



August 31, 2017

Administrator Scott Pruitt
Environmental Protection Agency
1200 Pennsylvania Ave. NW
Washington, DC 20460

RE: Docket ID EPA-HQ-OAR-2017-0091

Dear Administrator Pruitt:

On behalf of more than 40,000 dues-paying corn farmers nationwide and more than 300,000 corn growers who contribute to corn checkoff programs in their states, the National Corn Growers Association (NCGA) appreciates the opportunity to comment on the proposed rule for the 2018 volume standards under the Renewable Fuel Standards (RFS) program.

In the 10 years since Congress expanded the RFS in 2007, corn farmers have responded to the growing market for ethanol, increasing production efficiency to help meet the RFS goals of moving the United States toward greater energy independence and security, boosting production of clean, renewable fuels and protecting consumers.

NCGA appreciates that EPA proposed an implied volume of 15 billion gallons for conventional renewable fuel, consistent with the volume requirement intended by Congress. The law intended the volume to be set at 15 billion gallons beginning in 2015, and corn growers have been asking EPA to meet this requirement. Thank you for proposing a rule that does so.

While NCGA supports the proposal for conventional biofuel, we are concerned with the proposed 73 million gallon reduction for cellulosic fuel and the 40 million gallon reduction for total renewable fuel, compared with the final 2017 volumes. NCGA believes these proposed reductions do not reflect current biofuel production.

In summary, we ask EPA to maintain the proposed conventional fuel requirement in the final rule. We also ask EPA to take a more forward-looking approach with stronger final volumes for cellulosic, advanced and total biofuels in order to draw the continued investment and innovation needed to support the ongoing expansion of cellulosic and advanced fuel production. NCGA's detailed comments on the proposed rule follow.

Sincerely,

Wesley Spurlock, President
National Corn Growers Association

WWW.NCGA.COM

NATIONAL OFFICE
632 Cepi Dr.
Chesterfield, MO 63005
(636) 733-9004
Fax: (636) 733-9005

WASHINGTON, DC OFFICE
20 F Street NW, Suite 600
Washington, DC 20001
(202) 628-7001
Fax: (202) 628-1933

Ethanol Volumes and General Waiver Authority

Corn-based ethanol has been the primary biofuel produced to meet the volume requirements under the Renewable Fuel Standard (RFS). As proposed, EPA's 2018 standards would achieve the implied statutory volume for conventional biofuel of 15 billion gallons. NCGA strongly supports this proposed implied volume and asks that EPA maintain it in the final rule.

In 2016, conventional ethanol production totaled 15.3 billion gallons, according to the U.S. Energy Information Administration. EPA notes that the supply of ethanol can be somewhat higher in 2018 than in 2017 and that ethanol supply is in excess of 15 billion gallons.¹

The August 10, 2017 World Agriculture Supply and Demand Estimates report from the U.S. Department of Agriculture (USDA) shows ample corn production to continue to meet this level of domestic ethanol production in the coming year. USDA projects a 2017 corn crop of 14.2 billion bushels, a decrease of 995 million bushels from record 2016 corn production of 15.1 billion bushels. Despite a nearly 1 billion bushel decrease in 2017 production, USDA still projects 2.2 billion bushels of ending stocks for the 2017 marketing year. Corn farmers have produced, and will continue to produce, more than a sufficient supply of corn to achieve, and expand, current levels of ethanol production.

Unlike proposed volume standards covering the past four years, EPA did not propose to use general waiver authority in the 2018 standards. NCGA agrees with EPA and believes it is neither appropriate nor necessary for EPA to exercise the general waiver authority in the final rule.

NCGA, as one of the petitioners in *Americans for Clean Energy v. EPA*, challenged EPA's use of the general waiver authority based on inadequate domestic supply in the rule setting volume requirements for 2014-2016. In its July 28, 2017 opinion, the U.S. Court of Appeals for the District of Columbia Circuit vacated EPA's decision to reduce the total renewable fuel requirements for 2016 through use of its "inadequate domestic supply" waiver authority and remanded the rule to EPA for further consideration.

The Court held that, "EPA erred in how it interpreted the 'inadequate domestic supply' waiver provision. We hold that the 'inadequate domestic supply provision' authorizes EPA to consider *supply-side* factors affecting the volume of renewable fuel that is available to *refiners, blenders and importers* to meet the statutory volume requirements. It does not allow EPA to consider the volume of renewable fuel that is available to ultimate *consumers* or the *demand-side* constraints that affect the consumption of renewable fuel by consumers."²

Based on the Court's opinion of EPA's previous use of general waiver authority, EPA may only consider supply-side factors, such as domestic production, availability of feedstocks and import

¹ 82 Federal Register 34230

² *Americans for Clean Energy v. EPA*. No. 16-1005 (D.C. Cir., 2017)

capacity, when analyzing whether a general waiver based on the law’s “inadequate domestic supply” provision is justified. EPA is not permitted to consider factors affecting the demand for renewable fuel, such as constraints on infrastructure to distribute fuel from blenders to retail stations, the number of retailers that offer renewable fuel blends, pricing of renewable fuels, prevalence of vehicles that use renewable fuels or marketing efforts of those who promote renewable fuel products, when considering use of a general waiver based on inadequate domestic supply.

Given the plentiful supply of feedstocks and supply of conventional renewable fuel to refiners, blenders and importers, as well as the projections for 2018 supply, NCGA concludes that EPA’s general waiver authority based on “inadequate domestic supply” would not apply when setting 2018 volume requirements.

In addition to the “inadequate domestic supply” basis, the law also allows EPA to exercise general waiver authority based on a determination that implementation of the volume requirements, “would severely harm the economy or environment of a state, a region, or the United States.”³ Should application of the statutory volume requirements cause severe, negative economic effects, the Court stated that EPA could apply this justification to use of general waiver authority.⁴

NCGA believes the severe economic harm threshold is a high standard to meet, and rightly so. When EPA declined petitions to waive volume requirements in 2012 based on economic harm, the agency also noted that the question of severe harm is a high statutory threshold. It is not enough for EPA to determine that implementation of the RFS would *contribute* to economic harm. EPA’s interpretation of the statute has been that implementation of the RFS must be the *cause* of the economic harm.⁵ Severe economic harm must affect more than one sector, and EPA stated, “that it would be unreasonable to base a waiver determination solely on consideration of impacts of the RFS program to one sector of an economy, without also considering the impacts of the RFS program on other sectors of the economy, or on other kinds of impact.”⁶ EPA must also take into account both the negative and positive impacts of the RFS when assessing total economic harm to a state, region or the nation.

In the agency’s 2012 petition denial, EPA acknowledged the many impacts of reduced crop production due to drought. However, EPA concluded the evidence did not support a determination that implementation of the RFS would cause severe economic harm and that RFS implementation was likely to have no impact on corn, food and fuel prices.⁷

NCGA finds no indication that the statutory volume requirements for 2018 would cause severe economic or environmental harm. As previously discussed, with USDA’s most recent U.S. corn

³ 42 U.S.C. § 7545(o)(7)(A)(i)

⁴ *Americans for Clean Energy v. EPA*. No. 16-1005 (D.C. Cir., 2017)

⁵ 77 Federal Register 70773

⁶ 77 Federal Register 70774

⁷ 77 Federal Register 70752

production estimate of 14.2 billion bushels for 2017, coupled with the high carry-out of the 2016 crop, the overall corn supply is expected to remain large. EPA's use of general waiver authority in the 2018 volume requirements would have significant negative impacts on the rural economy, and NCGA details the importance of the RFS in the current suffering farm economy later in our comments.

Food and fuel prices are often raised in relation to the RFS. In 2016, U.S. food prices experienced the first yearly decline since 1967, and the current consumer price index for food is up just 0.9 percent since June 2016. According to Energy Information Administration data, the price of regular gasoline has been below \$2.50 per gallon since 2015. While these factors do not represent an exhaustive review of the nation's economy, NCGA finds no evidence that the volume requirements are currently causing economic harm.

Furthermore, the RFS has caused environmental benefits as ethanol use improves air quality by reducing tailpipe and greenhouse gas emissions. Corn farmers have also improved productivity and sustainability for positive environmental impact.

Because the Circuit Court decision clarified "inadequate domestic supply," and because the RFS is not causing economic or environmental harm, NCGA concludes EPA has no justification for using its general waiver authority to reduce required volumes of renewable fuel in a final rule. In NCGA's view, the RFS provides both economic and environmental benefits.

Cellulosic Biofuel Volume

Currently a significant portion of liquid cellulosic biofuel production is derived from corn kernel fiber and corn stover. NCGA is concerned with EPA's proposal to reduce the cellulosic volume target to 238 million gallons, particularly when the draft rule EPA sent to the Office of Management and Budget included a proposed volume of 384 million gallons. The cellulosic target in the proposed rule represents a 73 million gallon reduction from the final cellulosic volume target for 2017 and a 146 million gallon reduction from EPA's draft 2018 rule.

NCGA notes that EPA changed the methodology used to project liquid cellulosic production in the proposed rule in a manner based more heavily on the past production of 2016. While NCGA agrees with EPA that there is "inherent difficulty" in projecting cellulosic biofuel production, particularly as existing ethanol producers adopt new technologies and new producers gradually increase production, we believe EPA should consider how the new methodology is projecting volumes based on 2017 production data that will be available before EPA sets final 2018 volumes.

The fact that the previous methodology used to project volumes produced targets that were both lower than the actual number of cellulosic RINs made available in 2015 and higher than the actual number of cellulosic RINs generated in 2016 is evidence of a neutral aim at accuracy. EPA should look forward, rather than backward, when setting cellulosic volumes in order to more accurately capture current cellulosic market activity.

In the proposed rule, EPA also discussed quantifying the volume of ethanol produced from cellulosic feedstocks rather than non-cellulosic feedstocks when registering existing facilities to produce cellulosic biofuel from corn kernel fiber.⁸ NCGA encourages EPA to work with producers on methodologies to quantify this production. As existing facilities make capital investments to add corn kernel fiber processing to their systems, the return on these investments, as well as added cellulosic fuel production, depends on an efficient and effective registration process.

Total Renewable Fuel

NCGA believes EPA has taken implementation of the RFS statute backward by proposing a lower total renewable fuel requirement for 2018 than the total volume requirement finalized for 2017. The RFS law requires an increasing amount of renewable fuel to be introduced into the nation's transportation fuel supply each year. While EPA may be operating within the law to use the cellulosic waiver authority to its fullest extent, reducing the advanced biofuel and total renewable fuel volumes by the same amount as the cellulosic volume reduction from the statutory level, NCGA strongly urges EPA to reconsider this decision in the final rule and increase the total volume from the 2017 level.

Increasing the amount of renewable fuel blended into the nation's transportation fuel supply increases U.S. energy security and independence by diversifying transportation fuel sources. Diversifying our fuel sources also strengthens additional sectors of our economy, creates new jobs and investment and lowers prices for consumers.

When it comes to ethanol, imports have decreased dramatically since 2013, largely due to a decline in sugarcane ethanol imports from Brazil. To date in 2017, the low level of imports of fuel ethanol from Brazil have largely entered the California market due to the premium under the state's Low Carbon Fuel Standard. NCGA does not believe lowering the advanced biofuel and total renewable fuel volumes will have an impact on ethanol import levels from Brazil or other biofuel imports.

Conversely, the United States has a positive balance when it comes to ethanol trade with Brazil, due to Brazil already importing a record of more than 350 million gallons of U.S. ethanol in 2017. The United States leads the world in ethanol production and exports, responsible for 60 percent of global production and 45 percent of exports. EPA can best support U.S. biofuel producers in the export market by updating its outdated lifecycle analysis (LCA) for biofuels, as discussed further in our comments below.

Finally, NCGA is concerned that the EPA's proposed reduction in total renewable fuel volume will adversely impact biodiesel. Over the last several years, the majority of dry mill ethanol plants have made investments to allow for the extraction of a portion of corn oil from the

⁸ 82 Federal Register 34216

distiller's dried grains (DDGs) that are a co-product of ethanol production. We recognize EPA has concerns about displacing what some consider food into the biodiesel market. However, we believe these concerns are misplaced.

In the case of corn oil from DDGs, this product was never destined for the food market, and, in all but the rarest cases, is not considered "food grade" oil. Instead, extracting a portion of the corn oil in the ethanol production process actually increases the energy balance of corn. Removing some of the fat content of DDGs by extracting corn oil only changes the nutritional profile of this co-product, and, depending upon the livestock species fed, actually increases the digestibility and feed value of the DDGs.

Fabricated Blend Wall Barred from Being A Justification to Lower Standards

While EPA does not use general waiver authority based on "inadequate domestic supply" in the proposed rule to lower the total volume requirement, NCGA finds EPA's references to constraints on the growth of ethanol supplied to ultimate consumers troubling and not within the direction of the Circuit Court's recent finding that the persons at issue when measuring available supply are refiners, blenders and importers. Further, the Court stated, "The central problem with EPA's 'supply equals demand' argument...is that it runs contrary to how the Renewable Fuel Program is supposed to work."⁹

EPA states that the "supply of ethanol" can be somewhat higher in 2018 than in 2017 and that the amount of ethanol supplied is constrained by a list of factors, such as gasoline use, the number of retail stations that offer higher ethanol blends and relative pricing of E15 and E85 versus E10, that EPA discusses subsequently.¹⁰

NCGA believes this discussion is legally barred and should be struck from the final rule because these factors do not constrain the supply of renewable fuel available to refiners, blenders and importers, a key distinction made in the Circuit Court's decision. In addition, weighing these ethanol usage factors as supply constraints also undermines the purpose of the RFS and use of the volume requirements to help force demand up, a point emphasized by the Circuit Court. NCGA further encourages EPA to affirmatively acknowledge that the agency shall only consider factors affecting supply to refiners, blenders and importers, such as the availability of feedstocks, the production capacity of renewable fuel producers and imports from foreign producers, when setting volume requirements.

Statutory Reset Authority

Although EPA is not soliciting comments on the reset rulemaking referenced in the proposed rule at this time, NCGA urges EPA to proceed with caution when exercising its reset authority. The statutory reset authority has been triggered by previous reductions of cellulosic and

⁹ *Americans for Clean Energy v. EPA*. No. 16-1005 (D.C. Cir., 2017)

¹⁰ 82 Federal Register 34230

advanced biofuel volumes from statutory levels. However, if EPA finalizes the 2018 total volume requirement at a level that is more than a 20 percent reduction from the statutory level for the first time, such a reduction would allow EPA to use the reset authority for the total renewable fuel volume, should EPA continue to reduce it in the 2019 rule.

NCGA believes EPA can use the flexibility in the statute that comes with the cellulosic waiver authority to avoid use of the reset rule. By continuing to use the cellulosic waiver authority on an annual basis, rather than making the more uncertain multi-year projection for volumes of cellulosic and advanced fuel production under a reset rule, EPA would maintain full administrative flexibility to adjust volumes in a dynamic marketplace that is gradually commercializing and expanding use of new technologies.

EPA Should Address Regulatory Constraint on Ethanol Usage: Reid Vapor Pressure

One constraint on usage of E15 that EPA failed to mention in the proposed rule is the lack of Reid Vapor Pressure (RVP) parity for ethanol blends greater than 10 percent. RVP parity would lead to further expansion of E15 availability and provide a consistent message to consumers. NCGA strongly urges EPA to set a transparent timeline for using the agency's authority to remove this barrier.

The RVP of gasoline can range from 7 to 15 psi; the RVP of pure ethanol is 2 psi. Depending on the location and month of the year, gasoline RVP may not exceed 9.0 or 7.8 psi. The most common fuel used in the United States today is E10, which has a RVP of about 10 psi.

Under the Clean Air Act, E10 is allowed a "one pound waiver" of EPA's evaporative emission limit.¹¹ In other words, Congress gave EPA the authority to allow the use of E10 during the June 1 through September 15 summer fueling season even though it may exceed the 9.0 psi limit.

In 2011 EPA approved the use of E15, a fuel with fewer evaporative emissions than E10. While the RVP of E15 is less than E10, it is still above the 9.0 psi threshold. Even though ethanol blends above E10 would reduce total RVP emissions from today's level, EPA does not allow E15 to be sold during summer months in non-reformulated gasoline areas.

Without relief from the existing RVP interpretation, retailers are forced to stop selling E15 during the summer fueling season. This unnecessary limitation on E15 sales keeps many retailers from offering the choice of E15. It also denies consumers the opportunity to buy a lower-cost, lower-emissions fuel during the peak driving season.

To remedy this unnecessary RVP constraint, EPA must put ethanol blends greater than 10 percent on a level playing field with E10.

¹¹ CAA § 211(h)(4)

EPA Should Address Need for Updated Lifecycle Analysis

The Energy Independence and Security Act of 2007 (EISA) established lifecycle greenhouse gas (GHG) emission thresholds for different types of renewable fuel when compared to lifecycle GHG emissions for gasoline or diesel. EPA last updated its lifecycle analysis (LCA) for corn-based ethanol in 2010, projecting that corn-based ethanol would produce 21 percent fewer GHG emissions by 2022 when compared to gasoline.

In order to reflect the 10 years of ethanol expansion since the EISA became law, NCGA believes it is imperative for EPA to follow through with an updated LCA, as the agency committed to doing in the 2010 EISA rulemaking process. NCGA strongly encourages EPA to either begin updating its LCA or adopt an updated LCA issued by another federal government agency.

While EPA highlights concerns with biofuel imports in the proposed volume standards rule, NCGA reminds the agency to also take into account the economic benefits of biofuel exports. The United States has become the world's largest ethanol exporter, and U.S. ethanol exports far exceed our declining ethanol imports. However, EPA's outdated LCA for corn-based ethanol is hindering ethanol exports, as well as expansion of domestic ethanol use in markets such as California.

In addition to price and availability, many of our export customers use the GHG reduction threshold as a basis in biofuel purchase decisions. For example, as Brazil weighed imposing an import tariff on U.S. ethanol, one proposal evaluated was a tariff based on differences in GHG profiles of domestic and imported ethanol, measured by EPA's 2010 LCA analysis. Although Brazil has since adopted a different ethanol tariff proposal, additional countries that buy U.S. ethanol, or have the potential to buy our ethanol, also value GHG criteria, including Japan, Canada, and Columbia.

LCA estimates are dynamic, and the corn and ethanol industries have changed dramatically with the rapid expansion of ethanol production in the past 10 years. Regulators in other countries rely on EPA for data. Unless EPA updates its ethanol LCA to reflect current production, U.S. ethanol producers, and the jobs and farmers their exports support, will be put at a disadvantage in the world marketplace by their own government.

Other federal government agencies have issued updated GHG LCA for ethanol based on actual corn and ethanol production experience and new data from the past 10 years, rather than the projections EPA's 2010 LCA is based on. Most recently, an analysis prepared for the U.S. Department of Agriculture and released in 2017 shows corn-based ethanol currently results in 43 percent fewer GHG emissions when compared to gasoline.

Further, according to the USDA analysis, if additional GHG-reducing technologies trends continue, GHG emissions reductions could reach 48 percent by 2022, and if new ethanol and corn production technologies become widespread, emissions reductions could be 76 percent less than gasoline. At these GHG reduction levels, corn-based ethanol quickly catches up to

sugarcane ethanol, making U.S. ethanol even more competitive in the world market if EPA will update its LCA.

Correcting the Record on Ability to Increase Ethanol Usage

With regard to EPA's analysis of constraints on ethanol demand in the proposed rule, NCGA believes the agency's continued fabrication of a false E10 blend wall fails to account for the ample time the petroleum and fuel retail industries have had to prepare to accommodate the higher ethanol blends they knew the expanded RFS would require. The RFS provided renewable fuels with access to a previously closed marketplace, but the market-forcing policy of the RFS relies on EPA to set high standards in order to help push demand up.

As EPA noted, the average ethanol concentration in gasoline exceeded 10 percent in 2016, reaching 10.05 percent and surpassing the fabricated blend wall.¹²

NCGA continues to work with the ethanol industry and other partners to expand the ability of fuel retailers to offer higher ethanol blends despite contractual hurdles erected by oil companies. An increase in compatible vehicles and upgraded fuel dispenser infrastructure continues to drive market penetration of higher blends of ethanol at U.S. fueling stations.

In 2011, EPA approved the use of E15 in all cars built after 2001. Today, 87 percent of the 264 million vehicles on the road can use E15—approximately 230 million vehicles. E15 compatibility is the standard for new vehicles, and an additional 14 million new E15-capable vehicles are added to the fleet each year while older vehicles, which are less likely to be E15 compatible, are retired. In addition, there are currently 20 million flexible fuel vehicles (FFVs) on the road, capable of using ethanol blends up to E85. There are more FFVs on the road today than cars and light trucks running on diesel and E0.

Significant investments have been made by state corn grower associations as matching funds for the USDA Biofuel Infrastructure Program (BIP). As a result of the BIP program, as well as industry programs such as Prime the Pump, there has been substantial growth in the offering of E15 nationwide. There are currently more than 970 stations offering E15, a twofold year-to-year increase. Although Midwestern states lead the pack in E15 offerings, the fuel is now offered in 30 states, nine more than in 2016. As shown on the map below, top states in terms of E15 retail location include the following: Minnesota (144), Iowa (132), Georgia (80), Pennsylvania (80), Florida (78), Wisconsin (73) and North Carolina (69).

Current numbers also indicate more than 3,700 retail stations offer E85—a 16 percent increase from 2016. Of these, nearly 500 offer mid-level ethanol blends. NCGA will provide further input to EPA on the use of mid-level blends in our comments on the reconsideration of the Final Determination for emissions standards for vehicles. The RFS aligns with the goals of efficiency and emissions standards and harmonizing these programs benefits consumers.

¹² 82 Federal Register 34230

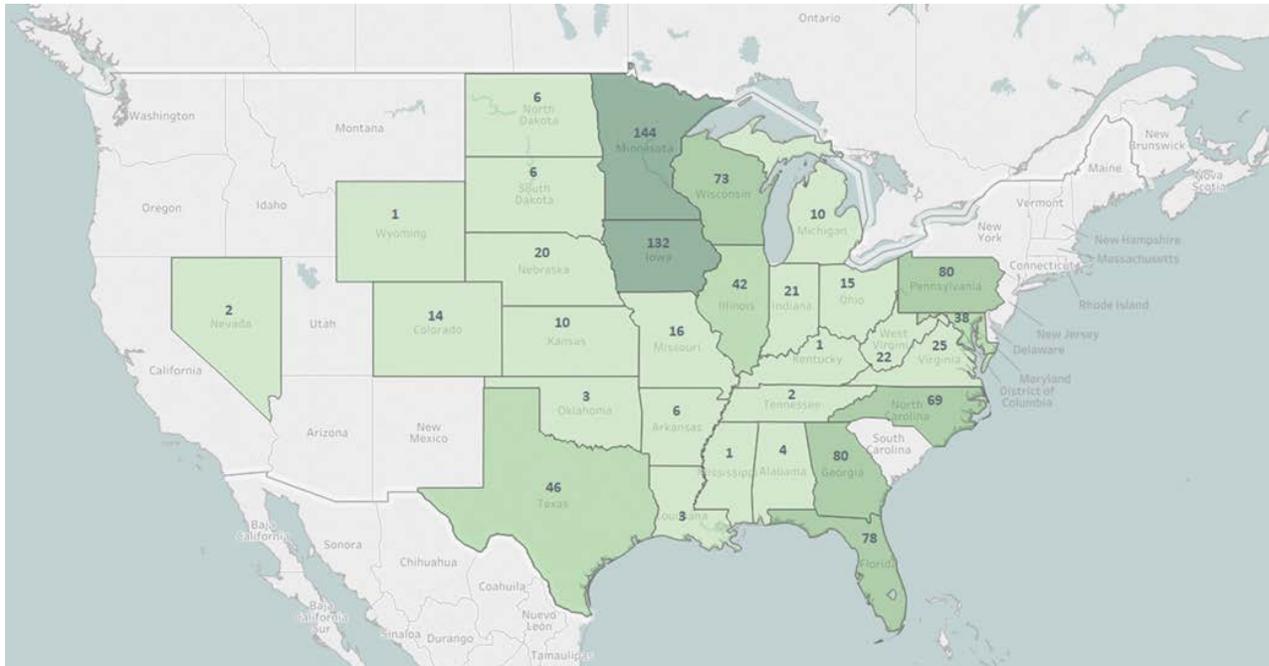


Figure 1 E15 Retail Locations By State

Because all vehicles on the road can run on blends of E0 and E10, when retailers add E15 and other higher ethanol grades to their inventory, they retain all previous customers while doing more to service the 87 percent of vehicles capable of using E15.

In addition, the financial barrier to such additions is often exaggerated. According to the U.S. Department of Energy’s National Renewable Energy Lab (NREL), nearly all underground storage tanks and systems can safely store up to 100 percent ethanol. This limits the transition to above ground equipment, which, for E15, is quite reasonable. According to both the Petroleum Equipment Institute and the USDA, most stations can upgrade by adding E15 capability for as little as \$1,000. Converting current fuel positions costs even less.

Although the USDA’s BIP program is reaching its horizon and the ethanol industry’s Prime the Pump program is undergoing a new round of fundraising, state tax policies and other incentives are also available to offset costs and create market space for biofuels.

More than a dozen U.S. states offer tax incentive programs to promote the sale of biofuels, reduce costs to consumers for the purchase of biofuels, and to offset capital expenses devoted to pump infrastructure or vehicle conversion. For example, Iowa offers retailers a tax credit in the amount of \$0.16 per gallon of E70 and E85 sold; similar credits are available for midlevel ethanol blends between E15 and E69. Iowa also offers a blender tax credit of up to \$0.08 per gallon of pure ethanol blended into gasoline. Wisconsin offers a tax credit of up to 25 percent of the cost to install or retrofit fueling pumps that dispense E85 or offer consumers broader choice among blends. Minnesota taxes E85 at the pump at significantly lower rates than it does gasoline. North Carolina exempts the retail sale, use, storage, and consumption of alternative

fuels from state retail sales and use tax. In Oklahoma, retailers that sell blends of E15 can receive a tax credit of \$0.0016 per gallon of ethanol blended and sold within the state.

Several state programs target the construction and conversion of fueling stations as well as promote greater consumer choice at the pump. For example, Nebraska offers low-cost loans through its Energy Office to promote the construction or conversion of fueling stations. Loans are also available for the purchase of alternative fuel vehicles, conversion of conventional vehicles, and similar alternative fuel projects. Oregon offers a similar program to public agencies, private entities, and tribes. South Carolina and Oregon provide an alternative fueling infrastructure tax credit of up to 25 percent for E70 and E85 compatible dispensers, respectively. Florida offers a biofuels investment tax credit of up to 75 percent for costs associated with pump conversion and similar projects. Kansas will offer up to a 40 percent income tax credit for qualifying infrastructure projects.

Nearly half of U.S. state governments are transitioning or have transitioned their state fleets to higher blend biofuel vehicle requirements. These states include Alaska, Arizona, California, Delaware, Hawaii, Indiana, Kansas, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Jersey, New York, North Carolina, Ohio, Oregon, South Carolina, Washington, West Virginia, and Wisconsin. For many of these states, the adoption of renewable fuels represents a clear pathway toward long-term goals of economic viability paired with environmental sustainability.

The RFS and Agriculture

Through the 2016 crop year, 5.3 billion bushels of U.S. corn produced more than 15 billion gallons of ethanol. Corn ethanol production returned the equivalent of 1.1 billion bushels of corn as distillers dried grains for feed, adding value for corn farmers and benefits for livestock producers in the form of high-quality, affordable nutrition.

In 2017, agriculture producers are facing a fourth consecutive year of depressed farm income and commodity prices. Net farm income has declined more than 50 percent since 2013. While USDA now expects net farm income to increase slightly in 2017 compared with 2016, USDA still expects corn crop receipts to decline for the fifth consecutive year due to weakening of calendar-year corn prices. As a result, farmers are facing increased financial challenges and drains on equity. That financial stress, in turn, affects rural businesses and communities across the country.

Corn prices averaged \$4.70 per bushel between 2006 and 2013, a time of positive net income for many grain farmers. Since then, corn prices declined to \$3.70 per bushel in 2014 and are expected to fall to \$3.40 for the 2016/2017 marketing year, prices well below average, and below the average costs of production of \$4.24 estimated by USDA.

Maintaining an implied volume for conventional renewable fuel at 15 billion gallons, consistent with the statutory target for 2018 and the proposed rule, provides a firm base of support for

ethanol production and for corn prices. A strong RFS supports a market-based solution for improving the agriculture economy.

In the 10 years since the RFS was expanded in 2007, corn farmers have responded with increasing productivity. Corn production has improved on all measures of resource efficiency, helping make ethanol an even more sustainable renewable fuel. For example, corn farmers have increased production while reducing application of primary nutrients such as nitrogen, phosphorous, and potassium. In 1980, farmers produced 6.64 billion bushels of corn and used 3.2 pounds of primary nutrients per bushel. By 2014, farmers more than doubled production while cutting nutrient input in half, producing 14.2 billion bushels of corn while using 1.38 pounds of nutrients per bushel.

While filling new demand for ethanol, corn has kept up with demand in all other uses, including our largest market, livestock feed, and other food and industrial uses, as well as rising exports. Corn production has increased primarily because crop yields have increased from an average of 150 bushels per acre in 2007 to 174.6 bushels in 2016. Productivity growth is a long-term trend; production in 1980 averaged 91 bushels per acre.

Ethanol has not had a significant impact on total agricultural land use, even as ethanol hit its highest production level gallons in 2016. Projections for land use changes that were made in the early stages of the RFS have not materialized when direct production experience from the past 10 years is evaluated. Planted corn acres peaked in 2012. According to USDA data, planted corn acres in 2016 were about 3 million fewer than 2012 and just 0.5 percent greater than when the RFS was expanded in 2007. For 2017, planted corn acres are again below 2007 levels, reflecting weather conditions and the high carryout from the 2016 crop.

The RFS has had a strong, positive impact on corn production and agriculture. The proposed conventional biofuel requirement would continue and expand the benefits of the RFS for agriculture. A stronger total biofuel requirement than proposed would increase benefits to the U.S. farm economy at a time when farmers need new markets and growing demand.