

# LOW CARBON OCTANE STANDARD



## A LEGISLATIVE SOLUTION FOR FARMERS AND DRIVERS

**Would you support legislation to increase demand for farmers, transitioning our fuel supply to meet future needs for more advanced vehicles and lower carbon fuels?**

Corn growers have been working with members of Congress to write new Low Carbon Octane Standard (LCOS) legislation that would transition the gasoline supply to higher octane fuel that enables future vehicles to be more fuel efficient and reduces both carbon and tailpipe emissions.

Our legislation allows automakers to match new engine technologies with advanced fuels, providing a cost-effective solution for consumers while growing future demand for corn through use of higher blends of ethanol.

As this legislation moves toward introduction this year, farmers are asking for your commitment to co-sponsor this bill. **We won't move to higher octane, lower carbon fuels overnight, but we must plant the seeds now for future ethanol demand that will positively impact farmers for decades to come.**

## HIGH OCTANE is LOW CARBON

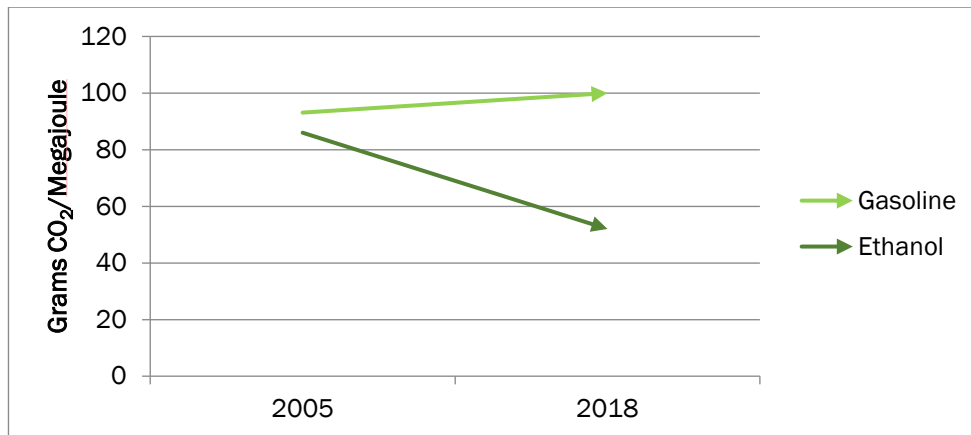
- Our legislation establishes a minimum fuel octane level of 98 Research Octane Number, or RON. At the pump, today's regular gasoline is about 91 RON.
- By increasing the octane rating of the nation's fuel, automakers will be able to use advanced engine design features that increase engine performance and significantly improve vehicle fuel efficiency from 5 to 7 percent. Current fuel standards limit the use of these advanced engine technologies, leaving automakers with few options to meet higher fuel economy standards.
- Our legislation requires that the additives used to increase gasoline's octane rating result in at least 30 percent fewer GHG emissions than unblended gasoline, reducing GHG emissions by at least 11 percent with higher ethanol blending compared to today's standard 10 percent ethanol blend.
- By requiring that octane come from low carbon sources, the LCOS further decarbonizes liquid fuels as vehicle technologies advance. This requirement, coupled with a new limit on harmful aromatics content, ensures progress already made on lowering emissions by replacing harmful gasoline components with cleaner renewables continues and prevents backsliding with more fossil fuels.
- Our legislation removes barriers to blends of ethanol up to 30 percent, harmonizing regulations to credit the full benefits of higher ethanol blends and ensuring vehicles and fueling infrastructure are ready.

## LOW CARBON OCTANE STANDARD BENEFITS

- As demonstrated through significant research, low carbon, high octane fuel such as a 98 RON supports vehicle efficiency gains of at least 5 percent. By getting more miles per gallon and using less fuel overall, this increased fuel efficiency reduces emissions from transportation fuel. Blending more low carbon ethanol further decreases GHG emissions and improves air quality to benefit our health.
- Ethanol, due to its high octane rating and other properties, is an efficient octane source. Priced lower than unblended gasoline, ethanol is also the most cost-effective octane source, providing the greatest efficiency gains at the least cost to drivers while displacing the most harmful components of gasoline.

## ETHANOL AS AN OCTANE SOURCE

- Updated lifecycle analysis shows that ethanol's carbon footprint is shrinking. 2018 USDA analysis shows today's ethanol reduces emissions by 39 to 43 percent. The most recent Department of Energy Argonne National Laboratory GREET model, updated annually, shows ethanol's average carbon intensity is 41 percent lower than that of baseline gasoline.



## MEETING FUEL NEEDS WITH TODAY'S CORN PRODUCTION

- More corn is produced with less land.
- Production has doubled while primary nutrients per bushel have been cut in half.
- Crop inputs are precise and more efficient, and tillage is significantly reduced.
- Renewed focus on soil health practices reduces erosion, holds nutrients and sequesters more carbon.

### Corn Production: 2007 vs 2018



- Ethanol **production** has grown by ▲ 145%
- Yield** per acre of corn has grown by ▲ 17%
- The **price** of corn has fallen by ▼ 14%
- Planted **acres** of corn have fallen by ▼ 5%