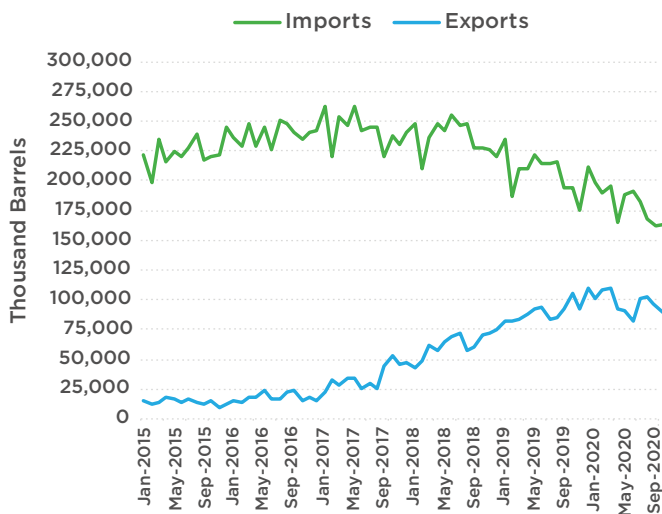


ESSENTIAL FOR ENERGY SECURITY

In 2020, several events threatened the security and stability of U.S. energy markets. First came a “race-to-the-bottom” crude oil price war between Saudi Arabia and Russia. Then in April, government restrictions and other precautions related to the pandemic caused U.S. ethanol and gasoline consumption to be cut nearly in half. In response, WTI crude oil futures prices briefly turned negative for the first time in history.

Yet, over the course of the year, the U.S. remained a significant net importer of crude oil. Over 40 percent of the oil processed by U.S. refineries came from foreign sources in 2020. Notably, foreign crude oil has accounted for a steadily increasing share of the supply to refineries in California, the largest gasoline-consuming state over more than two decades.

U.S. CRUDE OIL TRADE



While U.S. crude oil production and exports have increased in recent years, our nation still imports more than 150 million barrels per month.

Source: U.S. Dept. of Energy

If not for the role of ethanol in the nation’s fuel supply, the U.S. would have had to import nearly 500 million additional barrels of crude oil in 2020. Ethanol is produced at approximately 200 facilities concentrated in the U.S. Midwest—a secure source of fuel compared to the Middle East—and just 1 percent of the ethanol supply is imported. In short, ethanol is essential for energy security and, as 2020 showed, it provides resiliency in tumultuous times.

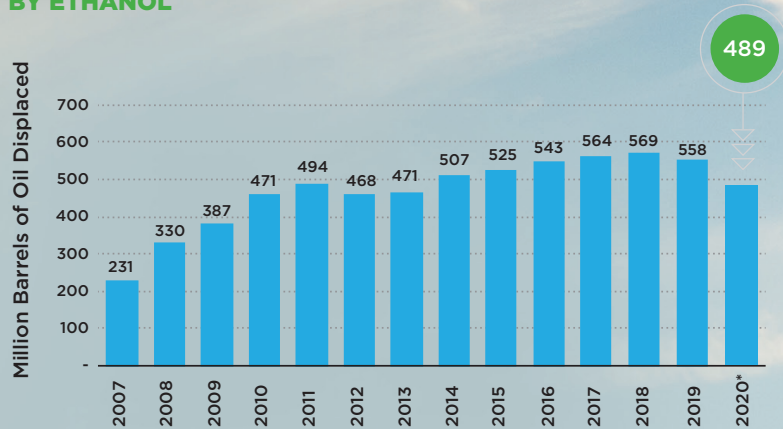


Even though U.S. oil production has increased in recent years, our nation’s economy still transfers billions of dollars every year to the OPEC cartel. In 2020 alone, the U.S. sent some \$13 billion—or \$100 per American household—to OPEC nations to pay for crude oil imports.

OPEC Nation	U.S. Spending on Crude Oil Imports (Billion \$)
Saudi Arabia	\$7.4
Iraq	\$3.1
Nigeria	\$1.2
Angola	\$0.5
Kuwait	\$0.4
Libya.....	\$0.2
Other OPEC	\$0.3
TOTAL	\$13.0

Source: RFA based on U.S. Dept. of Energy data

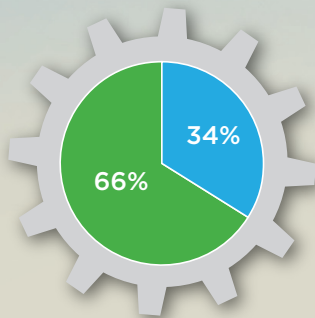
HISTORIC OIL IMPORT DISPLACEMENT BY ETHANOL



Source: RFA based on U.S. Dept. of Energy data *Estimated

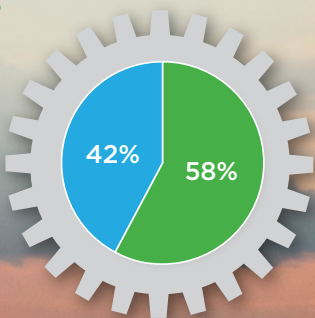
SOURCES OF U.S. CRUDE OIL SUPPLY

- Domestic Production
- Imports



INPUTS TO U.S. REFINERIES

- Domestic Inputs
- Imports



Source: RFA based on U.S. Dept. of Energy and forecasts

