

your peace of mind





Martin Construction Resource offers comprehensive construction solutions, including consultation, engineering, procurement, and construction. Our systems are built with proven technology and backed by over thirty years of experience and hundreds of successful projects worldwide.

Our experienced managers control and optimize the schedule, the budget, and the quality of each project. Our number one goal is project execution that is safe, on time, and on budget. We have the depth of resources and skilled labor teams to take projects from concept through construction, managing both union and nonunion crews.

SERVICES

Design & Construction

- Turnkey projects:
 - Engineering
 - Procurement
 - Construction
 - Startup and commissioning
- Design plans à la carte (includes one-time licensing fee)
- Equipment procurement à la carte

Pre-Construction Services

- Estimates of costs
- Prepare project schedules
- Oversee site planning
- Perform an analysis of construction logistics
- Identify long-lead items
- Procure permitting
- Submit interconnection applications, and more

Suppor

- Maintenance
- Management
- Training
- Remote Monitoring

PRODUCTS & APPLICATIONS

Generating, Reliable, Clean Energy

- RNG Systems
- CHP Systems
 - * Island Mode
 - * Grid Interconnection
- Anarerobic Digesters
 - * Animal Waste
 - * Food Waste
- Biogas Flares
- Digester Pumps
- Manure Separator Systems
- Gas Scrubbers
- Controls
- Gas Chillers
- Waste Water Treatment Plants
- Dairies
- Landfills
- Food Processing Facilities
- and more...

CASE STUDY • BRIGHTMARK DEMETER



Project Location: The Demeter renewable natural gas (RNG) project is located in Madison, Wisconsin. The project owner developed the system upgrade in close consultation with Dane County to maximize benefits to the broader community.

The Farms:

- Ripp's Dairy Valley Dane, WI
- Endres Dairy Dane, WI
- White Gold Dairy Waunakee, WI

Owners: Brightmark is leasing the community anaerobic digester system from Dane County since 2019 and contracted MCR to upgrade the system for optimizing RNG production.

MCR Services: Turnkey installation: Design and Engineering, Preconstruction and Construction Management, General Contracting, Startup.

MCR was brought on board early as a partner for CM/GC for preconstruction services, and the team established the budget through several rounds of value engineering. MCR performed the retrofit design and led the coordination of Mechanical, Electrical, Plumbing, RNG equipment installation and interconnection.

Project Description: The Dane County Community Digester was originally constructed in 2010 to serve as a centralized collection and processing facility for 90,000 gallons per day of manure. Manure is piped in from three nearby farms and trucked in from others. The facility includes three 1.25-million-



RNG Produced: 50,000 MMBtu per year

MCR Work Order Approval: August 2019

MCR Start Up and Commissioning: June 2020

Demeter Turnkey Upgrade Cost: \$3,620,000



gallon digester tanks, and the 2020 system upgrade provides design features to facilitate installation of a fourth digester. The biogas produced by the anaerobic digestion process is collected, cleaned, and trucked to the Dane County Renewable Natural Gas Processing and Offloading Station. From here the RNG is injected into the interstate transmission pipeline so it can be used as renewable fuel, powering fleets of RNG vehicles across the United States.

CASE STUDY • BRIGHTMARK HELIOS



Project Location: The Helios renewable natural gas (RNG) project is located in **Western New York and the Finger Lakes region.**

The Farms:

- Gardeau Crest Farms Perry, Wyoming County
- Lawnhurst Farms Stanley, Ontario County
- Willet Dairy King Ferry, Cayuga County

Owners: Each farm owns the respective digester in partnership with Brightmark RNG Holdings LLC, a joint venture between Brightmark in partnership with Chevron U.S.A. Inc.

MCR Services: Design and Engineering, Preconstruction and Construction Management, General Contracting, Startup.

MCR was brought on board early as a partner for CM/GC for preconstruction services, and the team established the budget through several rounds of value engineering. MCR self-performed the retrofit design and led the coordination of Mechanical, Electrical, Plumbing, RNG equipment installation and interconnection.

RNG Produced: 189,000 MMBtu per year

Greenhouse Gas Reduction:

The project cluster will offset 55,438 tons of CO2 per year.

Turnkey Refurbish & Upgrade Cost: \$10,600,000

MCR Work Order Approval: October 2020

MCR Start Up and Commissioning: September 2021

Project Description: The Helios Renewable Natural Gas (RNG) project transforms dairy manure into RNG at three area farms; Gardeau Crest Farms, Lawnhurst Farms and Willet Dairy. Each dairy has an anaerobic digester that captures biogas from manure which is then converted into RNG. The RNG is either further compressed into trailers for injection into the local gas pipeline or directly injected at the RNG site. At full operation, the digesters produce up to 500 MMBtu of RNG per day or 189,000 MMBtu per year between the three farms. Previously, the anaerobic digesters on these farms produced biogas for generator sets to provide electricity for both onsite use and export to the local electric grid. MCR refurbished and retrofitted the digester at Gardeau Crest Farm prior to the production of RNG.



CASE STUDY • GARDEAU CREST



Project Location: Perry, Wyoming County, New York The Gardeau Crest Farms RNG project is part of the Brightmark LLC Helios system cluster.

Owners: Gardeau Crest owns the digester in partnership with Brightmark RNG Holdings LLC, a joint venture between Brightmark in partnership with Chevron U.S.A. Inc.

Project Description: Gardeau Crest is a dairy farm located in Perry, NY. The farm has a milking herd of about 2,950 cows. The farm has been operating an anaerobic digester system since 2012, capturing biogas from manure in order to power a 600 KW genset. The electricity produced was utilized by the farm with excess being sold to NYSEG.

MCR was contracted by Brightmark to refurbish the biogas system and install Renewable Natural Gas (RNG) upgrading equipment. This high quality RNG may be used for heating or transportation purposes.

A total of three farms contributes RNG to the Helios system cluster; the digesters capture, extract and clean the methane from dairy manure and convert it into RNG which is injected into a nearby gas pipeline for distribution.

Collectively, the three farms generate about 189,000 million British thermal units (MMBtu) of renewable natural gas each year.



RNG Produced: 155 MMBtu per year

Original Anaerobic Digester: 2012 **Digester System Type:** mixed plug flow

Feedstocks: dairy manure

Engine-generator Set: 600 kW Guascor CHP unit

Gardeau Crest Refurbish & Upgrade Cost: \$ 3,900,000

Helios Cluster Turnkey Cost: \$ 10,600,000

MCR Work Order Approval: October 2020

MCR Start Up and Commissioning: September 2021

According to Brightmark, research shows when all the climate benefits of anaerobic digestion are considered, RNG from dairy manure can reduce greenhouse gas emissions by 400% when it is used to replace traditional vehicle fuels through this net carbon-negative process.

CASE STUDY • LAWNHURST FARMS



Project Location: Stanley, Ontario County, New York The Lawnhurst Farms RNG project is part of the Brightmark LLC Helios system cluster.

Owners: Lawnhurst Farms owns the digester in partnership with Brightmark RNG Holdings LLC, a joint venture between Brightmark in partnership with Chevron U.S.A. Inc.

Project Description: Lawnhurst Farms is a diary with 1,400 cows located in Stanley, NY. The farm's digester system has been operating since 2012 capturing biogas from dairy manure to power a genset rated at 633 kW. The electricity produced has been utilized by the farm with excess being sold to National Grid.

The farm's anaerobic digester turns manure and other organic waste into electricity; solids coming from the digester are used for cow bedding and any extra is sold locally to farmers for bedding or organic fertilizer. The digested liquids are applied to fields in place of commercially-purchased fertilizer to grow all the crops needed to feed the farm's animals.

MCR was contracted by Brightmark to refurbish the biogas system and install Renewable Natural Gas (RNG) upgrading equipment. This high quality RNG may be used for heating or transportation purposes.

A total of three farms contributes RNG to the Helios system cluster; the digesters capture, extract and clean the methane from dairy manure and convert it into RNG, which is injected into a nearby gas pipeline for distribution.

Collectively, the three farms generate about 189,000 million British thermal units (MMBtu) of renewable natural gas each year.

RNG Produced: 114 MMBtu per year

Original Anaerobic Digester: 2012
Digester System Type: complete mix
Feedstocks: agricultural residues; dairy
processing wastes; food wastes

Engine-generator Set: 633 kW GE Jenbacher

CHP unit

Lawnhurst Farms Refurbish & Upgrade Cost: \$ 2,600,000

Helios Cluster Turnkey Cost: \$ 10,600,000

MCR Work Order Approval: October 2020



CASE STUDY • WILLET DIARY



Project Location: King Ferry, Cayuga County, New York The Willet Dairy RNG project is part of the Brightmark LLC Helios system cluster.

Owners: Willet Dairy owns the digester in partnership with Brightmark RNG Holdings LLC, a joint venture between Brightmark in partnership with Chevron U.S.A. Inc.

Project Description: Willet Dairy is a farm in Kings Ferry, New York, that was founded in 1974 and has been operating for over 44 years. It produces dairy products, particularly milk for American markets. The farm uses strictly cow manure to produce energy using a digester. The herd size is roughly 3,550 cows. The farm's digester system has been operating since 2012, capturing biogas to power a 1 MW genset. The electricity produced was utilized by the farm with excess being sold to NYSEG.

MCR was contracted by Brightmark to refurbish the biogas system and install Renewable Natural Gas (RNG) upgrading equipment. This high quality RNG may be used for heating or transportation purposes.

A total of three farms contributes RNG to the Helios system cluster; the digesters capture, extract and clean the methane from dairy manure and convert it into RNG, which is injected into a nearby gas pipeline for distribution.

Collectively, the three farms generate about 189,000 million British thermal units (MMBtu) of renewable natural gas each year.



RNG Produced: 243 MMBtu per year

Original Aanaerobic Digester: 2012
Digester System Type: mixed plug flow

Feedstocks: dairy manure

Engine-generator Set: 1000 kW Guascor CHP unit

Willet Dairy System Upgrade Cost: \$ 4,100,000

Helios Cluster Turnkey Cost: \$ 10,600,000

MCR Work Order Approval: October 2020



CASE STUDY • BRIGHTMARK YELLOWJACKET



Project Location: Multiple counties in upstate New York

The Farms:

- Boxler Dairy Farm Varysburg, Wyoming County
- Lakeshore Dairy Wilson, Niagara County
- Lamb Farms Oakfield, Genesee County
- Swiss Valley Farms Warsaw, Wyoming County
- Zuber Farms Byron, Genesee County

Owners: The five farms each own their respective anaerobic digester in partnership with Brightmark LLC for RNG production.

MCR Services: Design and Engineering, Preconstruction and Construction Management, General Contracting, Startup.

MCR was on board early as a partner for CM/GC for preconstruction services, and the team established the budget through several rounds of value engineering. MCR self-performed the retrofit design and led the coordination of Mechanical, Electrical, Plumbing, RNG equipment installation and interconnection.

Project Description: The Yellowjacket Renewable Natural Gas (RNG) project transforms 265,000 gallons per day of dairy waste from 12,886 dairy cows at five area farms into 305,000 MMBtu of RNG each year.

Previously, the anaerobic digesters on these farms produced biogas for generator sets to provide electricity for both onsite use and export to the local electric grid. MCR refurbished and retrofitted four of the five farm digesters to optimize the production of Renewable Natural Gas.



RNG Produced: 305,000 MMBtu per year

Greenhouse Gas Reduction:

The project cluster offsets 108,000 metric tons of greenhouse gas emissions each year.

Yellowjacket Cluster Turnkey Refurbish & Upgrade Uost: \$12,480,000

MCR Work Order Approval: April 2019



CASE STUDY • BOXLER DAIRY FARM



Project Location: Varysburg, Wyoming County, New York Boxler Dairy Farm is part of the Brightmark LLC Yellowjacket RNG system cluster.

Project Description: The Boxler Dairy Farm was founded in 1935 and has grown from a small operation to a major dairy producer, operating on 5,000 acres. It milks 3,100 cows and has about 6,000 head. The farm's anaerobic digester system has been operating since 2009, powering a 500 kW genset. The electricity produced is used directly on the farm and excess sold to National Grid.

Renewable products generated by the project include biofertilizer, digested dairy fiber for use as cow bedding, and reclaimed irrigation water.

In 2019, MCR was contracted by Brightmark to refurbish the biogas system. This included upgrading the digester with new technology capable of cleaning the methane gas and converting it into high quality RNG for use in heating or transportation.

A total of five farms contributes RNG to the Yellowjacket System; the gas processed at each farm is transported a central location, where it is injected into the Empire interstate gas pipeline.



The 5-farm system generates about 305,000 million British thermal units (MMBtu) of renewable natural gas each year.

RNG Produced: 150 MMBtu per year

Original Anaerobic Digester: 2009

Digester System Type: mixed plug flow

Feedstocks: dairy manure, agricultural residues
Engine-generator Set: 500 kW Guascor CHP unit

Boxler System Upgrade Cost: \$ 2,732,000

Yellowjacket Cluster Turnkey Cost: \$12,480,000

MCR Work Order Approval: April 2019



CASE STUDY • LAKESHORE DAIRY FARM



Project Location: Wilson, Niagara County, New York Lakeshore Dairy is part of the Brightmark LLC Yellowjacket RNG system cluster.

Project Description: Lakeshore Dairy is owned and operated by Lamb Farms and is located outside of the town of Wilson, NY. The farm milks about 2,000 Holstein dairy cows.

The on-site digester system has been operating since 2017. The anaerobic digester was designed to capture biogas and power a 600 kW genset. The electricity produced was exported to National Grid.

This digester system prevents methane, a potent greenhouse gas from being released into the atmosphere, thereby reducing the net greenhouse gas emissions from manure processed by the dairy.

In 2019, MCR was contracted by Brightmark to refurbish the biogas system. This included upgrading the digester with new technology capable of cleaning the methane gas and converting it into high quality RNG for use in heating or transportation.

A total of five farms contributes RNG to the Yellowjacket System; the gas processed at each farm is transported to a central location, where it is injected into the Empire interstate gas pipeline.

Collectively, the five farms generate about 305,000 million British thermal units (MMBtu) of renewable natural gas each year.

RNG Produced: 150 MMBtu per year

Original Anaerobic Digester: 2017

Digester System Type: complete mix

Feedstocks: dairy manure

Engine-generator Set: 600 kW Dresser Rand CHP unit

Lakeshore Farms System Upgrade Cost: \$ 2,214,000

Yellowjacket Cluster Turnkey Cost: \$12,480,000

MCR Work Order Approval: April 2019



CASE STUDY • LAMB FARMS



Project Location: Oakfield, Genesee County, New York Lamb Farms is part of the Brightmark LLC Yellowjacket RNG system cluster.

Project Description: The onsite digester was commissioned at the beginning of 2010. Of the 2,300 dairy animals milked onsite at Lamb Farms, only about 1,050 of them provide manure that is utilized by the digester. The farm decided to only send manure from one of the free-stall barns so that they could continue to use sand bedding in the other barns. The anaerobic digester was originally designed to capture biogas and power a 416 kW genset. The electricity produced was exported to National Grid.



This digester system prevents methane, a potent greenhouse gas, from being released into the atmosphere, thereby reducing the net greenhouse gas emissions from manure processed by the dairy.

In 2019, MCR was contracted by Brightmark to refurbish the biogas

system. This included upgrading the digester with new technology capable of cleaning the methane gas and converting it into high quality RNG for use in heating or transportation.

A total of five farms contributes RNG to the Yellowjacket System; the gas processed at each farm is transported to a central location, where it is injected into the Empire interstate gas pipeline.

Collectively, the five farms generate about 305,000 million British thermal units (MMBtu) of renewable natural gas each year.

RNG Produced: 87 MMBtu per year

Original Anaerobic Digester: 2010 Digester System Type: mixed plug flow

Feedstocks: dairy manure

Engine-generator Set: 416 kW Guascor CHP unit

Lamb Farms System Upgrade Cost: \$ 2,426,000

Yellowjacket Cluster Turnkey Cost: \$12,480,000

MCR Work Order Approval: April 2019



CASE STUDY • SWISS VALLEY FARMS



Project Location: Warsaw, Wyoming County, New York

Swiss Valley Farms is part of the Brightmark LLC Yellowjacket RNG system cluster.

Project Description: Swiss Valley Dairy milks about 900 Holstein dairy cows and is located outside the town of Warsaw, NY. The onsite digester was first commissioned in October of 2009. Originally, the anaerobic digester

captured biogas to power a 300 kW genset. The electricity produced was used directly on the farm and excess sold to NYSEG.

This digester system prevents methane, a potent greenhouse gas, from being released into the atmosphere, thereby reducing the net greenhouse gas emissions from manure processed by the dairy.

In 2019, MCR was contracted by Brightmark to refurbish the biogas system. This included upgrading the digester with new technology capable of cleaning the methane gas and converting it into high quality RNG for use in heating or transportation.



A total of five farms contributes RNG to the Yellowjacket System; the gas processed at each farm is transported to a central location, where it is injected into the Empire interstate gas pipeline.

Collectively, the five farms generate about 305,000 million British thermal units (MMBtu) of renewable natural gas each year.

RNG Produced: 86 MMBtu per year

Original Anaerobic Digester: 2009
Digester System Type: mixed plug flow

Feedstocks: dairy manure

Engine-generator Set: 300 kW Guascor CHP unit

Swiss Valley Farms System Upgrade Cost: \$ 2,176,000

Yellowjacket Cluster Turnkey Cost: \$ 12,480,000

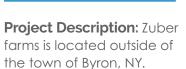
MCR Work Order Approval: April 2019

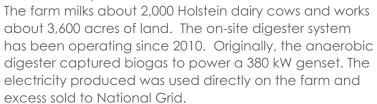


CASE STUDY • ZUBER FARM



Project Location: Byron, Genesee County, New York Zuber Farms is part of the Brightmark LLC Yellowjacket RNG system cluster.





This digester system prevents methane, a potent greenhouse gas, from being released into the atmosphere, thereby reducing the net greenhouse gas emissions from manure processed by the dairy.

In 2019 MCR was contracted by Brightmark to refurbish the biogas system. This included upgrading the digester with new technology capable of cleaning the methane gas and converting it into high quality RNG for use in heating or transportation.

A total of five farms contributes RNG to the Yellow Jacket System; the gas processed at each farm is transported to Zuber farm, where it is injected into the Empire interstate gas pipeline.

Collectively, the five farms generate about 305,000 million British thermal units (MMBtu) of renewable natural gas each year.



Original Anaerobic Digester: 2010
Digester System Type: complete mix
Feedstocks: dairy manure, waste milk, cheese whey
Engine-generator Set: 380 kW Guascor CHP unit

Boxler System Upgrade Cost: \$ 2,732,000

Yellowjacket Cluster Turnkey Cost: \$12,480,000

MCR Work Order Approval: April 2019



The Process

The initial steps taken toward site development will involve the compilation of a Basis of Design Document, which is presented to the site owner for approval. After the client signs the Basis of Design Document, MCR proceeds with the site layout and structural drawings. Upon engineer review and approval of the structural drawings, the mechanical and electrical drawings are completed.

Site preparation in the form of earthwork is conducted while the materials and equipment are on order. Construction continues upon receipt of materials and equipment on site.

Installation proceeding during the construction phase includes field piping, digester piping, biogas flare, digester pumps, digester electrical, generator and piping, hot water system, gas piping, gas-scrubbing equipment, utility building and electrical, and the separator system.

Our services also include startup, digester operations, troubleshooting, training, and comprehensive after-sales support

The Benefits

Project Management

Turn your goals into a definitive plan of action and execute that plan, following proven proprietary methodology to keep projects on track and within budget. Identify project objectives and success criteria. Define individual tasks and ownership. Our project engineers work closely with you to align the project with your business strategy, define project goals, and establish success criteria.

Manufacturing Flexibility

MCR prides itself on our ability to manufacture over 75% of our biogas equipment onshore. You have project requirements, and we realize that off-the-shelf products just won't do. Manufacturing flexibility and creativity are key components to our success. We unite engineers with our equipment manufacturing team and with our procurement team for a seamless integration.

Support & Manage

Creating reliable and efficient energy solutions is important to your double bottom line. MCR can regularly maintain and support your project to meet optimum performance standards. MCR measures system productivity, performance metrics, and tracks trends.





Sample of Projects



COMPLETION DATE	ON PROJECT NAME	STATE	COUNTRY	FACILITY TYPE	OUTPUT CAPACITY	PROJECT COST	
Sept-21	Brightmark Helios	NY	USA	Agricultural	500 MMBtu/day	\$ 1	0,600,000 1
Dec-19	Brightmark Yellowjacket	NY	USA	Agricultural	836 MMBtu/day	\$ 1	2,480,000 1
Dec-19	Brightmark Demeter	NY	USA	Agricultural	137 MMBtu/day	\$	3,620,000 2
May-19	Belden-Ag Grid LLC	MA	USA	Agricultural	500 kW	\$	2,200,000
Dec-18	Commercial Fence	NY	USA	Industrial	560 kW	\$	2,900,000
Dec-18	KV Holsteins	PA	USA	Agricultural	150 kW	\$	1,700,000
Dec-18	Reinford Farm Expansion Project	PA	USA	Agricultural	500 kW	\$	2,623,000
Sep-18	Rockwood Farms	MA	USA	Agricultural	450 kW	\$	2,176,000
Aug-18	PigCo	NSW	Australia	Commercial	Flare Only	\$	1,800,000 3,4
Dec-15	Woodcrest Dairy	NY	USA	Agricultural	450 kW	\$	2,460,000
Aug-15	CEFN	QLD	Australia	Agricultural	500 kW	\$	2,700,000 3
Dec-14	Tong Park	QLD	Australia	Agricultural	500 kW	\$	3,252,000 3
Nov -14	Darling Downs Fresh Eggs	QLD	Australia	Agricultural	250 kW	\$	3,070,000 3
Nov-14	Alten Mead	NE	USA	Commercial Agricultural	Steam Production	\$ 1	1,200,000 5
Feb-14	Greenwood Dairy	NY	USA	Agricultural	410 kW	\$	2,449,000
Dec-13	Longview Dairy	MA	USA	Agricultural	800 kW	\$	1,696,000
Sept-13	CPC Limebush	QLD	Australia	Agricultural	170 kW	\$	850,000 3,4
Aug-13	CPC Lapunyah	NSW	Australia	Agricultural	158 kW	\$	850,000 3,4
Mar-13	Keefer Dairy	PA	USA	Agricultural	225 kW	\$	1,549,000
Jan-13	Yippee Farms	PA	USA	Agricultural	500 kW	\$	2,345,000



Commercial Operations at Cayey Cogeneration Facility in Puerto Rico.

San Juan, Puerto Rico – In response to the recent earthquake and local electric outages in Puerto Rico, Martin Energy Group (MEG) is pleased to announce that on January 7, 2020 it completed preparations and began operating its 5.3-megawatt (with additional gas and diesel backup on reserve) cogeneration facility in Cayey, Puerto Rico.

The facility, which is designed as the primary source of power for a local industrial customer, had been under development and construction for approximately one year. By the fall of 2019, the facility had

been substantially completed and was ready for electrical operation; however, electric delivery had been postponed while MEG and its customer worked through various commissioning and startup activities.

In response to its customer's desire to maintain plant operations during widespread electric outages, MEG accelerated and completed final testing and start-up procedures, then began providing power on the afternoon of January 7, 2020 – mere hours after the 6.4 magnitude earthquake struck the island.

Now on January 8, 2020, only one day after commercial start up, the Cayey cogeneration facility is operating and has reliably delivered continuous power. Power production is being increased to meet the load requirements of the industrial customer.

Marcus Martin, CEO of Martin Energy Group, commended the efforts and preparedness of the Puerto Rico team saying, "First of all, we thank God there were no work casualties or major failures from this natural disaster. And while we are pleased with our team who worked tirelessly throughout the development of this facility, we could have never done a job like this without the Puerto Rican people who share our common work ethic and faith. We wish them continued blessings and pray for continued reliable, safe operations at our Cayey facility."