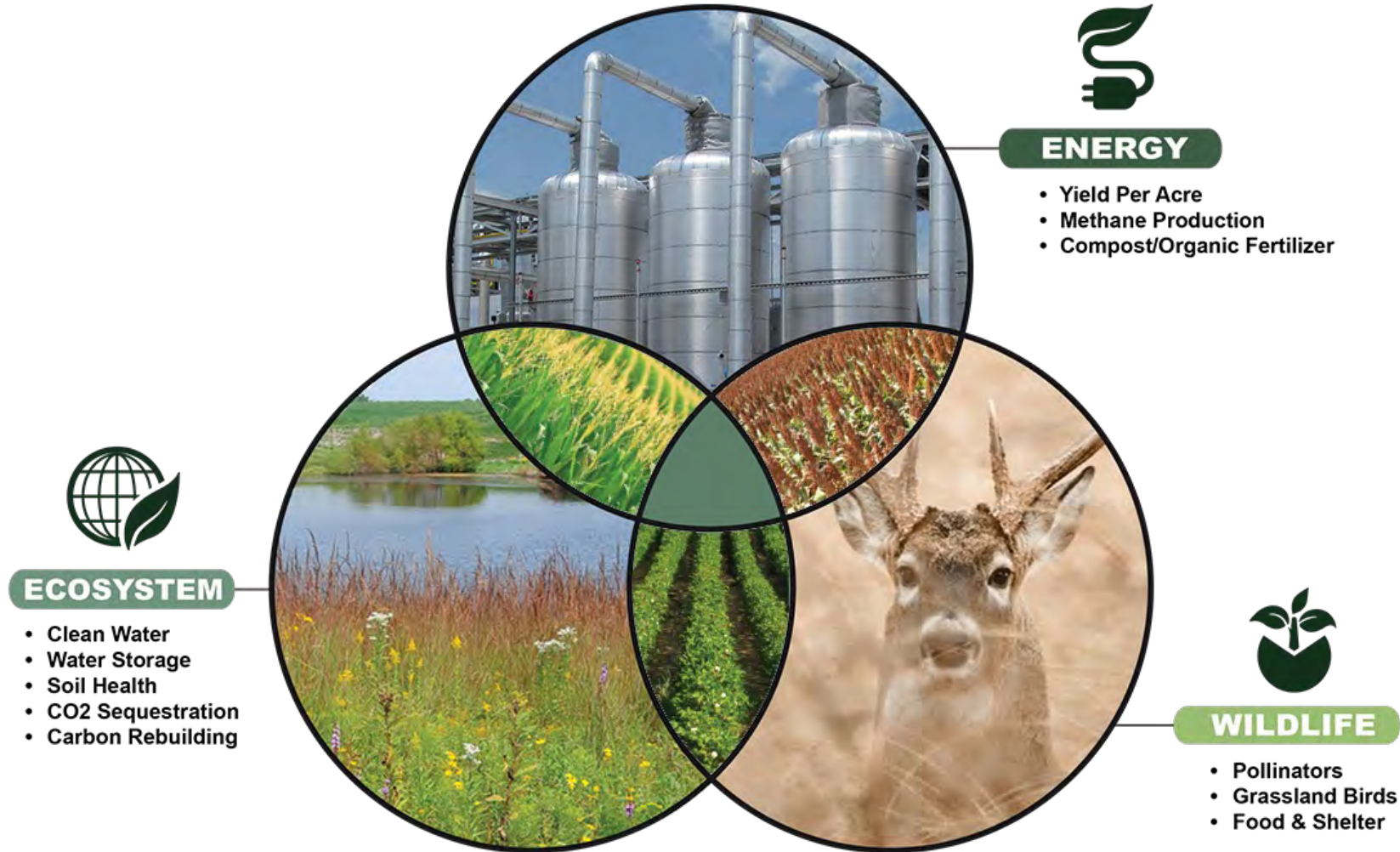




# Horizon II

Climate Smart Agriculture

# Energy, Ecosystem, and Wildlife Objectives in Balance



# Roeslein Alternative Energy, LLC

Roeslein Alternative Energy (“RAE”) is an owner, developer, and operator of renewable energy production facilities that convert agricultural and industrial wastes along with renewable biomass feedstocks to renewable natural gas and sustainable co-products.

RAE is engaged in the business of developing, installing, owning, operating, and maintaining such facilities, with a focus on incorporating native prairie restoration.

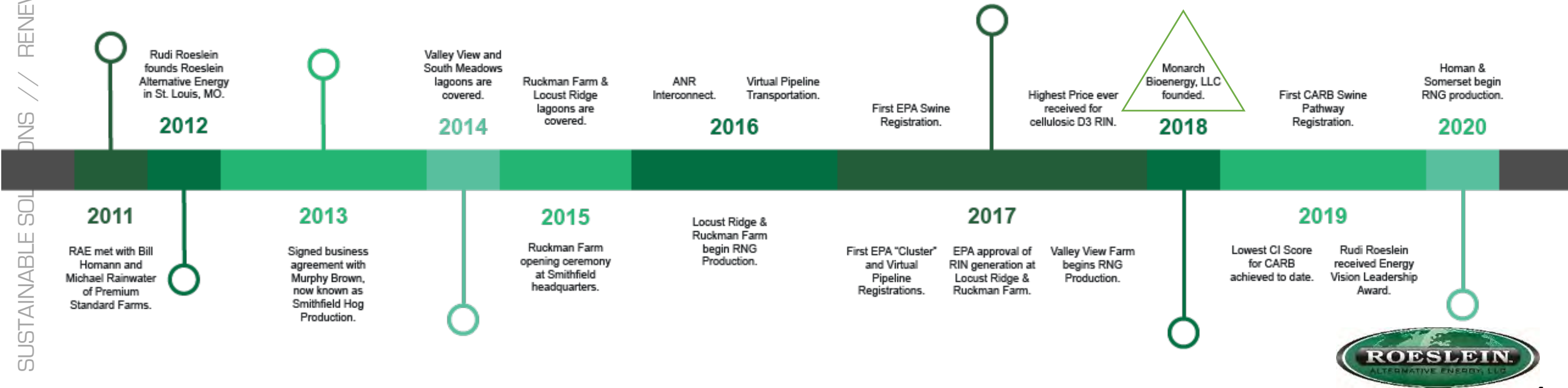
RAE is a limited liability corporation, with its principal offices located in St. Louis, Missouri.



# RAE timeline

- 2014** Valley View and South Meadows Covers and Flares
- 2015** Ruckman and Locust Ridge Covers, Ruckman RNG project start
- 2016** Ruckman RNG project complete – first injection into ANR interconnect #1, Locust Ridge RNG project complete
- 2017** EPA Approval – Ruckman and Locust Ridge D3 RIN – Virtual Pipeline, Valley View 1 RNG project completed
- 2018** Re-approval by EPA of Locust Ridge and Valley View, started LCFS process, **formed Monarch Bio Energy JV**
- 2019** Achieved highest CI score in industry, built Valley View 2 + pipeline to Milan, Locust Ridge 2, South Meadows
- 2020** Secured CoBank financing, completed Homan and Somerset w/new ANR interconnect (#2)
- 2021** Completed Whitetail w/new ANR interconnect (#3), Green Hills, met original commitments

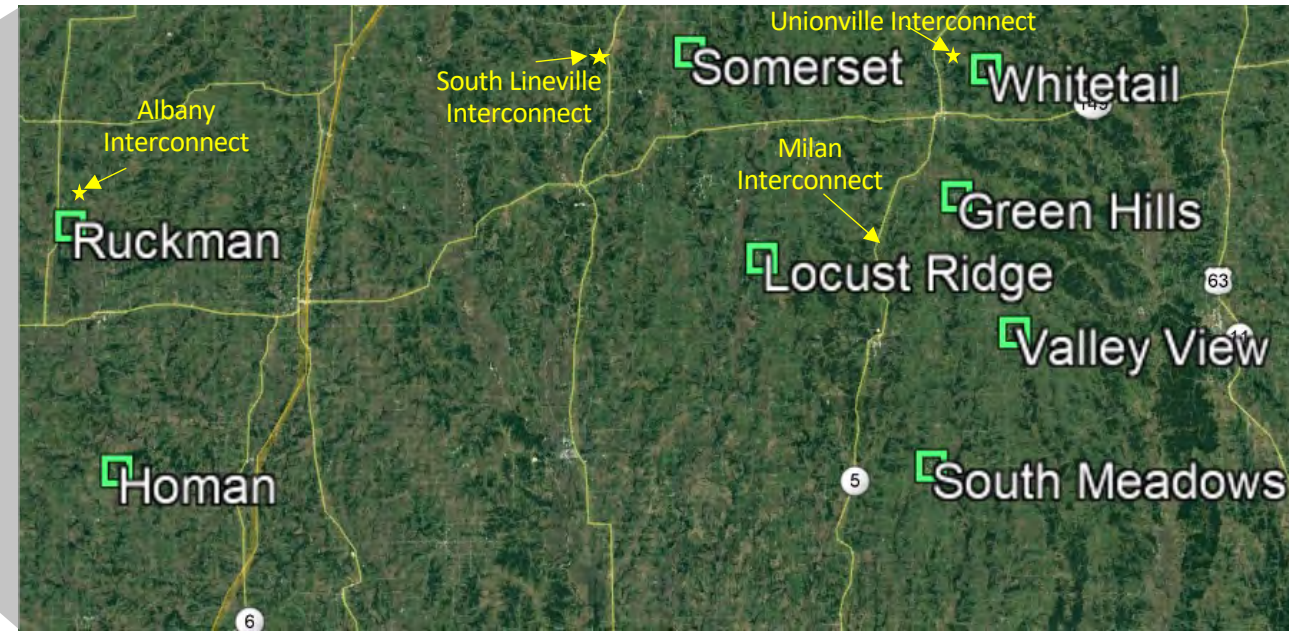
SUSTAINABLE SOLUTIONS // RENEWABLE ENERGY





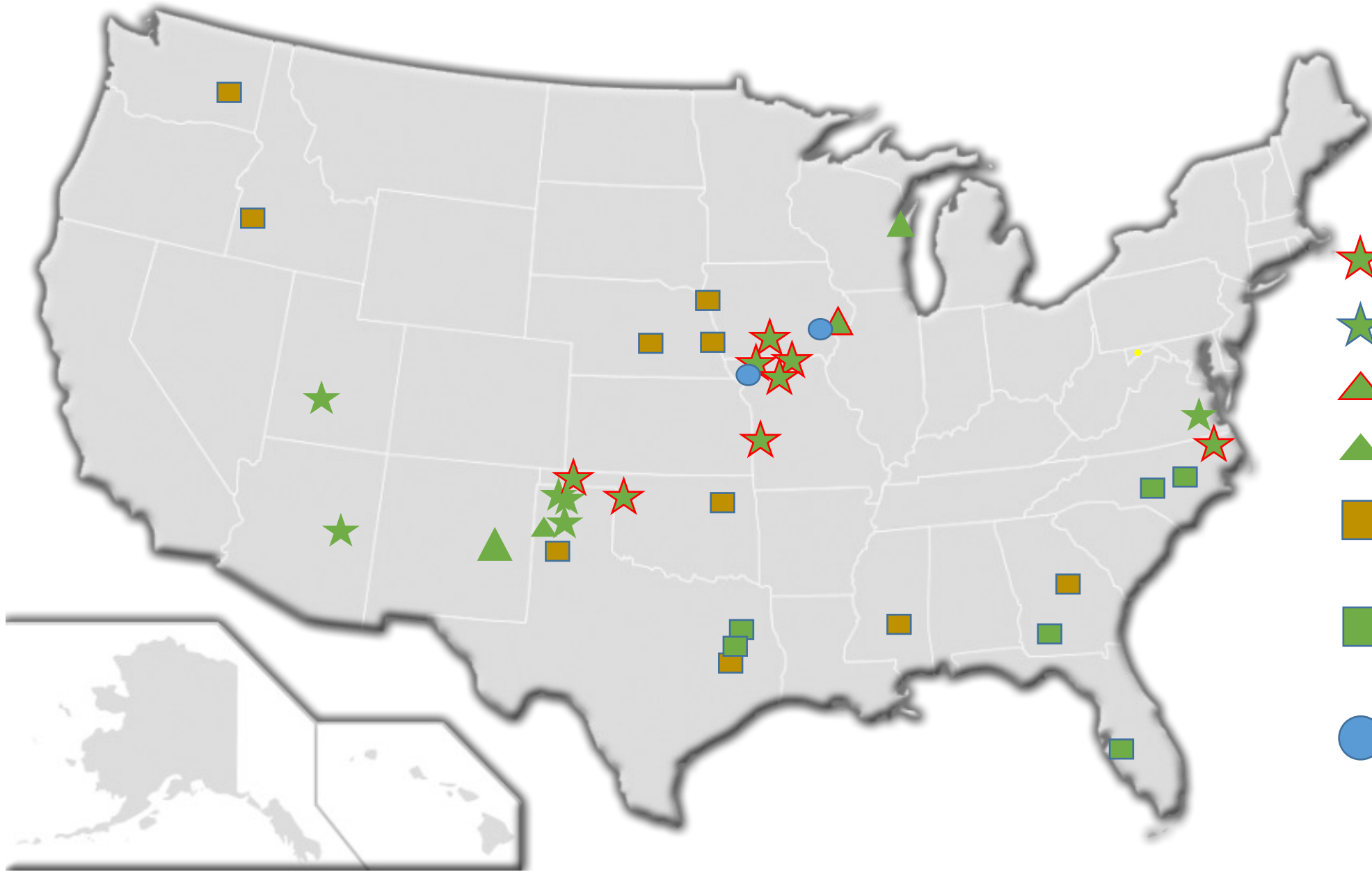
# RAE Projects in MO








- Hog Manure to renewable natural gas
- Projected 2 million finishing hogs per year
- Program Value ~ \$150M
- Schedule – 2014 - 2021
- Anaerobic Digestion → Biogas to RNG
  - Cover 83 Existing Lagoons
  - Eight operating facilities
  - Four interconnects = four direct connect sites, four virtual pipeline
  - Two multi-farm CNG truck offloading facilities
  - Produce >800k dekatherms per year RNG



# RNG Project Experience

SUSTAINABLE SOLUTIONS // RENEWABLE ENERGY



-  Biomethane Hog D/B/C-O/O
-  Biomethane Hog D/B
-  Biomethane Dairy/Beef D/B/C-O/O
-  Biomethane Dairy D/B
-  Biogas from Rendering/Poultry/Food Waste/WWT for CHP/Misc Benefits
-  Biomethane from Poultry/Food Waste/WWT for CHP/Misc Benefits
-  Prairie Grass Pilot Plantings





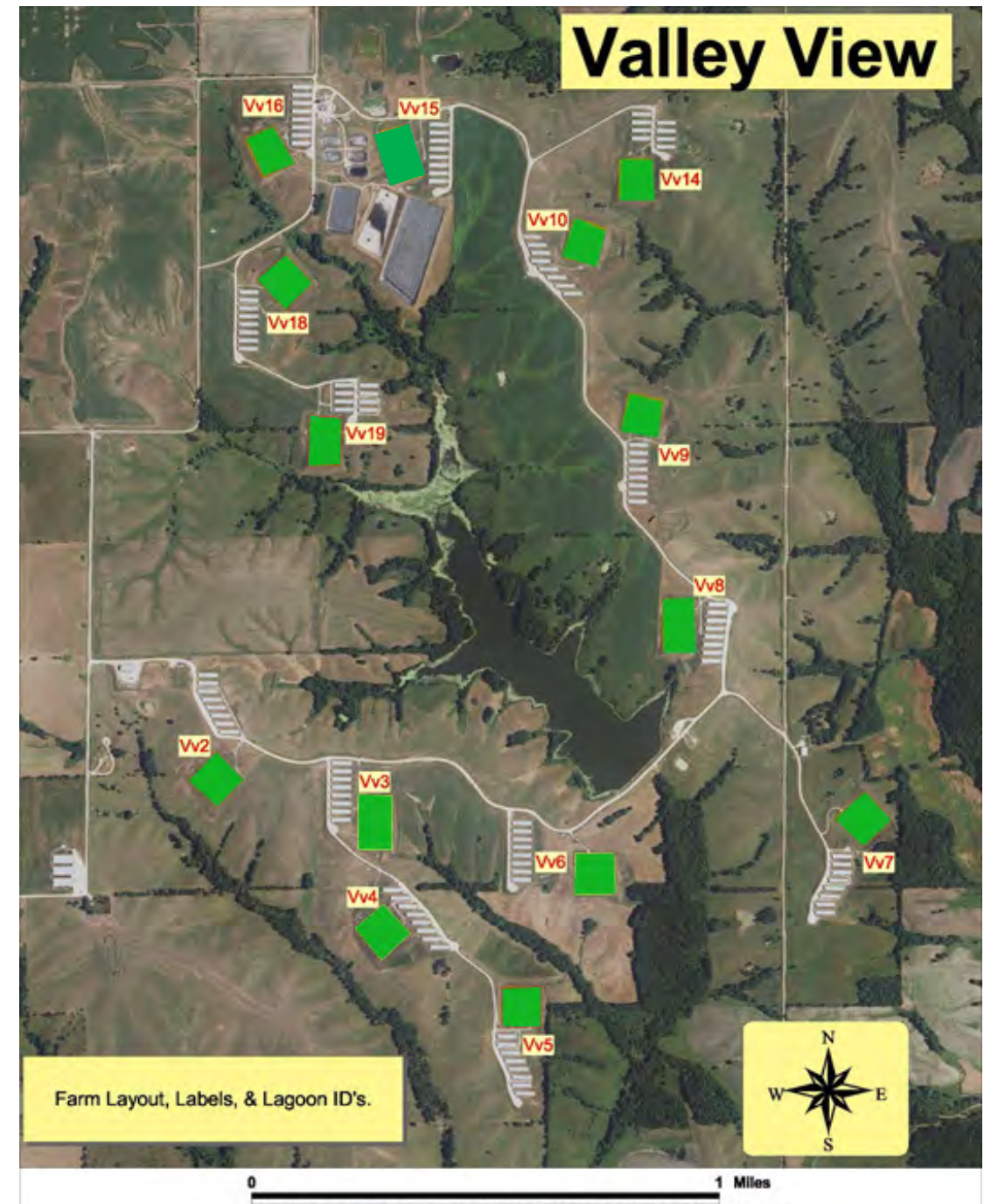




# Valley View

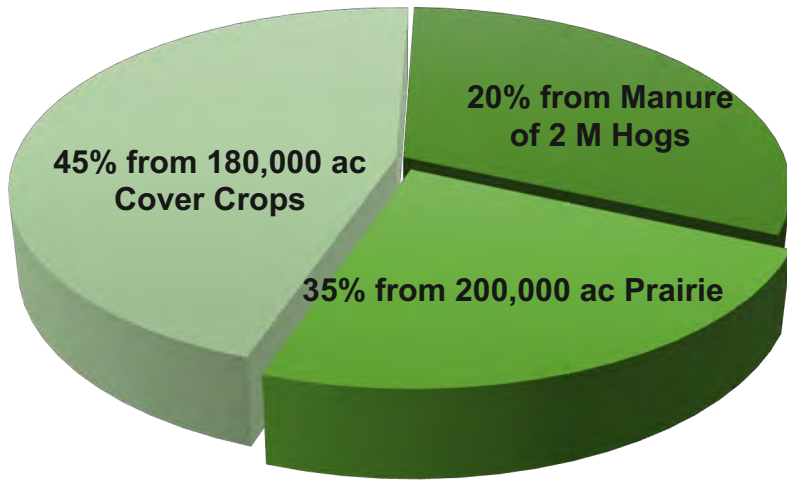
## Project Metrics:

- 14 lagoons, 8 barns per site
- 1100 spaces per barn, 123,200 total permitted spaces
- First year of operation, 2017
- RNG production to date = 295K MMBtu
- Best year, 2020 - 119K MMBtu
- CI score current, -429 = 0.49 LCFS credits / MMBtu





# Sources of Energy and Revenue Potential

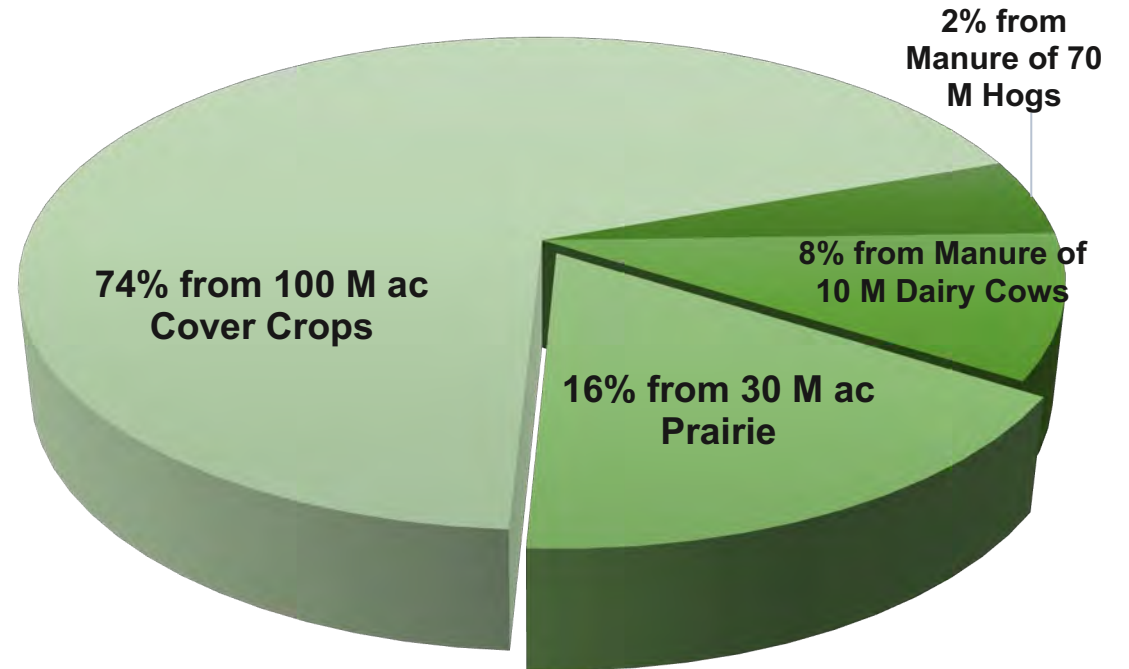


## NORTHERN MISSOURI

5.5M DEKATHERMS PER YEAR

REVENUE POTENTIAL OF \$243M

EQUIVILANT TO REMOVING 29M DIESEL GALLONS



## UNITED STATES

1.8B DEKATHERMS PER YEAR

REVENUE POTENTIAL OF \$63.6 B

EQUIVILANT TO REMOVING 9.5B DIESEL GALLONS



# Major Accomplishments

- \$180M investment in successful first-of-a-kind swine waste to RNG projects
- Successfully created operations team, created over 30 new permanent full-time positions recruited from community
- Monarch partnership for all Missouri RNG projects, potential to expand
- First EPA and CARB/LCFS pathway approval swine RNG
- First RNG project utilizing virtual pipeline, project “hub” solution
- Developed membrane-based gas cleaning system with 10 successful operating installations
- Lowest CI score achieved for swine RNG, -449, (four approved projects ranging from -360 to -449)
- 800K MMBtu / year = 5.8 million Diesel Gallon Equivalents = 375K LCFS credits (Metric tons CO2)  
= 80K passenger cars per year



# Awards and Recognitions

Biogas Visionary Award, American Biogas Council (2022)

Corporate Conservationist of the Year, Conservation Federation of Missouri (2022)

National Lewis and Clark Award (2021)

Project of the Year Award, American Biogas Council (2019)

Energy Vision Leadership Award, Energy Vision (2019)

Air Conservationist of the Year Award, Conservation Federation of Missouri (2017)

Groundbreaker of the Year Award, BBI International (2016)

Friend of the ABC Award, American Biogas Council (2016)

# USDA Climate Smart Commodities Grant

A partnership led by Roeslein Alternative Energy wins an \$80 million grant to develop a new climate-smart agriculture value chain.

14 public partners, including Biostar Renewables, Iowa State University, Missouri Prairie Foundation, Smithfield Foods, and the University of Missouri.

The five-year program will support a pilot project in Iowa and Missouri called “Horizon II” and will demonstrate a “climate-smart future for corn, soybean, livestock, and renewable natural gas production.

The H2 project will enhance climate-smart markets, reduce greenhouse gas emissions, and improve carbon sequestration in the production of corn, soybean, pork, and beef commodities while creating opportunities for small and underserved producers and benefiting soil health, clean water, flood control, and habitats for native wildlife.



# Grant Media Platform

As part of our marketing outreach for the USDA CSC Grant, Roeslein is developing a media platform called Prairie Prophets.



# Prairie Prophets Website

This is the standalone home for content related to the promotion of the H2 Climate Smart Grant.





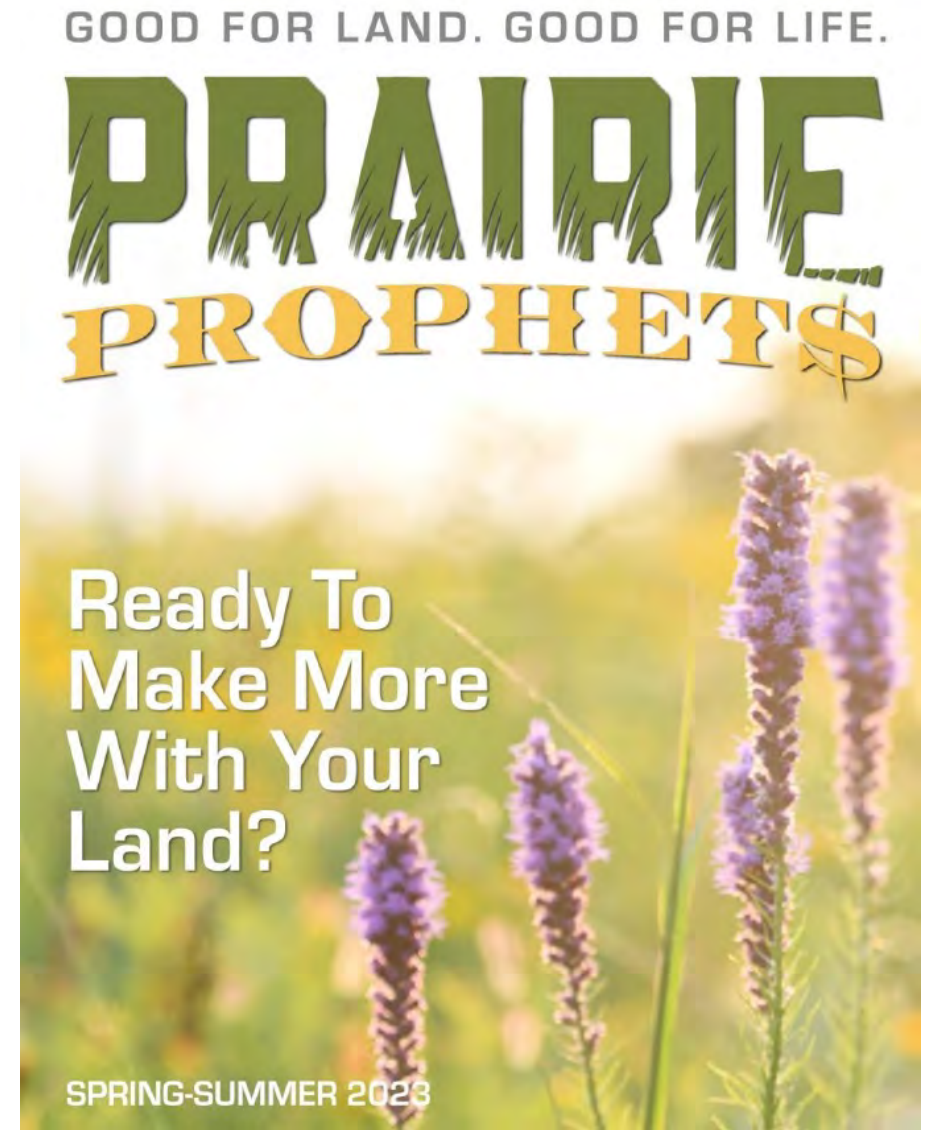
# Prairie Prophets Podcast

The Prairie Prophets Podcast will be available on all major podcasting platforms. Its goal is to introduce organizations, people, and processes relevant to the Horizon II grant. Ultimately, we expect farmers and landowners to find Prairie Prophets as a weekly source of knowledge about sustainable agriculture and renewable energy. There will be 52 episodes produced per year.



# Prairie Prophets Podcast

- The Prairie Prophets Journal is a twice-per-year high-end magazine we will produce and distribute to educate farmers, landowners, and the general public about the many aspects of the Horizon 2 Climate Smart Grant. Each issue will contain information on how prairie and cover crops add value to the land while increasing profits. It will be available in both print and digital formats.
- There will be 2 issues produced per year.





# Prairie Prophets Video Series

The video series is being developed to educate farmers, landowners, and the general public about the many aspects of the H2 CSC Grant, and how prairie and cover crops add value to their land while increasing prophets. There will be 10 episodes produced per year for the next five years.







# Thank You

