ETHANOL + ELECTRIC VEHICLES

BACKGROUND

- GM recently announced a pledge to phase out vehicles using internal combustion engines by 2035.
- President Biden signed an Executive Order (EO) outlining executive branch actions to address climate change, including procurement of clean and zero-emission vehicles for government fleets.

ELECTRIC VEHICLES WON'T BE DOMINATING ANY TIME SOON

- Concerns from corn growers should be tempered by the reality of the challenges facing EVs.
- Insufficient infrastructure to charge EVs and limited ability to conduct maintenance and repair are just a few of the roadblocks to wide adaption of EVs.
- Plug-in electric vehicles represented only 1.9% of sales in 2019, the same market share as in 2018.1 Hybrid electric vehicles accounted for 2.3% of sales in 2019.
- According to the Fuels Institute, given current market penetration of internal combustion engine light duty vehicles currently in the marketplace, it will take years of sales expansion and vehicle turnover to significantly change the dynamics of the marketplace. 2
- The future will be a greater mix of fuels, vehicles, and technologies. Our plan is to compete and ensure ethanol is key part of that future.

PARTNERING WITH BIG OIL

- NCGA is focused on promoting ethanol and highlighting ethanol's many benefits. Despite media reports, we are not working with oil in an effort to undermine electric vehicles.
- Oil may want to band together for oil's benefit but undoing the RFS is a precondition of that partnership – **NCGA will not undermine the RFS.**
- NCGA will not undermine our top demand market because of concerns about vehicles that are not yet on the road.

NCGA INITIATIVES TO INCREASE ETHANOL DEMAND

- Passage of the Next Generation Fuels Act: Legislation to transition the gasoline supply to higher octane fuel in order to reduce greenhouse gas emissions, improve air quality, increase fuel efficiency, and grow future demand for corn.
- Engine Testing with Oak Ridge National Laboratory (ONRL): Research being conducted around engine performance and mid-level ethanol blends.
- California E15: Testing to demonstrate the environmental benefits and compatibility of E15 in selected makes and models of vehicles to pave the way for sales of E15 and higher blends of ethanol in California. If we can achieve E15 as the base fuel in California, the potential market opportunity would be roughly 750 million gallons or 260 million bushels.

[1] *State of Transportation Energy and Vehicle Electrification White Paper – Fuels Institute – August 2020 – page 16.*
[2] *State of Transportation Energy and Vehicle Electrification White Paper – Fuels Institute – August 2020 – page 16.*

- Expanding Fuel Dispenser Infrastructure: Partnering with Wayne Fueling Systems to produce and sell dispensers certified to deliver fuel containing up to 25% ethanol (or a 98 RON fuel). To date, NCGA and state corn partners, have supported the sale of more than 60,000 new fuel dispensers.
- HBIIP: Partnering with the ethanol associations, NCGA has supported fuel retailer participation in USDA's Higher Blends Infrastructure Incentive Program (HBIIP) by helping interested parties navigate the application process. HBIIP grants support installation of fuel dispensers capable of delivering a minimum of E25.
- Ag Auto Ethanol (AAE) Alliance: NCGA is a member of AAE. AAE members focus on identifying solutions to technical challenges necessary to transition U.S. transportation fuels to higher octane/higher ethanol blends.

ETHANOL: A LOW-CARBON FUEL

- Ethanol has significant low-carbon benefits and is an affordable, and readily available, option for consumers today.
- Corn farmers proudly support the production of low carbon ethanol and are ready to lead on growing low carbon solutions. The way our farmers grow their crops today greatly improves the low carbon profile to today's ethanol.
- Corn farmers are ready to work with Congress and the Biden Administration to unlock the substantial environmental benefits that increased blends of low carbon, high octane ethanol deliver. In order to decarbonize liquid fuels, we need more space in the tank to replace high carbon gasoline with more low carbon ethanol.
- Updated analysis and new research continue to point to the same conclusion – that ethanol's carbon footprint is shrinking and will continue to shrink, thanks to how farmers grow corn. With continued improvements in corn and ethanol production, and advancements in carbon sequestration, ethanol has the ability to reach net zero when it comes to carbon emissions.
- Updated research from experts, including from Harvard University, concludes that ethanol today results in 46% fewer GHG emissions than gasoline, with room for further improvements.
- All low carbon solutions, including ethanol, must be part of any effort to reduce emissions and must be considered on a level playing field based on the carbon reduction the solutions provide.
- Corn growers have a great story to tell, and we plan to keep working across the transportation sector and with the environmental community to find common ground and solutions that bring the broadest base of support needed to address climate change.

EXECUTIVE ORDER – "TACKLING THE CLIMATE CRISIS AT HOME AND ABROAD"

- The Executive Order includes steps to incorporate climate change in foreign and national security policy and actions to take a government-wide approach to climate, with a focus on jobs and environmental justice.
- The plan includes procurement of "clean and zero-emission vehicles" for government fleets, including vehicles of the Postal Service. The Council on Environmental Quality (CEQ), Office of Management and Budget (OMB) and General Services Administration (GSA) have 90 days to submit a plan to the National Climate Advisor and the government-wide Task Force established by the order. The plan must also comply with an Executive Order on "Made In America" as well as labor requirements in that EO and the climate EO.
- No vehicles currently exist that are battery EV and meet the American-made threshold of at least 50% of U.S. materials and assembled by union labor. The inclusion of this new federal fleet requirement in the climate Executive Order is largely symbolic, although sends a signal to the auto industry.
- This commitment may be doable in the future, but not during the next four years, given the labor and "Made in America" conditions on the federal fleet proposal.