

# CASE STUDY: OPTIMA KV, LLC

Location: Kenansville, NC



## CARB Compliance Offsets Livestock Protocol

## Highlights

To operate under the California Air Resources Board (CARB) Protocol for Carbon Offset Credits a project must undergo an annual 3rd Party Verification. AWT has been verifying this project since the beginning of its crediting period to ensure compliance with CARB rules and regulations. AWT's unique staff of agricultural engineers allows for efficient verification due to our background knowledge of farm operations, allowing us to meet ambitious deadlines set within the verification plan. AWT follows our standard verification services including a desk review of all relevant data, a site audit to review monitoring & destruction equipment, and a final verification statement/ report.

### Background:

The anaerobic digestion of manure within lagoons releases methane gas, which is a greenhouse gas **25x** more potent than CO<sub>2</sub>. The project developer has utilized anaerobic digestion and biogas collection systems to reduce emissions and make a renewable fuel, while also improving the quality of life for those living near the farms.

This system utilized is more complex than typical systems due to the number of digester cells and the level of biogas conditioning that must occur before the biomethane is injected into a pipeline. The project developer made a large financial investment in this project and is using carbon offsets to recoup some of the investment.

### Project Description:

Optima KV connects 5 swine farms to a central biogas upgrading station where the methane gas is upgraded into pipeline-quality renewable natural gas. Each swine farm diverts its waste into a covered lagoon, where it undergoes anaerobic digestion. The microbes release methane which, as a lower density gas, inflates the lagoon cover. The biogas is then pumped out of the covered lagoon into a pipeline and sent to the upgrading facility where it undergoes further purification. The product is high-quality renewable natural gas (RNG) which is injected into a utility-owned pipeline. AWT engineer, Hal Langenbach, used his extensive knowledge of agricultural waste management and the carbon offsets protocol to aptly verify the project's data, monitoring, and methodology achieving the client's goal timeline.



Over  
**15,000 tCO<sub>2</sub>**  
Emissions Reduced Annually  
Equivalent to Removing Over  
**3,000**  
Vehicles from the Road

"AWT was great to work with throughout the process. Having deep experience verifying Ag-based projects, they easily knew their way around the information making the process quick and efficient. I cannot recommend AWT for verification services enough."

—Mark M.

**AWT**  
Engineers and Soil Scientists

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