



ALASKA NEXT-GEN SYNFUEL REFINERY

ANSyR: Synthetic Aviation Fuel for Global Air Cargo



PROJECT SNAPSHOT

ANSyR is a proposed commercial-scale synfuel refinery at Port MacKenzie designed to convert Alaska-sourced biomass and other qualified carbon feedstocks into synthetic aviation fuel blendstock and liquid hydrocarbon co-products. The current Fischer-Tropsch design basis targets approximately 150 million gallons per year of SPK, with additional renewable diesel, naphtha/light liquids, LPG, and wax/heavy-end co-products for an estimated 230 million gallons per year of total liquid synfuel output.

1 | DEMAND

Concentrated Aviation Fuel Demand and Early Market Interest

- Ted Stevens Anchorage International Airport is one of the world's highest-volume air cargo hubs and a critical trans-Pacific refueling location.
- Its sustained jet fuel demand creates a concentrated market for SAF blendstock.
- Airline Letters of Interest provide early market validation for Alaska-based Synfuel supply.
- ANSyR is positioned to serve both domestic and international aviation markets through a single production and logistics platform.

3 | INFRASTRUCTURE

Industrial Site, Marine Access, and Fuel Logistics Integration

- Port MacKenzie provides a strong greenfield industrial platform for a commercial-scale synfuel refinery.
- The site offers industrial land, marine access, and proximity to Anchorage-area fuel demand.
- The logistics concept links Port MacKenzie production with Anchorage-area aviation fuel demand through marine, terminal, pipeline, and potential future feed-link options.
- The project builds from an existing regional transportation and fuel logistics system rather than an isolated site.

2 | ALASKA RESOURCES

Biomass Supply, Carbon Management, and Resource Optionality

- The current Fischer-Tropsch design basis uses woody biomass as the primary feedstock.
- Estimated woody biomass requirement: approximately 4.9 million dry metric tonnes per year.
- Responsible biomass sourcing may support forest health, wildfire-risk reduction, and rural resource development.
- Additional future optionality may include municipal solid waste, seafood byproducts, natural gas-derived hydrogen, and captured carbon streams.

4 | TECHNOLOGY

Scalable SynFuel Pathways

- The current ANSyR report basis centers on a Fischer-Tropsch gasification-to-liquids pathway.
- Prepared biomass is converted into syngas, synthesized into hydrocarbons, and upgraded into SPK and liquid co-products.
- HEFA remains a technically mature comparison pathway, but Alaska-scale deployment is constrained by lipid feedstock availability and cost.
- Commercial execution will require technology licensing, EPC/EPCM delivery, feedstock aggregation, offtake, financing, permitting, and carbon management partnerships.

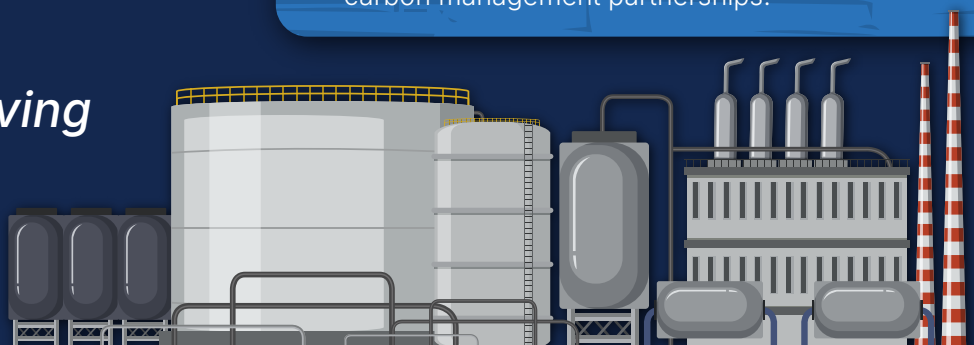


For more information visit
dot.alaska.gov/comm/saf

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State of Alaska Department of
Transportation & Public Facilities



ANSyR

a Fischer-Tropsch
Gasification-to-Liquids Platform for
Synthetic Aviation Fuel and Co-Products

150 MGY
Fischer-Tropsch Synthetic Paraffinic Kerosene

230 MGY
Total Liquid Synfuel

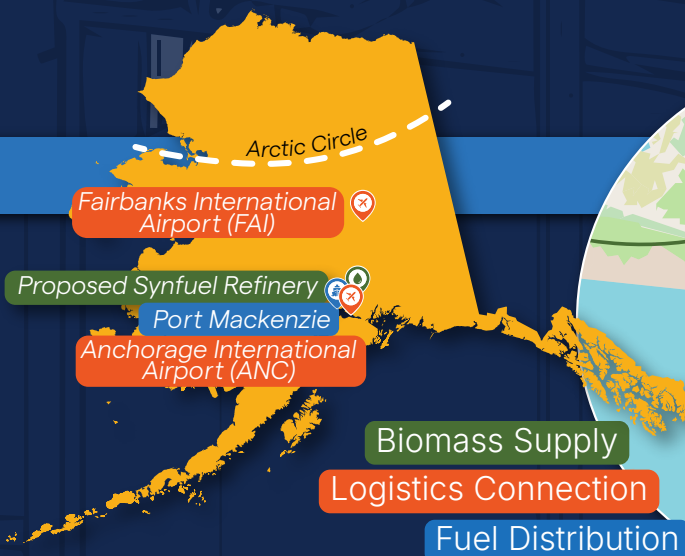
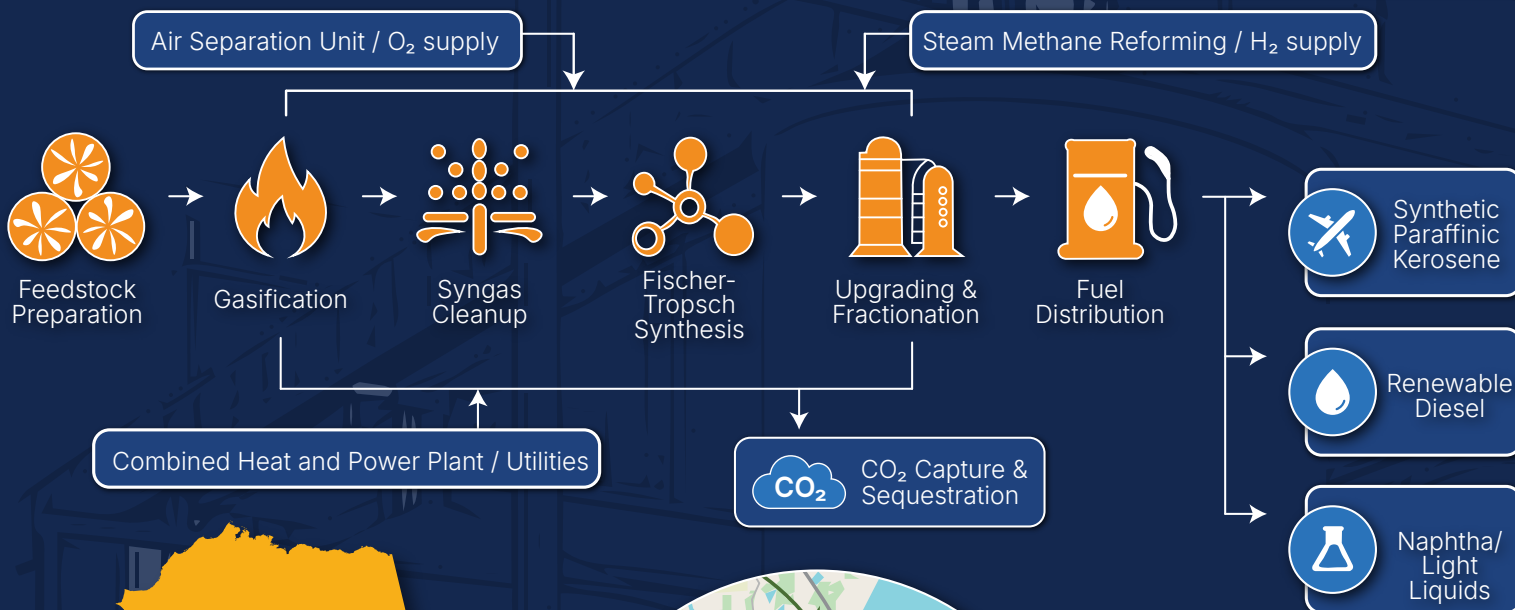
4.9 million dry metric tonnes/year
Woody biomass requirement

Port MacKenzie
Preferred greenfield site

Integrated Carbon Management
Capture, compression, and sequestration

? **MGY** → Million Gallons per Year

SYSTEM & LOGISTICS



SYSTEM & LOGISTICS

- Access to abundant woody biomass resources
- Port MacKenzie marine access for construction, feedstock, and product logistics
- Connected to Alaska's transportation network



WHY IT MATTERS?

Fuel Supply Resilience
Supports long-term aviation and transportation fuel reliability.

Industrial Growth Platform
Connects refinery development, marine logistics, utilities, and workforce demand.

Carbon-Managed Synfuel Pathway
Integrates synthetic fuel production with carbon capture, transport, and storage.

FT PRODUCT SLATE - TOTAL LIQUID OUTPUT

150 MGY

SPK

(Synthetic Paraffinic Kerosene)

34 MGY

Renewable Diesel

46 MGY

Naptha + other

0% 25% 50% 75% 100%

