

ACHIEVING NET-ZERO ETHANOL

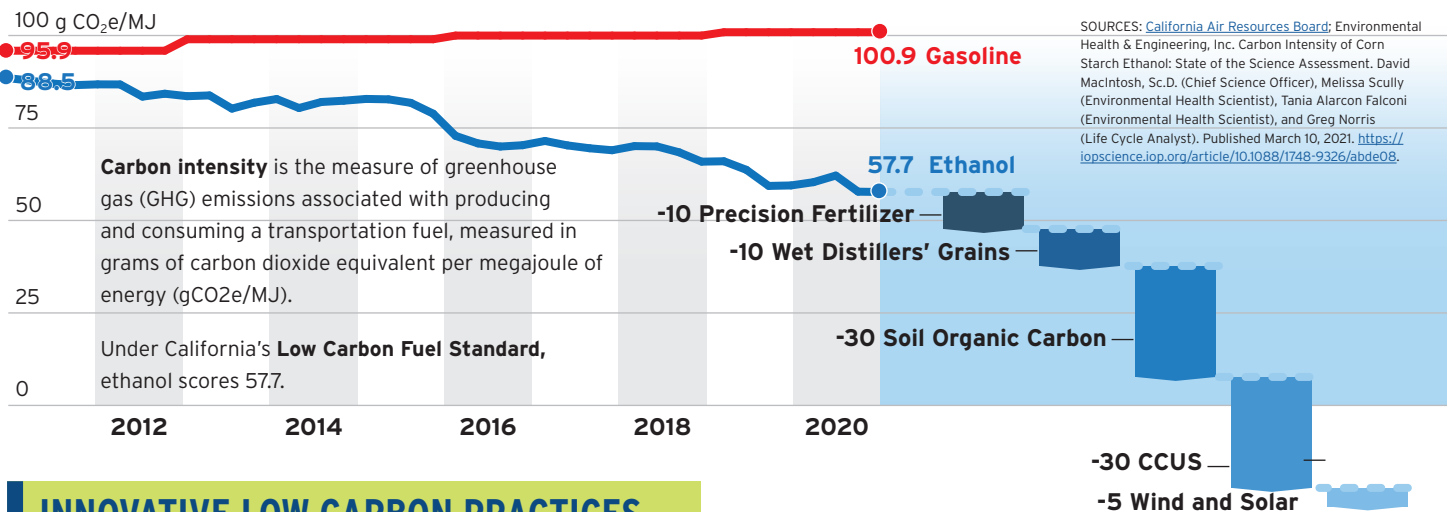
For years biofuel producers have been at the forefront of decarbonizing the transportation sector. That's why they're consistently making technological improvements to reduce ethanol's carbon intensity (CI). According to California regulators, ethanol's CI has dropped 33% in the last ten years. **We can reach net-zero ethanol and achieve negative carbon emissions with today's technology.**

GROWTH ENERGY'S ASKS

Implement important low-carbon incentive policies, including:

- ASK Clean Fuel Production Credit (45Z):** Incentivizes renewable fuel producers to reduce the carbon intensity of their fuel on a technology-neutral basis
- ASK Sustainable Aviation Fuel (SAF) Credit:** Incentivizes the production of SAF to help aviation reach carbon goals
- ASK 45Q Improvements:** Incentivizes biofuel facilities to sequester biogenic carbon from the fermentation process.
- ASK USDA Infrastructure:** Utilize USDA funding to help build out retail infrastructure, ensuring drivers across the U.S. have access to low-carbon, low-cost ethanol

CARBON INTENSITY OF ETHANOL CONTINUES TO APPROACH NET-ZERO



INNOVATIVE LOW CARBON PRACTICES

PRECISION FERTILIZER: Fertilizer intensity has dropped significantly in the last 20 years. Using less fertilizer through precision agriculture technologies lowers nitrogen use and improves ethanol's CI score.

100% WET DRIED DISTILLERS' GRAINS: Drying distillers grains, an ethanol coproduct used for livestock feed, requires burning natural gas. Ethanol plants can reduce their CI by reducing or eliminating the use of these dryers.

SOIL ORGANIC CARBON: The CI of ethanol can be further improved through the use of updated, accurate modeling, which accurately reflects carbon sequestered with the planting

of corn. Further improvements can be made by feedstock producers adopting techniques like no-till farming and planting cover crops which help keep nutrients in farm soil.

CARBON CAPTURE, UTILIZATION, AND STORAGE (CCUS): At least 25% of the ethanol industry captures carbon dioxide. Whether through utilization or permanent sequestration, increased CCUS use throughout the industry significantly lowers CI.

WIND AND SOLAR: More use of renewable energy sources like wind and solar at biorefineries will bring further CI benefits to ethanol.