



BIOENERGY CASE STUDY

Optima BioEnergy, a joint venture among three prominent players in the biogas and waste-to-energy fields, developed a multi-site renewable natural gas production system using captured methane from swine waste in Duplin County, NC. The project included five in-ground anaerobic digesters located on five separate hog farms that process raw biogas, which is then treated by a gas upgrading system. That gas is fed directly into an underground natural gas pipeline and distributed throughout Duke Energy's service territory.



Challenge

- Complex project located in rural North Carolina, which included five in-ground anaerobic digesters located on five separate hog farms that process a total of 430,000 cubic feet per day of raw biogas
- In the past, the bioenergy industry has suffered from a lack of access to affordable capital



Solution

- Live Oak Bank provided a \$6.5 million USDA REAP loan, which is 70% guaranteed by the USDA
- In addition to the USDA REAP loan, the project was financed by owner equity, an NC Department of Commerce development grant and a federal Qualified Energy Conservation Bond



Outcome

- This system created a profit-generating solution for the proper disposal and containment of animal waste produced by Concentrated Animal Farming Operations
- Energy created from this system will be sufficient to power ~800 North Carolina homes throughout Duke Energy's service territory
- This renewable energy reduces greenhouse gas emissions by ~35,000 tons of CO2 each year

Deal At-A-Glance

Business Type

BioEnergy

Loan Amount

\$6.5 million

Term

15 years

Energy Created

~85,000 MMBtus of natural gas per year

Wins

Profit-generating solution for the proper disposal of animal waste, creation of renewable energy source, reduction of greenhouse gas emissions, job creation in rural community

Live Oak Bank understands the nuances associated with the advancement of clean energy solutions and project development. Because we understand this industry, we're well-equipped to provide developers with customized loan packages to meet the specific needs of their projects.

To learn more or to contact a member of our team, visit liveoakbank.com/renewable