

# CASE STUDY

## ► Wayne County Landfill Gas

### Designing and Building Renewable Natural Gas Infrastructure for a Secure and Sustainable Future

Kiely Family of Companies, a leader in design-build, engineering, & construction projects for the utility and energy sectors, recently undertook the development of a state-of-the-art Renewable Natural Gas (RNG) facility in North Carolina. This case study highlights KIELY's comprehensive approach to meeting our customers' requirements and regulatory standards while delivering a complex project safely, on time, and on budget.

The project scope required our team to develop the site layout within the small footprint of an existing Biogas to Energy facility. The team prepared layouts, reviewed equipment specifications, and commenced with engineering and procurement activities upon contract signing. Construction began less than six months after the contract was awarded. The goal was to condition the gas to pipeline quality and inject it into the local natural gas utility's pipeline system. Our team was responsible for the preliminary and detailed engineering design, permitting, procurement for balance of plant equipment, site DCS integration, project management, construction, and commissioning.

#### Challenges

- Compliance with IRA Requirements: Ensuring adherence to IRA requirements to enable clients to capitalize on the IRA tax incentives
- Technical Integration: Coordinating as a technical liaison between our customer and their equipment vendors, integrating prefabricated skids, and control systems into the facility design
- Efficient Project Management: Ensuring seamless coordination among multiple stakeholders and adhering to aggressive project schedule
- Pipeline Specifications and Flow Rates: Designing and developing site to meet energy delivery requirements, stringent RNG specification tolerances, and site layout constraints



## Solution

KIELY developed a holistic solution that addressed these challenges. Our Integrated Technical Plan and Construction Approach included:

- ▶ Site Planning and Permitting: Utilized existing survey data for initial site layouts and commenced preliminary permitting processes
- ▶ Utility and Infrastructure Design: Optimized layout for local utility tie-ins and streamlined routing for power, landfill gas, RNG, and exhaust systems
- ▶ Electrical System Integration: Designed for 2 MW power demand, including transformers, switchgear, MCCs and potential backup systems

- ▶ Equipment Installation Strategy: Managed delivery and direct installation of prefabricated skids to minimize handling and accelerate project timelines
- ▶ Mechanical-Electrical Coordination: Orchestrated seamless collaboration between mechanical and electrical teams to ensure efficient installation and system integration
- ▶ Commissioning and Handover: Facilitated thorough commissioning processes with our customer and provided comprehensive turnover packages for operational readiness



## Final Project Details

The project's successful execution yielded significant outcomes:

- ▶ Operational Efficiency: Achieve project milestones on schedule, ensuring readiness for RNG production and delivery to the local utility's pipeline
- ▶ Compliance and Safety: Demonstrated adherence to rigorous regulatory and environmental standards, fostering safe and sustainable plant operations
- ▶ Stakeholder Satisfaction: Delivered a turnkey solution that met our customer's operational expectations, showcasing KIELY's expertise in managing complex, high-value projects

With technical expertise and an innovative organizational structure, Kiely Family of Companies provides customers with a unified business approach and a single point of contact for unparalleled accountability and project success.

Our services enable design and construction teams to strategize as one, delivering a wealth of customer benefits and providing a tailored solution optimized for cost, quality, and efficiency.

Trust Kiely Family of Companies with your next project.

**For more details on this project or how we can respond to your project's unique requirements, contact us.**

**Mark Taylor, PE**  
**Senior Vice President of Operations**  
**732 813 6706 Ext. 440**  
**kielybuilds.com**

