possible solutions and has secured multiple insurance policies for the project.

**Negative Feedback**

- The applicant could have potentially obtained more grant funding (but did not apply) through CDFA, which would potentially improve the financial viability of the project and reduce project payback periods.
- The applicant could have provided more clarity on how the financing is being applied to which areas of the project and which sources are paying for which components.
- The applicant could have more clearly addressed the financial impact of the existing BioMAT contract, including what their intentions are with that contract going forward, what impact the BioMAT contract has on the overall project viability, and what the ultimate disposition of the BioMAT contract is expected to be.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion of the economic viability of the project. They have clearly laid out financing and funding sources, expected revenue streams, and addressed potential risks by offering reasonable solutions. The applicant clearly describes their business model with payback periods based on fuel and environmental credit sale revenue. The score in this area could have been improved by providing more clarity on which funding sources would be applied to which project components and by providing a much more detailed discussion of the currently executed BioMAT project associated with this project.

## Scoring Criteria — Greenhouse Gas Reduction

**Positive Feedback**

- The applicant provided clear and detailed discussion of the proposed GHG reductions associated with the project.
- The project is proposing to install an innovative effluent buffer system to reduce long-term

storage of digestate, and thereby reduce follow-on methane production activity that might occur with long-term digestate storage. The proposed system is sufficiently described, along with the potential impacts disclosed.
• The applicant provided both a modified and unmodified calculator as per the instructions in the solicitation for comparison purposes, and therefore the application was not be heavily penalized for unjustified changes to the defaults.
• The applicant appears to have completed the GHG calculator correctly.

**Negative Feedback**

• The applicant does not appear to commit to continuing to generate electricity under the existing BioMAT comment, which could lead to loss of capacity in the BioMAT program if it is not continued.
• The applicant could have provided more information on the GHG emission reductions and potential nutrient management plan impacts associated with the proposed effluent buffer system.
• The applicant provided cost effectiveness calculations based on the version of the calculator where they modified defaults without proper justification, potentially inflating the reductions and ultimately improving the cost-effectiveness of the project.
• The applicant has proposed unsupported changes to the default values in the GHG calculator corresponding to unusual and potentially unrealistic manure collection rates.
• Additional information on some sections of the calculator would be ideal, especially regarding diverted solids and diesel fuel usage.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion of the potential GHG reductions associated with the project, along with discussion of their proposed innovation in the effluent buffer system. The applicant also provided two versions of the GHG calculator, allowing the comparison of the default values to their proposed changes to the defaults. The project score could be improved by providing additional information regarding the inputs used in the calculator regarding manure collection and diesel fuel usage and more justification for changes to GHG calculator defaults. Additionally, further discussion could have been provided on the current BioMAT contract and its future disposition.

## Scoring Criteria — Cost-Effectiveness

**Positive Feedback**

• The applicant provided clear discussion of the cost-effectiveness of the project.
• The applicant appears to be committed to reducing ratepayer costs by paying for oversize pipelines for future capacity, exploring multiple interconnection sites/costs, and the installation of a solar array to provide electricity for biomethane compression activities at no expense to the ratepayer.
• The applicant is clearly taking ratepayer impact into account and actively trying to improve the cost-effectiveness of the project.

**Negative Feedback**

- The project is the sixth most cost effective of the solicitation.

**Overall Feedback**

Overall the applicant provided a clear discussion of the cost-effectiveness of the project, along with detailing multiple attempts to improve its cost-effectiveness, including installation of solar to offset grid electricity costs, paying for oversizing the project for future capacity, and exploring multiple interconnection sites. The project score could be improved in this area by providing cost effectiveness calculations based on the appropriate calculator and reducing costs associated with the project to improve its overall cost-effectiveness.

## Scoring Criteria — Justification and Reference

**Positive Feedback**

• The applicant provided both a modified and unmodified calculator as per the instructions in the solicitation for comparison purposes, and therefore the application was not be heavily penalized for unjustified changes to the defaults.

**Negative Feedback**

• There were no significant points deductions in this category.
• The justifications provided by the applicant for the changed defaults in the GHG calculator are based on observational data that may or may not be accurate, even with "verification" by The Climate Trust representative. It is difficult to verify the validity of these changes and the justification is insufficient to allow for the changing of default values.

**Overall Feedback**

Overall the applicant provided a clear and detailed discussion regarding their suggested changes to GHG calculator defaults, alongside an unmodified version of the calculator, per the instructions in the solicitation, going beyond the efforts of any other applicant. The score for this area could have been improved with a more robust justification and use of references for the suggested calculator default changes.

## Scoring Criteria — NOx and Criteria Pollutants

**Positive Feedback**

• The project offers the smallest statewide reduction numbers of all cluster project applications.
• The applicant provided a clear description of potential reductions in NOx, diesel Particulate Matter (PM), and criteria pollutants from using RCNG as vehicle fuel.
• Project will be venting off-spec gas rather than flaring it, as per the preference of the Air District.

**Negative Feedback**

- The applicant suggested that there will be no combustion of dairy biomethane, however a BioMAT contract is currently in place that will result in on-site emissions.

**Overall Feedback**

Overall the applicant clearly describes the NOx and criteria pollutant impacts and reductions associated with the project, including the potential reductions associated with the transportation sector and avoiding the flaring of biogas. The score for this section could have been improved by further reducing the emissions resulting from the existing BioMAT project.

## Scoring Criteria — Mitigate Emissions On-Site

**Positive Feedback**

- The applicant provided a clear and detailed discussion of their plans to mitigate on-site emissions.
- The applicant appears to make very conservative assumptions on waste handling emissions and the associated local emissions reductions.
- The project will be venting off-spec gas rather than flaring it, as per the preference of the Air District, reducing local emissions of criteria pollutants/NOx.
- The applicant suggests that the project has as much as five days of onsite gas storage, further reducing the likelihood for flaring of biomethane, even in emergency situations.
- The applicant is committed to adhering to Air District rules, including dust control during construction.
- The applicant is committed to installing a solar array to offset biomethane compression electricity use at its own cost, reducing potential emissions both on and off site.

**Negative Feedback**

- The applicant suggests that there will be no combustion of dairy biomethane, however a BioMAT contract is currently in place that will result in on-site emissions.

**Overall Feedback**

Overall the applicant clearly describes the mitigation measures it is undertaking to reduce on-site emissions through the installation of solar and the venting of biogas rather than flaring it. The score for this section could be improved by further reducing the emissions resulting from the existing BioMAT project.

## Scoring Criteria — Mitigate Emissions Off-Site

**Positive Feedback**

- The applicant provided a clear description of the proposed mitigation of emissions off-site including discussion of reductions associated with vehicle fueling, heavy-duty truck conversions,

and use of on-site solar generation to offset remote, combustion generated grid electricity necessary for operation of the compression and upgrading systems.

**Negative Feedback**

- The project will continue to have a NOx impact due to the existing BioMAT onsite generation project utilizing a reciprocating internal combustion engine generator.

**Overall Feedback**

Overall the applicant clearly describes the mitigation measures it is undertaking to reduce off-site emissions from the transportation sector as well as the electricity generation sector. The score for this section could have been improved by further reducing the emissions resulting from the existing BioMAT project.

## Scoring Criteria — Project Co-Benefits

**Positive Feedback**

- The applicant claims to be working closely with Dairy Cares who supports the project.
- The applicant provided a clear and detailed discussion of the co-benefits associated with the project, including benefits to air and water quality, soil health, economic improvements for the community, and vector and pathogen control.
- The applicant clearly describes their proposed effluent buffer system and its potentially beneficially effect on methane reduction and manure management and appropriately acknowledges the potential impacts and limitations associated with improper management.
- The project will be venting off-spec gas rather than flaring it, as per the preference of the Air District, reducing local emissions of criteria pollutants/NOx.

**Negative Feedback**

- The applicant is only committed to working with member farms to explore using RCNG produced on-site. Committing to convert on-site equipment and vehicles would be preferable.
- The applicant could have provided more information on the potential impact to dairy nutrient management plans from the use of their proposed effluent buffer system.
- The applicant could have cited a study or source for claims related to increased crop yield from land application of digestate.

**Overall Feedback**

Overall the applicant clearly describes the potential co-benefits associated with the project, including benefits to air and water quality, soil health, economic improvements for the community, and vector and pathogen control. The score in this area could be improved by committing to converting on-site equipment to RCNG, providing more detail in the impact of the proposed effluent buffer on nutrient management, and providing support for increase crop yield claims.

## Scoring Criteria — Community Impacts and Mitigation

**Positive Feedback**

- The applicant provided a clear, accurate, and well-documented discussion and quantification of emissions reductions and potential emissions impacts, including the impact of installation of solar generation and vehicle changeovers.
- The applicant has completed a community benefits agreement for the project.
- The applicant reached out to prominent environmental justice community leaders through its outreach campaign to determine benefits and impacts.
- The applicant sets a high bar for community engagement.

**Negative Feedback**

- There were no significant points deductions in this category.
- The applicant provided one community benefit agreement where other applications have included more than one.

**Overall Feedback**

Overall the applicant clearly describes the potential impacts and benefits that may result from the project, including GHG and combustion emissions from transportation, as well as the emission and economic benefits associated with solar generation installation. The applicant has completed a community benefits agreement and has reached out to some of the most prominent environmental justice community members. Overall, the applicant sets a high bar for community engagement. The score in this area could be improved by securing additional community benefits agreements.

## Scoring Criteria — Localized Economic Benefits

**Positive Feedback**

- The applicant provided a clear and detailed discussion of the potential localized economic benefits resulting from the project, including job creation and potential training/internship programs.
- The applicant has completed a community benefits agreement for the project.
- The applicant reached out to prominent environmental justice community leaders through its outreach campaign to determine benefits and impacts.
- The applicant sets the high bar for community engagement.

**Negative Feedback**

- There were no significant points deductions in this category.
- The applicant could have provided discussion of potential certifications employees could have obtained.
- The application contained a potential copy and paste error regarding the number of jobs created.
- The analysis of jobs resulting from the project may provide slightly exaggerated numbers.

• The applicant provided one community benefit agreement where other applications have included more than one.

**Overall Feedback**

Overall the applicant clearly describes the potential localized economic benefit that may result from the project, including job creation and employment training. The applicant has completed a community benefits agreement and has reached out to some of the most prominent environmental justice community members. Overall, the applicant sets a high bar for community engagement. The score in this area could be improved by securing additional community benefit agreements and addressing the issues noted on the job creation numbers.

## Scoring Criteria — Project Readiness and Implementation

**Positive Feedback**

• The applicant provided a detailed list of safety procedures and a comprehensive safety plan.
• The applicant clearly demonstrates understanding of the necessary permits to complete the project and provided a clear description of the status of each permit, including a quick reference chart.
• A significant amount of pre-project work has been completed on permitting, engineering, financing, and product offtake agreements.
• The applicant has demonstrated through past project development that they understand the necessary project permitting requirements and can secure these permits and complete the projects within expected deadlines.

**Negative Feedback**

• There were no significant points deductions in this category.
• The applicant could potentially be further along in terms of project permitting had they begun the processes for these projects at an earlier date. As of the filing of this application, the applicant appears to have completed as much of the permitting process possible pending various agency processing timelines. The selection committee is concerned with delays to the project completion date as a result of permitting timelines.

**Overall Feedback**

Overall the applicant clearly demonstrates the project readiness status of the project, clearly detailing the necessary permitting processes and their respective completion status. The applicant has completed a significant amount of pre-project work, demonstrating that they have considered all of the most significant factors in project readiness. The applicant could have improved the score in this area by having previously completed more of its pre-project permitting requirements, however all other applicants and projects could have done this as well.

## 4. Merced–CEE, Maas

| Project Name | Merced-CEE | | Developer | Maas | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model -Dairy Operations-Technology Plan – Marketing Plan-Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 16 | 12 | 20 | 12 | 7 | 14 | 81 |

### Scoring Criteria — Technology Plan

**Positive Feedback**

- Fine use of technology. The digesters are the common covered lagoon design engineered for long-term operation, employing advanced digester, biogas conditioning/upgrading, and solid-liquid separation technology. Technology selected is proven to be reliable and robust and is currently in use today in nearly all California digester applications. Proposed technology is similar across all applications by this developer and similar to that proposed by other developers.
- The applicant has provided some evidence that they will be able to produce and sell renewable biomethane vehicle fuel through existing retailers.
- The applicant provides performance guarantees from gas upgrading vendors (SCS and Air Liquide).
- The applicant provides a reasonable plan for gas not meeting spec. Non-spec gas will be recirculated and then flared if still can't meet spec. The applicant suggests gas not meeting spec a second time indicates equipment failure and repair will be needed. The applicant cites a storage capacity (two to three days) and emergency venting on digesters. Air District would prefer methane be vented rather than flared.
- Applicant open to working with local mid-market pipeline; project might not necessarily require significant new construction, very innovative opportunity.

**Negative Feedback**

- The technology selected is essentially the industry standard at this point, with no significant technical innovations or advancements compared to the other applicants. This project is essentially the lowest technology option, which is good for long-term, robust operation. This project technology appears to be of a previous generation of design, offering less gas storage ability.
- The applicant suggests using an emergency flare for extended periods of downtime, potentially leading to on-site combustion emissions. It may be preferable to vent biomethane rather than flare it due to the increase in NOx emissions in the San Joaquin Valley.

- The applicant could have provided more safety details for the project.
- The applicant inaccurately discusses the technology and engineering of the projects of other developers rather than focusing on the applicant's own application.
- The applicant suggests that if they do not receive CDFA funding, they will make some design changes to the project.

**Overall Feedback**

Overall the project technology selected is similar to what is proving to be successful for long-term operation in the dairy biomethane sector. The technology should be reliable and robust. The technology, however, is becoming the industry standard and does not include any significant advancements or innovations, especially compared to other applicants. The applicant could potentially improve their score in this area by exploring some potential innovations, potentially revising their emergency flaring discussion, and providing a more robust discussion about their safety plans. Good innovative thinking looking into a mid-market pipeline as an interconnection point opportunity. This will be new information to contribute to this pilot project process. It is inappropriate to provide advice to the Selection Committee on how to score applications. The applicant should provide additional detail regarding the potential design changes suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## Scoring Criteria — Marketing Plan

**Positive Feedback**

- The applicant has contracts for selling fuels to existing stations through Clean Energy Fuel.
- The applicant suggests they will put a small compressed natural gas (CNG) fueling station onsite to encourage adoption of CNG vehicle technology.
- The applicant provides a detailed and adequate discussion of their marketing plan for vehicle fuel produced from the project.

**Negative Feedback**

- The applicant states they have contract agreements for the biomethane for vehicle fuel, but more clarity on who is receiving which credits and revenue streams would improve the application.
- The applicant discusses what can be done with the fuel but more information on what they have contracts for and for how long is appropriate.
- The applicant doesn't appear to have any plans to develop or market any other potential revenue streams like soil amendments, captured CO2, or nutrient removal for export or use as fertilizer. Addressing this would improve the application.
- The applicant suggests they will put a small CNG fueling station onsite to encourage adoption of CNG vehicle technology but doesn't really support this or provide a guarantee that the station will be built. Further, applicant suggests that all biomethane will be pipeline injected.

Construction of this station, especially without demonstrated demand, seems unlikely especially since these costs would not be covered by the pilot program.

- The applicant appears to be focused only on renewable CNG from the project and does not appear to be exploring other revenue streams or technology innovations.
- The applicant provides limited evaluations of markets or the variety of the potential future market conditions.
- The applicant suggests that if they do not receive CDFA funding, they will make some design changes to the project.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of their marketing plan for the project and shows that they have secured contracts to sell the produced biomethane through Clean Energy Fuels, an existing retailer. The applicant also suggests that they will install an on-site fueling station to promote natural gas vehicle technology. The applicant could improve the score in this area by providing more discussion of multiple market conditions in their marketing plan discussion. The applicant could also provide discussion of other potential revenue streams, as well as providing some additional discussion and clarity on the commitment to and expected usage of the onsite fueling station. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## Scoring Criteria — Scalability

**Positive Feedback**

- Wants to connect to CEE pipeline, a private mid-market gas gatherer that already hosts an injection point into the PGE system at Panoche Station. Very scalable.

**Negative Feedback**

- Two additional dairies nearby and six are located further away.

**Overall Feedback**

Overall the applicant wants to connect to a mid-market pipeline, a private mid-market gas gatherer that already hosts an injection point into the PGE system at Panoche Station. This innovative approach presents an interesting opportunity for this project and future projects.

## Scoring Criteria — Project Team Qualifications

**Positive Feedback**

- Project team is very well qualified to design, construct, operate, and maintain both the digester systems and the infrastructure.
- The project team consists of a proven successful developer and designer utilizing previously used construction teams. The Selection Committee does not expect any project team qualification issues.
- The applicant has teamed up with an experienced pipeline construction company and has teamed up with SCS and Air Liquide for biomethane upgrading.
- Hartman Engineering will be engineering the projects and has successfully engineered other dairy digesters in California.
- This is a good team of some of the most experienced companies in the sector.

**Negative Feedback**

- The applicant suggests having some dairies own/manage the digester, as well as manage the project, including developing their own quarterly reporting. This could lead to inconsistent reports or potential mismanagement of the project.

**Overall Feedback**

Overall the applicant has assembled a good team of some of the most experienced and reliable partners in the sector, with demonstrated expertise and reliability. There is some potential for mismanagement or inconsistent reporting for dairy-owned digester operations. The score could be increased in this area by providing more information on how the project will ensure consistent reporting and management.

**Scoring Criteria — Long-Term Viability of Project**

**Positive Feedback**

- The project appears to be long-term viable.
- The applicant provides detailed and sufficient discussion of the long-term viability of the project, addressing some of the largest areas of concern.
- Connection through a mid-market pipeline might be beneficial to long-term viability.
- All dairies received Dairy Digester Research and Development Program (DDRDP) funding from CDFA.

**Negative Feedback**

- The applicant could have provided more information on their safety plan.
- The applicant's non-uniform business model has some dairies owning the digester and the applicant owning other digesters and may result in potential reductions in performance if one or more entities becomes financially insolvent. Some dairies may not be as committed to the project operation if they do not have as much at stake as is the case in other developer's models.
- The applicant seems to be focused on the fuels and credits portion of the project, seemingly not giving enough attention to other potential benefits and revenue streams.

• The applicant inaccurately discusses the technology and engineering of the projects of other developers rather than focusing on the applicant's own application.

**Overall Feedback**

Overall the applicant provides detailed and sufficient discussion of the long-term viability of the project and addresses some of the largest areas of concern for dairy biomethane projects. The applicant is utilizing materials and technology that should allow for long-term operation of the project with limited downtime. Connection through a mid-market pipeline might be beneficial to long-term viability. The score in this area could be improved by providing more details regarding the applicant's business plan and providing more discussion on additional, non-fuel revenue streams and cost savings. The applicant should also focus their efforts on developing their own application rather than discussing their competitors. It is inappropriate to provide advice to the Selection Committee on how to score applications.

## Scoring Criteria — Economic Viability

**Positive Feedback**

- Dairies received DDRDP funding.
- All non-DDRDP funding comes from Generate Capital. Almost no details on this financing.
- The applicant has an agreement with Clean Energy Fuels to purchase 100% of the fuel produced by the cluster.
- Connecting to the midmarket pipeline improves economic viability score with innovative partnership.
- The applicant provides adequate discussion of the economic viability of the project.

**Negative Feedback**

- Connecting to the mid-market pipeline saves in installation costs but adds to annual O&M costs.
- The applicant suggests that they have up to $200 million in private funding available from Generate Capital, however limited information on this financial arrangement is available, and from the materials provided, it appears that the entire $200 million is not directed toward dairy digestion projects. Additional information on this financial arrangement would be appropriate.
- While the applicant has an agreement with Clean Energy Fuels to purchase all of the fuel produced at the cluster, it may be risky to have only one secured offtake agreement.
- The business model employed by the applicant is not described very clearly and makes it difficult to determine the potential financial viability of the project long-term, as well as making it difficult to determine the potential profit that the various dairy partners would be receiving. Significantly more detail on the business model and financials would be ideal.
- The applicant does not discuss potential additional, non-fuel revenue streams.

**Overall Feedback**

Overall the applicant provides adequate discussion of the economic viability of the project. Funding from Generate Capital will also be provided. The applicant has also secured an agreement with Clean Energy Fuels to purchase all of the biomethane produced by the project. The applicant could improve the score in this area by providing more information on the funding available from Generate Capital, securing a potential backup fuel off-taker, and providing additional information and discussion on their business model and potential non-fuel revenue streams.

## Scoring Criteria — Greenhouse Gas Reduction

**Positive Feedback**

- The applicant provides adequate discussion of the expected GHG reductions resulting from the project.
- Significant and cost-effective GHG reductions are expected to result from the project.
- The applicant did not change any of the GHG calculator defaults.
- The project, if executed as proposed, may result in significant reductions in NOx and criteria pollutant emissions from the transportation sector.

**Negative Feedback**

- Applicant provides unsupported narrative in regard to effluent buffer system. Providing details regarding correspondence with Water Board officials would be helpful.
- The applicant provides limited discussion of diesel usage reductions and incorrectly asserts that their study was “accepted by CDFA” to calculate the diesel reductions on their own facilities.
- The applicant questions the quality of a competitor's work efforts in multiple parts of the application.
- The stated reduction in diesel usage is based on a general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel use reduction and additional supporting documentation would improve the project score.

**Overall Feedback**

Overall the applicant provides adequate discussion of the expected GHG reductions resulting from the project. The project will result in significant and cost-effective GHG reductions, and if executed as described, will likely result in significant NOx and criteria pollutant emission reductions in the transportation sector. The applicant should not give scoring advice to the Selection Committee, as this is highly inappropriate.

## Scoring Criteria — Cost-Effectiveness

**Positive Feedback**

• Depending on the numbers used, project could be one of the more cost-effective project applications.
• Additional collaboration on project execution and safety management are both positive.
• The applicant provides adequate discussion of the cost-effectiveness of the project.

**Negative Feedback**

• Interconnecting to the mid-market pipeline reduces upfront expenses but potentially increases annual O&M.

**Overall Feedback**

Overall the project appears to be among the more cost-effective project submitted. Interconnecting to the mid-market pipeline reduces upfront expenses but potentially increases annual O&M.

## Scoring Criteria — Justification and Reference

**Positive Feedback**

• The applicant did not change any GHG calculator defaults, limiting the need for justification and references with respect to defaults.
• Applicant provides unsupported narrative regarding effluent buffer system and Water Board regulations. No correspondence with Water Board officials is provided.
• The applicant inappropriately questions the quality of the competitor's work in multiple parts of the application rather than focusing on their own work.

**Overall Feedback**

The applicant did not make any changes to the GHG calculator defaults, limiting the need for justifications on this portion of the application. The score in this area could be improved by doing additional, dairy specific analysis on the pre- and post-project electricity and diesel usage, as these are currently calculations based on limited on-site investigation. The applicant could improve the score by removing or significantly modifying the discussion they provide, without supporting documentation, about their competitors' effluent buffer system. Most importantly, the applicant should not be prescribing scoring advice to the Selection Committee, as this is highly inappropriate. The applicant should not spend any time commenting on a competitor's application.

## Scoring Criteria — NOx and Criteria Pollutants

**Positive Feedback**

• The project will result in minimal NOx and criteria pollutant emissions if executed as described.

• The project could result in significant emission reductions in the heavy-duty transportation sector if fuel produced is directed to renewable CNG powered trucks that replace trucks that are currently diesel fueled.

**Negative Feedback**

• The project may result in NOx and criteria pollutant emissions from the flare.
• The applicant could have provided more discussion and some contractual commitment to heavy duty truck changeouts rather than agreements to explore the feasibility of doing so.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential for NOx and criteria pollutant emissions resulting from the project, along with reasonable approaches to limiting these potential emissions. The applicant also provides adequate discussion as to the potential for reductions in these emissions from the heavy-duty transportation sector resulting from changing out diesel trucks in favor of renewable CNG trucks. The applicant could have improved the score in this area by providing additional discussion and some contractual commitments with fleet operators regarding truck changeouts. Also, adding discussion about working with the local Air District to reduce the potential for flaring could have improved the score.

## Scoring Criteria — Mitigate Emissions On-Site

**Positive Feedback**

• The applicant provides some discussion as to their plans to mitigate any additional on-site emissions from the project.
• The applicant states that they have as much as three days of on-site biogas storage, reducing the likelihood that they will have to flare any biogas from the project.

**Negative Feedback**

• While minimal additional emissions will result onsite, the applicant suggests that they may flare under certain conditions which will have a NOx/criteria pollutant (CP) impact. According to the local Air District that the project is regulated by, it may be preferable to vent biogas in emergencies when feasible, to reduce the potential on-site emissions.
• The applicant assumes 28% of emissions benefits accrues to local areas but doesn't provide any information on how it arrived at these percentages and doesn't provide any agreements to secure local RCNG use.
• The stated reduction in diesel emissions is based on a general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel emissions reduction and additional supporting documentation would improve the project score.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential on-site emissions mitigation that could result from the project. They have committed to minimizing the use of an emergency

flare and state that the project can store biogas for up to three days, further reducing the likelihood of flaring. The applicant could improve the score in this area by working with the local Air District on a plan to further reduce or eliminate the use of a flare, potentially eliminating on-site air quality impacts. The applicant could further improve the score by providing additional, site-specific analysis of diesel use reductions for the dairy operations and some supporting information for these assumptions.

## Scoring Criteria — Mitigate Emissions Off-Site

### Positive Feedback

- The applicant suggests that they will mitigate vehicle emissions offsite, which is reasonable for a project producing renewable CNG for vehicles, especially replacing heavy duty diesel.
- The applicant states that they plan to work with local fleets to change out heavy duty diesel vehicles to renewable CNG, resulting in off-site emission reductions.
- The applicant does provide adequate discussion and detail regarding the potential off-site emissions mitigation that could result from the project, including the potential for 34 RCNG stations within 100 miles.

### Negative Feedback

- The applicant could have provided additional discussion on how they plan to achieve the truck changeouts. Providing contractual commitments and a detailed discussion of the timeline and plan for conversion would improve the score.
- The applicant could have pursued other off-site mitigation options like the installation of solar generation at the facility to reduce the use of fossil fuel generated grid electricity.

### Overall Feedback

Overall the applicant provides adequate discussion of the potential off-site emission mitigation that could result from the project, especially regarding the potential air quality improvements resulting from switching diesel vehicles over to renewable CNG. It is likely that there will be significant and important emission reductions in the transportation sector as a result of the project. The applicant could have improved the score in this area by providing additional discussion on how they plan to achieve these vehicle changeouts along with providing some contractual commitments from fleets to this effect. Additionally, the applicant could have improved the score by committing to other mitigation options like the installation of solar generation to reduce the use of fossil fuel generated grid electricity.

## Scoring Criteria — Project Co-Benefits

### Positive Feedback

- The applicant provided some discussion of the potential co-benefits from the project including the benefit to cluster projects, reduction of on-farm diesel usage from reduced lagoon

cleanouts, reduced water usage and contamination, and use of CNG vehicles to reduce emissions compared to vehicles using fuels with higher carbon intensity, especially diesel.

**Negative Feedback**

- The applicant does provide some discussion of the co-benefits from the project but not to a high level of detail.
- The applicant could have provided additional discussion on the co-benefits that they did cite, along with providing additional discussion on other potential co-benefits.

**Overall Feedback**

Overall the applicant did provide some discussion of potential co-benefits that may result from the project including the benefit to cluster projects, reduction of on-farm diesel usage from reduced lagoon cleanouts, reduced water usage and contamination, and use of CNG vehicles to reduce emissions compared to vehicles using fuels with higher carbon intensity, especially diesel. The applicant could have improved the score in this area by providing more discussion of the potential co-benefits. The applicant could have performed their own analysis on some of the co-benefits, especially diesel reductions, rather than utilize the work of others.

## Scoring Criteria — Community Impacts and Mitigation

**Positive Feedback**

- The applicant adequately explains potential project impacts.
- The applicant has secured two community benefit agreements (Proteus and Merced County Workforce Innovation Board).
- The applicant adequately describes the potential impacts and benefits to air, water, and odor.
- The applicant did do a significant amount of outreach on the project including hosting public meetings where they met with community members and provided information on the impacts and benefits from the project.

**Negative Feedback**

- The applicant could have done additional community outreach.
- The applicant could have reached out to the additional members of the environmental justice community to promote community interaction.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of the potential impacts and benefits resulting from the project, including potential impacts and benefits to air and water quality and odor emissions. The applicant did significant community outreach, even executing community benefit agreements with the local community. The applicant could improve the score in this area of the application by providing additional discussion regarding the number and

type of jobs created and by doing additional targeted outreach, perhaps to additional environmental justice community leaders.

## Scoring Criteria — Localized Economic Benefits

### Positive Feedback

- The applicant provides some detailed discussion about the potential economic benefits that will result from the project, including creation of local short-term construction jobs, longer term operation and maintenance jobs, and purchase of equipment and materials.
- The applicant has completed a community benefits agreement for the project.
- The applicant reached out to the local community through its outreach campaign to describe the benefits and impacts of the project.
- The applicant provided a good effort for community outreach.
- The applicant describes potentially available job certifications.

### Negative Feedback

- The analysis of jobs resulting from the project may provide slightly exaggerated numbers.
- The applicant could have reached out to additional members of the environmental justice community to promote community interaction.
- While the applicant did provide significant effort in community outreach, another applicant provided a greater effort. Additional targeted outreach could improve the project score in this area.

### Overall Feedback

Overall the applicant provided a detailed and adequate discussion of the potential local economic benefits resulting from the project, including potential job creation. The applicant did community outreach, even executing community benefit agreements with the local community. The applicant could improve the score in this area of the application by providing additional discussion regarding the number and type of jobs created and by doing additional targeted outreach in the environmental justice community.

## Scoring Criteria — Project Readiness and Implementation

### Positive Feedback

- The applicant loosely but sufficiently describes the basic permitting process with Fresno County as well as a basic expected timeline.
- Overall the developer has demonstrated through past project development that they understand the necessary project permitting requirements and can secure these permits and complete the projects within expected deadlines.

**Negative Feedback**

- A bit more clarity in the permitting process could be helpful, but overall sufficient information is provided to understand what they are doing.
- Some of the dairies still need liner permits. Suggests that there are no criteria or toxic emissions from biogas upgrading other than flare and CO2 membrane, but still requires a San Joaquin Valley Air Pollution Control District (SJVAPCD) Authority to Construct, (ATC) (which they don't have yet. Would be good to explain the air quality permit further.
- The applicant could have provided more information on safety procedures.
- While the applicant did provide sufficient information on the permitting of the project, it was not as clear as to the completion status of the various permits.

**Overall Feedback**

Overall the applicant provides sufficient detail to show that they understand the various permitting requirements of the project and are well on the way to completing those requirements. The applicant is looking to interconnect at a mid-market pipeline and this could make this project easier to complete. The application score could be improved in this area by providing more detail on that completion status of various permits, more detail on their proposed safety plan, and more detail on the funding and economic stability of the project dairies.

## 5. Lakeside, Maas

| Project Name | Lakeside | | Developer | Maas | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model -Diary Operations- Technology Plan – Marketing Plan- Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 14 | 10 | 19 | 11 | 7 | 11 | 72 |

### Scoring Criteria — Technology Plan

**Positive Feedback**

- Good use of technology. The digesters are the common covered lagoon design engineered for long-term operation, employing advanced digester, biogas conditioning/upgrading, and solid-liquid separation technology. Technology selected is proven to be reliable and robust and is currently in use today in nearly all California digester applications. Proposed technology is similar across all applications by this developer and similar to that proposed by other developers.
- The applicant has provided some evidence that they will be able to produce and sell renewable biomethane vehicle fuel through existing retailers.
- The applicant provides performance guarantees from gas upgrading vendors (SCS and Air Liquide).
- The applicant provides a reasonable plan for gas not meeting spec. Non-spec gas will be recirculated and then flared if still can't meet spec. The applicant suggests gas not meeting spec a second time indicates equipment failure and repair will be needed. The applicant cites a storage capacity (two to three days) and emergency venting on digesters. Air District would prefer methane be vented rather than flared.

**Negative Feedback**

- The technology selected is essentially the industry standard at this point, with no significant technical innovations or advancements compared to the other applicants. This project is essentially the lowest technology option, which is good for long-term, robust operation. Compared to the most similar applicant, this project appears to be of a previous generation of design.
- The applicant suggests using an emergency flare for extended periods of downtime, potentially leading to on-site combustion emissions. It may be preferable to vent biomethane rather than flare it due to the increase in NOx emissions in the San Joaquin Valley.
- The applicant could have provided more safety details for the project.
- The applicant did not discuss the currently executed BioMAT contract for Decade Digester

• The applicant inaccurately and inappropriately discusses the technology and engineering of the projects of other developers.
• The applicant suggests that if they do not receive CDFA funding, it will make some design changes to the project.

**Overall Feedback**

Overall the project technology selected is similar to what is proving to be successful for long-term operation in the dairy biomethane sector. The technology should be reliable and robust; the technology, however, is becoming the industry standard and does not include any significant advancements or innovations, especially compared to other applicants. The applicant could potentially improve their score in this area by exploring some potential innovations along with potentially revising their emergency flaring discussion. Additionally, the applicant should provide some discussion of the currently executed BioMAT contract. The applicant should also focus their efforts on developing their own application rather than discussing what their competitors may or may not be doing. It is inappropriate to provide advice to the Selection Committee on how to score applications. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## Scoring Criteria — Marketing Plan

**Positive Feedback**

• The applicant has contracts for selling fuels to existing stations through Clean Energy Fuel.
• The applicant suggests they will put a small CNG fueling station onsite to encourage adoption of CNG vehicle technology.
• The applicant provides a discussion of their marketing plan for vehicle fuel produced from the project.

**Negative Feedback**

• The applicant states they have contract agreements for the biomethane for vehicle fuel but more clarity on who is receiving which credits and revenue streams would improve the application.
• The applicant discusses what can be done with the fuel, but more information on what they have contracts for and for how long would be appropriate here.
• The applicant doesn't appear to have any plans to develop or market any other potential revenue streams like soil amendments, captured $CO_2$, or nutrient removal for export or use as fertilizer. Addressing this would improve the application.
• The applicant states that there may be some potential local biomethane use (assuming milk and feed trucks convert from diesel), but that use would be *de minimus* and confined to the location because the dairy is away from major long haul and transport routes. Also, there is no guarantee the developer will actually do this.

• The applicant suggests they will put a small CNG fueling station onsite to encourage adoption of CNG vehicle technology but doesn't support this or provide a guarantee that the station will be built. Elsewhere in the application, the applicant suggests that all biomethane will initially be pipeline injected.
• The applicant appears to be focused only on renewable CNG from the project and does not appear to be exploring other revenue streams or technology innovations.
• The applicant provides limited evaluations of markets under multiple conditions compared to some other applicants.
• The applicant suggests that if they do not receive CDFA funding, they will make some design changes to the project.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of their marketing plan for the project and shows that they have secured contracts for selling the produced biomethane through Clean Energy Fuels, an existing retailer. The applicant also suggests that they will install an on-site fueling station to promote natural gas vehicle technology. The applicant could improve the score in this area by providing more discussion of multiple market conditions in their marketing plan discussion. The applicant could also provide discussion of other potential revenue streams as was done by other applicants, as well as providing some additional discussion and clarity on the commitment and expected usage of the onsite fueling station. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## Scoring Criteria — Scalability

**Positive Feedback**

• The project is the most scalable project from this applicant.
• The applicant states that the pipeline has capacity for the initial 10 dairies but adding more may require additional cleanup capacity and potentially pipeline upgrades.
• The infrastructure described by the application is sufficient for the dairies included in the application. Agreements with additional dairies are verbal at this time.

**Negative Feedback**

• Unclear how additional dairies will transport manure to working digesters.
• The infrastructure of the operation is sufficient for the current dairies, but the infrastructure would require utility upgrades in order to provide capacity for additional dairies.
• Negatively discusses other applicants to the solicitation.

**Overall Feedback**

Overall the applicant provides adequate discussion of the scalability of the project, and it is ultimately the most scalable project submitted by the applicant. The applicant suggests that as

many as 11 additional dairies may be added to the initial five dairies if sufficient infrastructure upgrades are undertaken. Discusses a potential virtual pipeline in a future phase of the project, i.e. using tube trucks to transport biomethane instead of pipelines, which is important since virtual pipelines for biomethane injection were not permitted as part of the project solicitation.

## Scoring Criteria — Project Team Qualifications

**Positive Feedback**

- Project team is very well qualified to design, construct, operate, and maintain both the digester systems and the infrastructure.
- The project team consists of a proven successful developer and designer utilizing previously used construction teams, coupled with help from SoCalGas. The Committee does not expect any project team qualification issues.
- The applicant has teamed up with an experienced pipeline construction company and has teamed up with SCS and Air Liquide for biomethane upgrading.
- Hartman Engineering will be engineering the projects and has successfully engineered other dairy digesters in California.
- This is a good team of some of the most experienced companies in the sector.

**Negative Feedback**

- The applicant suggests having some dairies own/manage the digester, as well as manage the project, including developing their own quarterly reporting. This could lead to inconsistent reports or potential mismanagement of the project.

**Overall Feedback**

Overall the applicant has assembled a good team of some of the most experienced and reliable partners in the sector, with demonstrated expertise and reliability. There is some potential for mismanagement or inconsistent reporting for dairy-owned digester operations. The score could be increased in this area by providing more information on how the project will ensure consistent reporting and management.

## Scoring Criteria — Long-Term Viability of Project

**Positive Feedback**

- The project appears to be long-term viable.
- The applicant provides detailed and sufficient discussion of the long-term viability of the project, addressing some of the largest areas of concern.
- The project is likely to provide long-term viability as long as there is a market for RCNG. Even in the absence of that market, the gas could be sold to natural gas customers via the same pipelines.
- Maintenance will likely not be an issue assuming utility and developer maintain equipment properly.

- The project uses materials and designs currently available in the market today.

**Negative Feedback**

- The applicant could have provided more information on their safety plan.
- The applicant's designs do not offer significant technical innovations or advancements.
- The applicant's non-uniform business model has some dairies owning the digester and the applicant owning other digesters and may result in potential reductions in performance if one or more entities becomes financially insolvent. Some dairies may not be as committed to the project operation if they do not have as much at stake
- The applicant seems to be wholly focused on the fuels and credits portion of the project, seemingly not giving enough attention to other potential benefits and revenue streams compared to other applicants.
- The applicant inaccurately discusses the technology and engineering of the projects of other developers participating in the solicitation.
- The applicant suggests that if they do not receive CDFA funding, they will make some design changes to the project. Without knowing the details of the potential changes, there could be potential reductions in material quality or design changes that could reduce the long-term viability.
- Concern expressed that High-Speed Rail may have a negative impact on viability of this project.

**Overall Feedback**

Overall the applicant provides detailed and sufficient discussion of the long-term viability of the project and addresses some of the largest areas of concern for dairy biomethane projects. The applicant is utilizing robust materials and technology that should allow for long-term operation of the project with limited downtime. The score in this area could be improved by providing more details regarding the applicant's business plan and providing more discussion on additional, non-fuel revenue streams and cost savings. The applicant should also focus their efforts on developing their own application rather than discussing what their competitors may or may not be doing. It is inappropriate to provide advice to the Selection Committee on how to score applications. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application. Without knowing the details of the potential changes, there could be potential reductions in material quality or design changes that could reduce the long-term viability. High Speed Rail concerns were mitigated.

## Scoring Criteria — Economic Viability

**Positive Feedback**

• The applicant suggests that they have the necessary funding to construct the digesters associated with the project. Four digesters received CDFA funding. They have Generate Capital as a private funding partner.
• The applicant has an agreement with Clean Energy Fuels to purchase 100% of the fuel produced by the cluster.
• The applicant provides adequate discussion of the economic viability of the project.

**Negative Feedback**

• The applicant suggests that they have up to $200 million in private funding available from Generate Capital, however limited information on this financial arrangement is available, and from the materials provided, it appears that the entire $200 million is not directed toward dairy digestion projects. Additional information on this financial arrangement would be appropriate.
• While the applicant has an agreement with Clean Energy Fuels to purchase all of the fuel produced at the cluster, it may be risky to have only one secured offtaker.
• On page 42 of the application, the applicant discusses digester ownership and CDFA funding for some digesters and states that if CDFA funding is not received, the digesters may proceed with some design changes, but does not detail what those changes could be. This is concerning, as the designs submitted to this program should be what the developer plans to actually install and are what the project is being reviewed on. Deviating from the project application may result in lower scores in other areas of the application or may result in disqualification of the application.
• The business model employed by the applicant is not described very clearly and makes it difficult to determine the potential financial viability of the project long-term, as well as making it difficult to determine the potential profit that the various dairy partners would be receiving. Significantly more detail on the business model and financials would be appropriate.
• The applicant does not discuss potential additional, non-fuel revenue streams like other applicants.

**Overall Feedback**

Overall the applicant provides adequate discussion of the economic viability of the project even though the project did not receive all of the requested CDFA DDRDP grant funding, stating that the project can be constructed with private funding from Generate Capital. The applicant has also secured an agreement with Clean Energy Fuels to purchase all of the biomethane produced by the project. The applicant could improve the score in this area by providing more information on the funding available from Generate Capital, securing a potential backup fuel offtaker, and providing additional information and discussion on their business model and potential non-fuel revenue streams. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

**Scoring Criteria — Greenhouse Gas Reduction**

**Positive Feedback**

- The applicant provides adequate discussion of the expected GHG reductions resulting from the project.
- Significant and cost-effective GHG reductions are expected to result from the project.
- The applicant did not change any of the GHG calculator defaults.
- The project, if executed as proposed, may result in significant reductions in NOx and criteria pollutant emissions from the transportation sector.

**Negative Feedback**

- Baseline versus projected scenario inputs were changed in ARB's cost calculator without additionally providing enough backup documentation.
- The numbers shown in the calculator and the numbers in the project summary do not match. Project will result in significant GHG reductions, though the value given in the narrative is higher than that shown in the calculator.
- The applicant provides limited discussion of diesel usage reductions and incorrectly asserts that they used a study performed by their competitor that was "accepted by CDFA" to calculate the diesel reductions on their own facilities. The applicant further questions the quality of this competitor's work in multiple parts of the application and then subsequently states that they used their competitor's study as the basis of their analysis.
- The stated reduction in diesel usage is based on a general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel use reduction and additional supporting documentation would improve the project score.
- The applicant does not discuss the GHG reductions that may have already been accounted for in association with the executed BioMAT contracts. Additionally, the future disposition of these contracts is not discussed.

**Overall Feedback**

Overall the applicant provides adequate discussion of the expected GHG reductions resulting from the project, though additional discussion of the current BioMAT contract would be appropriate. The project will result in significant and cost-effective GHG reductions, and if executed as described, will likely result in significant NOx and criteria pollutant emission reductions in the transportation sector. The score in this area could be improved by doing additional, dairy specific analysis on the pre- and post-project electricity and diesel usage, as these are currently calculations based on limited on-site investigation and the work of another applicant. GHG reduction calculations from the calculator and the application text do not match. The applicant could improve the score by removing or significantly modifying the discussion they provide around the scoring of GHG emissions regarding their Digestate Diversion

Mechanism and their competitor's effluent buffer system. The applicant should not be prescribing scoring advice to the Selection Committee, as this is highly inappropriate and provided no support for their assertions.

**Scoring Criteria — Cost-Effectiveness**

**Positive Feedback**

- The project is one of the more cost-effective projects submitted, ranking second.
- The applicant provides adequate discussion of the cost-effectiveness of the project.

**Negative Feedback**

- The diesel usage study done provided in this application was completed outside of the scope of the application. This application did not provide a dairy-specific diesel usage study and did not provide their work.

**Overall Feedback**

Overall the project appears to be one of the more cost-effective projects submitted. However, the total GHG reduction in the calculator and the application do not match. Furthermore, GHG reduction calculations from individual dairies do not match the summary calculator. Additionally, one of the dairies was previously awarded funding to purchase and install an on-site electricity generation system, and the applicant provides no discussion of the future disposition of this equipment and its associated BioMAT contract, potentially leading to the scrapping of the equipment and a loss of capacity to the BioMAT program. The applicant could improve the score in this area by providing more discussion of the costs associated with the previous interconnection, even though that data may be 10 years old, and by providing discussion of the future disposition of the equipment and associated BioMAT contract.

**Scoring Criteria — Justification and Reference**

**Positive Feedback**

- The applicant did not change any GHG calculator defaults, limiting the need for justification and references with respect to defaults.

**Negative Feedback**

- The applicant does not discuss the GHG reductions that may have already been accounted for in association with the executed BioMAT contracts.
- The application suggests that all of the dairies in the cluster have the same pre-and post-project electricity usage. This cannot be correct, and inaccuracy here will impact both the GHG and criteria pollutant emissions associated with the facility, though the CP emissions will likely be remote (power plant) unless produced through on-site generation.
- Applicant provides unsupported narrative regarding what they have seen other competitors doing (in regard to effluent buffer system) not being real or legal under Water Board regulations. However, no correspondence with Water Board officials is provided. The narrative

provided, including instructing project reviewers on how to review their projects versus competitor projects is inappropriate, especially without substantiation or supporting evidence.

- The applicant provides limited discussion of diesel usage reductions and incorrectly asserts that they used a study performed by their competitor that was “accepted by CDFA” to calculate the diesel reductions on their own facilities. The applicant further questions the quality of this competitor's work in multiple parts of the application and then subsequently states that they used their competitor’s study as the basis of their analysis.
- The stated reduction in diesel usage is based on a general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel use reduction and additional supporting documentation would improve the project score.

**Overall Feedback**

The applicant did not make any changes to the GHG calculator defaults, limiting the need for justifications on this portion of the application. The score in this area could be improved by doing additional, dairy specific analysis on the pre- and post-project electricity and diesel usage, as these are currently calculations based on limited on-site investigation rather than using and then questioning the work of another applicant. The applicant could improve the score by removing or significantly modifying the discussion they provide around the scoring of GHG emissions regarding their poorly described Digestate Diversion Mechanism and their competitors’ better described effluent buffer system. The applicant should not be prescribing scoring advice to the Selection Committee, as this is highly inappropriate.

**Scoring Criteria — NOx and Criteria Pollutants**

**Positive Feedback**

- The project could result in significant emission reductions in the heavy-duty transportation sector if fuel produced is directed to renewable CNG powered trucks that replace trucks that are currently diesel fueled.

**Negative Feedback**

- The applicant could have provided more discussion and some contractual commitment to heavy duty truck changeouts rather than agreements to explore the feasibility of doing so.
- The applicant suggests that there will be minimal combustion of dairy biomethane. However, there is no description of the current BioMAT contracts in place which could result in on-site emissions.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential for NOx and criteria pollutant emissions resulting from the project, along with reasonable approaches to limiting these potential emissions. The applicant also provides adequate discussion as to the potential for reductions in these emissions from the heavy-duty transportation sector resulting from changing out diesel trucks in favor of renewable CNG trucks. The applicant could have improved

the score in this area by providing additional discussion and some contractual commitments with fleet operators regarding truck changeouts, working with the local Air District to reduce the potential for flaring, and providing information on the future disposition of the executed BioMAT contracts at two of the project dairies.

**Scoring Criteria — Mitigate Emissions On-Site**

**Positive Feedback**

- The applicant provides some discussion as to their plans to mitigate on-site emissions from the project, which are expected to be minimal.
- The applicant states that they have as much as three days of on-site biogas storage, reducing the likelihood that they will have to flare any biogas from the project.
- The applicant states that there will be significant reductions in on-site diesel usage due to a reduction in equipment use for manure hauling and lagoon cleanouts.

**Negative Feedback**

- While minimal emissions will result onsite, the applicant suggests that they may flare under certain conditions, which will have a NOx/CP impact. According to the local Air District that the project is regulated by, it may be preferable to vent biogas in emergencies when feasible to reduce the potential on-site emissions.
- The applicant suggests that there will be minimal combustion of dairy biomethane. However, there is no information regarding the current BioMAT contract in place which will result in on-site emissions.
- The applicant assumes 15% of emissions benefits accrues to local areas but doesn't provide any information on how it arrived at these percentages and doesn't provide any agreements to secure local RCNG use.
- The stated reduction in diesel usage is based on a general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel use reduction and additional supporting documentation would improve the project score.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential on-site emissions mitigation that could result from the project. They have committed to minimizing the use of an emergency flare and state that the project can store biogas for up to three days, further reducing the likelihood of flaring. The applicant could improve the score in this area by working with the local Air District on a plan to further reduce or eliminate the use of a flare, potentially eliminating on-site air quality impacts. Additionally, the applicant could have provided some discussion as to the impacts from the current BioMAT contract as it could have a significant air quality impact, even when meeting Air District Best Available Control Technology (BACT) standards. The applicant could further improve the score by providing additional, site-specific analysis of diesel use reductions for the dairy operations and some supporting information for these assumptions.

**Scoring Criteria — Mitigate Emissions Off-Site**

**Positive Feedback**

- The applicant suggests that they will mitigate vehicle emissions offsite, which is reasonable for a project producing renewable CNG for vehicles, especially replacing heavy duty diesel.
- The applicant states that they plan to work with local fleets to change out heavy duty diesel vehicles to renewable CNG, resulting in off-site emission reductions.
- The applicant does provide adequate discussion and detail regarding the potential off-site emissions mitigation that could result from the project.

**Negative Feedback**

- The applicant could have provided additional discussion on how they plan to achieve the truck changeouts. Providing contractual commitments and a detailed discussion of the timeline and plan for conversion would improve the score.
- The applicant could have pursued other off-site mitigation options like the installation of solar generation at the facility to reduce the use of fossil fuel generated grid electricity as other applicants are doing.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential off-site emission mitigation that could result from the project, especially regarding the potential air quality improvements resulting from switching diesel vehicles over to renewable CNG. It is likely that there will be significant and important emission reductions in the transportation sector as a result of the project. The applicant could have improved the score in this area by providing additional discussion on how they plan to achieve these vehicle changeouts along with providing some contractual commitments from fleets to this effect as other applicants have done. Additionally, the applicant could have improved the score by committing to other mitigation options like the installation of solar generation to reduce the use of fossil fuel generated grid electricity like other applicants.

**Scoring Criteria — Project Co-Benefits**

**Positive Feedback**

- The applicant provided some discussion of the potential co-benefits from the project including the benefit to cluster projects, reduction of on-farm diesel usage from reduced lagoon cleanouts, reduced water usage and contamination, and use of CNG vehicles to reduce emissions compared to vehicles using fuels with higher carbon intensity, especially diesel.

**Negative Feedback**

• The applicant does provide some discussion of the co-benefits from the project but not to the level of detail of other applicants.
• The applicant could have provided additional discussion of the co-benefits that they did cite, along with providing additional discussion on other potential co-benefits.
• The applicant based some of their co-benefit discussion on a previously completed analysis that was produced by others in the CDFA DDRDP program rather than developing their own work. The applicant could have improved their score by focusing on developing their own analysis.
• Project proposes to use a Digestate Diversion Mechanism, which should reduce additional methane from storage of digestate but could potentially cause a significant water quality concern. This mechanism is not fully described and does not illustrate any sort of water quality protection or ability to distribute digestate accurately and at agronomic rates, essentially diverting it to irrigation ditches to flow wherever the ditch takes it.

**Overall Feedback**

Overall the applicant did provide some discussion of potential co-benefits that may result from the project including the benefit to cluster projects, reduction of on-farm diesel usage from reduced lagoon cleanouts, reduced water usage and contamination, and use of CNG vehicles to reduce emissions compared to vehicles using fuels with higher carbon intensity, especially diesel. The applicant could have improved the score in this area by providing more discussion of the potential co-benefits, as they provided less than other applicants. The applicant could have performed their own analysis on some of the co-benefits, especially diesel reductions, rather than utilize the previous work of a competing applicant, which they question. Additionally, the applicant should have provided more details and information on the proposed Digestate Diversion Mechanism, especially considering that they raise objections to the use of a similar system by other applicants.

**Scoring Criteria — Community Impacts and Mitigation**

**Positive Feedback**

• The applicant adequately explains potential project impacts.
• The applicant has secured two community benefit agreements (Proteus and Merced County Workforce Innovation Board).
• The applicant adequately describes the potential impacts and benefits to air, water, and odor.
• The applicant did public outreach for the project of including hosting public meetings where they met with community members and provided information on the impacts and benefits from the project.

**Negative Feedback**

• Project proposes to use a Digestate Diversion Mechanism, which should reduce additional methane from storage of digestate but could also potentially cause a significant water quality concern. This mechanism is not fully described and does not illustrate any sort of water quality

protection or ability to distribute digestate accurately and at agronomic rates, essentially diverting it to irrigation ditches to flow wherever the ditch takes it.

• The applicant could have reached out to the additional members of the environmental justice community to promote community interaction. Not enough discussion about the future trucking option is included.

- Additional targeted outreach could improve the project score in this area.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of the potential impacts and benefits resulting from the project, including potential impacts and benefits to air and water quality and odor emissions. The applicant did significant community outreach, even executing community benefit agreements with the local community. The applicant could improve the score in this area of the application by providing additional discussion regarding the number and type of jobs created and by doing additional targeted outreach, perhaps to prominent environmental justice community leaders. Additionally, the applicant should have provided more details and information on the proposed Digestate Diversion Mechanism, especially considering that they raise objections to the use of a similar system by other applicants.

**Scoring Criteria — Localized Economic Benefits**

**Positive Feedback**

• The applicant provides some detailed discussion about the potential economic benefits that will result from the project, including creation of local short-term construction jobs, longer term operation and maintenance jobs, and purchase of equipment and materials.

• The applicant has completed a community benefits agreement for the project.

• The applicant reached out to the local community through its outreach campaign to describe the benefits and impacts of the project.

• The applicant provided a significant effort for community outreach.

• The applicant describes potentially available job certifications.

**Negative Feedback**

• The applicant could have provided more supporting documentation for the analysis of jobs resulting from the project.

• Additional targeted outreach could improve the project score in this area.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of the potential local economic benefits resulting from the project, including potential job creation. The applicant did significant community outreach, even executing community benefit agreements with the local community. The applicant could improve the score in this area of the application by providing additional discussion regarding the number and type of jobs created and by doing additional targeted outreach, perhaps to prominent environmental justice community leaders.

**Scoring Criteria — Project Readiness and Implementation**

**Positive Feedback**

- Overall the developer has demonstrated through past project development that they understand the necessary project permitting requirements and can secure these permits and complete the projects within expected deadlines.

**Negative Feedback**

- Some of the dairies still need liner permits and updated NMPs. Suggests that there are no criteria or toxic emissions from biogas upgrading other than flare and $CO_2$ membrane, but still requires a SJVAPCD ATC, which they don't have yet. Would be good to explain the air quality permit further.
- The applicant could have provided more information on safety procedures.
- While the applicant did provide sufficient information on the permitting of the project, it was not as clear as to the completion status of the various permits compared to other developers.
- The applicant did not receive total CDFA funding requested for the project and suggests that this may result in unspecified design changes on the project, which may have significant implications on scoring as previously noted.
- The applicant did not provide sufficient information on the existing BioMAT contract including what they plan to do with equipment previous purchased through CDFA grant funding.
- Highspeed rail could present an issue.

**Overall Feedback**

Overall the applicant provides sufficient detail to show that they understand the various permitting requirements of the project and are well on the way to completing those requirements. Highspeed rail could pose a problem. The application score could be improved in this area by providing more detail on that completion status of various permits, more detail on their proposed safety plan, more detail on the funding and economic stability of the project dairies, the future plans for BioMAT contract executed within the cluster, and the potential design changes that are suggested due to the lack of CDFA funding. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## 6. Five Points, Maas

| Project Name | Five Points | | Developer | Maas | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model -Dairy Operations- Technology Plan – Marketing Plan- Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 14 | 10 | 18.5 | 9.5 | 8 | 11.5 | 71.5 |

**Scoring Criteria — Technology Plan**

**Positive Feedback**

- The applicant displays a good use of reliable, commonly-deployed technology. The digesters proposed for the project are covered lagoon style digesters engineered for long-term operation. They utilize advanced digester, biogas conditioning/upgrading, and solid-liquid separation technologies. The selected technology is proven to be reliable and robust and is currently in use today in nearly all dairy digester operations in California. The proposed technology is similar across all applications by this developer and similar to that proposed by other developers.
- The applicant has provided some evidence that they will be able to produce and sell renewable biomethane vehicle fuel through existing retailers.
- The applicant provides performance guarantees from gas upgrading vendors (SCS and Air Liquide) that the biogas upgrading and conditioning equipment can reliably upgrade biogas into biomethane that meets all applicable requirements for injection into the common carrier natural gas pipeline system.
- The applicant provides a reasonable plan for handling gas that does not meet the applicable pipeline quality specifications. Gas that does not meet the requirements for pipeline injection will be recirculated until it does meet the specifications. If it is still unable to meet the required specification, it will then be flared. The applicant suggests gas not meeting the required specifications after a second attempt at upgrading indicates that there is an equipment failure and repair will be needed. The applicant cites a storage capacity of up to three days due to the design of the digester and states that emergency venting provisions will be installed on the digesters. It should be noted that the San Joaquin Valley Air Pollution and Control District would prefer methane be vented rather than flared due to the concerns over adding additional air pollutants, especially NOx, to the heavily impacted San Joaquin Valley.

**Negative Feedback**

- While the technology selected is essentially the current industry standard, it does not represent any significant technical innovations or advancements, even when compared to the other applicants who are proposing similar technology. While the project represents technology that is good for long-term, robust operation, it does not represent any significant advancements

or innovations in anaerobic digestion. When the project is compared to other projects from the most similar applicant, it appears to be of a previous generation of design, offering less gas storage ability.

- The applicant suggests using an emergency flare for extended periods of downtime, potentially leading to on-site combustion emissions. Due to the location of the project in the San Joaquin Valley, it may be preferable to vent the captured biogas or biomethane during periods of downtime rather than flare it due to the increase in combustion emissions, especially NOx.
- The applicant could have provided more details on the operational safety plan of the project.
- The applicant did not discuss the currently executed BioMAT contracts for Open Sky Ranch and Charles Van der Kooi dairies. These projects may have reduced biomethane availability, reduced cost-effectiveness, increased on-site emissions, and potentially could result in lost capacity for the BioMAT program if started and subsequently shut down.
- Wilson Dairy appears to be serious in financial jeopardy, which could lead to the closure of the dairy and subsequent shutting down of the digester, reducing the biomethane capacity of the project. This could lead to reduced cost-effectiveness and may reflect poorly on the project itself and the program as a whole due to a project being shut down.
- The applicant provides significant discussion of their Calgren/Pixley project to describe their experience, but the discussion has limited relevance to the Five Points project.
- It is inappropriate to provide comment on applications outside of their own application.
- The applicant suggests that if they do not receive CDFA funding, they will make some design changes to the project. Not only did the applicant not provide any details regarding the potential changes that they would make, they also did not provide any reasoning as to how this would affect the projects. Making significant design changes after submission of an application to the pilot program is not allowed.

**Overall Feedback**

Overall the project technology selected is similar to what is proving to be successful for long-term operation in the dairy biomethane sector. The technology should prove to be reliable and robust. The technology, however, is becoming the industry standard and does not include any significant advancements or innovations, especially when compared to the submissions from other applicants. The applicant could have improved their score in this area by exploring some potential innovations along with revising their emergency flaring discussion. Additionally, the applicant should provide some discussion of the currently executed BioMAT contracts, as well as the potential financial challenges which could lead to the shutdown of a dairy and its digester. The applicant should also focus their efforts on developing their own application rather than discussing their competitors. It is inappropriate to provide advice to the Selection Committee on how to score applications. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## Scoring Criteria — Marketing Plan

**Positive Feedback**

- The applicant provides contracts for selling fuels to existing refueling stations through Clean Energy Fuels.

- The applicant suggests they will put a small CNG fueling station onsite to encourage adoption of CNG vehicle technology.
- The applicant provides a detailed and adequate discussion of their plan to market the vehicle fuel produced from the project.

**Negative Feedback**

- The applicant states they have contract agreements for the biomethane for vehicle fuel, but more clarity on who is receiving which environmental credits and revenue streams would improve the application.
- The applicant discusses what can be done with the fuel produced by the project, but more information on what they have contracts for and the associated longevity of those contracts is appropriate here.
- The applicant does not appear to have any plans to develop or market any other potential revenue streams like soil amendments, captured $CO_2$, or nutrient removal for export or use as fertilizer. Providing discussion on these potential additional revenue streams as other applicants did would improve the application.
- The applicant provides additional discussion of a proposed refueling station at the Calgren ethanol facility with regard to developing an on-site refueling station, but this has no bearing on the project other than it would have similar players. The applicant states that there may be some potential use of an on-site refueling station by milk and feed trucks that convert from diesel, but that use would likely be a minimal and confined to these uses due to the location of the project with respect to major long-haul and transport routes. The applicant did not provide any commitments, contracts, or guarantees that they will construct an on-site refueling station, nor do they provide any significant assessment of the potential use of the station. Similarly, the applicant does not provide any evidence that there will be converted milk or feed hauling vehicles that will use the station. Providing commitments and contracts to this effect would improve the application.
- The applicant suggests they will put a small CNG refueling station onsite to encourage adoption of CNG vehicle technology but doesn't provide support or substantiation of this statement, nor do they provide a guarantee that the station will be built. The applicant further suggests that all biomethane will be initially pipeline injected, which suggests that there may be no biomethane available to the station. Construction of this station, especially without demonstrated demand, seems unlikely and irrelevant here, especially since these costs would not be covered by the pilot program and may not be recovered by the station itself over time.
- The applicant appears to be focused only on renewable CNG from the project and does not appear to be exploring other revenue streams or technology innovations.
- The applicant provides limited evaluations of potential markets under multiple conditions compared to other applicants.
- The applicant suggests that if they do not receive CDFA funding, they will make some design changes to the project. Making significant design changes after submission of an application to the pilot program is not allowed.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of their marketing plan for the project and shows that they have secured contracts for selling the biomethane produced by the project through Clean Energy Fuels, an existing retailer. The applicant also suggests that they will install an on-site fueling station to promote natural gas vehicle technology. The applicant could improve the score in this area by providing more discussion of multiple market conditions in their marketing plan discussion. The applicant could also provide discussion of other potential revenue streams as was done by other applicants, as well as providing some additional discussion and clarity on the commitment and expected usage of the onsite fueling station. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## Scoring Criteria — Scalability

### Positive Feedback

- The project is the second most scale-able Maas Energy Works (MEW) project.
- The applicant states that the pipeline has capacity for the initial five dairies but adding more may require additional cleanup capacity and potentially pipeline upgrades.
- The applicant suggests that as many as five additional dairies could be added with the completion of appropriate biogas cleanup and pipeline capacity upgrades.

### Negative Feedback

- The applicant did not commit to covering the cost of additional capacity upgrades to facilitate the inclusion of additional dairies like other applicants did.

- The infrastructure of the operation is sufficient for the included dairies but would require more upgrades from PG&E to include the potential additional dairies, which may not even be included as the applicant states that the developer has "verbal agreements" and then suggest some are under agreements with "other digester developers."

### Overall Feedback

Overall the applicant provides adequate discussion of the scalability of the project, and it is ultimately the second most scalable project submitted by the applicant. The applicant suggests that as many as five additional dairies may be added to the initial five dairies if sufficient infrastructure upgrades are undertaken. The score in this area could be improved by providing additional detail regarding the infrastructure upgrades necessary to support additional dairies, along with the potential cost of these upgrades, and a commitment to covering these costs. Additionally, more discussion of the status of negotiations with additional dairies could improve the score.

## Scoring Criteria — Project Team Qualifications

### Positive Feedback

• The project team is very well qualified to design, construct, operate, and maintain both the digester systems and the infrastructure.
• The project team consists of a proven successful developer and designer utilizing previously used construction teams, coupled with help from SoCalGas. The Selection Committee does not expect any project team qualification issues.
• The applicant has teamed up with an experienced pipeline construction company and has teamed up with SCS and Air Liquide for biomethane upgrading.
• Hartman Engineering will be engineering the projects and has successfully engineered other dairy digesters in California.
• This is a good team of some of the most experienced companies in the sector.

**Negative Feedback**

• The applicant suggests having some dairies own and manage the digester on their dairy, as well as administer and manage some of the aspects of the project, including developing their own quarterly reporting. This could lead to inconsistent reports or potential mismanagement of some aspects of the project.

**Overall Feedback**

Overall the applicant has assembled a good team of some of the most experienced and reliable partners in the sector, with demonstrated expertise and reliability. There is some potential for mismanagement or inconsistent reporting for dairy-owned digester operations. The score could be increased in this area by providing more information on how the project will ensure consistent reporting and management.

## Scoring Criteria — Long-Term Viability of Project

**Positive Feedback**

• The applicant provides detailed and sufficient discussion of the long-term viability of the project, addressing some of the largest areas of concern. As such, the project appears to be long-term viable as long as there is a market for RCNG. In the absence of that market, however, the gas could be sold to natural gas customers via the same pipelines.
• Maintenance will likely not be an issue assuming PG&E and MEW adhere to the maintenance schedules and requirements of the pipelines and equipment.
• The project is utilizing good materials and designs.

**Negative Feedback**

• The applicant could have provided more information on their safety plan.
• The applicant designs appear to lesser developed versions compared to those of other developers, which may result in projects that are not as successful in terms of long-term operation.
• The applicant's non-uniform business model has some dairies owning the digester and the applicant owning other digesters. This may result in potential reductions in performance or

shutdown if one or more entities becomes financially insolvent. Some dairies may not be as committed to the project operation if they do not have as much at stake as is the case in other developer's models.

- The applicant seems to be wholly focused on the fuel and credits portion of the project, seemingly not giving enough attention to other potential benefits and revenue streams compared to other applicants. The applicant could have improved their score in this area by addressing these topics.
- The applicant inappropriately discusses the technology and engineering of other projects.
- The applicant suggests that if they do not receive CDFA funding, they will make some design changes to the project. Making significant design changes after submission of an application to the pilot program is not allowed. Without knowing the details of the potential changes, there could be potential reductions in material quality or design changes that could reduce the long-term viability.

**Overall Feedback**

Overall the applicant provides detailed and sufficient discussion of the long-term viability of the project and addresses some of the largest areas of concern for dairy biomethane projects. The applicant is utilizing robust materials and technology that should allow for long-term operation of the project with limited downtime. The score in this area could be improved by providing more details regarding the applicant's business plan and providing more discussion on additional, non-fuel revenue streams and cost savings. The applicant should also focus their efforts on developing their own application rather than discussing what their competitors may or may not be doing. It is inappropriate to provide advice to the Selection Committee on how to score applications. The applicant could have provided additional detail regarding potential design changes suggested if they did not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application. Without knowing the details of the potential changes, there could be potential reductions in material quality or design changes that could reduce the long-term viability.

## Scoring Criteria — Economic Viability

**Positive Feedback**

- The applicant suggests that they have the necessary funding to construct the digesters associated with the project, even though they did not receive any of the CDFA Dairy Digester Research and Development Program (DDRDP) funding that was requested, as they have Generate Capital as a private funding partner.
- The applicant has an agreement with Clean Energy Fuels to purchase 100% of the fuel produced by the cluster.
- The applicant provides adequate discussion of the economic viability of the project.

**Negative Feedback**

• The applicant applied for CDFA DDRDP funding for four of the digesters in the cluster and did not receive an award for any of them.
• The applicant suggests that they have up to $200 million in private funding available from Generate Capital. However, limited information on this financial arrangement is available and from the materials provided, it appears that the entire $200 million is not directed toward dairy digestion projects. Additional information on this financial arrangement would be appropriate.
• Wilson Dairy appears to be in serious financial jeopardy and is at risk for closure, reducing the size of the cluster and the amount of fuels available.
• While the applicant has an agreement with Clean Energy Fuels to purchase all of the fuel produced at the cluster, it may be risky to have only one secured offtaker.
• On page 42 of the application, the applicant discusses digester ownership and CDFA funding for some digesters. They state that if CDFA funding is not received, the digesters may proceed with some design changes, but they do not detail what those changes could be. This is concerning, as the designs submitted in the application are what the project is being reviewed on and they should be what the developer actually plans to install. Cutting corners to save costs may result in lower scores in other areas of the application or may result in disqualification of the application.
• The business model employed by the applicant is not described very clearly, which makes it difficult to determine the potential financial viability of the project long-term, as well as making it difficult to determine the potential profit that the various dairy partners would be receiving. Significantly more detail on the business model and financials could have resulted in an improved score.
• The applicant does not discuss potential additional, non-fuel revenue streams as other applicants do.

**Overall Feedback**

Overall the applicant provides adequate discussion of the economic viability of the project even though the project dairies that applied to the CDFA DDRDP did not receive funding. The applicant contends that the project can be constructed with private funding from Generate Capital. The applicant has also secured an agreement with Clean Energy Fuels to purchase all of the biomethane produced by the project. The applicant could improve the score in this area by providing more information on the funding available from Generate Capital, securing potential backup fuel off-takers, and providing additional information and discussion on their business model and potential non-fuel revenue streams. The applicant should also address the financial instability of the Wilson Dairy, as it appears to be nearing closure. Simply providing funding to cover the cost of installing a digester at this location does not ensure that the dairy will remain in operation. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## Scoring Criteria — Greenhouse Gas Reduction

**Positive Feedback**

- The applicant provides adequate discussion of the expected greenhouse gas emissions reductions resulting from the project.
- The project is expected to result in significant and cost-effective GHG reductions.
- The applicant did not change any of the GHG calculator defaults.
- The project, if executed as proposed, may result in significant reductions in NOx and criteria pollutant emissions from the transportation sector.

**Negative Feedback**

- The application suggests that all the dairies in the cluster have the same pre-and post-project electricity usage (244 and 277 MWh respectively). This cannot be correct, and inaccuracy here will impact both the GHG and criteria pollutant emissions associated with the project, though the criteria pollutant emissions will likely be off-site at a power plant unless produced through on-site generation, which is possible at least for Open Sky Ranch.
- The applicant provides unsupported narrative regarding what they have seen other competitors doing (in regard to a competitor's "effluent buffer" system) not being real or legal under Water Board regulations. However, no correspondence with Water Board officials is provided. Further, the competitor applications they are pointing to (DDRDP) were reviewed by Water Board Region 5 staff that reviews digester applications and Water Board compliance, and no issue was raised. The applicant is proposing to do nearly the same thing with their Digestate Diversion Mechanism, but with a less clearly discussed narrative on their process, which appears to amount to dumping digestate in an irrigation ditch, a potentially less accurate way to ensure that there are no nutrient hotspots that arise from this application. Instructing project reviewers on how to review projects is inappropriate.
- The applicant provides limited discussion of diesel usage reductions and incorrectly asserts that they used a study performed by their competitor that was "accepted by CDFA" to calculate the diesel reductions on their own facilities. The applicant further questions the quality of its competitor's work in multiple parts of the application and then subsequently states that they used their competitor's study for the basis of their analysis rather than doing their own.
- The stated reduction in diesel usage is based on a general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel use reduction and additional supporting documentation would improve the project score.
- The applicant does not discuss the GHG reductions that may have already been accounted for in association with the executed BioMAT contracts. Additionally, the future disposition of these contracts is not discussed.
- The GHG reduction numbers provided by the applicant are not consistent throughout the application and attachments.

**Overall Feedback**

Overall the applicant provides adequate discussion of the expected GHG reductions resulting from the project, though additional discussion of the currently operating BioMAT installation at the interconnection hosting dairy would be appropriate. The project would result in significant

GHG reductions, and if executed as described, would likely result in significant NOx and criteria pollutant emission reductions in the transportation sector. The score in this area could be improved by doing additional, dairy specific analysis on the pre- and post-project electricity and diesel usage, as these are currently calculations based on limited on-site investigation and the work of a competing applicant whose work the applicant questions. The applicant could improve the score by removing or significantly modifying the discussion they provide around the scoring of GHG emissions regarding their Digestate Diversion Mechanism. The applicant should not be prescribing scoring advice to the Selection Committee, as this is highly inappropriate.

## Scoring Criteria — Cost-Effectiveness

### Positive Feedback

- The project is one of the more cost-effective projects submitted, ranking third overall in terms of cost-effectiveness.
- The applicant provides adequate discussion of the cost-effectiveness of the project.

### Negative Feedback

- The cost-effectiveness of the project may be somewhat skewed as the interconnection site was already completed by PG&E under Vintage Diary's previous owner.
- The dairy that will host the interconnection currently has a BioMAT contract and was previously awarded funding from CDFA for the purchase and installation of an onsite electricity generation system. The applicant does not provide any discussion of the future disposition of this equipment or the contract, potentially leading to a scrapping of the equipment and a loss of capacity to the BioMAT program.

### Overall Feedback

Overall the project appears to be one of the more cost-effective projects submitted. However, one of the dairies in the cluster previously hosted an interconnection, reducing the potential cost to restart the interconnection, which may skew cost effectiveness and provide somewhat inaccurate cost information compared to other projects. Additionally, the same dairy was previously awarded funding to purchase and install an on-site electricity generation system and the applicant provides no discussion of the future disposition of this equipment and its associated BioMAT contract, potentially leading to the scrapping of the equipment and a loss of capacity to the BioMAT program. The applicant could improve the score in this area by providing more discussion of the costs associated with the previous interconnection, even though they may be 10 years old, and by providing discussion of the future disposition of the equipment and associated BioMAT contract.

## Scoring Criteria — Justification and Reference

### Positive Feedback

• The applicant did not change any GHG calculator defaults, limiting the need for justification and references with respect to defaults.

**Negative Feedback**

• The applicant does not discuss the GHG reductions that may have already been accounted for in association with the executed BioMAT contracts.
• The application suggests that all of the dairies in the cluster have the same pre-and post-project electricity usage. This cannot be correct, and inaccuracy here will have impact on both the GHG and criteria pollutant emissions associated with the facility, though the CP emissions will likely be remote (power plant) unless produced through on-site generation, which is possible at least for Open Sky Ranch.
• Applicant provides unsupported narrative regarding what they have seen other competitors doing (in regard to a competitor's "effluent buffer" system) not being real or legal under Water Board regulations. However, no correspondence with Water Board officials is provided. Further, the competitor applications they are pointing to (DDRDP) were reviewed by Water Board Region 5 staff that reviews digester applications and Water Board compliance and no issue was raised. The applicant is proposing to do nearly the same thing with their Digestate Diversion Mechanism, but with a less clearly discussed narrative on their process, which appears to amount to dumping digestate in an irrigation ditch, a potentially less accurate way to ensure that there are no nutrient hotspots that arise from this application. Instructing project reviewers on how to review their projects versus competitor projects is inappropriate.
• The applicant provides limited discussion of diesel usage reductions and incorrectly asserts that they used a study performed by their competitor that was "accepted by CDFA" to calculate the diesel reductions on their own facilities. The applicant further questions the quality of its competitor's work in multiple parts of the application and then subsequently states that they used their competitor's study as the basis of their analysis rather than doing their own.
• The stated reduction in diesel usage is based on a general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel use reduction and additional supporting documentation would improve the project score.

**Overall Feedback**

The applicant did not make any changes to the GHG calculator defaults, limiting the need for justifications on this portion of the application. The score in this area could be improved by doing additional, dairy specific analysis on the pre- and post-project electricity and diesel usage, as these are currently calculations based on limited on-site investigation and the work of another applicant whose work the applicant questions. The applicant could improve the score by removing or significantly modifying the discussion they provide around the scoring of GHG emissions regarding their Digestate Diversion Mechanism. The applicant should not be prescribing scoring advice to the Selection Committee as this is highly inappropriate

## Scoring Criteria — NOx and Criteria Pollutants

**Positive Feedback**

• The project will result in minimal NOx and criteria pollutant emissions if executed as described, mostly from the flare and the currently executed BioMAT contracts.
• The project could result in significant emission reductions in the heavy-duty transportation sector if the fuel produced is directed to renewable CNG powered trucks that replace trucks that are currently diesel fueled.

**Negative Feedback**

• The project may result in NOx and criteria pollutant emissions from the flare and on-site engine generators associated with the currently executed BioMAT contracts at two of the project dairies.
• The applicant could have provided more discussion and some contractual commitment to heavy duty truck changeouts rather than agreements to explore the feasibility of doing so.
• The applicant suggests that there will be minimal combustion of dairy biomethane. However, two BioMAT contracts are currently in place, which will result in on-site emissions. The applicant does not discuss the future disposition of these contracts, which could improve the score.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential for NOx and criteria pollutant emissions resulting from the project, along with reasonable approaches to limiting these potential emissions. The applicant also provides adequate discussion as to the potential for reductions in these emissions from the heavy-duty transportation sector resulting from changing out diesel trucks in favor of renewable CNG trucks. The applicant could have improved the score in this area by providing additional discussion and some contractual commitments with fleet operators regarding truck changeouts, working with the local Air District to reduce the potential for flaring, and by providing information on the future disposition of the executed BioMAT contracts at two of the project dairies.

## Scoring Criteria — Mitigate Emissions On-Site

**Positive Feedback**

• The applicant provides some discussion as to their plans to mitigate on-site emissions from the project, which are expected to be minimal.
• The applicant states that they have as much as three days of on-site biogas storage, reducing the likelihood that they will have to flare any biogas from the project.
• The applicant states that there will be significant reductions in on-site diesel usage due to a reduction in equipment use for manure hauling and lagoon cleanouts.

**Negative Feedback**

• While minimal emissions will result onsite, the applicant suggests that they may flare under certain conditions, which will have a NOx and criteria pollutant impact. According to the local Air District that the project is regulated by, it may be preferable to vent biogas in emergencies when feasible to reduce the potential on-site combustion emissions.
• The applicant suggests that there will be minimal combustion of dairy biomethane. However, two BioMAT contracts are currently in place, which will result in on-site emissions. The applicant does not discuss the future disposition of these contracts, which could improve the score.
• The applicant assumes that 17% of emissions benefits accrue to local areas but doesn't provide any information on how this percentage was arrived at and doesn't provide any agreements to secure local RCNG use.
• The stated reduction in diesel usage is based on an general calculation rather than an actual assessment of the expected reduction on each individual dairy. Providing a site-specific review of diesel use reduction and additional supporting documentation would improve the project score.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential on-site emissions mitigation that could result from the project. They have committed to minimizing the use of emergency flaring and state that the project can store biogas for up to three days, further reducing the likelihood of flaring. The applicant could improve the score in this area by working with the local Air District on a plan to further reduce or eliminate the use of a flare, potentially eliminating on-site air quality impacts. Additionally, the applicant could have provided some discussion as to the impacts from the two current BioMAT contracts associated with the project dairies, along with the future disposition of those contracts, as they could have a significant air quality impact, even when meeting Air District Best Available Control Technology (BACT) standards. The applicant could further improve the score by providing additional, site-specific analysis of diesel use reductions for the dairy operations and some supporting information for these assumptions.

## Scoring Criteria — Mitigate Emissions Off-Site

**Positive Feedback**

• The applicant suggests that they will mitigate vehicle emissions offsite, which is reasonable for a project producing renewable CNG for vehicles, especially when replacing heavy duty diesel fueled vehicles.
• The applicant states that they plan to work with local fleets to change out heavy duty diesel vehicles to renewable CNG, resulting in off-site emission reductions.
• The applicant does provide adequate discussion and detail regarding the potential off-site emissions mitigation that could result from the project.

**Negative Feedback**

• The applicant could have provided additional discussion on how they plan to achieve the truck changeouts. Providing contractual commitments and a detailed discussion of the timeline and plan for conversion would improve the score.

• The applicant could have pursued other off-site mitigation options like the installation of solar generation at the facility to reduce the use of fossil fuel generated grid electricity as other applicants are doing.

**Overall Feedback**

Overall the applicant provides adequate discussion of the potential off-site emission mitigation that could result from the project, especially regarding the potential air quality improvements resulting from switching diesel vehicles over to renewable CNG. It is likely that there would be significant and important emission reductions in the transportation sector as a result of the project. The applicant could have improved the score in this area by providing additional discussion on how they plan to achieve these vehicle changeouts along with providing some contractual commitments from fleets to this effect as other applicants have done. Additionally, the applicant could have improved the score by committing to other mitigation options like the installation of solar generation to reduce the use of fossil fuel generated grid electricity like other applicants.

## Scoring Criteria — Project Co-Benefits

**Positive Feedback**

• The applicant provided some discussion of the potential co-benefits from the project including the benefit to cluster projects, reduction of on-farm diesel usage from reduced lagoon cleanouts, reduced water usage and contamination, and use of CNG vehicles to reduce emissions compared to vehicles using fuels with higher carbon intensity, especially diesel.
• Two of the project dairies are proposing to use a Digestate Diversion Mechanism which should reduce additional methane from storage of digestate.

**Negative Feedback**

• The applicant does provide some discussion of the co-benefits from the project but not to the level of detail of other applicants.
• The applicant could have provided additional discussion on the co-benefits that they did cite, along with providing additional discussion on other potential co-benefits.
• The applicant based some of their co-benefit discussion on a previously completed analysis that was produced by another applicant in the CDFA DDRDP program rather than developing their own work. Elsewhere in the application, the applicant questions the quality of the work of the applicant whose analysis they used. The applicant could have improved their score by focusing on developing their own analysis rather than using that of another developer.
• Two of the project dairies are proposing to use a Digestate Diversion Mechanism that should reduce additional methane from storage of digestate but could also potentially cause a significant water quality concern. This mechanism is poorly described and does not illustrate any sort of water quality protection or ability to distribute digestate accurately and at agronomic rates, essentially diverting it to irrigation ditches to flow wherever the ditch takes it.

**Overall Feedback**

Overall the applicant did provide some discussion of potential co-benefits that may result from the project including the benefit to cluster projects, reduction of on-farm diesel usage from reduced lagoon cleanouts, reduced water usage and contamination, and use of CNG vehicles to reduce emissions compared to vehicles using fuels with higher carbon intensity, especially diesel. The applicant could have improved the score in this area by providing more discussion of the potential co-benefits, as they provided less than other applicants. The applicant could have performed their own analysis on some of the co-benefits, especially diesel reductions, rather than utilize the previous work of a competing applicant whose work they question. Additionally, the applicant should have provided more details and information on the proposed Digestate Diversion Mechanism, especially considering that they raise objections to the use of a similar system by other applicants.

## Scoring Criteria — Community Impacts and Mitigation

**Positive Feedback**

- Two of the project dairies are proposing to use a Digestate Diversion Mechanism which should reduce additional methane from storage of digestate.
- The applicant has secured two community benefit agreements (Proteus and Merced County Workforce Innovation Board).
- The applicant adequately describes the potential impacts and benefits to air, water, and odor resulting from the project.
- The applicant did a significant amount of outreach on the project including hosting public meetings where they met with community members and provided information on the impacts and benefits from the project. The overall effort to conduct community outreach on the project was good.

**Negative Feedback**

- The applicant could have done a better job of community outreach by reaching out to more prominent members of the environmental justice community to promote community interaction as other applicants did.
- While the applicant did provide significant effort in community outreach, another applicant provided a greater effort. Additional targeted outreach could improve the project score in this area.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of the potential impacts and benefits resulting from the project, including potential impacts and benefits to air and water quality and odor emissions. The applicant did significant community outreach, even executing community benefit agreements with the local community. The applicant could improve the score in this area of the application by providing additional discussion regarding the number and

type of jobs created and by doing additional targeted outreach, perhaps to prominent environmental justice community leaders. Additionally, the applicant should have provided more details and information on the proposed Digestate Diversion Mechanism, especially considering that they raise objections to the use of a similar system by other applicants.

## Scoring Criteria — Localized Economic Benefits

**Positive Feedback**

- The applicant provides some detailed discussion about the potential economic benefits that would result from the project, including creation of local short-term construction jobs, longer term operation and maintenance jobs, and purchase of equipment and materials.
- The applicant has completed two community benefits agreements for the project.
- The applicant reached out to the local community through its outreach campaign to describe the benefits and impacts of the project.
- The applicant provided a significant effort for community outreach.
- The applicant describes potentially available job certifications.

**Negative Feedback**

- The analysis of jobs resulting from the project may provide exaggerated numbers.
- The applicant could have reached out to more prominent members of the environmental justice community to promote community interaction as other applicants did.
- While the applicant did provide significant effort in community outreach, another applicant provided a greater effort. Additional targeted outreach could improve the project score in this area.

**Overall Feedback**

Overall the applicant provided a detailed and adequate discussion of the potential local economic benefits resulting from the project, including potential job creation. The applicant did significant community outreach, even executing community benefit agreements with the local community. The applicant could improve the score in this area of the application by providing additional discussion regarding the number and type of jobs created and by doing additional targeted outreach, perhaps to prominent environmental justice community leaders.

## Scoring Criteria — Project Readiness and Implementation

**Positive Feedback**

- The applicant loosely but sufficiently describes the basic permitting process with Fresno County as well as a basic expected timeline. A bit more clarity in the process could be helpful, but overall, sufficient information is provided to understand what they are doing.
- The project has an interconnection point already, which makes it cheaper to complete the project.

• Overall the developer has demonstrated through past project development that they understand the necessary project permitting requirements and can secure these permits and complete the projects within expected deadlines.

**Negative Feedback**

• The applicant loosely but sufficiently describes the basic permitting process with Fresno County as well as a basic expected timeline. A bit more clarity in the process could be helpful, but overall sufficient information is provided to understand what they are doing.
• Some of the dairies still need liner permits and updated NMPs. The applicant suggests that there are no criteria or toxic emissions from biogas upgrading other than flare and $CO_2$ membrane, but these still require an authority to construct permit from the local Air District that they had not obtained at the time the application was submitted. It would be good for the applicant to further explain the air quality permitting process and their status therein.
• The project has an interconnection point already, which makes it cheaper to complete the project but may not ultimately illustrate the costs of interconnection as described in the intent of the program.
• The applicant could have provided more information on safety procedures.
• There appear to be outstanding issues with funding (CDFA DDRDP funds) and the economic feasibility of at least one of the dairies, which should be addressed before pursuing a project.
• While the applicant did provide sufficient information on the permitting of the project, it was not as clear as to the completion status of the various permits compared to other applicants.
• The applicant did not receive CDFA funding for the project and suggests that this may result in unspecified design changes on the project, which may have significant implications on scoring.
• The applicant did not provide sufficient information on the existing BioMAT contracts and their future plans there, including what they plan to do with equipment previous purchased through CDFA grant funding.

**Overall Feedback**

Overall the applicant provides sufficient detail to show that they understand the various permitting requirements of the project and are well on the way to completing those requirements. The applicant also already has a previously completed interconnection point at one of the dairies in the project, making it much easier to complete this project for potentially less ratepayer funding. The application score could be improved in this area by providing more detail on that completion status of various permits, more detail on their proposed safety plan, more detail on the funding and economic stability of the project dairies, the future plans for BioMAT contracts executed within the cluster, and the potential design changes that are suggested due to the lack of CDFA funding. The applicant should provide additional detail regarding potential design changes that are suggested if they do not receive CDFA funding. Significant design changes that deviate from the technology submitted in the project application could become grounds for rejection of the application.

## 7. Van Excel, DVO

| Project Name | Van Excel | | Developer | DVO | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model - Diary Operations- Technology Plan – Marketing Plan- Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 12 | 12 | 17 | 9 | 7 | 9 | 66 |

### Scoring Criteria — Technology Plan

**Positive Feedback**

- The applicant claims with reasonable support and discussion that a mixed plug flow digester is less subject to weather fluctuations than other digester types. This type of digester has more consistent biogas output, up to 40% more biogas production than covered lagoons, more GHG emission reductions, and the elimination of the cost of having to manage composting or manure spreading/drying operations.
- The technology is proven in multiple applications across the country and has shown to be reliable and more consistent at capturing (and producing) biomethane.
- The applicant suggests and reasonably supports that there is revenue potential (or cost savings) from digested solids to be utilized by the farm or sold to other farms for bedding replacement or sold to other aftermarkets.
- The applicant suggests and reasonably supports that there will be cost savings associated with reduced fertilizer usage due to digested liquids being pumped into the farm's storage lagoon and later field spread as irrigation/fertilizer.
- The applicant suggests that they can convert RCNG to hydrogen vehicle fuel "to the maximum extent possible." This would be a new development in low carbon digester fuel production compared to the more commonly proposed RCNG route, and it could lead to significant emission reductions.
- The applicant clearly details that the captured biogas can also be used for RCNG.
- The project does not include collection lines.
- The design allows for the addition of other substrates for co-digestion.
- The applicant suggests the project will sell vehicle fuel through DMT Clear Gas, First Element, and Chevron, with renewable hydrogen as the primary product.
- The applicant is proposing to use proven, two stage biomethane upgrading technology along with double compressors to ensure biomethane processing and reliability with limited downtime.

**Negative Feedback**

- Digester is heated by a NG boiler which will create a new, unmitigated source of NOx in the San Joaquin Valley.
- Limited biogas storage may lead to excessive flaring of biomethane, especially during any extended periods of downtime, leading to a potentially significant source of new, unmitigated NOx in the San Joaquin Valley.
- The applicant is planning to separate manure solids which could lead to increased ammonia emissions based on results of Holly study. Further research is needed to investigate the potential risk of increased ammonia emissions from digestate.

**Overall Feedback**

Overall the project is proposing to use proven technology that can lead to stable and consistent delivery of biomethane and the associated revenue. Using a mixed plug flow digester could lead to cost savings and/or revenue from manure solids sales and fertilizer use reduction. The project is a single dairy, reducing the need for collection lines. The proposed technology, while robust, may have limited ability to store biogas and may lead to new sources of NOx from the onsite boiler and flare. The project may also lead to increase ammonia emissions due to post-digester solid separation. The score in this area could be improved by providing potential mitigation options for the new sources of NOx associated with the project and by addressing the potential for ammonia increases.

## Scoring Criteria — Marketing Plan

**Positive Feedback**

- The applicant provided an executed Term Sheet from First Elements Fuels, Inc. for biomethane from this project. Under the 10-year agreement (with two additional five-year options to extend) the biomethane will be used for hydrogen transportation fuel for sale at its True Zero fueling stations.
- The applicant provided support for the claim that Chevron is also offering to buy the biomethane for use as RCNG for truck fueling. Chevron submitted a proposal for RCNG that would be contingent on purchaser buying the full quantity.
- The applicant suggests that they can reduce tax/ratepayer cost by generating LCFS and RIN credits.

**Negative Feedback**

- The project appears to be a dairy-owned digester, which can lead to difficulties in operation and maintenance, especially if a major defect develops in the digester.
- Attachment 13 says “this term sheet is contingent on DVO receiving grant funding from CDFA DDRDP and DVO receiving financing to construct by 1/1/19. If these conditions are not met, parties may terminate the term sheet.”
- Overall there isn't a lot of discussion of the marketing plan in the application.

• The applicant seems to be significantly behind in terms of marketing compared to other applications in the solicitation.
• The applicant mentions the potential for selling solids and digestate as a fertilizer replacement but doesn't provide any discussion as to the marketing of these potential revenue streams.
• If biomethane is rejected by PG&E, biomethane will be flared until the upgrading system is repaired. By contrast, other applicants' projects have as much as five days of biogas storage, where the rejected biogas can be stored until repairs are made.

**Overall Feedback**

Overall the applicant has provided evidence that they have up to two potential options in terms of marketing and selling the fuel produced by the project. However, the applicant does not provide sufficient discussion of the marketing of these or other potential revenues compared to other applicants. Additionally, the project will be dairy owned, which can lead to challenges in project management and operation. The score in this area could have been improved by providing additional detail of the marketing plan for all potential revenue streams.

## Scoring Criteria — Scalability

**Positive Feedback**

• The applicant suggests that their design can be replicated at other diaries that are located near pipelines and are not part of clusters (those in remote locations).

**Negative Feedback**

• The project is for a single project. No additional dairies are near enough to connect to the project via collection lines.
• The project team is not in discussions with other dairies to expand the cluster.
• The applicant is not proposing to oversize equipment to plan for additional capacity, and the applicant has not explored adding more dairies.
• The applicant suggests the project could be replicated elsewhere, but there are few dairies located on transmission lines that could build a project like this without public funding.

**Overall Feedback**

Overall the project may be replicated at other dairies if the right conditions are in place, however it may be difficult to economically replicate this due to the limited cost-effectiveness. This particular application does not appear to be scalable, nor does it appear to be planning to add more dairies at a later date, with the only opportunity to do so being via virtual pipeline. The score in this area could be improved by further demonstrating the replicability of the project and by potentially adding additional dairies, if possible, to improve scalability and cost-effectiveness.

## Scoring Criteria — Project Team Qualifications

**Positive Feedback**

- The project team is composed of personnel with project development experience inside and outside of California.
- The project team appears to have the necessary qualifications and experience, some of which have been involved in biomethane or anaerobic digestion projects in California for years.

**Negative Feedback**

- The project team should not have any issues with developing and constructing the project on time, but the project operations and maintenance, along with project management, may not be up to par compared to other projects.

**Overall Feedback**

Overall the project team appears qualified to design and construct the project. However, with the dairy owning and operating the project, there may be concerns with project management in the future. The project team associated with the project may not be up to par with other applicants. The score for this area could be improved by securing additional experienced team members to operate and manage the project or by providing more assurance that the dairy operation can provide sufficiently experienced staff to manage the project.

## Scoring Criteria — Long-Term Viability of Project

**Positive Feedback**

- The applicant claims that they will use renewable electricity to produce hydrogen and will utilize RCNG-fueled trucks, but this is not discussed elsewhere.
- The applicant claims that should injection no longer be viable due to regulatory changes or physical changes to the pipeline, the dairy has the option to convert the biogas to electricity production, but this is not discussed elsewhere.
- The project lifetime is expected to be at least 10 years.
- The technology is not what is normally used in California, but aside from additional energy requirements and increased cost as compared to Tier I double-lined digesters, it should work well.

**Negative Feedback**

- The applicant describes $10.9M in project funding including $2.75M from the CDFA DDRDP that they were unable to secure.
- The applicant appears to be reliant of EB-5 funding which seems uncertain. The applicant further suggests that in the absence of DDRDP funding, they will pursue additional EB-5 funding.
- Minimal biogas storage capability.

• The project will be owned and operated by the dairy, which can lead to downtime or failure if not properly maintained. The application suggests that limited training for dairy personnel is sufficient for them to be able to operate the system without incident.
• Other applicants maintain parts onsite or close by, but this applicant doesn't describe parts being kept onsite, only that spares are common between digesters and stocked at the DVO warehouse.
• Compared to other applicants, the applicant provides limited discussion on the long-term viability of the project.

**Overall Feedback**

Overall, the applicant provides some discussion of the potential long-term viability of the project, however additional discussion and detail would help improve the project score in this area.

## Scoring Criteria — Economic Viability

**Positive Feedback**

• The applicant provides sufficient evidence that the project can secure funding to build and operate the project assuming that they have no issues securing EB-5 funding.
• The applicant does evaluate potential risks and identifies potential solutions
• The applicant provides some discussion of revenue sources for the project in the context of long-term viability.
• The project applicant appears to have potential offtake agreements with First Element Fuels (hydrogen) and Chevron (RNG) in place.

**Negative Feedback**

• The applicant describes project funding including funding from the CDFA DDRDP that they were unable to secure.
• The applicant appears to be reliant of EB-5 funding, which seems uncertain. The applicant further suggests that in the absence of DDRDP funding, they will pursue additional EB-5 funding.
• The applicant could have provided more information on the revenue potential, near term accessibility, and long-term viability of the hydrogen fuel market.
• The applicant does not provide the level of detail of the other applicants and may be more impacted by the unsuccessful pursuit of funding from the DDRDP, as the project costs are higher (and less cost-effective) than other, larger projects offering better cost-effectiveness.

**Overall Feedback**

Overall the applicant has provided evidence that the project can be economically viable assuming they are able to secure funding from their identified sources. They have provided some detail regarding the revenue potential for the fuel produced, along with evidence off offtake agreements. The applicant could have improved the score in this area by providing

additional discussion regarding their pursuit of DDRDP funding, additional discussion of the EB-5 funding program, and overall more detail regarding the economics of the project itself.

## Scoring Criteria — Greenhouse Gas Reduction

**Positive Feedback**

- The applicant provides sufficient detail to outline what sorts of GHG reductions can be achieved through the projects.
- The applicant provides sufficient comparative detail describing the GHG reduction performance of their technology compared to other digester types.

**Negative Feedback**

- The applicant provides minimal discussion around the GHG reductions associated with this project.
- The applicant suggests modifications to the calculator but does not provide anything in the way of supporting evidence.
- The applicant provides minimal discussion in the application regarding the GHG reductions.
- The applicant appears to have inserted negative values into the calculator in order to alter GHG reductions in an attempt to capture that their technology is more efficient at converting volatile solids to biomethane. However, this method would assume that all biomethane converted is mitigated from the baseline and not produced in addition to the baseline as would be the actual case. Modifying the calculator in this way is not an approved modification, and the applicant should have relied upon the narrative to capture what they were trying to convey.
- The project may result in potentially significant combustion (NOx) emissions from flaring of biogas that does not meet biomethane quality specifications due to the limited ability of the system to store biomethane.
- The applicant claims that this project will result in emission reductions of mtCO2e, but this is a significant overestimation of the project reductions based on incorrect inputs used in the GHG calculator.

**Overall Feedback**

Overall, the applicant does provide some discussion as to the potential GHG benefits from the project, but the applicant also may have significantly overestimated the reductions associated with the project by making unallowable and unsupported changes to the project reduction quantification calculator in order to make it consistent with the performance they claim from the technology. The project score in this area could be improved by completing the GHG calculator correctly and providing sufficient justification for any changes made to default values.

## Scoring Criteria — Cost-Effectiveness

**Positive Feedback**

- The applicant provides adequate discussion of the potential cost-effectiveness of the project.

**Negative Feedback**

- Since the project consists of a single dairy operation, the project does not appear to be as cost-effective as the other projects in the solicitation, most likely due to the size of the dairy, which is significantly smaller than some of the other clusters.
- The inability to expand the scale of this project to include other dairy operations limits its cost-effectiveness.

**Overall Feedback**

Overall, the applicant provides adequate discussion of the potential cost-effectiveness of the project; however, the overall cost-effectiveness is hindered by the small size of the project and its inability to increase in scale. Addressing these areas or finding opportunities to reduce the project cost (and improve its cost-effectiveness) could improve the score in this area.

## Scoring Criteria — Justification and Reference

**Positive Feedback**

- Limited positive feedback is available for this aspect of the application.

**Negative Feedback**

- The applicant did not provide sufficient justification for the unallowable changes made to the GHG reduction calculator.
- The applicant suggests modifying defaults and cites a presentation given at a dairy subgroup meeting; however, this study is a lab scale study and has not been published or peer-reviewed.
- The applicant incorrectly included negative values in the GHG calculator and did not provide justification or explanation for negative values.

**Overall Feedback**

The applicant could improve the score in this area by completing the GHG calculator correctly and providing sufficient justification for any changes made to default values.

## Scoring Criteria — NOx and Criteria Pollutants (CP)

**Positive Feedback**

- The project will result in the production of hydrogen vehicle fuel, which will result in zero emissions from its use in vehicles.
- The applicant provided an adequate discussion of the NOx and CP reductions associated the project but could have provided a clearer quantification of the reductions.

**Negative Feedback**

- The project may result in limited reductions for hydrogen fuel use unless there are vehicle conversions to hydrogen; however, these types of projects would result in zero emission transportation fuel.
- The project may result in a new, unmitigated source of emissions from the onsite boiler used to heat the digester.
- The project may result in potentially significant emissions from flaring of biogas that does not meet biomethane quality specifications due to the limited ability of the system to store biomethane.
- The applicant provided limited quantification of emissions reductions associated with the project.

**Overall Feedback**

Overall the applicant provides an adequate discussion of the NOx and CP emissions that result from the production of hydrogen vehicle fuel from the project. The project score in this area could be improved by identifying (and committing to) options to reduce emissions from the boiler and flare, along with providing additional discussion and quantification of the potential reductions resulting from the project.

## Scoring Criteria — Mitigate Emissions On-Site

**Positive Feedback**

- The applicant appears committed to reducing potential sulfur compound emissions by installing a biogas scrubber to control hydrogen sulfide.
- The applicant appears committed to reducing PM emissions by suggesting they will pave roads and undertake dust mitigation measures.
- The applicant suggests they will mitigate onsite GHG emissions by utilizing an emergency flare when the system is out of service, though this will result in NOx emissions.

**Negative Feedback**

- The applicant provides minimal mitigation of the onsite impacts.
- The boiler will be required to meet SJVAPCD standards but is not providing further mitigation.
- The applicant provides minimal discussion of the potential to mitigate emissions resulting from the flare.
- The hauling of manure may result in an unmitigated impact as well.
- The applicant should provide additional details to mitigate potential adverse impacts from construction and operation of the project.

**Overall Feedback**

Overall the applicant provides minimal discussion of the mitigation of on-site emissions resulting from the project. The project score could be improved by providing additional detail regarding the potential to mitigate on-site emissions from the project.

## Scoring Criteria — Mitigate Emissions Off-Site

**Positive Feedback**

- The applicant provides minimal (but adequate) discussion of the potential mitigation of offsite emissions resulting from the project. However, the end-use of the biomethane in its primary market is as hydrogen vehicle fuel which provides zero emission transportation.

**Negative Feedback**

- The applicant does not provide enough discussion of mitigation of offsite emissions.

**Overall Feedback**

Overall the applicant provides minimal discussion of the mitigation of off-site emissions resulting from the project. The project score could be improved by providing additional detail regarding the potential to mitigate off-site emissions from the project.

## Scoring Criteria — Project Co-Benefits

**Positive Feedback**

- The applicant details multiple project co-benefits including odor/pathogen reduction, digestate used for fertilizer, water quality protection, improvements in air quality, etc.
- The applicant provides less detail regarding potential co-benefits compared to other applicants, but the information provided is sufficient.
- The applicant suggests that they can land apply digestate year-round, which might not necessarily be the case. Additional discussion or caveats should be provided in this context.
- The applicant appears committed to allowing research to be conducted at the project site.

**Negative Feedback**

- The applicant provides less detail regarding potential co-benefits compared to other applicants, but the information provided is sufficient.
- The applicant provides insufficient discussion of the water quality impacts of land application of the digester effluent. The higher ammonium concentration in the digester effluent does not translate to a lower nitrate leaching rate.

**Overall Feedback**

Overall the applicant provided a good discussion of multiple co-benefits resulting from the project. However, the information provided was limited compared to other applicants and some

information provided needs additional clarification. The score in this area could be improved by providing additional discussion and clarity regarding the potential co-benefits and impacts to water quality regarding the land application of digester effluent resulting from the project.

**Scoring Criteria — Community Impacts and Mitigation**

**Positive Feedback**

- The applicant provided evidence of a good faith effort to discuss the impacts and benefits of the project with the local community, however the outreach is limited compared to the efforts of other applicants.
- The applicant provides adequate discussion of the potential impacts and benefits associated with the project.
- The applicant had an outreach campaign and personally reached out to local residents.
- The applicant adequately describes the potential economic impacts and jobs.

**Negative Feedback**

- The outreach is limited compared to the efforts of other applicants.
- The applicant provides minimal mitigation of potential impacts from boiler, flare, and increased truck traffic from manure hauling.
- The applicant does not appear to have secured a community benefit agreement for the project.
- The environmental impacts during the construction phase were not described in detail in the application.
- The applicant provides significantly less discussion of the potential benefits compared to other project applicants.

**Overall Feedback**

Overall the applicant provided evidence of a good effort to inform the local community of the potential impacts and benefits associated with the project. The project score could have been improved in this area by performing additional outreach similar to that of other applicants and providing additional information regarding the impacts and benefits of the project similar to that of other applicants.

## Scoring Criteria — Localized Economic Benefits

**Positive Feedback**

- The applicant provides sufficient discussion of the potential jobs (208 full-time temporary jobs, 17 full-time/part-time permanent jobs) that may result from the project.
- The applicant adequately describes the potential economic impacts created by the project.

**Negative Feedback**

- The number of jobs that may result from the project may be inflated.
- The applicant could have provided additional discussion on the local economic benefits associated with the project and the information provided was limited compared to other applicants.

**Overall Feedback**

Overall the applicant provides a sufficient discussion of the economic benefits associated with the project. However, providing additional discussion regarding the job creation numbers and the other localized economic benefits of the project could improve the project score.

## Scoring Criteria — Project Readiness and Implementation

**Positive Feedback**

- The applicant provides adequate discussion of the necessary permitting and finance requirements as well as their status in terms of completing the requirements in these areas.
- The applicant provided a list of permits and outlined the status and anticipated completion dates.

**Negative Feedback**

- The applicant provides limited detail on the readiness of the project, especially compared to the level of detail provided by other applicants. Limited detail is provided on the status of CEQA, Air District Permits, Water Permits, etc. The applicant suggests that they will obtain these permits when necessary, making it seem like they are less project-ready than their competitors. This project involves a single dairy and as such, should be further along with the permitting process at this point.
- The applicant has not fully developed a project safety plan and is significantly behind the other developers in this respect.
- The applicant could have provided more information on the EB-5 funding and their project finance plan in general, especially in light of not receiving any DDRDP funding.
- The project will ultimately be operated by the dairy operator, which may lead to complications in dealing with utilities, maintenance, operation, and administrative requirements.

**Overall Feedback**

Overall the project should be further along in terms of project readiness. As it did not receive any DDRDP funding, it may make the project significantly more challenging to complete. The applicant could improve the score in this area by having completed more pre-project work, especially regarding project finance and permitting.

## 8. Weststeyn, DVO

| Project Name | Weststeyn | | Developer | DVO | | Selection Committee Score Card Summary |
|---|---|---|---|---|---|---|
| Dairy Waste-to-Biomethane Business Model - Diary Operations- Technology Plan – Marketing Plan- Scalability | Financial Plan/ Soundness | Greenhouse Gas Reduction and Cost Effectiveness | Environmental Benefits | Disadvantaged Communities | Project Readiness and Implementation | Total Score |
| 13 | 10 | 13 | 9 | 7 | 9 | 61 |

### Scoring Criteria — Technology Plan

**Positive Feedback**

- The applicant claims with reasonable support and discussion that mixed plug flow digesters are less subject to weather fluctuations, leading to consistent biogas output, up to 40% more biogas than covered lagoons, more GHG reductions, and elimination of manure solids composting and spreading cost.
- The technology is proven in multiple applications across the country and has shown to be reliable and more consistent at capturing (and producing) biomethane.
- Boiler is best available technology for emissions reduction.
- The applicant suggests and reasonably supports that there is revenue potential (or cost savings) from digested solids to be utilized by the farm or sold to other farms for bedding replacement or sold to other aftermarkets.
- The applicant suggests and reasonably supports that there will be cost savings associated with reduced fertilizer usage due to digested liquids pumped into the farm's storage lagoon and later field spread as irrigation/fertilizer.
- The applicant is suggesting that they can convert RCNG to hydrogen vehicle fuel "to the maximum extent possible." This would be a new development in low carbon digester fuel production compared to the more commonly proposed RCNG route and it may lead to further emission reductions.
- The applicant clearly details that the captured biogas can also be used for RCNG.
- The project does not include collection lines.
- The design allows for the addition of other substrates for co-digestion.
- The applicant suggests the project will sell vehicle fuel through DMT Clear Gas, First Element, and Chevron, with renewable hydrogen as the primary product.
- The applicant is proposing to use proven, two-stage biomethane upgrading technology along with double compressors to ensure biomethane processing system reliability with limited downtime.

• The applicant suggests they plan to install solar onsite to offset dairy and biomethane electrical service requirements of the dairy and the project, leading to a reduction in off-site emissions associated with electricity generation.
• The applicant is proposing to install an on-site refueling station with an anticipated annual consumption of 1.2 million diesel gallon equivalents (DGE) from fueling dairy-owned haul trucks and farm equipment and milk haul trucks.
• The applicant suggests that they could installed dissolved air floatation as an advanced form of solids removal from the digestate but does not commit to this in the application.

**Negative Feedback**

• The project dairy is planning to double in size in the near future making it difficult to score the current project compared to its future layout.
• Digester is heated by a natural gas boiler which could create a new source of NOx.
• Limited biogas storage may lead to excessive flaring of biomethane, especially during any extended periods of downtime, leading to a potentially significant source of new NOx.
• The applicant is planning to separate manure solids which could lead to increased ammonia emissions based on results of Holly study. Further research is needed to investigate the potential risk of increased ammonia emissions from digestate.
• The applicant suggests that they will install an onsite fueling station for trucks and farm equipment, though they currently do not appear to have any vehicles or farm equipment that run on natural gas or hydrogen and are providing offtake agreements for all of the produced fuel.
• The applicant does not discuss who will do conversions on the dairy and creamery trucks or provide a technology partner for this, making it somewhat questionable as to when or if this will actually happen.
• The project appears to be a dairy owned and maintained digester which can lead to difficulties in operation and maintenance, especially if a major defect develops in the digester.
• The applicant suggests that they could installed dissolved air floatation as an advanced form of solids removal but does not commit to this in the application.

**Overall Feedback**

Overall the applicant is proposing to use proven technology that can lead to stable and consistent delivery of biomethane and the associated revenue. It can lead to potential cost savings and or revenue from manure solids sales and fertilizer use reduction. The project is a single dairy, reducing the need for collection lines. The applicant is also planning to install solar generation, reducing the need for grid electricity and the associated emissions. Additionally, the applicant is proposing to convert some trucks to RCNG and install an on-site fueling station to fuel them, assuming the fuel is available from their offtake agreements. However, the proposed technology, while robust, may have limited ability to store biogas and may lead to new sources of NOx from the onsite boiler and flare. The project may also lead to increase ammonia emissions due to post-digester solid separation. The score in this area could have been improved by providing more information on the proposed vehicle conversions and fueling station, identifying additional potential mitigation options for the new sources of NOx associated with the project, and by addressing the potential for ammonia increases.

## Scoring Criteria — Marketing Plan

**Positive Feedback**

- The applicant provided an executed Term Sheet with First Elements Fuels, Inc. for biomethane from this project. Under the 10-year agreement (with two five-year options to extend) the biomethane will be used for hydrogen transportation fuel for sale at its True Zero fueling stations.
- The applicant provided support for the claim that Chevron is also offering to buy the biomethane for use as RCNG for truck fueling. Chevron submitted a proposal for RCNG that would be contingent on them buying the full quantity.
- The applicant suggests that they can reduce tax/ratepayer cost by generating RIN credits and LCFS credits.

**Negative Feedback**

- The project appears to be a dairy-owned digester, which can lead to difficulties in operation and maintenance, especially if a major defect develops in the digester.
- Attachment 13 states that the term sheet is contingent on DVO receiving grant funding from the CDFA DDRDP program and DVO receiving financing to construct by 1/1/19. If these conditions are not met, parties may terminate the term sheet.
- Overall there isn't a lot of discussion of the marketing plan in the application compared to applications from other developer.
- The applicant seems to be significantly behind in terms of marketing compared to other applications in the solicitation.
- Applicant mentions the potential for selling solids and digestate as a fertilizer replacement but doesn’t provide any discussion as to the marketing of these potential revenue streams.
- If biomethane is rejected by PG&E, biomethane will be flared until repair. By contrast, other projects have as much as five days of biogas storage.

**Overall Feedback**

Overall the applicant has provided evidence that they have up to two potential options in terms of marketing and selling the fuel produced by the project. However, the applicant does not provide sufficient discussion of the marketing of these or other potential revenues compared to other applicants. Additionally, the project will be dairy owned, which can lead to challenges in project management and operation. The score in this area could have been improved by providing additional details of the marketing plan for all potential revenue streams and a sound digester maintenance plan.

## Scoring Criteria — Scalability

**Positive Feedback**

- The applicant suggests that their design can be replicated at other dairy locations, remote locations, and where dairies are not part of clusters.

**Negative Feedback**

- The scalability of the project is due to the expansion of the dairy only, as there are no other nearby dairies.
- Transportation of manure from more distant dairies would have to be done by truck.
- The applicant does not appear to be oversizing equipment to plan for additional capacity, and the applicant has not explored adding more dairies.
- The project team have not discussed with other dairies to expand the cluster.
- The applicant suggests that additional dairies could potentially be added via hauling gas with tube trailers but does not provide significant detail on the ability of the designed system to handle additional gas and does not address the impacts of additional truck traffic associated with hauling gas.
- The applicant suggests the project could be replicated elsewhere, but there are not many potential dairies located on transmission lines that could build a project like this without public funding.

**Overall Feedback**

Overall the project may potentially be replicated at other dairies if the right conditions are in place, however it may be difficult to economically replicate this due to its limited cost-effectiveness. This particular application does not appear to be scalable, nor does it appear to be planning to add more dairies at a later date, with the only opportunity to do so being via virtual pipeline. The score in this area could be improved by further demonstrating the replicability of the project and by potentially adding additional dairies, if possible, to improve scalability and cost-effectiveness.

## Scoring Criteria — Project Team Qualifications

**Positive Feedback**

- The project team appears to have the necessary qualifications and experience, some of which have been involved in biomethane or anaerobic digestion in California for years.
- The project team is composed of personnel with experience inside and outside of California.

**Negative Feedback**

- Project team should not have any issues with developing and constructing the project on time. However, the project operations and maintenance, which will be done by the dairy owner, may not be up to par compared to other projects.

• No one on the project team is qualified to do vehicle conversions to RCNG either at the dairy or the identified creamery.

**Overall Feedback**

Overall the project team appears qualified to design and construct the project. However, with the dairy owning and operating the project, there may be concerns with project management in the future. The project team associated with the project may not be up to par with other applicants. The score for this area could be improved by securing additional experienced team members to handle RCNG vehicle conversions and operate and manage the project, or by providing more assurance that the dairy operation can provide sufficiently experienced staff to manage the project.

## Scoring Criteria — Long-Term Viability of Project

**Positive Feedback**

• The applicant claims that they will use renewable electricity to produce hydrogen and will utilize RCNG-fueled trucks, but this is not discussed in detail in the application.
• The applicant claims that the dairy has the option to install solar, but this is not discussed in detail in the application.
• The project lifetime is expected to be at least 10 years.
• The technology is not what is normally used in California, but aside from additional energy requirements and increased cost as compared to Tier I double-lined digesters, it should work well.

**Negative Feedback**

• The applicant describes project funding, including funding from the CDFA DDRDP that they were unable to secure.
• The applicant appears to be reliant of EB-5 funding which seems uncertain. The applicant further suggests that in the absence of DDRDP funding, they will pursue additional EB-5 funding.
• If biomethane is rejected by PG&E, biomethane will be flared until repair. By contrast, other projects have as much as five days of biogas storage.
• The applicant claims that they will use renewable electricity to produce hydrogen and will utilize RCNG-fueled trucks, but this is not discussed elsewhere.
• The applicant claims that the dairy has option to install solar onsite, but this is not discussed elsewhere.
• The project will be owned and operated by the dairy personnel, which can lead to extended downtime or failure if not properly maintained. Applicant suggests that limited training for dairy personnel is sufficient for them to be able to operate the system without incident.
• Other applicants maintain parts onsite or close by. In contrast, the applicant doesn't describe parts being kept onsite; they are stocked at the DVO warehouse.
• Compared to other applicants, the applicant provides limited discussion on the long-term viability of the project.

**Overall Feedback**

Overall, the applicant provides some discussion of the potential long-term viability of the project, however additional discussion and detail would help improve the project score in this area.

## Scoring Criteria — Economic Viability

**Positive Feedback**

- The applicant provides evidence that the project can secure funding to build and operate the project assuming that they have no issues securing EB-5 funding.
- The applicant does evaluate potential risks and identifies potential solutions
- The applicant provides some discussion of revenue sources for the project in the context of long-term viability.
- The project applicant appears to have potential offtake agreements with First Element Fuels (hydrogen) and Chevron (RNG) in place.
- The applicant adequately discusses their financial resources including JG Weststeyn Dairy and Irrevocable Property Trust.
- The applicant adequately identifies and demonstrates how co-products or other revenue streams – such as the sale of digestate solids, use of substrate to produce methane in the anaerobic digester (to comply with LCFS standards of no more than 20%), and sale of phosphorous cake to almond growers – contribute to the business plan.

**Negative Feedback**

- The applicant appears to be reliant on EB-5 funding, which seems uncertain. The applicant further suggests that in the absence of DDRDP funding, they will pursue additional EB-5 funding.
- The applicant could have provided more information on the revenue potential, near term accessibility, and long-term viability of the hydrogen fuel market.
- The applicant does not provide any significant detail on the cost or viability of conversion of trucks in the dairy or creamery fleet. These costs could be prohibitive or may not be feasible so further evaluation of this would be better.
- The applicant does not provide sufficient detail of financial viability and may be significantly impacted by the unsuccessful pursuit of funding from the DDRDP, as the project costs are higher (and less cost effective) than other larger projects, which are in general more cost-effective.
- The rough cost of GHG reductions per MTCO2e seems much higher than the other proposed projects.

**Overall Feedback**

Overall the applicant has provided evidence that the project can be economically viable assuming they are able to successfully secure the funding from their identified sources. They have provided some detail regarding the revenue potential for the fuel produced, along with evidence of offtake agreements. The applicant could have improved the score in this area by providing additional discussion regarding their solution to the unsuccessful pursuit of DDRDP

funding, additional discussion of the EB-5 funding program, discussion of the cost and feasibility of vehicle conversions, and overall more detail regarding the economics of the project.

## Scoring Criteria — Greenhouse Gas Reduction

**Positive Feedback**

- The applicant provides sufficient detail to outline what sorts of GHG reductions can be achieved through the project.
- The applicant provides sufficient comparative detail describing the GHG reduction performance of their technology compared to other digester types.

**Negative Feedback**

- The applicant suggests modifications to the calculator but does not provide enough supporting evidence to justify the change.
- The applicant provides minimal discussion in the application regarding the GHG reductions, especially compared to other applicants, leaving some unanswered questions.
- The applicant appears to have inserted negative values into the calculator which alters GHG reductions. Modifying the calculator without sufficient justification is not an approved procedure.
- In dairy management, dwell time, or the hours associated with management of lactating dairy cows, adds up to 26 hours, not 24.
- The applicant evaluates GHG reductions on the potential future dairy size, not the current size, which could potentially lead to greatly overstating its emission reduction benefit compare to the baseline.
- The project may result in potentially significant emissions from flaring of biogas that does not meet biomethane quality specifications due to the limited ability of the system to store biomethane.
- The status of the installed screw press separator is not discussed.

**Overall Feedback**

Overall, the applicant does provide some discussion as to the potential GHG benefits from the project. However, the applicant also may have significantly overestimated the reductions associated with the project by making unallowable and unsupported changes to the calculator in order to make it consistent with the performance they claim from the technology and using future herd numbers rather than current baseline numbers. The project score in this area could be improved by completing the GHG calculator correctly, addressing the status of the previously installed screw press separator, and providing sufficient justification for any changes made to default values.

## Scoring Criteria — Cost-Effectiveness

**Positive Feedback**

- The applicant provides adequate discussion of the potential cost-effectiveness of the project.

**Negative Feedback**

- Since the project consists of a single dairy operation, it does not appear to be as cost effective as the other projects in the solicitation, most likely due to its small scale.
- The limited scalability of this project negatively impacts its cost-effectiveness.
- The cost-effectiveness calculation may be inaccurate due to it is being calculated based on the expanded future herd numbers and not the baseline conditions.

**Overall Feedback**

Overall, the applicant provides adequate discussion of the potential cost-effectiveness of the project, however the overall cost-effectiveness is hindered by the small size of the project and its inability to increase in scale. Addressing these areas or finding opportunities to reduce the project cost (and improve its cost-effectiveness) as well as using the proper herd numbers based on the current baseline conditions could have improved the score in this area.

## Scoring Criteria — Justification and Reference

**Positive Feedback**

- Limited positive feedback is available for this aspect of the application.

**Negative Feedback**

- The applicant suggests modifying defaults and cites a presentation given at a dairy subgroup meeting by Dr. Zhang. However, this study is a lab scale study and has not been published or peer-reviewed.
- The applicant incorrectly included negative values in the GHG calculator and did not provide justification or explanation for negative values.
- The NOx reduction was calculated using $N_2O$ emission factor for vehicles.
- The applicant calculates the potential reductions using the future expanded herd numbers rather than correctly identifying the baseline conditions for the project.

**Overall Feedback**

The applicant could improve the score in this area by completing the GHG calculator correctly and providing sufficient justification for any changes made to default values.

## Scoring Criteria — NOx and Criteria Pollutants

**Positive Feedback**

- The project will result in the production of hydrogen vehicle fuel, which will result in zero emissions from its use in vehicles.
- The applicant provided an adequate discussion of the NOx and CP reductions associated with the project but could have provided a clearer quantification of the reductions.
- The applicant suggests that they plan to install solar so that they can offset dairy and biomethane electrical service requirements of the dairy and the project, leading to a reduction in off-site emissions associated with electricity generation.

**Negative Feedback**

- The project may result in potentially significant emissions from flaring of biogas that does not meet biomethane quality specifications due to the limited ability of the system to store biomethane.
- The applicant uses both metric and US systems units in the application, making comparisons difficult.
- The applicant does not discuss VOC, CO, and SOx emissions.
- The project needs to provide more discussion of fleet conversion.
- The project may result in a new, unmitigated source of emissions from the onsite boiler used to heat the digester.
- The pre- and post-project diesel usage numbers are significant for a single dairy.

**Overall Feedback**

Overall the applicant provides an adequate discussion of the NOx and CP emissions that result from the production of hydrogen vehicle fuel from the project. The project score in this area could be improved by identifying (and committing to) options to reduce emissions from the boiler and flare, along with providing additional discussion and quantification of the potential reductions resulting from the project.

## Scoring Criteria — Mitigate Emissions On-Site

**Positive Feedback**

- The applicant appears committed to reducing potential sulfur compound emissions by installing a biogas scrubber to control hydrogen sulfide.
- The applicant appears committed to reducing PM emissions by suggesting they will pave roads and undertake dust mitigation measures.
- The applicant suggests that they will mitigate onsite GHG emissions by utilizing an emergency flare when the system is out of service, though this will result in NOx emissions.

**Negative Feedback**

- The applicant provides minimal mitigation of the onsite impacts.
- The boiler will be required to meet BACT standards but is not providing further mitigation.

• The applicant provides minimal discussion of the potential to mitigate emissions resulting from the flare.
• The hauling of manure may result in an unmitigated impact as well.
• The applicant provides inadequate explanation of the potential adverse impacts from construction and operation of the project.

**Overall Feedback**

Overall the applicant provides minimal discussion of the mitigation of on-site emissions resulting from the project. The project score could have been improved by providing additional detail regarding the potential to mitigate on-site emissions from the project.

## Scoring Criteria — Mitigate Emissions Off-Site

**Positive Feedback**

• The applicant provides succinct discussion of the potential mitigation of offsite emissions resulting from the project. The end-use of the biomethane in its primary market is as hydrogen vehicle fuel.
• The applicant suggests that they plan to install solar so that they can offset dairy and biomethane electrical service requirements of the dairy and the project, leading to a reduction in off-site emissions associated with electricity generation.

**Negative Feedback**

• The applicant provides minimal discussion of mitigation of offsite emissions.
• The applicant states in attachment 13 that First Element Fuel is trying to procure 100% of the biomethane produced by Weststeyn dairy and convert it into hydrogen. The applicant also proposed building an onsite CNG fueling station, which needs more explanation with regard to the source of the biomethane for the fueling station.

**Overall Feedback**

Overall the applicant provides minimal discussion of the mitigation of off-site emissions resulting from the project other than proposing to install solar generation to provide onsite electricity, reducing the off-site emissions associated with grid electricity generation. The project score could be improved by providing additional detail regarding the potential to mitigate off-site emissions from the project and providing additional clarity regarding the fuel offtake agreements and refueling station.

## Scoring Criteria — Project Co-Benefits

**Positive Feedback**

• The applicant details multiple project co-benefits including odor/pathogen reduction, digestate use for fertilizer, water quality protection, improvements in air quality, etc.
• The applicant suggests that they can land apply digestate year-round which might not necessarily be the case. Additional discussion or caveats should be provided in this context.
• The applicant appears committed to allowing research to be conducted at the project site.

**Negative Feedback**

• The applicant could have provided more in-depth discussion of the project co-benefits.
• The applicant suggests that they can land apply digestate year-round which might not necessarily be the case. Additional discussion or caveats should be provided in this context.
• The applicant provides insufficient discussion of the water quality impacts of land application of the digester effluent. The higher ammonium concentration in the digester effluent does not translate to a lower nitrate leaching rate.

**Overall Feedback**

Overall the applicant provided a good discussion of multiple co-benefits resulting from the project. However, the information provided was limited compared to other applicants, and some information provided needs additional clarification. The score in this area could have been improved by providing additional discussion and clarity regarding the potential co-benefits and impacts to water quality from land application of digester effluent.

## Scoring Criteria — Community Impacts and Mitigation

**Positive Feedback**

• The applicant performed meaningful outreach to the surrounding community regarding the impacts and benefits of the project.
• The applicant had an outreach campaign and personally reached out to local residents.
• The applicant provided evidence of a good-faith effort to discuss the impacts and benefits of the project with the local community, however no community benefit agreement has been reached.

**Negative Feedback**

• The applicant could provide more in-depth discussion regarding the potential benefits.
• The environmental impacts during the construction phase were not described in detail in the application.
• The dairy is planning to more than double in size, which will increase its potential impact on local communities, though there are few residents near the installation.
• The applicant does not appear to have secured a community benefit agreement for the project.
• The applicant provides minimal mitigation of potential impacts from boiler and flare.

**Overall Feedback**

Overall the applicant provided evidence of a good effort to inform the local community of the potential impacts and benefits associated with the project. The project score could have been improved in this area by performing additional outreach similar to that of other applicants and providing additional information regarding the impacts and benefits of the project.

## Scoring Criteria — Localized Economic Benefits

**Positive Feedback**

- The applicant provides sufficient discussion of the potential jobs, full-time temporary jobs, full-time/part-time permanent jobs, that may result from the project.
- The applicant adequately describes the potential economic impacts created by the project.

**Negative Feedback**

- The number of jobs that may result from the project may be inflated.
- The applicant could have provided additional discussion on the local economic benefits associated with the project. The information provided was limited compared to other applicants.

**Overall Feedback**

Overall the applicant provides a discussion of the economic benefits associated with the project, however providing additional discussion regarding the job creation numbers and the other localized economic benefits of the project could have improved the project score.

## Scoring Criteria — Project Readiness and Implementation

**Positive Feedback**

- The applicant provides adequate discussion of the necessary permitting and finance requirements as well as their status in terms of completing the requirements in these areas.
- The applicant provided a list of permits and outlined the status and anticipated completion dates.
- The applicant suggests that CEQA has been completed for digester and interconnection pipeline.
- The applicant is in process of permitting with Glenn County and claims to have completed permits for expansion of the dairy to more than double its current size.

**Negative Feedback**

- The applicant provides limited detail on the readiness of the project, especially compared to the level of detail provided by other applicants. Limited detail is provided on the status of CEQA,

Air District Permits, Water Permits, etc. The applicant suggests that they will obtain these permits when necessary, making it seem like they are less project-ready than their competitors.

- The applicant has not fully developed a project safety plan and is significantly behind the other developers in this respect.
- The applicant could have provided more information on the EB-5 funding and their project finance plan in general, especially in light of not receiving any DDRDP funding.
- The project will ultimately be operated by the dairy operation which may lead to complications in dealing with utilities, maintenance, operation, and administrative requirements.

**Overall Feedback**

Overall the project should be further along in terms of project readiness. Considering that it did not receive any of the DDRDP funding requested, financing may pose a challenge to the project. The applicant could improve the score in this area by having completed more pre-project work, especially regarding project finance and permitting.