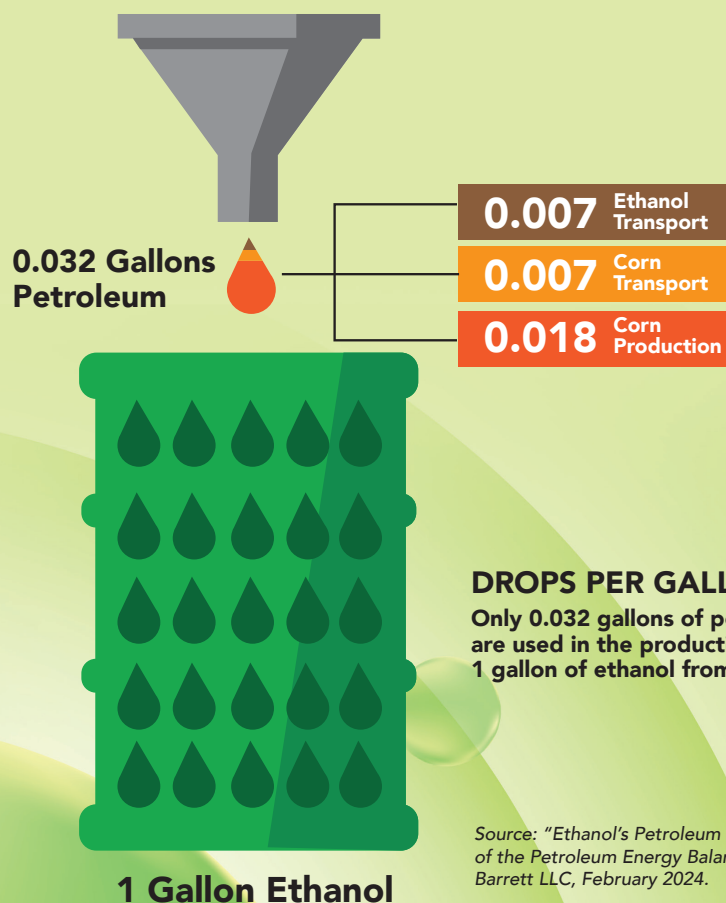


ROOTED IN THE TRUTH

Since the ethanol industry's humble beginnings, the undeniable benefits of renewable fuels have been proved time and time again. Yet, opponents who want to stifle the transition to low-carbon, renewable, liquid fuels continue to repeat the same old myths—and invent new ones. Here's a look at the facts to refute some of the common falsehoods and misinformation that detractors of ethanol continue to spread.

FACT: The ethanol production process requires almost NO petroleum at all

A 2024 study conducted by Higby Barrett took a comprehensive look at how much petroleum is actually used in the entire ethanol production process—from farms to fuel tanks. According to the researchers, only “drops” of petroleum—less than 0.03 gallon, or approximately 8 tablespoons—are used in the process to make a gallon of ethanol. In fact, the only petroleum fuels used in the process are solely for corn production and the transport of both corn and ethanol, representing a tiny share of the total energy use invested in ethanol production. Indeed, the overwhelming majority of the fossil energy used in the process comes from natural gas—whether to produce fertilizers or to generate steam and heat at the biorefinery. Of course, natural gas is an abundant domestic resource with far lower carbon intensity than other fossil fuels like crude oil or coal.

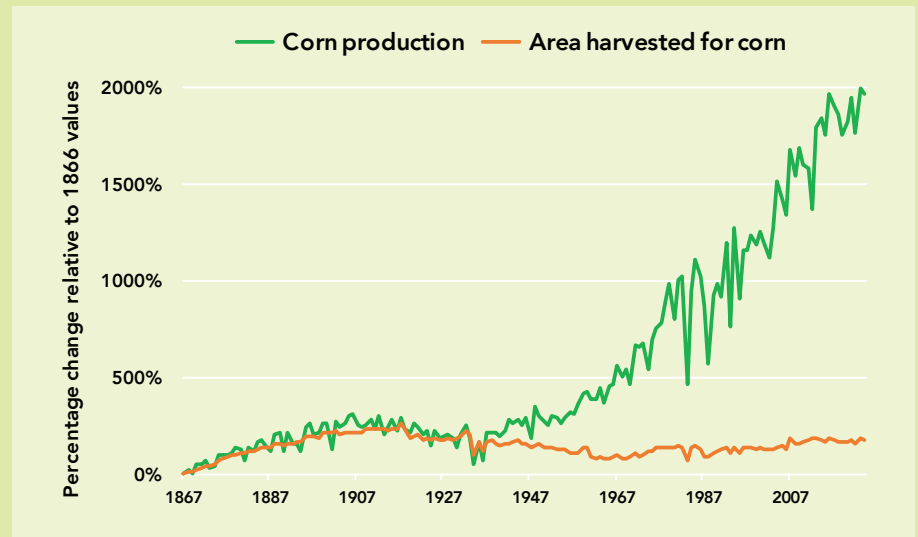


Source: "Ethanol's Petroleum Footprint: An Analysis of the Petroleum Energy Balance for Ethanol," Higby Barrett LLC, February 2024.

FACT: Cropland has NOT expanded in response to growth in ethanol production expansion

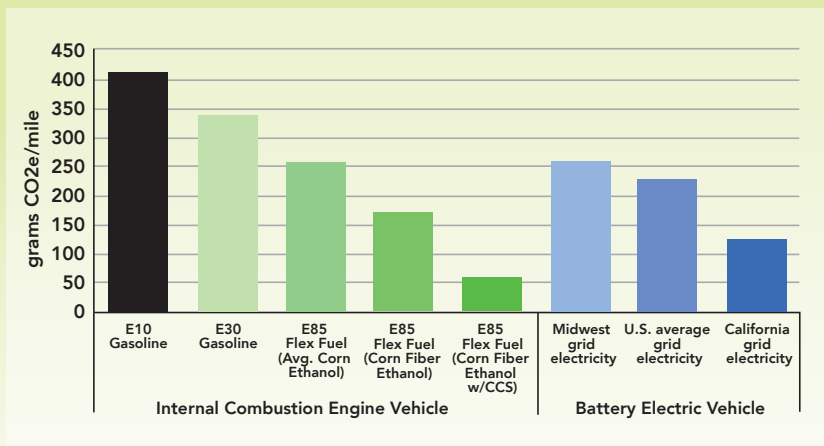
Ethanol critics have long suggested that expanded production would require a large increase in cropland to support increased cultivation of corn and other feedstocks, and that forestland and other natural habitats will be converted to crops. In reality, there has been no increase in cropland planted during the “ethanol era” because farmers are producing significantly more grain per unit of land. According to the U.S. Department of Agriculture and the U.S. Environmental Protection Agency, the amount of U.S. cropland has actually continued to shrink significantly over the past 40 years as biofuels have expanded.

CHANGE IN U.S. CORN PRODUCTION AND LAND USE



Source: RFA, based on U.S. Department of Agriculture data

FULL LIFECYCLE GHG EMISSIONS (TAILPIPE AND UPSTREAM) FOR A TYPICAL CROSSOVER SUV



Source: RFA, using Argonne National Laboratory's R&D GREET Model_2023

FACT: EVs are NOT “zero-emissions vehicles”

Many policymakers and self-proclaimed climate advocates like to say that battery electric vehicles have “zero emissions” because they don’t have tailpipes. Of course, this argument blatantly ignores the upstream emissions related to electricity generation (the “fuel” for the EV), as well as the substantial emissions involved in battery mineral extraction and vehicle construction. An apples-to-apples comparison of full lifecycle greenhouse gas emissions shows that battery electric vehicles are not free of carbon emissions impacts, and that other technologies—in particular, flex fuel vehicles using low-carbon ethanol—can achieve better environmental results.