

CASE STUDY:

Minnesota Dehydrated Vegetables Anaerobic Methane Digester



The vegetable dehydration plant, Minnesota Dehydrated Vegetables (MVD), has secured services of an engineering firm to design an anaerobic digester pond to treat the process water from the plant prior to discharge to the city lagoon system. The construction began in the summer of 2003. MVD processes potatoes and carrots from the region, and supplies dehydrated product to a variety of companies.

The US Department of Commerce Economic Development Administration has provided \$987,300 and the remaining \$700,000 has been raised.

By digesting the process water, the company expects to recover 8500 cubic feet of biogas per day, which it can use to replace 10 to 20% of its natural gas requirements. There is a 10-year payback period according to Jim Noyes, General Manager of the plant.

While electrical generation it is not feasible or appropriate in this case, there are some

realized electrical savings. Other options for pre-treatment are aeration and filtration. Filtration, often used in conjunction with polymer addition, offers flexibility, but has high costs and maintenance requirements, and requires energy. Aerobic degradation is of limited use for hot waste streams, and requires energy for pumps. So methane digestion is a solution that provides energy conservation for the company, and a workable solution to the city's wastewater treatment system.

The sustainability story includes several other aspects of the interaction between the community and MVD. Having a large natural gas customer in the community makes it possible for residents to have access to natural gas. A majority of the payroll from the plant supports local businesses, and many employees are residents of the city.

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