

# ETHANOL

## FAST FACTS



growth energy™  
America's Ethanol Supporters

## ECONOMIC IMPACT

- In 2015, the ethanol industry **created and supported nearly 339,000 jobs**. Moving to a widespread adoption of E15 would create an additional 136,000 jobs.
- The U.S. renewable fuels program has **cut annual consumer expenditure globally between \$700 billion to \$2.6 trillion. That is \$0.50 to \$1.50 per gallon less for gasoline**, according to recent analysis by independent energy economist, Dr. Philip K. Verleger.
- In 2015, the ethanol industry **contributed nearly \$44 billion to the nation's GDP** and added nearly \$24 billion to household income.
- By creating a steady market for corn and other grains, ethanol helps to **reduce federal farm program costs**.

## FOOD AND FUEL

- A 2013 World Bank study outlines how **crude oil prices are responsible for at least 50 percent of the increase in food prices** since 2004.
- The real costs of putting food on the shelf are **transportation, processing and packaging** – all costs driven by oil.
- The U.S. ethanol industry uses **less than 3 percent of the global grain supply** on a net basis.
- Nearly one-third of every bushel of corn used in ethanol production is **returned to the food chain** in the form of distiller's grains, a competitively-priced, nutritious animal feed.
- Since only the corn starch is used and distiller's grain production displaces both corn and soybean meal production in livestock feed, **less than 25 percent of the corn acres are used for ethanol production.** Over the next decade that is projected to decrease by an additional 24-56 percent.

## ENVIRONMENTAL IMPACT

- In 2015, the production and domestic use of nearly 14 billion gallons of ethanol in the U.S. reduced greenhouse gas emissions by more than 38 million metric tons, **the equivalent of removing roughly 8 million automobiles from the road.**
- Grain ethanol **decreases greenhouse gas emissions by up to 57 percent** compared to gasoline.
- Cellulosic ethanol is expected to reduce greenhouse gas emissions **by 100 percent or more.** Furthermore, the U.S. is home to more than one billion tons of available biomass that can be converted to 80-100 billion gallons of ethanol. **This is a 50-state solution.**
- **New technologies are improving efficiencies** and allowing ethanol biorefineries to make better use of natural resources like water.
- A 2016 USDA report shows ethanol is more energy efficient to produce than conventional gasoline. Every Btu put into creating ethanol **yields a 2.3 Btu return nationally and a 4 to 1 return in parts of the Midwest.**

# ENERGY SECURITY

- Every gallon of clean-burning ethanol that we produce in this country **decreases the demand for foreign oil** and keeps our money here at home where it can create American jobs.
- The production of more than 14.7 billion gallons of ethanol in 2015 **displaced the need for 527 million barrels of oil.**
- When the RFS was enacted in 2005, America imported 60.3 percent of its fuel. **Today, we import 24.2 percent.** Switching to domestic energy sources has helped reduce our dependence on foreign oil, strengthening our national security and our economy.
- In 2015, we spent nearly \$180 billion – about **\$500 for every man, woman and child in this country** – on crude oil imports.

# ENGINE PERFORMANCE

- Ethanol is rich in oxygen, which helps fuel burn more completely. With the addition of oxygen from ethanol, **harmful tailpipe emissions** such as unburned hydrocarbons and carbon monoxide **are significantly reduced.**
- Ethanol blends deliver **more miles per dollar**, even when accounting for the change in energy content between ethanol and conventional gasoline.
- High-octane fuels, like ethanol, help engines **deliver more horsepower and speed.**
- Smaller engines use less fuel, and the octane boost provided by ethanol makes it possible to **reduce size without sacrificing performance.**
- Alcohols, including ethanol, help to remove oil-based grime from surfaces, not unlike dish detergents. **That helps prevent the build-up of residues on key engine components.**

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As believers in renewable energy  
and environmental stewardship,  
Growth Energy uses recycled paper.

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