CASE STUDY

# Ensuring Safe and Reliable Renewable Energy Production


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SECURE RNG OPERATIONS

## Delivering on the Promise of Clean Energy

We help a major utility ensure reliable operation through a holistic approach that includes a combination of software, services, and support.

**A 100+ year-old** Energy Infrastructure Holding Company providing utility services to over 700,000 customers and has committed to increasing its sustainability, clean energy, and decarbonization. As part of those efforts, they have partnered with large dairy farms throughout the US to develop and implement over 20 RNG sites capable of 2.7MMBtu of RNG production.

### The Vision

The client came to InflexionPoint and asked us to help them deliver a scalable, repeatable control system, operational technology (OT) infrastructure, enterprise management platform for operational needs, data capture and historization for critical regulatory reporting. All of that and design with cybersecurity in mind from the start.

### A Holistic Approach

A secure, remotely supported facility that will produce gas 24×7 requires a holistic approach to operations, infrastructure and cybersecurity. Starting with the end in mind we were able to design a system that would function while embracing cybersecurity standards without impacting operations and eliminate risk.

### Infrastructure

Frist step: the logical design of the network and infrastructure. All of the equipment was designed, built, configured and tested offsite in order to enable minimal on-site time and to maximize efficiency. This effort included servers, switches, firewalls, VM's, secure remote access, backups, ups and related o/s and software. Infrastructure and network access were critical to providing secure remote access to vendors and operations.

### PLC, Visualization & Historian

Design, fabrication, programming and testing of the balance of plant (BOP) PLC and programing of the site supervisory control and data acquisition platform (SCADA) were all running in tandem with the infrastructure. By performing hard-

### Challenge

- Collects natural gas from dairy farms
- Operations spread across multiple operating states
- Data gaps result in lost revenue
- Full-time staff cost prohibitive

### Solution

- Unified dashboard to manage all systems
- One common IDC; drop into each facility
- Ability to monitor and manage remotely; no personnel on site
- Patching, asset management of all systems
- Added Ignition SCADA
- 24×7 Remote Management and Monitoring
- 24×7 Critical Operations Support

### Results

- See all OT equipment in real time
- No breaches; identified a couple CVEs; offered remediation strategy
- 250+ tickets per month
- System pays for itself

ware factory acceptance (HFAT) testing and software factory acceptance testing (SFAT) remotely in our lab environment we were able to commission in record time saving the client significant onsite costs.

As part of the SCADA rollout is the enterprise system that pulls it all together to provide a single comprehensive location to view and manage their many operating sites. Operations is able to manage their fleet of trucks, gas production status, conditions of the plant, quality among other needs. All of the data from each site is brought into the enterprise historian and used for compliance and regulatory needs.

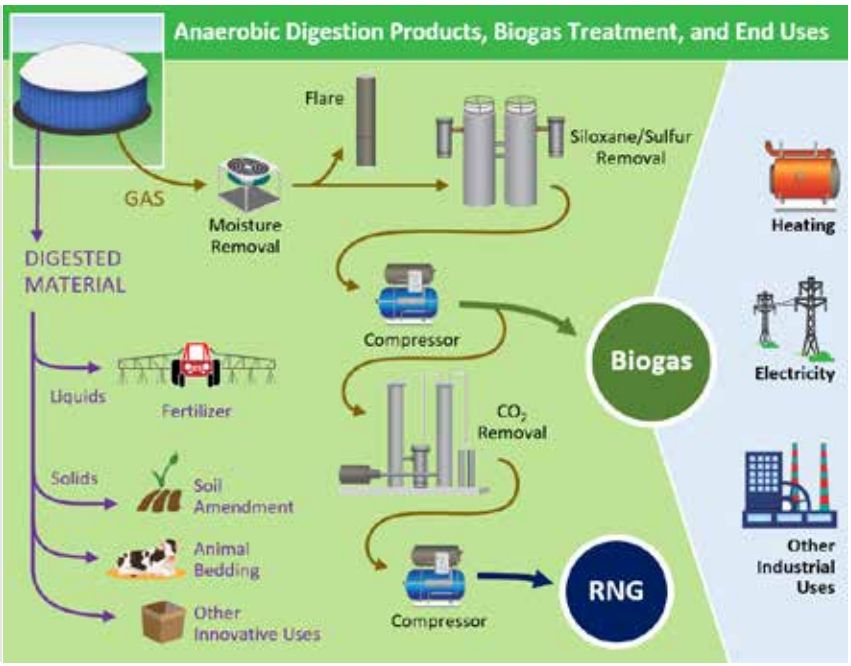
**Critical Operations Support**

24×7 Engineering support and incident command is provided to ensure operations has the support they need when they need it. By providing PLC, SCADA, Historian and Infrastructure support the client can sleep at night knowing their partner has their back. All software, services and support are included in one monthly fee per facility.

**Greater Visibility and Control**

By taking a holistic approach, listening to and understanding our clients needs we've delivered on their vision. They have a secure and robust infrastructure that provides 24×7 visibility and remote access to their

***Small Facilities. Big Responsibility.***
*Each farm is a miniature natural gas facility, with the same risks and requirements as a larger facility, but without the production throughput to support dedicated resources. Operating these renewable energy production facilities safely and productively requires tight control over costs and resources. Beyond the technical challenges is the remote nature of these sites and lack of local support resources.*




**Remote Monitoring and Management**

Early on we agreed that remote monitoring and management (RMM) would be key to business strategy and provide peace of mind for operations knowing the sites were being supported 24×7 with on-call personnel who could respond immediately should the site experience a down event related to Infrastructure. In addition, daily backups are performed, quarterly patching is performed, and assets and vulnerabilities are managed.

environment. The system has already provided tremendous value, identified critical vulnerabilities and exposures (CVEs) and we were able to quickly develop a remediation strategy.

At time of publishing we manage 250 support tickets on average per month across 15+ sites providing triage, incident command, routing, remediation and root cause analysis providing valuable insight to our client partner.