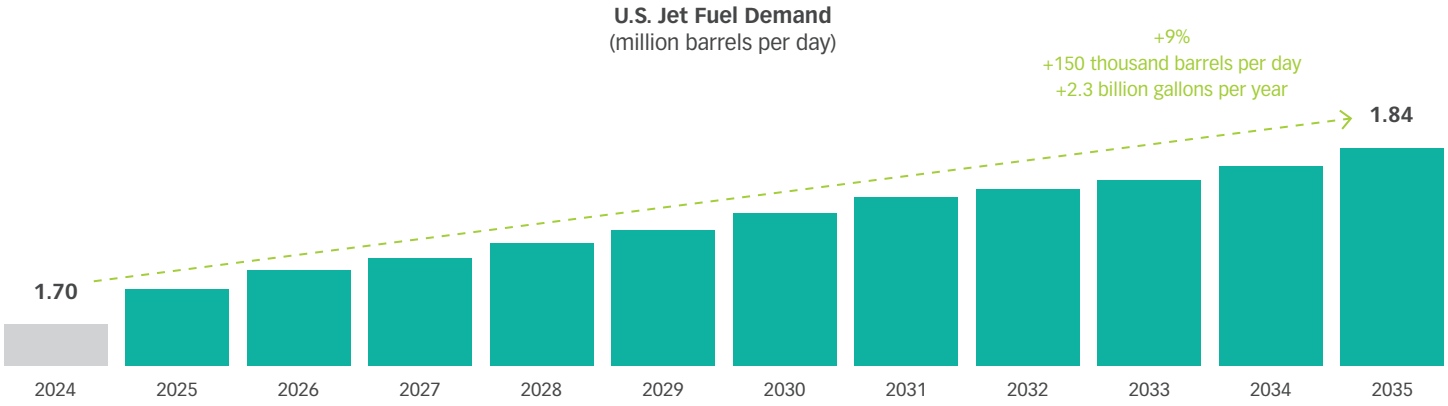
Meeting Growing Jet Fuel Demand with SAF

Over the next 10 years, U.S. jet fuel demand is expected to increase due to population growth, increasing incomes, and more passenger miles flown, according to the U.S. Energy Information Administration's (EIA) Annual Energy Outlook[1].

However, domestic petroleum production is challenged to meet this growing demand due to refining constraints, increasing the risk of rising foreign imports and trade deficits. Investment in new domestic Alcohol-to-Jet (ATJ) production will help the United States produce more cost-competitive jet fuel to meet growing demand, and at the same time, offer new opportunities for U.S. agriculture to thrive in a key role in producing advanced renewable jet fuel.

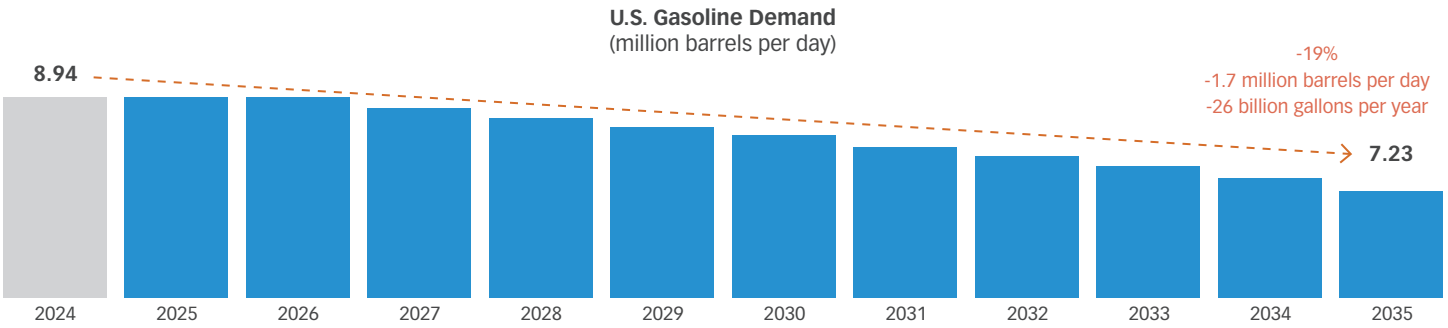
Demand for Jet Fuel is Expected To Grow

U.S. jet fuel demand is expected to increase over the next 10 years, as population and prosperity grow, according to the EIA forecast, which pegs the increase at 9% over the next 10 years, equal to 150,000 barrels per day, or 2.3 billion gallons per year.



U.S. Refining Capability Is Focused on Gasoline

U.S. refineries produce mostly gasoline, not jet fuel. As jet fuel demand is rising, gasoline demand is declining due to increased fuel efficiency, fewer miles driven, and changes in mix of vehicles. Assuming policies in place at the beginning of 2025, EIA projects gasoline demand will decline 19% over the next 10 years. When gasoline demand declines, ethanol demand declines as well.



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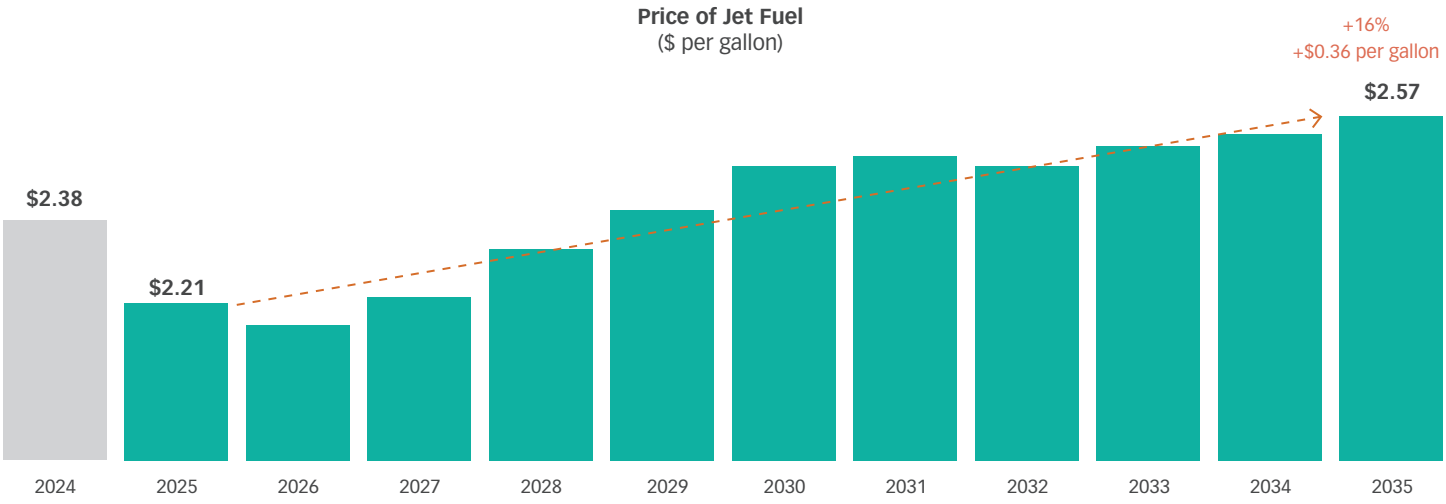
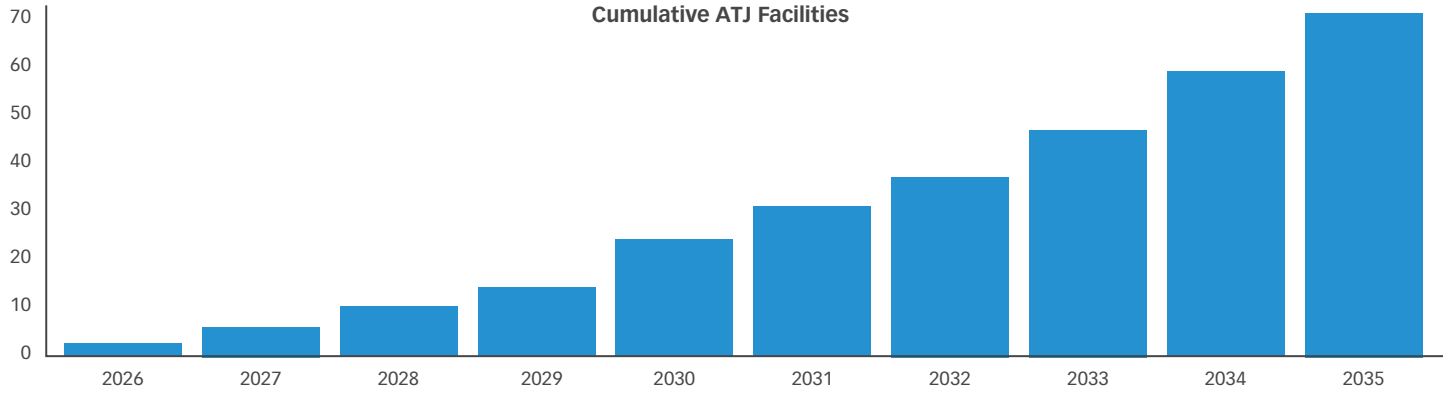
Dependence on Foreign Imports Could Cause Jet-Fuel Prices to Climb

Department of Energy long-term outlook forecasts predict increasing jet fuel prices over the next 10 years due to growing demand but flagging domestic production. Higher prices mean less U.S. energy security, higher costs for consumers, and less air travel.



ATJ Facility Build-Out to Meet Jet-Fuel Demand

Instead of relying on more imported jet fuel, ATJ production facilities could meet 100% of this rising domestic jet fuel demand. Meeting this growing demand would entail building about 35 facilities across the US with 60 mgpy capacity each, or 70 facilities with 30 mgpy capacity, which could be accomplished by adding bolt-on facilities to about one in six existing ethanol facilities (of which there are about 180). ATJ facilities consume 100% ethanol and convert it to +90% jet fuel. These facility estimates would be enough to add 0.14 million barrels per day (2.1 billion gallons per year) of U.S. jet fuel production, or 100% of new jet fuel demand over the next 10 years. In addition, these facilities would utilize excess ethanol capacity, accounting for projected corn yield improvement on existing crop acres, and support U.S. agriculture jobs and incomes, by consuming 3 to 3.5 billion gallons of ethanol per year.



Creating New Markets for U.S. Agriculture

Without investment in ATJ facilities, U.S. agriculture face long-term decline in demand and net farm incomes. Ethanol is in long term demand decline for the same reasons as gasoline, since it is blended with gasoline for motor fuels. Even including increasing ethanol blend rates, EIA still projects U.S. ethanol demand to decline over time.

Decline in ethanol demand would have negative impacts for U.S. farmers resulting in lower corn prices while net farm incomes decrease by nearly $30 billion per year (across all agriculture), even as farmers improve yields and reduce acres planted.[2] Expansion of ATJ production, however, would offer a new and growing market for farmers, with premium prices based on their value-adding crop production practices.

[1] Source: US EIA Annual Energy Outlook 2025 (April 2025, Reference Case). https://www.eia.gov/outlooks/aeo/
[2] Source: USDA Long-Term Projections (February 2025). https://ers.usda.gov/sites/default/files/_laserfiche/outlooks/110966/OCE-2025-1.pdf

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