

Producing Sustainable Aviation Fuel (SAF) in Minnesota

To encourage the development of the SAF supply chain in Minnesota and provide strong oversight to SAF production, the Walz/Flanagan administration is focused on the “three Rs” — recruit, review, and regulate. This document provides a high-level overview of what regulation and review processes are likely applicable for SAF production in Minnesota and is written primarily for people who are interested in production of SAF or interested in supply chain for SAF production.

Why Minnesota for SAF Production?

Minnesota is ready to lead the Sustainable Aviation Fuel (SAF) economy with:

- Strategic access to major airline hubs (Delta).
- A broad network of partnerships, including public agencies, private businesses, and research institutions, all working toward its success.
- Abundant resources for SAF production, including a variety of feedstocks and woody biomass.
- Strong state and federal tax incentives for SAF production.
- Advanced bioeconomy infrastructure and knowledgeable workforce.
- Transparent, predictable environmental review and permitting.
- A commitment to balancing economic growth with environmental stewardship.

Understanding Environmental Review (ER) and Permitting

Permits are required to fulfill federal requirements in the Clean Air Act and Clean Water Act and other state requirements. Projects will need permits for certain groupings of activities, such as production, waste, and water usage.

- Minnesota has a state-level Environmental Review (ER) process. ER evaluates how a proposed project might impact the environment. It is a research process, not an approval step, and helps guide permitting decisions without directly approving projects.
- The Minnesota Pollution Control Agency (MPCA) usually leads ER for SAF projects.
- While ER and permit applications can be worked on at the same time, final permits will not be issued until ER is finished. Permitting requirements depend on the project type.
- Complete documentation and responsiveness by project proposers can prevent delays and ensure a smooth ER process. Consistent and early communication is key.
- Staff at MPCA can help project proposers determine if ER is required for individual projects.
- Assuming a project is well-developed, all steps are completed, and there are no substantial project changes, the estimated timeline is 8-14 months.

Best Practices for All SAF Projects

- Reach out to Minnesota Business First Stop, led by the Department of Employment and Economic Development (DEED). It helps businesses navigate permitting and regulations, provides expert guidance,

and supports complex location and expansion projects by working closely with business leaders and their consultants.

- Reach out to MPCA's environmental review unit to initiate early conversations.
- Coordinate early and often for permitting with MPCA, Department of Natural Resources (DNR), and Public Utilities Commission (PUC).
- Due to potentially high-water demand of these types of projects and limited water availability in parts of Minnesota, DNR strongly encourages early coordination prior to final site selection.

Pathway-Specific Permitting and Review

HEFA Pathway (Hydroprocessed Esters and Fatty Acids)

- **Permits Required:** DNR Water Appropriation, MPCA NPDES/SDS (stormwater, wastewater).
- **Additional permits (depending on project):** Air permits, storage tanks permit, PUC route permit and site permits, 401 Certification, and DNR License to Cross public lands or waters, Minnesota Department of Agriculture (MDA) Compliance agreement and certificates.
- **Assumptions:** Crushed oil seeds and Used Cooking Oil (UCO)/animal fats/tallow will be brought to Minnesota or procured locally.

Alcohol-to-Jet Pathway

- **Permits Required:** DNR Water Appropriation, MPCA NPDES/SDS (stormwater, wastewater).
- **Additional permits (depending on project):** Hazardous Waste, Air permits, storage tanks permit, PUC route permit and site permits, 401 Certification, and DNR License to Cross Public Lands or waters, MDA Compliance agreement and certificates.
- **Assumptions:** Fermented corn and ethanol will be brought to Minnesota or procured locally. New grain storage bins will require a 3-day licensing process, if they are not already permitted locally and licensed by Plant Protection Division (MDA).
- **Special Considerations:** Ethanol producers will need to consider CO₂ sequestration operations or other efficiency upgrades under future SAF regulations. There is uncertainty around timeline for CO₂ pipeline development; onsite Carbon Capture Utilization (CCU) more likely.

Power-to-Liquid / Fischer-Tropsch Pathway

- **Permits Required:** MPCA 401 Certification, MPCA Storage Tanks, MPCA NPDES/SDS (stormwater, wastewater), DNR Water Appropriation.
- **Additional permits (depending on project):** Air permits, PUC route permit and site permit, DNR License to Cross public lands or waters, Hazardous Waste.
- **Assumptions:** Agriculture and wood wastes will be processed offsite or brought to Minnesota. Storage is required for H₂ produced offsite/on-site.
- **Special Considerations:** This pathway requires high electricity and water needs. Hydrogen permitting will require coordination. There is no existing woody biomass or pelletizing infrastructure in Minnesota.

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