

R027-E: Landfill Gas to Compressed Natural Gas Fast-Fill Fueling Station  
Submitted by the City of Fargo  
Principal Investigator: Terry Ludlum  
Request for \$500,000; Total Project Costs \$1,000,000

**Technical Advisor Comments**

- Both reviewers recommended fund.
- The 50% match comes from the applicant.
- 1 reviewer had concerns about the achievability of the project, stating “Timeline seems to be achievable, the challenge I see is the budget itself. The compressor proposed for this project is small for the application of Fast fill. If this was a time fill application it would be adequate. The other challenge with this budget is there should be a second redundant compressor...Compressors require maintenance and can fail...A second redundant compressor is critical being there are no other sites available in Fargo.”
- Regarding compression, the other reviewer stated that it is likely that 1 compressor will lead to long fueling times. However, the reviewer felt that could easily be solved because adding compressor capacity is not technically challenging.
- 1 reviewer stated that the proposal did not provide technical detail on the LFG clean-up system so it wasn't possible to provide meaningful comments on that aspect. The same reviewer commented that it was unclear if the estimates for the clean-up system were reasonable as there are several similar projects across the country with long development times and budgets well over \$3 million.
- Both reviewers felt the methodology was sound.
- Both reviewers felt the background of the team was knowledgeable.
- Both reviewers felt the management plan was adequate.

**Technical Advisor Recommendations**

Funding may be considered. Utilizing CNG for a fuel has several benefits including its domestic availability, established distribution network, relatively low cost, and emissions benefits. Utilizing renewable natural gas reduces emissions by preventing methane release into the atmosphere. Methane is 25 times stronger than carbon dioxide as a greenhouse gas. States across the nation are utilizing CNG and LNG for a variety of applications. However, North Dakota is not one of them. While we have an abundance of natural gas, we do not utilize it in vehicles. Currently, there is 1 CNG fueling station owned by MDU located in Dickinson. This proposal offers a great opportunity to lead by example and provide information for private fleets in the state that may want to use CNG.

However, if it is not done properly it could stop further adoption before it even begins. There are three issues that need to be addressed by the applicant:

- The clean-up system,
- Fast fill vs. time fill and
- Redundancy.

The applicant states that because Xcel has committed to build a substation that affords the system back-up gas supply when the LFG supply is insufficient for the load. However, it is my understanding that natural gas (however it is obtained) still needs to be compressed in order to be used by vehicles.

**Suggested Contingencies If Funded**

- A second redundancy compressor is added.