

# Ethanol Around the World

**T**he United States has led the world in ethanol output for close to two decades. The production of 15.6 billion gallons in 2023 was nearly twice that of Brazil, notwithstanding that country’s recent growth in sugarcane and corn ethanol production under its national biofuels policy.

National commitments to reducing greenhouse gas emissions and improving air quality continue to create market opportunities for U.S. ethanol on a global scale. Demand recovery in post-pandemic travel helped grow external markets, with nearly 1.4 billion gallons of American ethanol exported in 2023. That’s equivalent to 9 percent of domestic production and the third-highest export volume on record.

Nearly half of U.S. ethanol exports crossed the northern border into Canada—30 percent more than in 2022 and roughly double the 2021 volume. These U.S. shipments, along with Canada’s growing domestic ethanol production, helped satisfy elevated demand driven by implementation of the new Canadian Clean Fuel Regulation and higher blending requirements in Quebec.

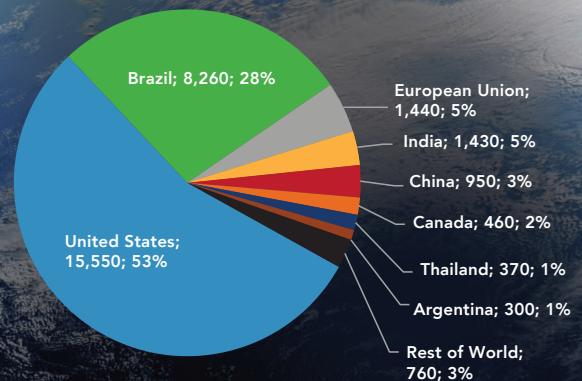
U.S. ethanol shipments to the United Kingdom doubled, making it the second-largest export market in 2023. A late-2021 switch to E10 and subsequent record ethanol consumption in 2023 prompted this surge in demand.

The European Union rounded out the top three markets for U.S. exports in 2023. Slightly lower E.U. ethanol production along with increased consumption drove demand for imports, and the U.S. industry delivered.

A 16 percent tariff-rate quota spurred the collapse of the Brazilian market, with virtually no U.S. product entering the country in 2023. Meanwhile, U.S. ethanol exports remained frozen out of China as a prohibitive tariff remained in place. Still, the U.S. ethanol industry adeptly pivoted in 2023 to grow existing markets and develop new partnerships with an unprecedented 73 countries around the world.

## 2023 GLOBAL FUEL ETHANOL PRODUCTION BY COUNTRY

Country; million gallons; share of global production



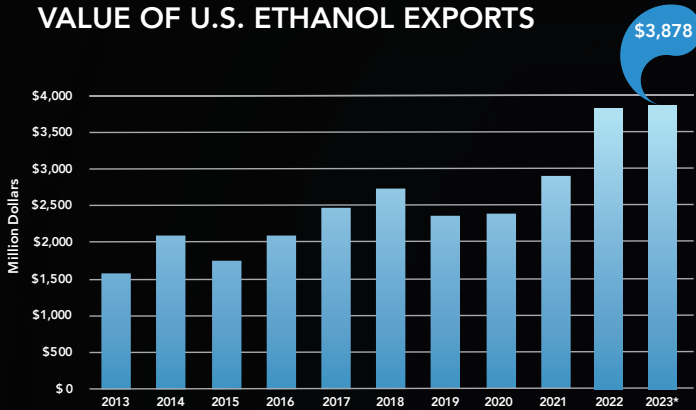
Global fuel ethanol production hit a record 29.5 billion gallons in 2023, eclipsing its pre-pandemic high-water mark. The United States remained the largest producer, accounting for over half of global output.

*Source: RFA analysis of public and private data sources*

While exports continued to boom, U.S. ethanol imports were almost non-existent. Foreign ethanol entering the United States dropped to a 13-year low of 22 million gallons in 2023, equivalent to less than

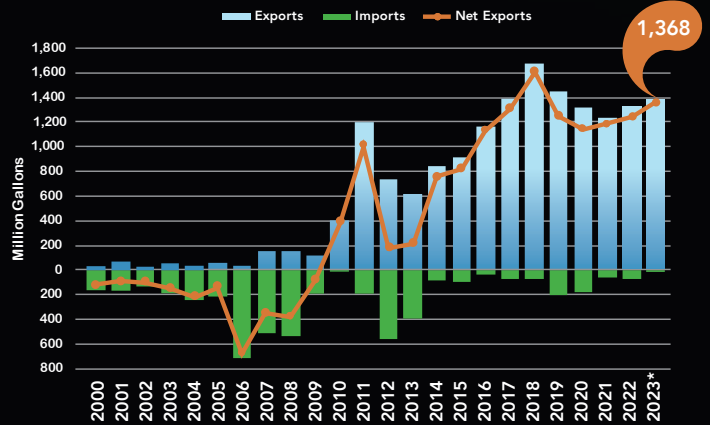
1 percent of U.S. ethanol consumption. As in recent years, essentially all imports arrived duty-free from Brazil to take advantage of the RFS and California LCFS programs.

### VALUE OF U.S. ETHANOL EXPORTS



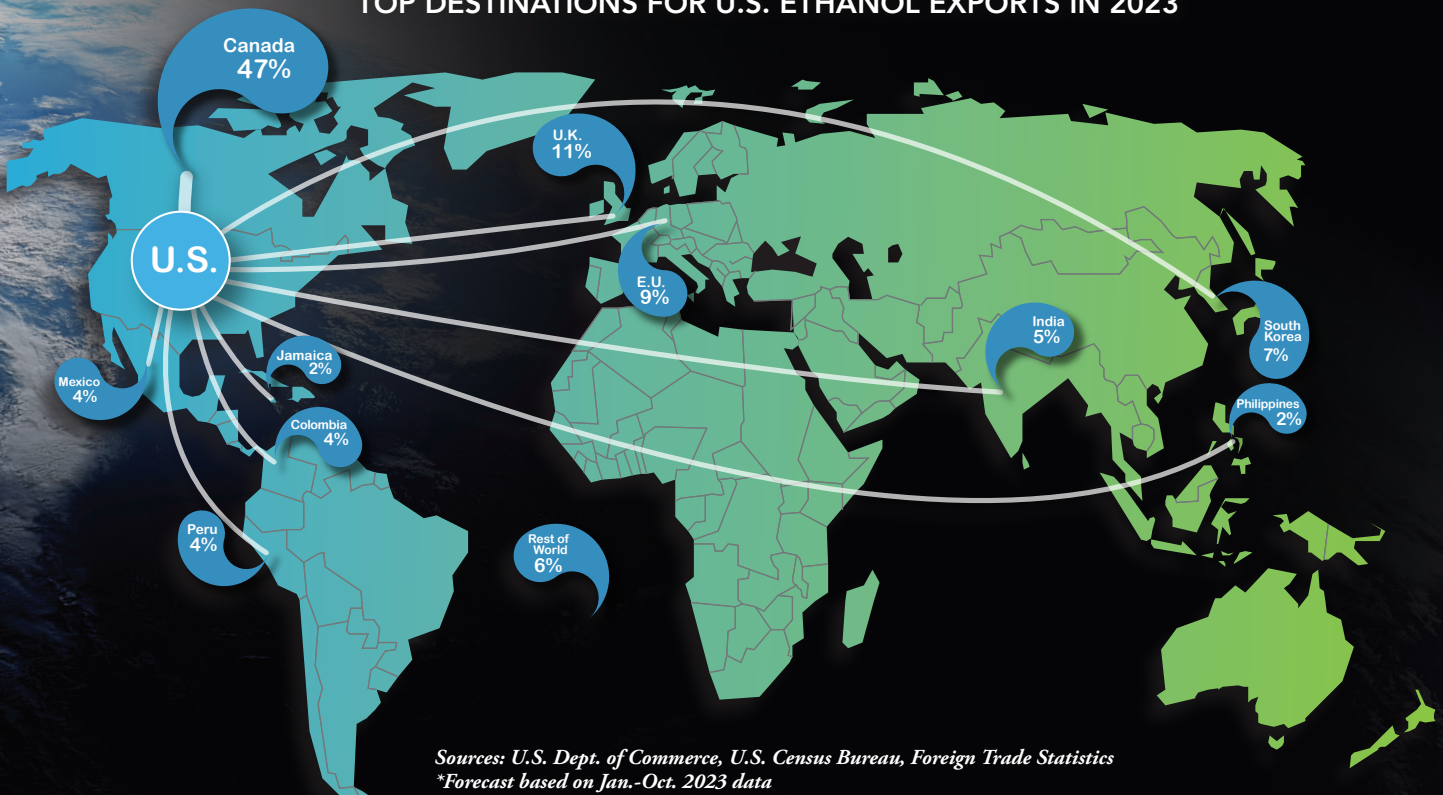
Sources: U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Statistics  
\*Forecast based on Jan.-Oct. 2023 data

### U.S. ETHANOL EXPORTS AND IMPORTS



Sources: U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Statistics  
\*Forecast based on Jan.-Sep. 2023 data

### TOP DESTINATIONS FOR U.S. ETHANOL EXPORTS IN 2023



Sources: U.S. Dept. of Commerce, U.S. Census Bureau, Foreign Trade Statistics  
\*Forecast based on Jan.-Oct. 2023 data