



environmental
technologies

EN·NOVATION FOR A SUSTAINABLE FUTURE

November 21, 2010

Rural Minnesota Energy Board
Matt Johnson, President and CEO



ET Overview

- Company Background
 - Developer of proprietary AD technology & biogas purification system
 - Utilizing technology to create integrated clean energy business
 - Transform CAFO into renewable natural gas (RNG) wells
 - Distribute compressed natural gas (CNG) vehicle fuel
 - Located in Mankato, MN



What we do

Biogas Division

- Engineering services
- Turn-key renewable energy production facilities utilizing ET's AD technology and ET's biogas purification equipment
- Biogas purification equipment (H₂S and CO₂ removal)
- Biogas plant management services
- Biogas optimization solutions

Fuel Division

- Design, own and operate fueling infrastructure
- Assist fleet customers with vehicle conversion or acquisition
- Purchase RNG to service fuel contracts



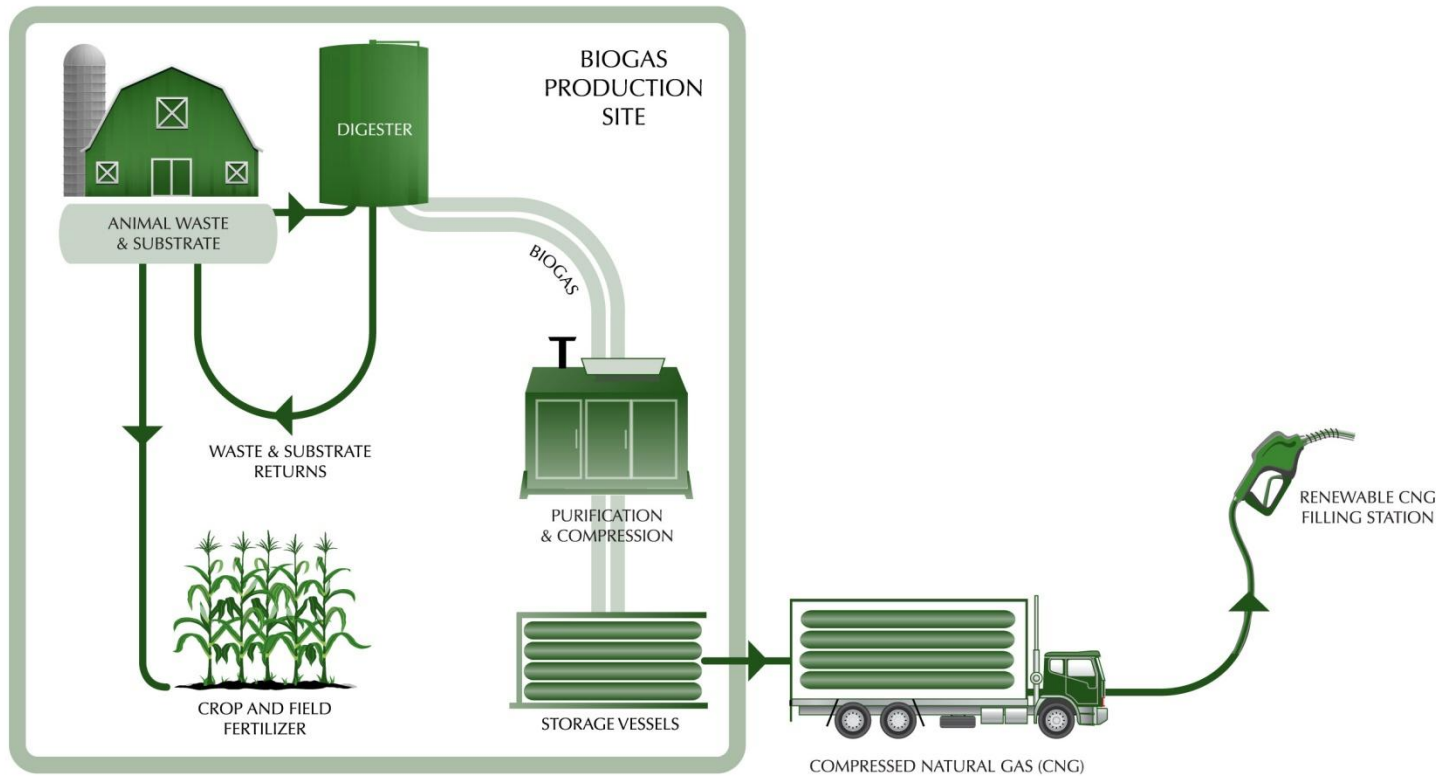
Business Model

BROAD PROCESS DIAGRAM



e-Gas System

PROCESS DIAGRAM



System Advantages

- **Farm-scale anaerobic digestion**
 - Manure value chain remains intact
 - Allows for distributed production network
- **Turn-key renewable energy production facility**
 - Single source for the production of pipeline grade methane
 - Lower cost digester and biogas purification components
 - Project development cost efficiencies
- **Proven High Efficiency**
 - Proprietary mix and control system proven by pilot facility
 - Faster retention time: 14 vs. 21–28 days
 - Higher methane yield: 65–70% vs. 55–65% methane
- **Significant market expansion**
 - US EPA: 7,000 farms in US able to support anaerobic digestion
 - e-Gas System: 16,000 farms in Midwest able to support technology



CAFO

Process:

- ✓ Farmer owns production system
- ✓ ET provides fee-based operation and maintenance
- ✓ ET purchases from the farmer and distributes the gas

System Specs :

- ✓ System Size – minimum 40cfm/2400 head
- ✓ Gas Production – minimum 165,000 gasoline gallon equivalents
- ✓ Design, Engineering, Permitting, Construction
- ✓ Components – Digester, Gas Conditioning (CO₂, H₂S)

Financials:

- ✓ Estimated 22% IRR (20yr)
- ✓ Possible EQIP grants to defray cost



Site Layout



Proposed Research Facility in Blue Earth County



Fleets are Ideal

- ✓ High volume fuel consumption
- ✓ Easily supported by a centralized fueling infrastructure
- ✓ Operation depends on transportation to deliver product or service
- ✓ Opportunity for big cost savings
 - 85% of fleet vehicle operating cost goes to fuel



Compressed Natural Gas (CNG) Basics



- Light, medium, & heavy duty vehicles
- Gas delivered from production sites
- Gas is compressed to 3,600 psi for dispensing
- Dispensed similar to gasoline/diesel
- Stored in 1 or more cylinders on vehicle



CNG Advantages



Cheaper

- 20% less than gasoline or diesel

Being green is good, being green and saving green is better...



Cleaner

- RNG can reduce vehicle emissions up to 88% compared to gasoline



Local and Renewable

- Capitalizes on regional waste resources
- Energy dollars stay local



Three Generations, Malia Krohn

By permission

Fleet Customer

ET Provides:

- ✓ Assistance with conversion of fleet or purchase of CNG vehicle
- ✓ Fuel contracts
- ✓ Access to its fueling stations

Customer savings driven by:

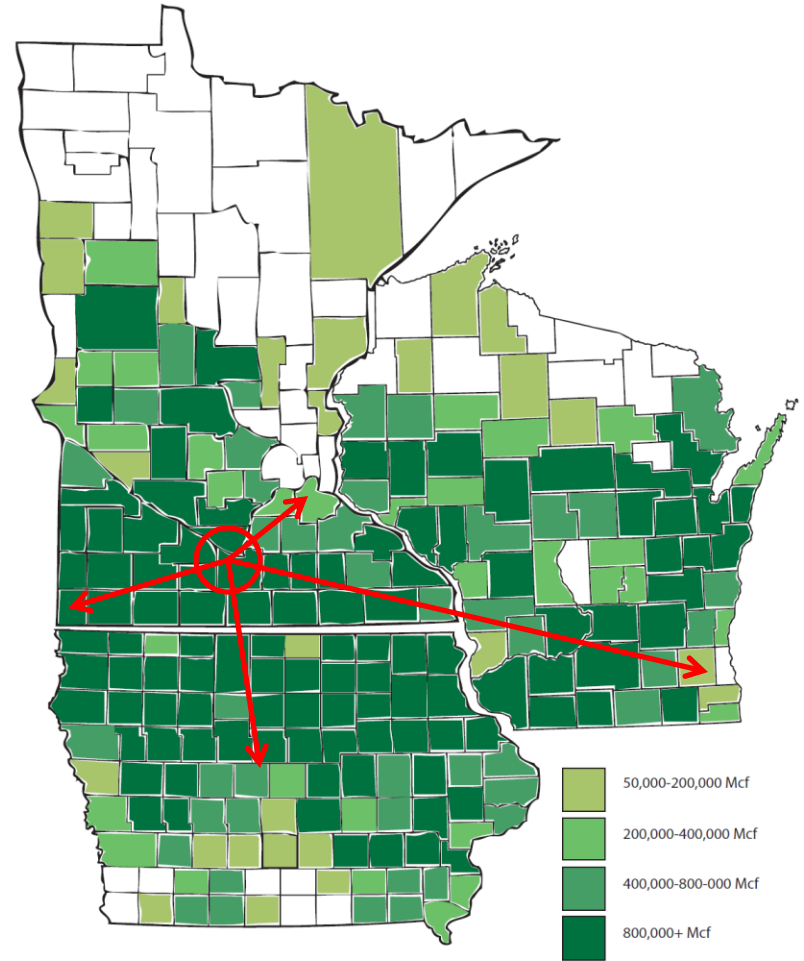
- ✓ 20% increase in mpg
- ✓ 50%–100% CNG replacement

Example	Per Vehicle
Annual Gallons	10,000
Annual savings @2.85/gallon	\$7,200
Simple Payback	1.6 years
IRR (3yr)	37%



Regional Network Will Span Midwest

- Build hub in the Greater Mankato Region
- Build and connect hubs
 - Des Moines
 - Minneapolis
 - Madison
 - Milwaukee
 - Sioux Falls
- Takes advantage of waste resources in the region and benefits local economies



Milestones

Achieved 2008–2010

- Pilot production system in operation since Fall 2008
- Test vehicle conversion Fall 2010
- Research project with MnCar at MSU–Mankato
- Initiated permitting first full scale site

Planned 2010–2011

- Raise 1st round of capital
- Install 1st biogas conditioning component
- Complete 2 full scale production systems
- Provide 5 fleet customer incentive conversions
- Install Fueling infrastructure (transport, storage fueling station)



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