

Stewardship Report

Leading in Efficiency and Innovation

The Koch Methanol St. James (KMSJ) facility, located in St. James, Louisiana, is leveraging Air Liquide state-of-the-art proprietary Lurgi MegaMethanol[®] combined reforming technology.

This is a highly efficient process that results in reduced consumption of natural gas feedstock as compared to conventional methanol production technologies.



When combined with the air emissions controls that the KMSJ facility utilizes, it results in lower emissions of GHG, NOx, CO, SO₂, PM, and other pollutants per unit of methanol produced as compared to conventional methanol production technologies.

The facility was constructed and is operated in a manner that ensures adverse environmental effects are avoided to the extent feasible. Construction began in 2017, and it has been fully operational since 2021.

(Data Source: IPCC Emission Factor Database)

In 2022, Koch Methanol and Koch Methanol St. James executed the necessary steps to become ISCC+ and ISCC-EU certified. This allows the plant to account for the production of Methanol from Renewable Natural Gas. This production is often referred to as Bio-Methanol.

Exploring Lower-Carbon Methanol Production

Koch Methanol has explored several alternatives for lower-carbon production:

- Renewable natural gas / biomethane
- o Biomass
- Carbon capture and storage (CCS)
- o Other alternative production technologies

Principal Methanol Production Routes

(Modified from IRENA AND METHANOL INSTITUTE (2021), Innovation Outlook: Renewable Methanol, International Renewable Energy Agency, Abu Dhabi)



Renewable CO2: from bio-origin and through direct air capture (DAC)

Non-renewable CO2: from fossil origin, industry

While there is not a standard colour code for the different types of methanol production processes; this illustration of various types of methanol according to feedstock and energy sources is an initial proposition that is meant to be a basis for further discussion with stakeholders

Most technologies come at a substantial investment to "gray" methanol.

Current and Future Production Costs of Bio- and E-methanol



Notes: MeOH = methanol. Costs do not incorporate any carbon credit that might be available. Current fossil methanol cost and price are from coal and natural gas feedstock in 2020. Exchange rate used in this figure is USD 1 = EUR 0.9.

Dual-fuel ship that Koch Methanol has supplied methanol for bunker fuel at Rotterdam dock.

(Source: gCaptain.com)

As part of the societal aspirations to lower greenhouse gas emissions, methanol is attracting attention as fuel for marine vessels - particularly methanol produced with a lower carbon intensity.

Methanol as a Fuel

More methanol-compatible engines are being developed by the major engine manufacturers and vessel designers. Methanol is a simple, safe liquid fuel, miscible in water, and is plentiful, available globally, and priced competitively compared to marine gas oil.



(Source: US Energy Information Administration 2021. KAES)



Methanol benefits from safer handling characteristics compared to some other alternative fuels¹. It works with existing engine technologies as a drop-in or a dual fuel and requires only minor modifications to current bunkering infrastructure.

If only 25% of the current marine fuel market was replaced with methanol, it would more than double global methanol demand. More than 2 dozen vessels that can burn methanol as a fuel are sailing today², and many more are on order. Using methanol as a fuel also has other advantages over current typical fuel sources: Lower NOx / SOx / PM emissions.

Methanol as a Fuel



Compared to other fuel alternatives, Methanol stands out as the safest and easiest alternative as depicted in this chart.

Koch Methanol is actively pursuing marine fuel strategies.

(Chart Source: Methanol Institute (May 2023), Marine Methanol: Future-Proof Shipping Fuel)

Pursuing Stewardship as a Core Value

Our Values:

Integrity Transformation Respect Stewardship & Compliance Knowledge Self-Actualize

Principled Entrepreneurship Humility

At Koch Methanol, Stewardship and Compliance are Core Values. Our Stewardship Framework <u>Stewardship</u> <u>Koch Industries</u> outlines our approach to Environmental, Social, and Corporate Governance aspects of our business. At the heart of how we operate is Principle Based Management[™].

We believe in people and seek a system of equal rights and mutual benefit where individuals succeed by helping others succeed – and where people are empowered to improve their lives and their communities. It's why we focus on empowering individuals to improve their lives and communities through bottom-up solutions rather than top-down imperatives.

Investing Locally

Community Engagement

In alignment with our Vision, Principles, and Stewardship Framework, Koch Methanol St. James' employees are active and vibrant members of the community in which we operate. We believe that intentional dialogue, community collaboration, and service improve lives and benefit everyone.

Education

The Koch Methanol St. James facility supports programs that give students and future workers the skills necessary for today's workplace. This includes Parish school initiatives, local scholarships, and STEAM programs. Examples include:

- River Parishes Community College Scholarships
- Wildcat Productions
- College and Career Center Initiatives
- St. James High School A.C.E. Banquet
- Parish-Wide School Grants

Entrepreneurship

We promote entrepreneurial development while fostering economic and critical thinking skills, especially focused on initiatives that align with our company's Principle Based Management[™] philosophy. Examples include:

• Junior Achievement

Environment

We assist organizations that foster environmental responsibility and provide environmental learning opportunities. Examples include:

- St. James 4H
- St. James Parish Beautiful



We work with organizations that support community needs and allow for employee engagement through volunteering. Examples include:

- Hurricane Ida relief efforts
- Food and toy drives
- Bonfire Festival
- Veteran's Celebration
- Emergency Preparedness Services
- Baton Rouge Food Bank
- St. James ARC
- Welcome Senior Center Services

Additionally, the Koch Methanol St. James facility is planning to invest up to \$150 million at the facility to implement a collection of projects called the Koch

Methanol Optimization Project. This Project strengthens the long-term viability of the facility, including employment viability, such that the benefits from the original plant will continue to be generated and, in many cases, increased. Social benefits will be realized through investments by KMSJ in the areas of education, community enrichment, entrepreneurship, and environment.

The KMSJ facility has submitted Air and Water Permit applications to support the Optimization project and achieve the additional benefits the Optimization project provides.

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Environmental Stewardship Environmental Priorities

Every day, Koch Methanol strives to create more value and continuously improve its environmental performance by minimizing waste and by using fewer resources. This is accomplished through constant focus on improvement and innovation. Koch Methanol is dedicated to managing resources entrusted to it in a way that simultaneously benefits customers, employees, partners, community members, and society.



Consistent with Koch Industries, Koch Methanol's five environmental stewardship priorities are:

- * Innovation
- * Energy Efficiency
- * Air Quality
- * Water Quality & Consumption
- * Responsible Resource Management

Manufacturing and a healthy environment aren't mutually exclusive. We believe responsible management of our environmental resources is vital to providing products and services that help people improve their lives while using fewer resources and respecting the environment. We accomplish this by using the best knowledge, employee know-how, and innovation to operate in a responsible way.

We prioritize the health and safety of our employees and communities, expect all employees to comply with all laws and regulations, and practice a philosophy of mutual benefit.



Koch Methanol strives to minimize the environmental impact of its business activities and operations and maximize efficiencies in the methanol manufacturing process to reduce its environmental footprint. The sustainability of a business hinges on the responsible stewardship of resources and the environment. The Koch Methanol St. James facility has undergone a prevention of Significant Deterioration (PSD) review.

A Best Available Control Technology (BACT) analysis has been completed, which demonstrates that all air emissions sources at the KMSJ facility are equipped with BACT for the control of air emissions.

The KMSJ facility was designed to minimize methanol streams sent to its wastewater collection and treatment plant.

It was also equipped with a wastewater collection and treatment plant that is designed to meet the stringent federal and state wastewater discharge requirements. The KMSJ facility's stormwater pollution prevention plan (SWPPP) incorporates Best Management Practices (BMP).

The SWPPP ensures that the potential adverse environmental effects associated with the generation of solid and/or hazardous wastes resulting from spills of oil or hazardous substances are minimized.

Environmental Controls

The KMSJ facility strives to minimize any environmental impacts with investments in modern pollution control equipment, emissions monitors, and implementing best practices.

The KMSJ facility is among the most efficient methanol production facilities, and we continue to improve, including pursuing reductions in flaring hours through investments in improved reliability of key inputs provided by third-party suppliers.



Air Emissions Controls |

- Ultra-low nitrogen oxide (NOx) burners and selective catalytic reduction systems for NOx control
- Catalytic oxidation for controlling carbon monoxide (CO) and volatile organic compounds (VOCs)
- Modern cooling tower high efficiency drift eliminators to minimize particulate matter emissions
- A vapor control unit for controlling VOC emissions from truck and railcar loading operations
- The flare is used as a VOC control device for various process vents
- Fugitive components are managed with a leak detection and repair program in accordance with regulatory requirements
 - Fugitive components containing methane or carbon monoxide are managed to minimize GHG and CO emissions.
- Emergency engines, generators and fire water pumps are designed to comply with applicable regulatory requirements
- Methanol tanks are equipped with vapor collection routed to a scrubber to minimize VOC emissions
- Terminal tanks are equipped with internal floating roofs to minimize and control VOC emissions

Water |

The KMSJ facility takes stewardship of this precious resource seriously.

Clean, plentiful water is vital to life – for humans and the countless plant and animal species with which we share this planet.

As such, the KMSJ facility continuously explores new opportunities to reduce water consumption and to improve the quality of water discharges.

(Photo of onsite pond at the KMSJ Facility taken by employee)

- The KMSJ facility's water intake structure has been designed, constructed, and is operating to minimize potential adverse impacts on aquatic life.
- The facility conducts entrainment testing on the water intake to ensure that aquatic life will not be adversely impacted, and the results have shown no adverse effects.



We constantly strive to make our wastewater treatment facility among the best in the country by being fully compliant with applicable laws and regulations and maintaining wastewater discharge standards that typically are more stringent than those required by our permits. The Koch Methanol Facility was also designed to minimize methanol wastewater streams sent to wastewater treatment through the incorporation of recycling and reprocessing.

The use of continuous analyzers and other monitoring provides improved knowledge of wastewater stream constituents, which gives us the ability to further improve water quality.

Wastewater and Stormwater Discharge

- The KMSJ facility regularly performs testing on the final outfall to the Mississippi River to ensure that wastewater effluent discharged does not negatively impact aquatic ecosystems.
- The KMSJ facility recognizes the importance of the water quality of the nearby St. James Canal to area residents. The facility is committed to responsibly managing its permitted discharge of stormwater to the St. James Canal through routine testing.



Stormwater streams are managed and monitored. Best Management Practices are incorporated to protect surface water bodies that are located on the site or receive stormwater discharges from the site and to ensure appropriate and effective management practices are applied.



Energy Efficiency |

On-site electricity generation through the facility's use of heat and power generation avoids the energy losses associated with long-distance transmission, transformation, and distribution of electricity supply.



- The combined heat and power (CHP) steam condensing electrical generation turbine leverages excess process steam (otherwise released to the atmosphere) to reduce grid electricity consumption.
- Multiple Koch affiliate assets have achieved ENERGY STAR[®] status*. (*EPA may develop a benchmark for methanol production in the near future.)

Cybersecurity

Securing organizational systems, data and networks are critical to ensuring safe and reliable operations. Koch Methanol leverages cybersecurity experts to protect, detect, respond, and recover from cybersecurity events. Protection includes continuous training, application of best practice design patterns for network architecture and data management, policy enforcement, audit, and modern defensive capabilities.

Detection involves continuous reliability and security monitoring informed by industry-leading cyberthreat intelligence. Our Information Technology capability, including cyber and business technologies, develop and test emergency response, disaster recovery and business continuity plans to prepare for response and recovery.



(Photo of the KMSJ Facility taken by employee)



Koch Methanol has also pursued a sustainability rating for the past four years through the EcoVadis platform and currently holds a Silver medal. This demonstrates an independent view of the overall strength of the company's activities across ESG areas.

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