



## HOUSE OF REPRESENTATIVES

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### **LD 822 “An Act To Prohibit the Sale of Motor Fuel Containing More than 10% Ethanol”**

**March 20, 2019**

Thank you Senator Carson, Representative Tucker and esteemed members of the Environment and Natural Resource Committee for taking my testimony on LD 822 An Act To Prohibit the Sale of Motor Fuel Containing More than 10% Ethanol.

It is important to point out the absolute foolishness of this failed “renewable” energy ploy. In fact many studies have been done and the conclusion was and continues to be that corn ethanol production is wasteful of fossil fuel resources and does not increase energy security, furthermore, as we see increased ethanol production we see increased degradation of vital land and water resources as well as increased health risks. So why do we keep beating this horse? A short walk through history takes one to the Iowa Presidential Primary where Al Gore, and pardon my bluntness, successfully purchased the corn farmers. Along comes the booming ethanol industry bought and paid for with infusions of government subsidies and imagine that, the tradition continued with George W. Bush, Barack Obama and along comes Donald Trump jumping on the band wagon promising increased sales of E-15 I dare say many know it is a colossal waste, yet no one seems to stand up and say enough is enough and put an end to the government boondoggle.

Few consumers are aware of how big the ethanol industry has grown in such a short period. Ethanol consumption of corn has soared from 1.6 billion bushels in 2006 to an anticipated 4.3 billion bushels this and as of 2018 was up to 5.6 billion bushels. Corn grown for ethanol now occupies more than 10% of the total arable land in the US and if the bribery continues in Washington those frightening numbers will continue to rise.

The fact that farming to grow corn for ethanol production requires the burning of a



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lot of fossil fuel which dramatically destroys ethanol's efficiency. The fact is that it takes 133,000 BTU's of fossil fuel energy to get 77,000 BTU's for ethanol energy. Then imagine that it takes nearly 7 times more cropland to fuel one average car going 10,000 miles per year than it does to feed one American.

While oxygenated fuels have been promoted for their ability to decrease certain air toxics, multiple studies have reported higher emissions of the hazardous air pollutants acetaldehyde and formaldehyde linked to increased ethanol content in fuels. Both acetaldehyde and formaldehyde are considered by EPA to be probable human carcinogens. Formaldehyde is associated with respiratory tract irritation, chronic bronchitis, and airway inflammation Acetaldehyde is a strong respiratory irritant and toxicant especially dangerous for children and adults with asthma. Further increases in acetaldehyde could lead to increased cancer incidence and wider prevalence of respiratory problems.

The table below summarizes available information on the air pollution profile of ethanol fuel blends. Data indicate that instead of providing better air quality, ethanol fuel could well result in no measurable improvement, substituting one set of air pollutants for another, and possibly worsening air pollution overall.

Air pollutant	Findings	Human and environmental health consequences
Carbon monoxide (CO)	Decreases for E10, no further improvement for E15 and E20 (DOE 2009)	Reduces the ability of blood to carry oxygen to body tissues and vital organs; aggravation of heart disease (U.S. EPA 2008)
Benzene and 1,3-butadiene	Decrease due to dilution of gasoline with ethanol (E10) (Whitney 2007); no DOE data available so far.	Inhalation carcinogens (U.S. EPA 2007a)
Acetaldehyde	Increases by two- to three-fold (Australian Government 2004; DOE 2009), especially when the vehicles	Respiratory toxicant, irritant, inhalation carcinogen, strongly contributes to ground-level



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	are started at cold temperature (Whitney 2007).	ozone formation (U.S. EPA 2007a)
Formaldehyde	Increases for all ethanol blends compared to E0 (Australian Government 2004; DOE 2009)	Respiratory toxicant, inhalation carcinogen, contributes to ground-level ozone formation (U.S. EPA 2007a)
Oxides of Nitrogen (NOx)	Some increase for E15 (37% of vehicles in DOE study) and notable increase for E20, especially for older, high-mileage vehicles (Australian Government 2004; DOE 2009). Increases for non-road engines at every ethanol concentration tested (E10, E15, and E20).	Aggravates respiratory disease; contributes to ground-level ozone formation; increases acidification and eutrofication of soil and surface water (U.S. EPA 2008)
Ethanol (precursor to acetaldehyde)	Released during both ethanol production and ethanol fuel combustion (Brady 2007; DOE 2009)	Health effects due to acetaldehyde formation in the air (U.S. EPA 2009a).
Volatile organic chemicals (VOCs)	Emitted by ethanol production facilities (Brady 2007)	Respiratory toxicants, contribute to ground-level ozone formation (U.S. EPA 2007a).
Ozone	May increase with increased ethanol use due to the projected increases in VOCs and NOx emissions (American Lung Association 2009; Jacobson 2007; U.S. EPA 2007b)	Aggravates respiratory and cardiovascular disease, higher rates of asthma, and respiratory infection. Increases premature death. Causes damage to vegetation such as trees and crops (Jerrett 2009; NRC 2008;



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		U.S. EPA 2008)
Particulate matter (PM2.5)	Significant increases due to corn ethanol production compared to conventional gasoline (Hill 2009)	Aggravation of respiratory and cardiovascular disease, decreased lung function, increased asthma and premature death. Environmental influence: impairment of visibility, effects on climate (U.S. EPA 2008)

The introduction of corn ethanol has failed to produce significant improvement in air quality and instead simply substitute one set of air pollutants for a different one, at a significant cost to society. The bottom line here is corn ethanol as a renewable energy source is a science and engineering joke, not common sense energy policy never mind wise environmental policy or good health policy. If I was Queen for a day the first thing I would do is ban corn ethanol as a fuel additive from my kingdom, as a Representative I simply ask we ban E-15 at the pumps although I prefer to ban all completely for the simplest reason of all...MAN WHO BURNS HIS FOOD GOES HUNGRY! I encourage an ought to pass vote on LD 822.

Thank you,

Representative Beth O'Connor