

# SUSTAINABLE AVIATION FUEL: ETHANOL IS KEY TO MEETING GOALS



Ethanol can play a major role in supplying the fledgling sustainable aviation fuel (SAF) industry, which reduces aviation carbon emissions. But, in order to meet this challenge, we must ensure that the life cycle assessment we use has the most up-to-date science available.

## COMMITTED TO THE GOAL

Growth Energy's members have contributed to producing more than 600 million gallons of SAF, **meeting more than 20 percent of President Biden's 2030 goal** of producing 3 billion gallons of SAF under his Sustainable Aviation Fuel Grand Challenge.

## GROWTH ENERGY'S ASK

**ASK** We urge the Biden Administration to use U.S.-based methodologies like the Argonne GREET Model when determining the carbon intensity from U.S.-produced ethanol converted to SAF for U.S. SAF incentives.

## LIFE CYCLE ASSESSMENT MODELING – THE MODEL MATTERS

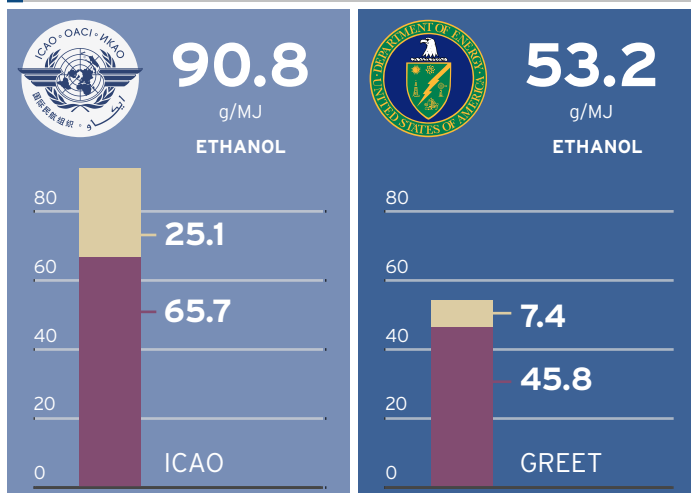
In order to address climate change, SAF producers must offer a renewable fuel that significantly reduces carbon emissions compared to petroleum-based jet fuel.

However, the prevailing modeling used to assess the carbon intensity of aviation fuels is from the International Civil Aviation Organization (ICAO), a United Nations agency, and is highly problematic because it is so outdated. The data inputs haven't been updated for over a decade and ICAO actually rates petroleum-based jet fuel better than U.S. corn-grain ethanol, which is patently untrue.

The U.S. Department of Energy's Argonne GREET Model is already incorporates up-to-date science which more accurately scores carbon intensity for ethanol and other renewable fuels.

U.S.-based SAF incentives should be using a U.S.-based lifecycle emissions model. Without utilizing the robust peer-reviewed science behind GREET, U.S. biofuel producers will not be able to participate in the SAF market, and rural communities will be locked out from contributing to a cleaner climate, and our ability to decarbonize the airline fleet will suffer.

## CARBON INTENSITY (CI) MODELING: ICAO vs GREET



CI impact is based on two main factors:

**INDUCED LAND USE VALUES:** ICAO relies on a land use estimate that is three and a half times higher than GREET and scores significantly higher at 25.1 g/MJ. GREET recognizes the increased efficiencies from U.S. farmers and rates ethanol's land use change at 7.4 g/MJ.

**ATTRIBUTIONAL GHG EMISSIONS:** ICAO bases its corn-grain ethanol on information nearly ten years old in its estimate of direct GHG emissions of 65.7 g/MJ. GREET updates its model annually and rates ethanol as 45.8 g/MJ.

These differences cause ICAO to rate corn-based ethanol 71% higher than GREET.