AgriReNew

Recycling Farm Nutrients and Agricultural Processing Waste for Energy Generation

Primary Function of AgriReNew

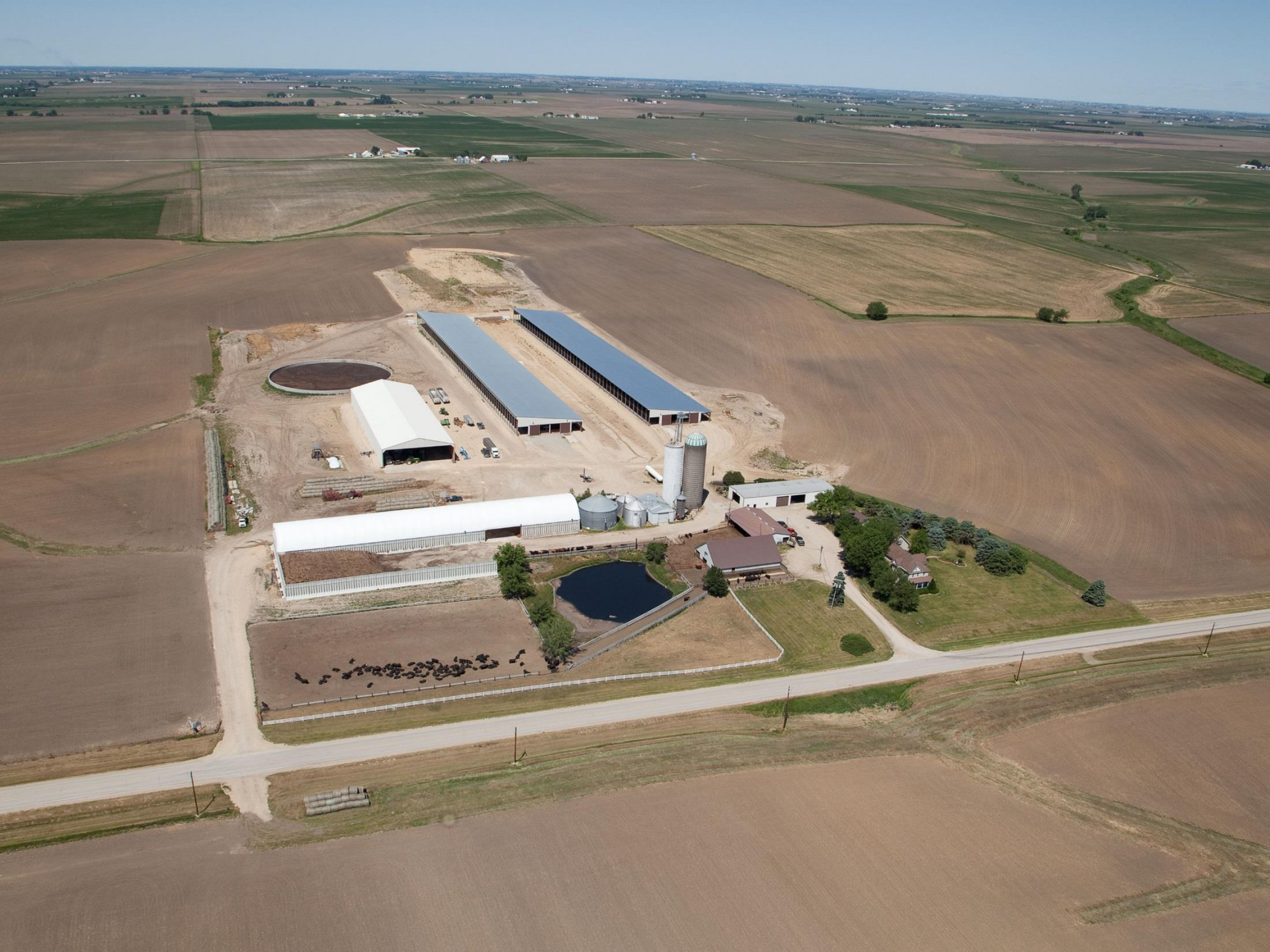
- The primary function of AgriReNew, located near Stockton, Iowa, is to recycle farm nutrients, biomass, and other carbon-based substrates for energy generation and odor control. Specifically, the business recycles beef cattle manure, waste from agricultural and food processing, and biomass (crop residues) through an anaerobic digester. This process will produce renewable biogas, recapture nutrients used to grow the corn fed to the cattle, and produce positive environmental results.

- **AgriReNew is a joint venture between Sievers Family Farms, LLC, Sievers Renewable Energy, LLC, and Davidson Renewable Energy, LLC. Sievers Family Farms and Sievers Renewable Energy are owned by Bryan and Lisa Sievers. Davidson Renewable Energy is owned by Dr. Bill Davidson III and his wife Judy.**

- **AgriReNew owns all structures needed for the processing enterprise. Structures include the anaerobic digester, effluent storage structures, separated solids storage structures, biomass storage structures, separators, dosing units, pumps, etc. The facility is located between Stockton and New Liberty, which is in the northwest corner of Scott County, Iowa.**

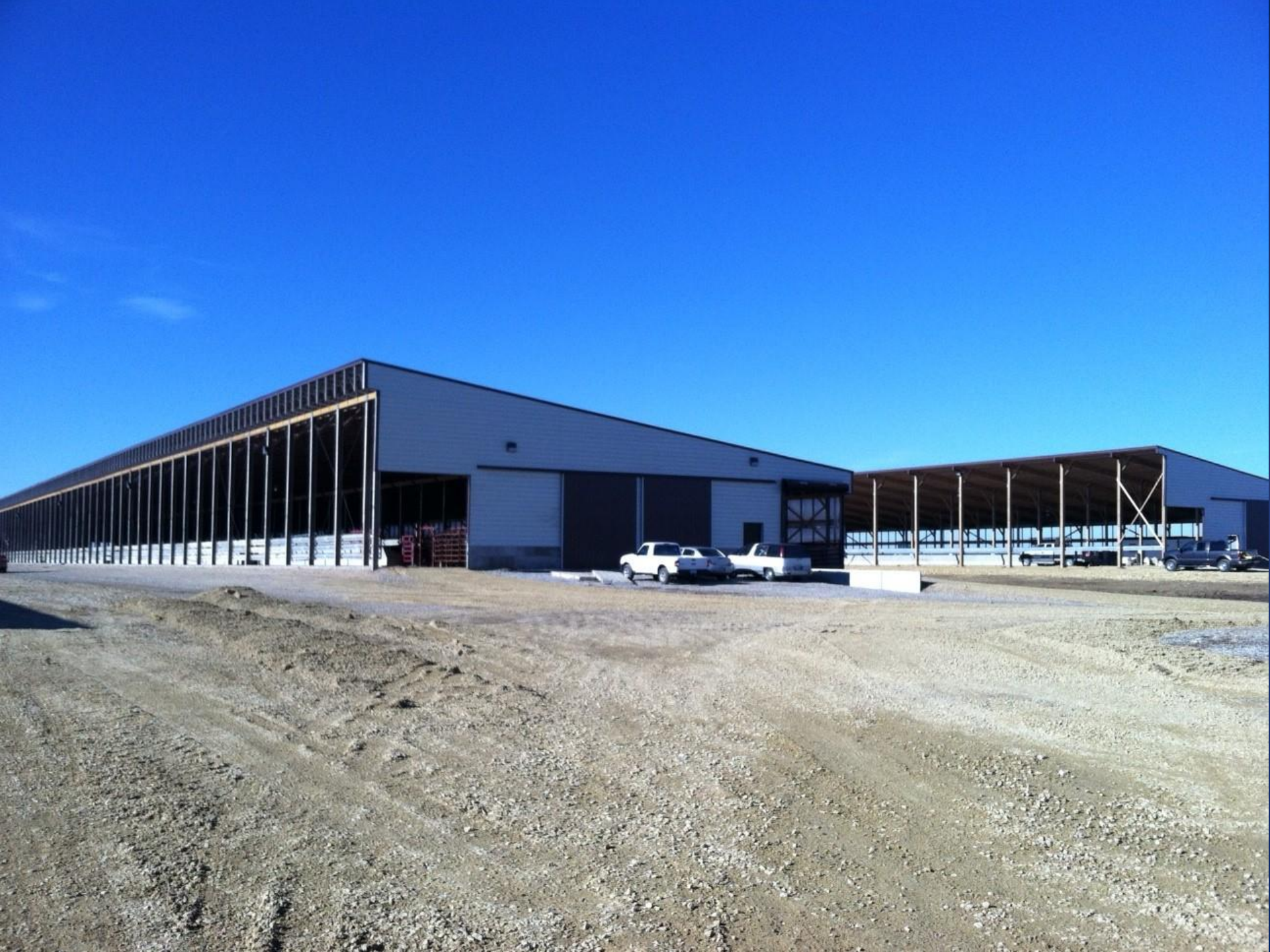
- **Sievers Family Farms, LLC, established in February 2010 by Bryan and Lisa Sievers, owns the land where AgriReNew's complete-mix anaerobic digesters and facilities are located. Structures owned by Sievers Family Farms include two 1200 head cattle barns, commodity storage structures, and livestock nutrient handling equipment.**

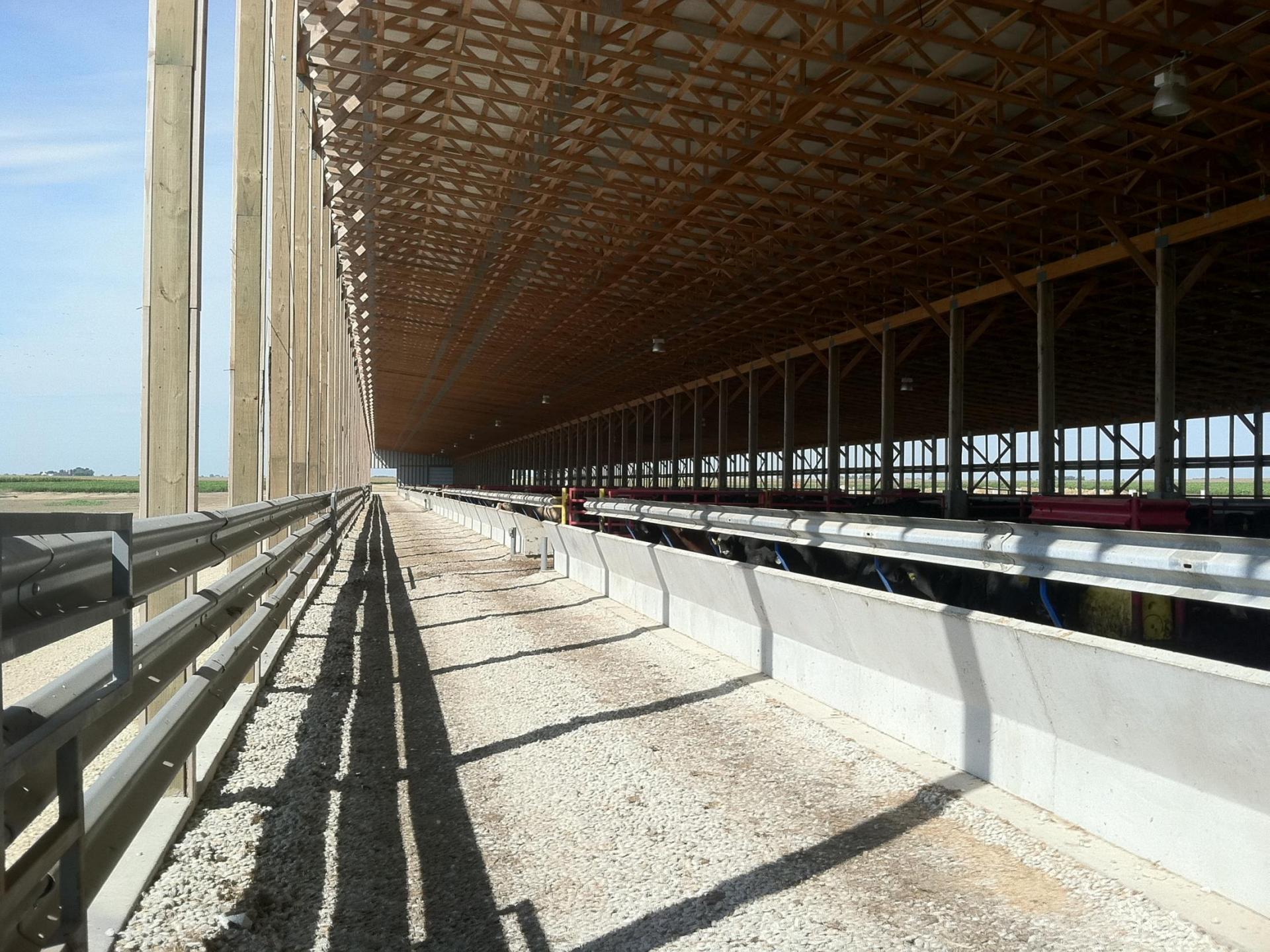
- The one-time permitted capacity of the cattle feedlot is 4,888 head. The cattle barns are a combination of a bedded pack using ground corn and wheat stover as bedding for the cattle with concrete slats along the fence line feed bunks. The first two cattle barns are approximately 90’ wide by 700’ long and were completed in August 2011 and January 2012. Each barn is designed to hold 1,222 head. The third and fourth barns are being planned but no construction date has been set.



Glenora Feed Yard

- Glenora Feed Yard, LLC of New Liberty, Iowa leases the cattle barns and feedlot facilities from Sievers Family Farms. Glenora Feed Yard, LLC was established in March 1991 and began feeding in an outdoor facility. This business is also owned by Bryan and Lisa Sievers. Glenora Feed Yard is a custom commercial feedlot operator and currently feeds and finishes for others.





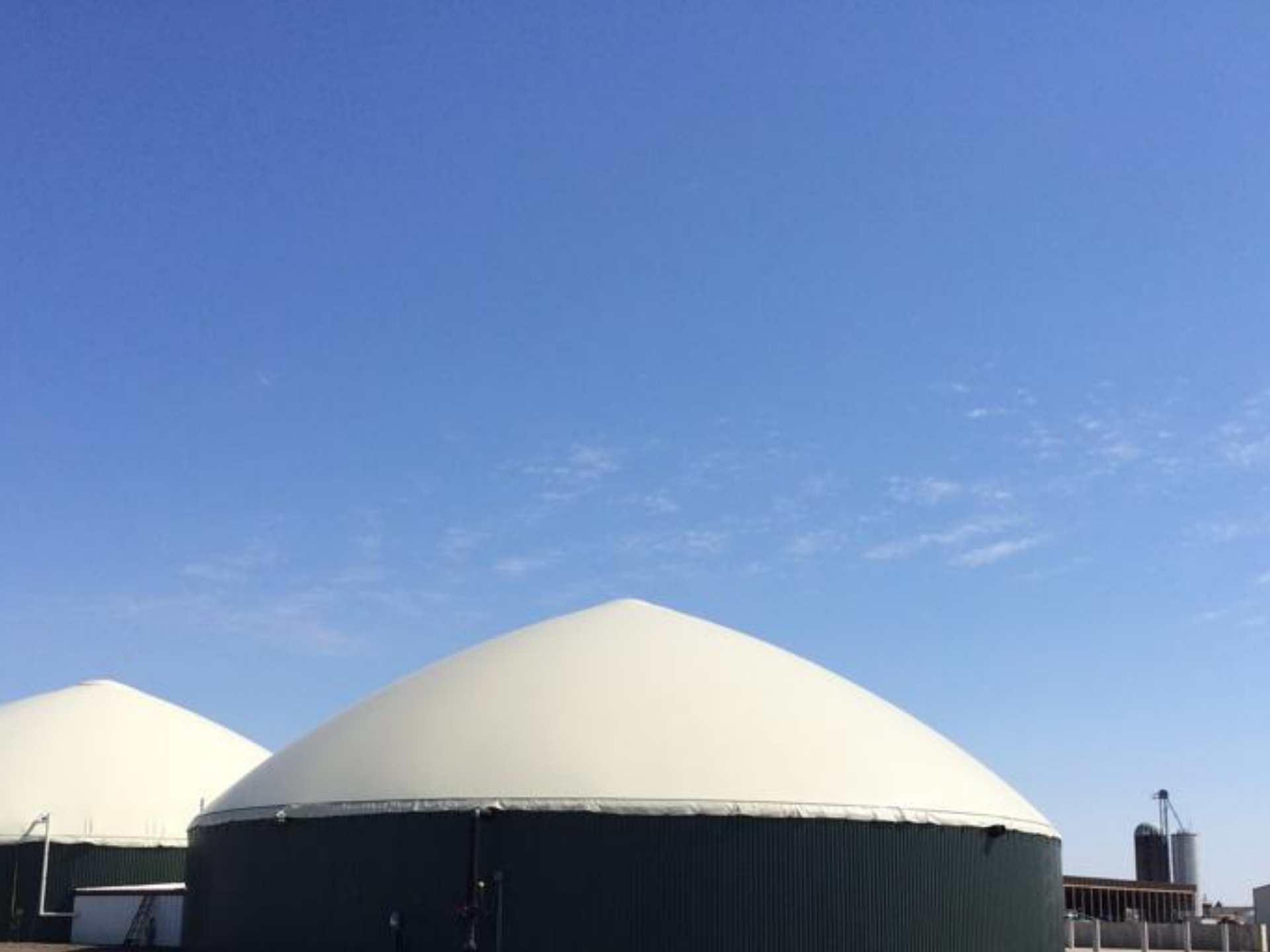
Anaerobic Digester

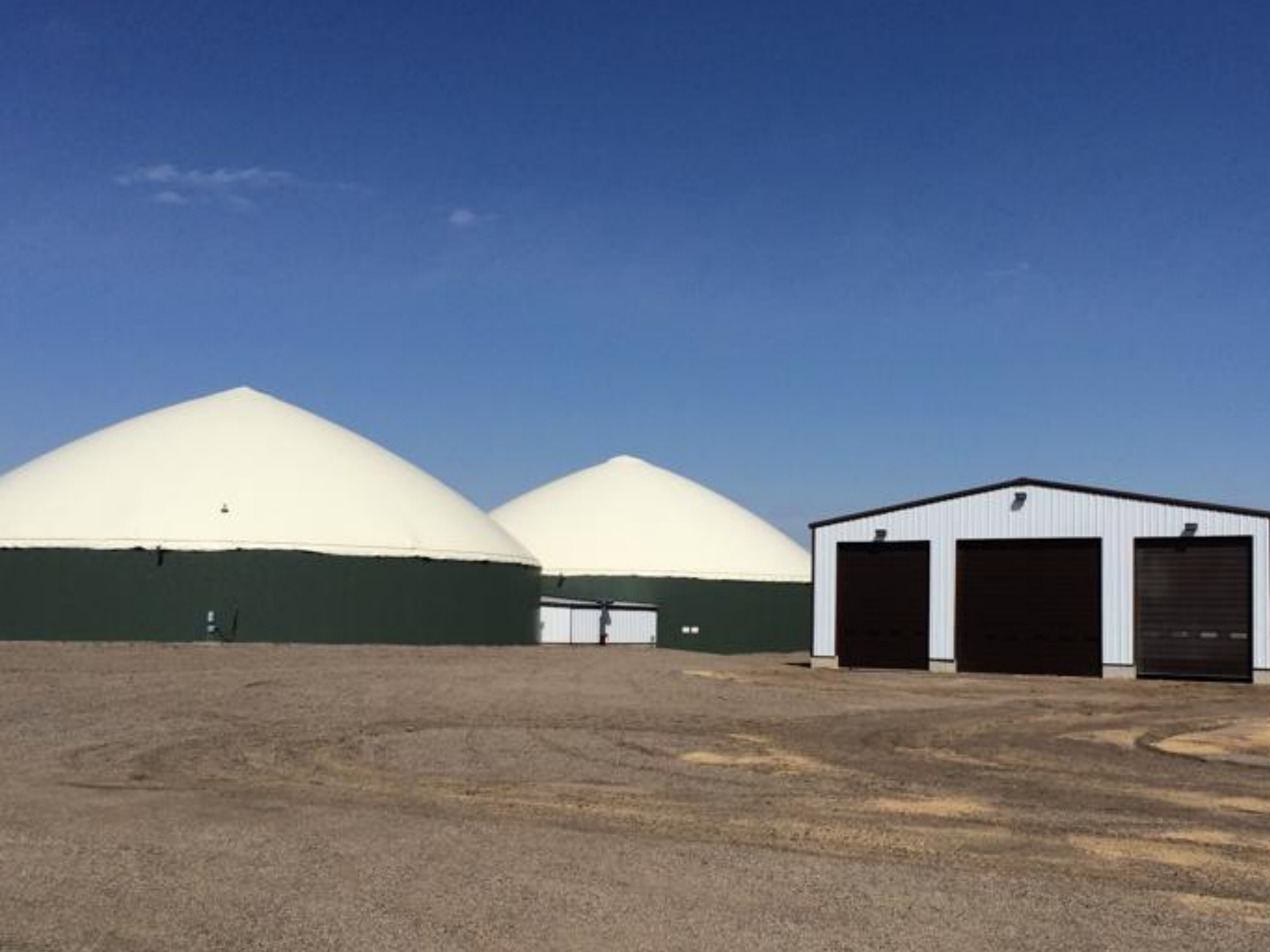
- After nearly 3 ½ years of planning, engineering, and development, construction commenced in January of 2013 on the 1.0 MW anaerobic digester and combined heat and power (CHP) generator system. Construction was completed and the CHP generator was commissioned on September 11, 2013.
- The complete-mix digesters utilize a high percentage of carbon-based digestible solids.
- The digesters are modeled after similar complete-mix digestion technology utilized in many parts of Europe.

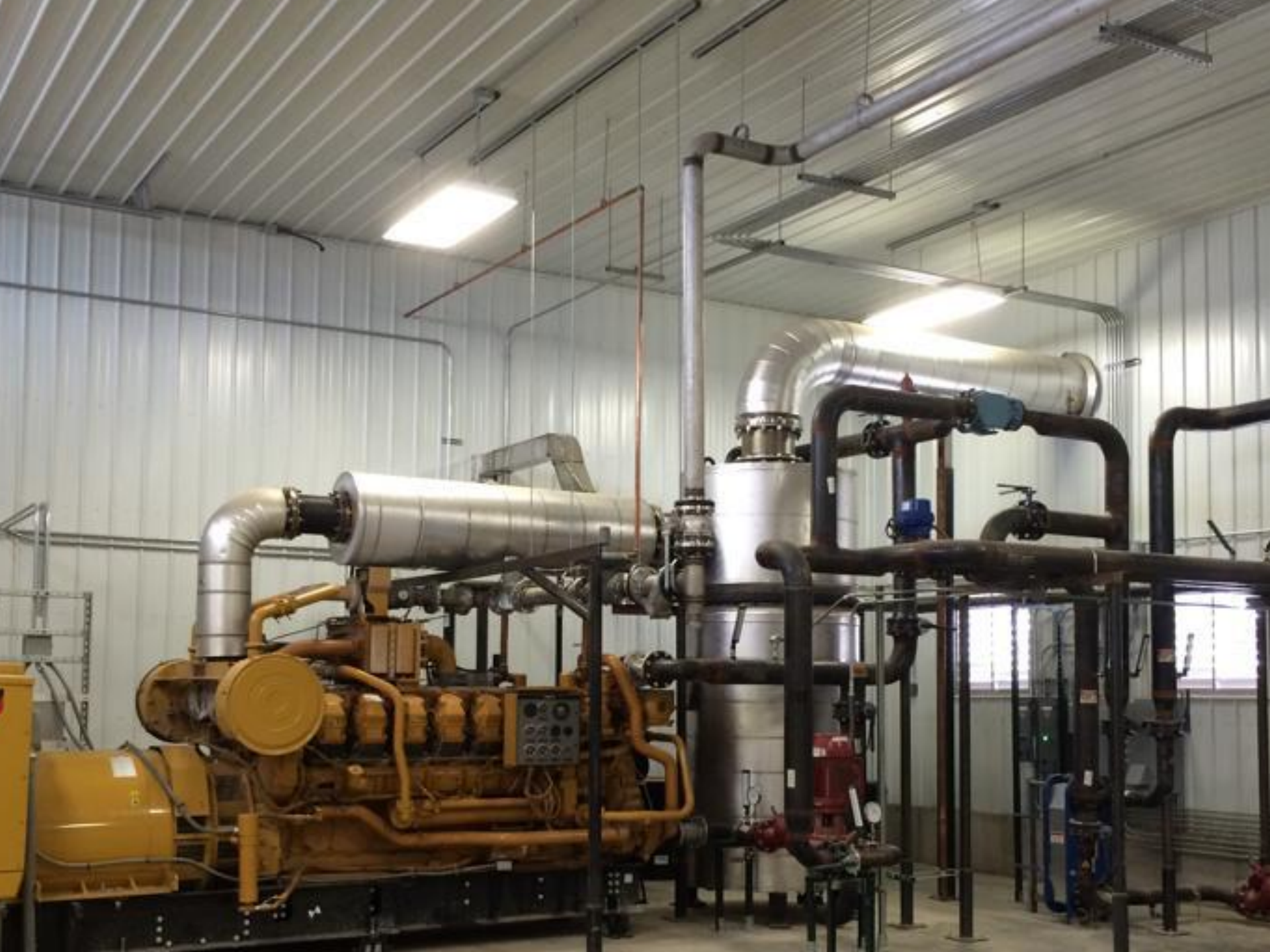
Economic Benefit

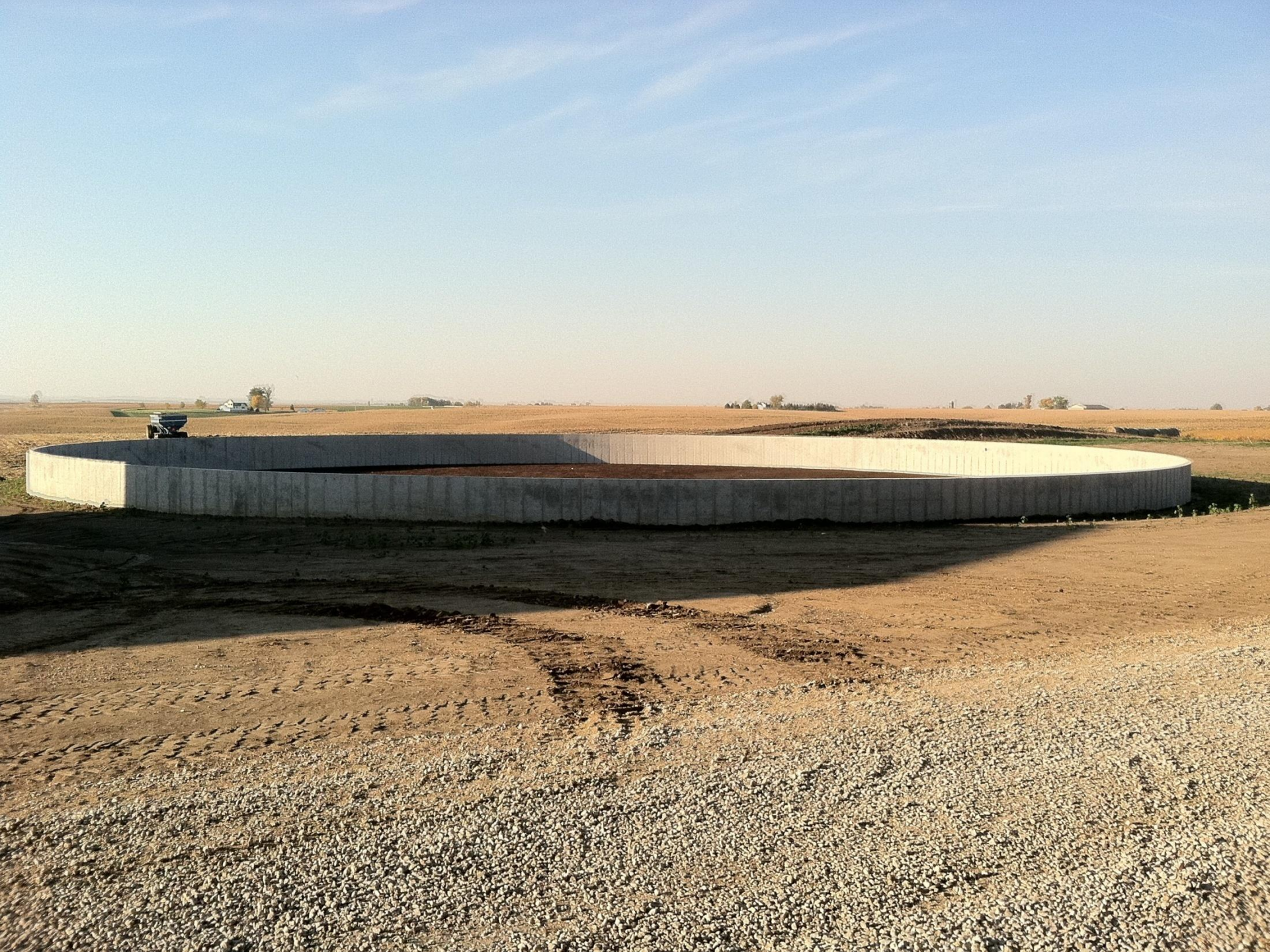
Economic benefit is derived from three areas:

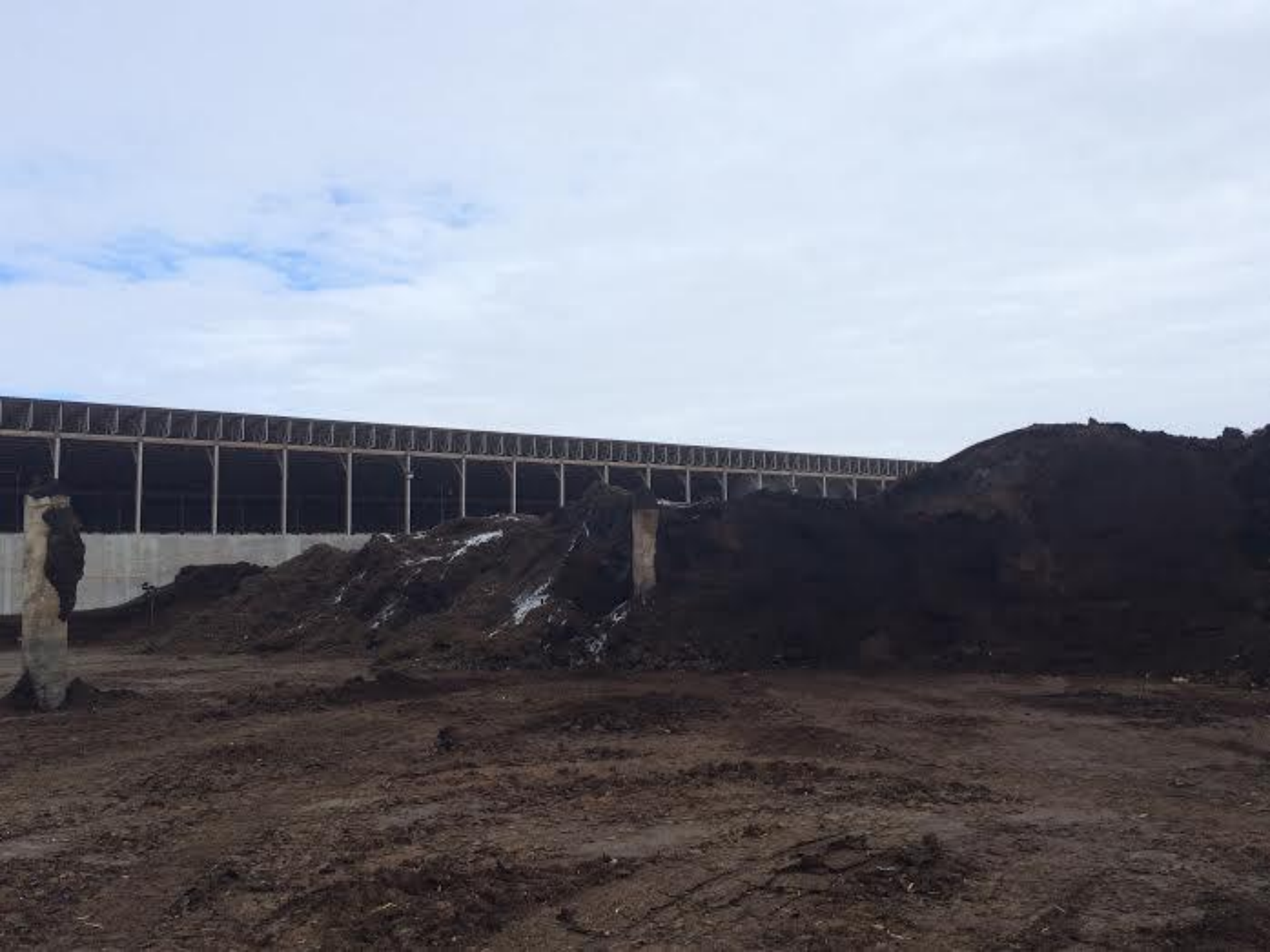
- Generation of renewable energy for use on the farm with the majority of the electricity being sold to Interstate Power & Light (Alliant Energy) through a Power Purchase Agreement.
- Creation of valuable co-products from the digestion process; These low-cost crop nutrients, or co-products, include liquid effluent and bio-fibers Nearly all of the co-products produced from the digested materials are used on the farm. The bio-fibers are also currently being evaluated as a landscape and lawn material by several local landscapers.
- Reduction of harmful pathogens and environmental liability that can be associated with cattle production facilities.

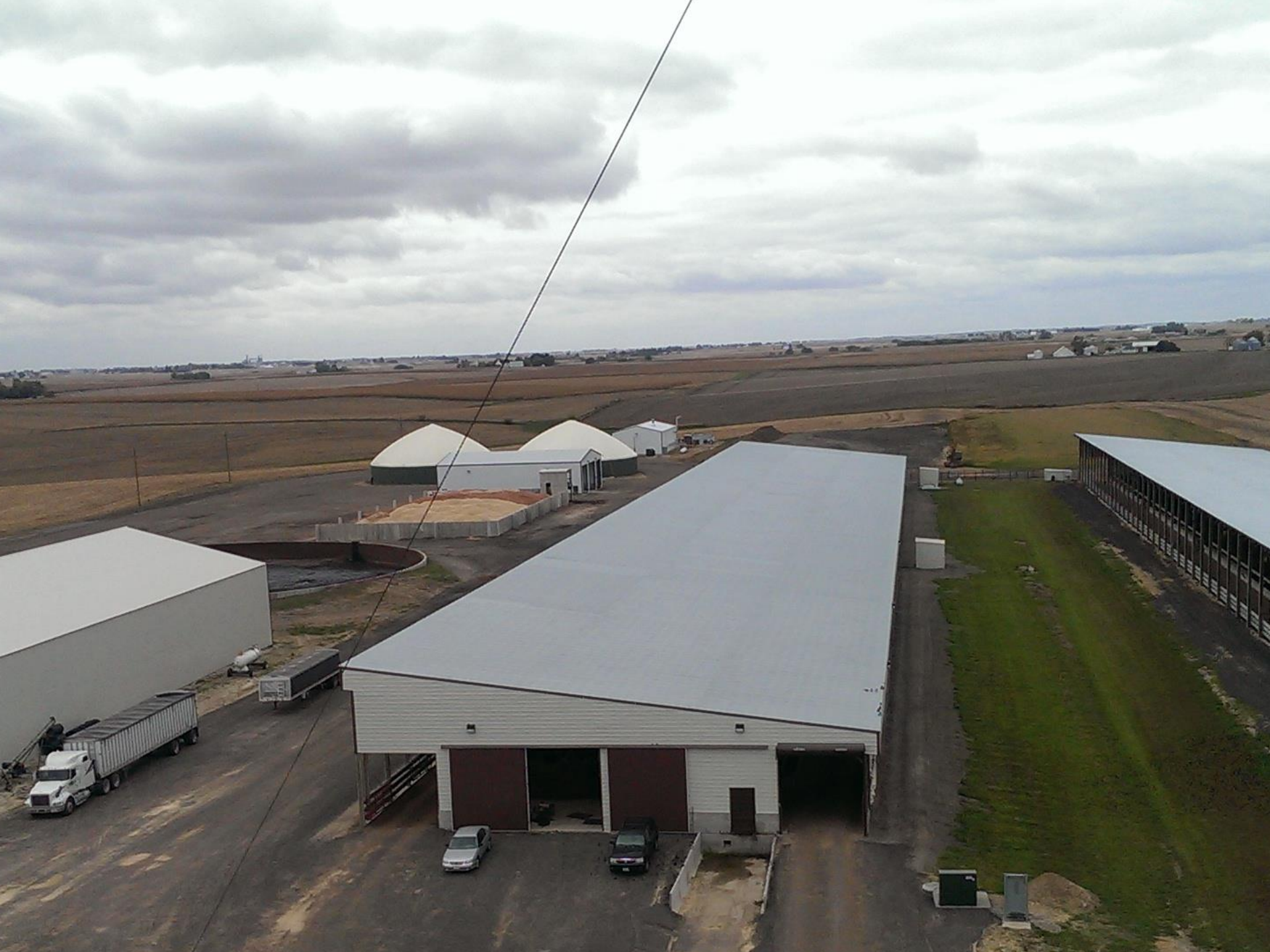












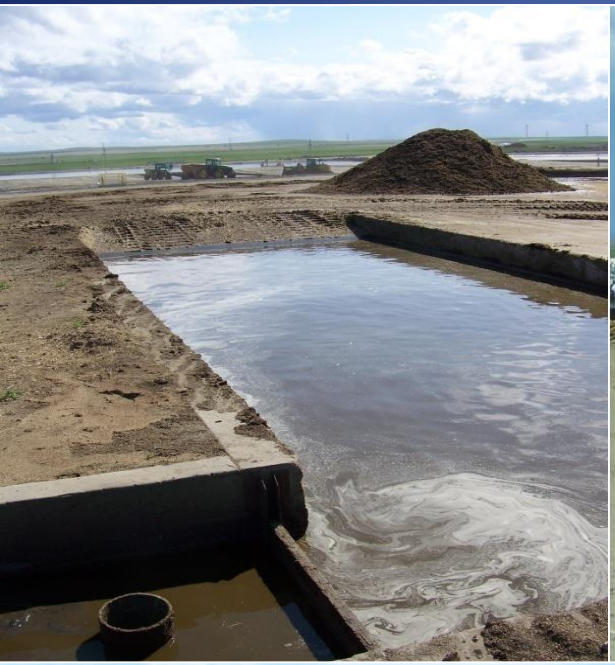
The anaerobic digestion of food waste has many benefits!

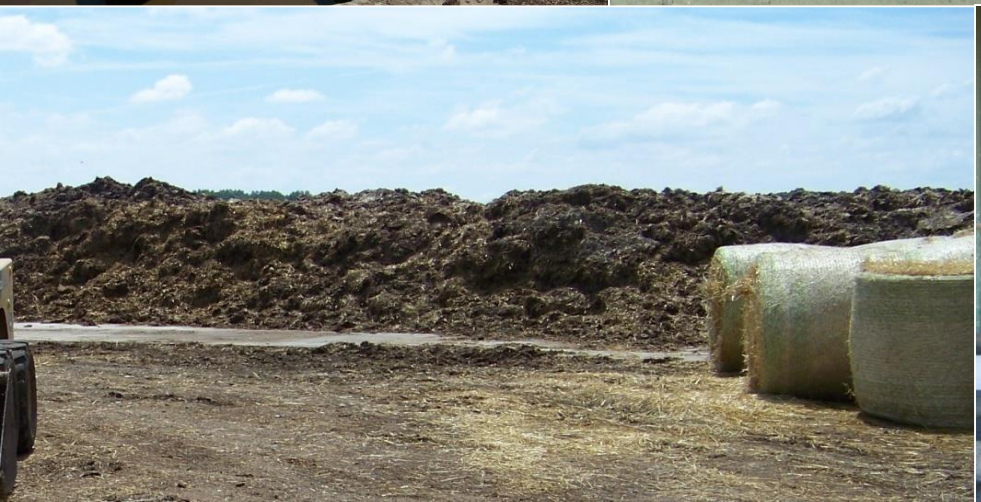
Climate Change Mitigation – Food waste in landfills generates methane, a potent greenhouse gas. Diverting food waste from landfills to anaerobic digesters and wastewater treatment facilities allows for the capture of the methane, which can be used as an energy source. In addition to decreased methane emissions at landfills, there are greenhouse gas emissions reductions due to the energy offsets provided by using an on-site, renewable source of energy.

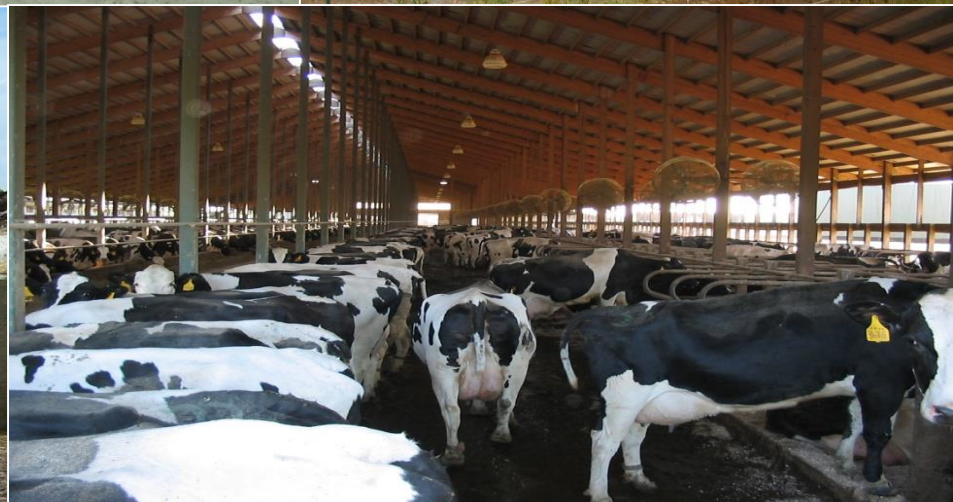
Why Food Waste?

Food waste is the second largest category of municipal solid waste (MSW) sent to landfills in the United States, accounting for approximately 18% of the waste stream. Over 30 million tons of food waste is sent to landfills each year. Of the less than 3% of food waste currently being diverted from landfills, most of it is being composted to produce a fertilizer.

Manure Varies from Site to Site

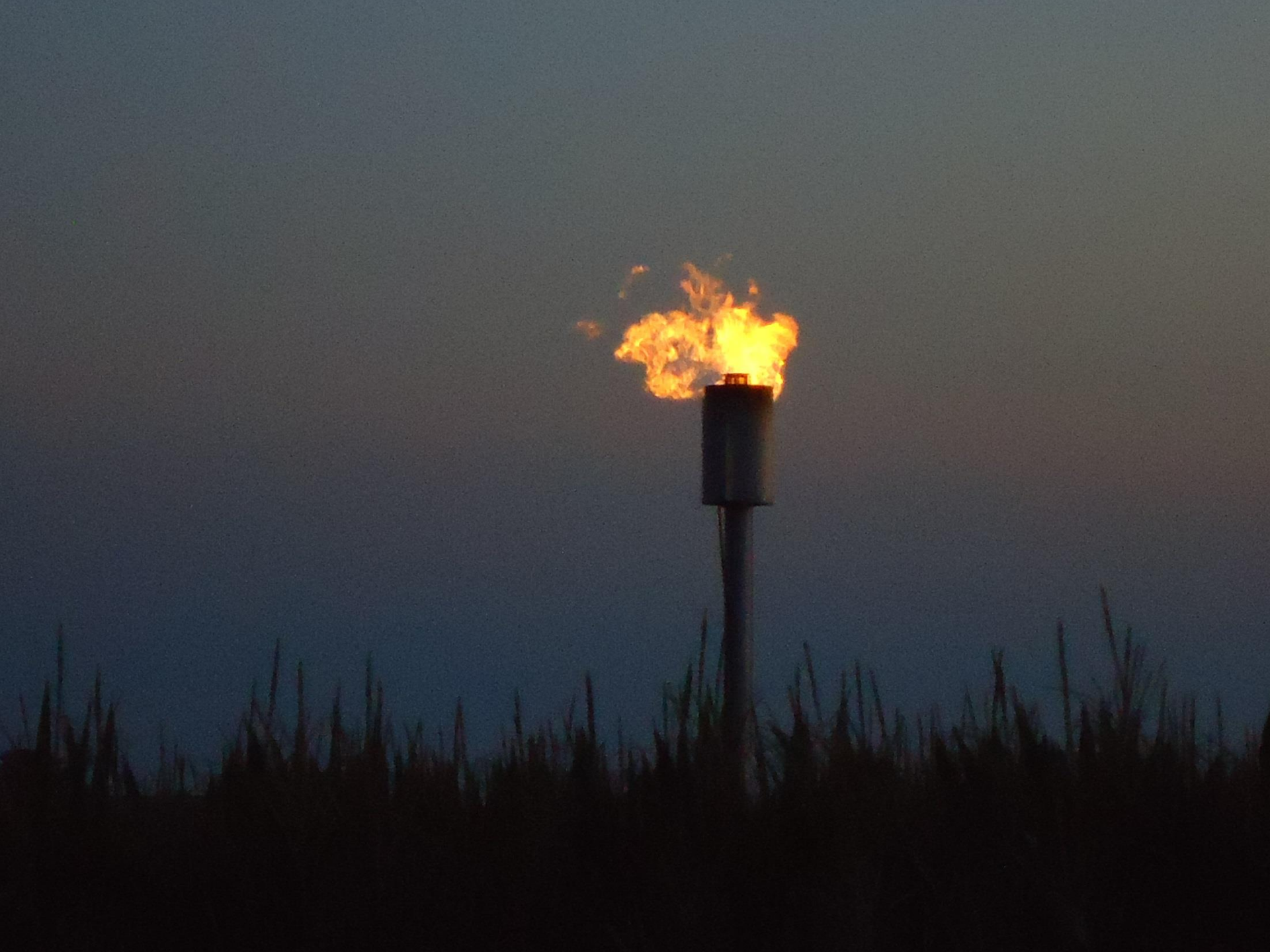






Off-Farm High Solids Feedstocks

Soy-oil Waste, Corn Husklage, Animal Processing Waste



AgriReNew

&

Sievers Family Farms

An innovative way to capture the beneficial aspects of renewable energy generation from biomass conversion, beef cattle production, and agricultural processing waste.

Sievers Family Farms Junior Executives