

# THE RENEWABLE FUEL STANDARD: IMPLEMENTATION ISSUES

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## HEARING BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER OF THE COMMITTEE ON ENERGY AND COMMERCE HOUSE OF REPRESENTATIVES ONE HUNDRED FOURTEENTH CONGRESS SECOND SESSION

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## **THE RENEWABLE FUEL STANDARD: IMPLEMENTATION ISSUES**

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**WEDNESDAY, JUNE 22, 2016**

HOUSE OF REPRESENTATIVES,  
SUBCOMMITTEE ON ENERGY AND POWER,  
COMMITTEE ON ENERGY AND COMMERCE,  
*Washington, DC.*

The subcommittee met, pursuant to call, at 10:02 a.m., in room 2123 Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Members present: Representatives Whitfield, Olson, Barton, Shimkus, Pitts, Latta, Harper, McKinley, Pompeo, Kinzinger, Griffith, Johnson, Long, Flores, Mullin, Hudson, Rush, Tonko, Welch, Loeb sack, and Pallone (ex officio).

Also present: Representative King.

Staff present: Will Batson, Legislative Clerk, Energy and Power, Environment and the Economy; Allison Busbee, Policy Coordinator, Energy and Power; Rebecca Card, Assistant Press Secretary; Tom Hassenboehler, Chief Counsel, Energy and Power; A.T. Johnston, Senior Policy Advisor; Ben Lieberman, Counsel, Energy and Power; Brandon Mooney, Professional Staff Member, Energy and Power; Annelise Rickert, Legislative Associate; Chris Sarley, Policy Coordinator, Environment and the Economy; Dan Schneider, Press Secretary; Jean Fruci, Minority Energy and Environment Policy Advisor; Caitlin Haberman, Minority Professional Staff Member; John Marshall, Minority Policy Coordinator; Jessica Martinez, Minority Outreach and Member Services Coordinator; Dan Miller, Minority Staff Assistant; and Alexander Ratner, Minority Policy Analyst.

### **OPENING STATEMENT OF HON. ED WHITFIELD, A REPRESENTATIVE IN CONGRESS FROM THE COMMONWEALTH OF KENTUCKY**

Mr. WHITFIELD. I would like to call the hearing to order this morning, and I would like to recognize myself for a 5-minute opening statement.

This morning we are going to revisit the Renewable Fuel Standard, the EPA program to add agriculturally based fuels like ethanol and biodiesel to the nation's transportation fuel supply. It has been nearly a decade since the RFS was last revised by Congress in 2007 and a great deal has changed in the interim. Energy markets have evolved in ways that were not predicted back then, and RFS implementation has taken many unexpected turns.

For these reasons we are conducting this hearing to assess the status of the RFS and I welcome both the government and stake-

holder witnesses who will provide us with many perspectives on this multifaceted issue. And we will have two panels of witnesses this morning representing all sides of the issue, and I really look forward to the hearing.

[The prepared statement of Mr. Whitfield follows:]

#### PREPARED STATEMENT OF HON. ED WHITFIELD

This morning we will revisit the Renewable Fuel Standard, the EPA program to add agriculturally-based fuels like ethanol and biodiesel to the nation's transportation fuel supply. It has been nearly a decade since the RFS was last revised by Congress in 2007, and a great deal has changed in the interim. Energy markets have evolved in ways that were not predicted back then, and RFS implementation has taken many unexpected turns. For these reasons, we are conducting this hearing to assess the status of the RFS, and I welcome both the government and stakeholder witnesses who will provide us with many perspectives on this multi-faceted issue.

As I see it, the RFS was enacted largely for three reasons—to reduce America's dependence on foreign oil, to lower greenhouse gas emissions, and to strengthen rural economies. Over the span that the RFS has been in place, oil imports have indeed declined dramatically. However, most of this trend is due to sharply increased domestic oil production—something that few imagined was even possible during the Congressional debates over the RFS. Little of the decline in import dependence can be attributable to the RFS itself.

The RFS was also supposed to provide a means for significantly reducing greenhouse gas emissions, but a growing number of scientists and environmental advocates are saying otherwise. Reports from the National Academy of Sciences, the Intergovernmental Panel on Climate Change, the Congressional Budget Office, and others have all hedged on whether renewable fuels are delivering the promised greenhouse gas reductions. And today, we will learn more about research showing that the RFS may be resulting in the destruction of carbon-storing natural lands that are being converted into cropland. In fact, EPA's Inspector General is currently investigating whether the agency has been ignoring these and other scientific developments that raise questions about the impact of the RFS on emissions.

The third goal of the RFS is to boost rural economies, and here we can say that the program has delivered on its promise. The RFS has strengthened the demand for and price of corn, soybeans, and other feedstocks. And the bio-refineries that turn these materials into renewable fuels are primarily located in small farming communities where they provide a substantial number of jobs. I might add that many in the animal agriculture sector believe that the RFS raises the price of feed, so the benefits are far from universal, but overall the program remains popular in rural Kentucky and most of rural America.

I believe we should have an open mind on whether changes are needed. Perhaps we can improve upon the benefits of this program while minimizing the downside.

I am particularly concerned about the impact of the RFS on consumers. Billions of gallons of ethanol are being added to the fuel supply and we need to be certain that these renewable fuel-containing blends work well for the owners of the millions of cars, trucks, motorcycles, boats, and small engine equipment who use them. That is why I am particularly pleased that we are being joined by Mr. Todd Teske, the CEO of Briggs & Stratton, who can expand on the impacts of the RFS on outdoor power equipment.

In addition, I am concerned about the program's long-term future, especially given that after the year 2022, the EPA will have a great deal of latitude in redesigning the program as the agency wishes. For these and other reasons, I welcome this important and necessary discussion of the RFS.

Mr. WHITFIELD. At this time, I would like to yield the balance of my time to the gentleman from Illinois, Mr. Shimkus.

Mr. SHIMKUS. Thank you, Mr. Chairman. First, I want to apologize. As Assistant Administrator McCabe knows, I am probably headed down to the White House for a bill signing so I am going to miss some of the—well-timed maybe, but I am going to miss some of the testimony and the questions.



But just to weave the story, it was in 1992 where the auction and debate came into the fuel market, Clean Air Act of '92. I am reminded when I see my friend Kenny Hulshof in the background it was in 1998 when I really passed my first bill that changed EPAC on biodiesel to get real credits for fleets for fuel use, and that was just Karen McCarthy from Kansas City, Missouri, have a long part in this debate. In 2005, under the leadership of Chairman Barton we changed the debate again. We changed it from the clean air portions to energy security and that is what brought 2005 into the market. Then under the leadership of Chairman Waxman under Democrat controls we expanded the RFS and really started pushing next generation cellulosic issues.

And we kind of find ourselves, this is kind of where we find ourselves now, but the world has changed also with fracking and so the energy independence issue is in front of us. You ask yourself why are we exporting and importing either ethanol, exporting or importing ethanol. You ask yourself why are we importing and exporting biodiesel when if we need it we ought to maybe just be selling it to ourselves instead of having to ship it overseas. All this will require, you know, changes in laws.

And I would ask our panelists to not only give us their best case story but also to listen to each other, because as we move forward we are going to have to move towards compromise because a lot of people have raised capital, assumed risk, created jobs, great tax bases for our communities, and we will be better when we work together than when we work apart and I know we can do that.

And with that Mr. Chairman, again I apologize for having to leave, probably well timed. I wish I could take credit for the President's decision to have this now, but with that I yield back the balance of my time.

Mr. WHITFIELD. The gentleman yields back.

And before I introduce Mr. Rush, I do want to recognize Mr. Tom Bliley, former chairman of the Energy and Commerce Committee, the distinguished gentleman from Richmond. And when I first came to Congress in 1995 he was our chairman and did a fantastic job. And Tom, welcome back to the Energy and Commerce Committee.

At this time I would like to recognize the gentleman from Illinois, Mr. Rush, for a 5-minute opening statement.

**OPENING STATEMENT OF HON. BOBBY L. RUSH, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF ILLINOIS**

Mr. RUSH. I want to thank you, Mr. Chairman. Mr. Chairman, this is a very important hearing on the implementation of the Renewable Fuel Standard. As you can imagine, Mr. Chairman, my office has taken dozens of meetings on this important topic for both proponents who support the RFS as it is as well as from the opponents who would like to see the RFS either modified or repealed altogether.

From its inception I strongly supported this policy and the goals that it was first enacted to do. Some of the objectives include helping to reduce U.S. dependence on foreign oil, enhancing energy security, bolstering the agricultural sector, and addressing the challenges of climate change by reducing greenhouse gas emissions

from the transportation sector, Mr. Chairman, are some of the things that I have strongly supported.

Since that time, Mr. Chairman, the energy landscape has changed significantly in our nation, and at meeting after meeting in my office we have received a host of competing and in many cases contrasting information on the impact of the RFS.

Today I am most interested, Mr. Chairman, in hearing about the impact of the RFS on food and agricultural prices as well as the issues surrounding the gasoline ethanol blend wall. Additionally, Mr. Chairman, with more frequent record-breaking temperatures and history making extreme weather events, it is imperative that we also examine the impact of the RFS in regards to climate change for those who are concerned about this very, very critical issue.

It is my hope that today we will be able to shed light on the current status of the program and find more clarity on the effectiveness it has had in meeting its original goals. I am pleased with the diversity of the panelists and the different industry sectors that they represent, as I believe this will lead to a more robust and comprehensive debate.

Hopefully, Mr. Chairman, today's discussion will provide clarity and a better understanding of this issue for members on both sides of the aisle. I think it is important to hear from the various stakeholders on some of these important issues surrounding the RFS in a public and transparent setting, where they will have the opportunity to respond and rebut other witnesses so that members may gain a better idea of what indeed is fact and what is fiction in regards to this debate.

So Mr. Chairman, it goes without saying that I look forward to learning more about most of the opportunities and the challenges to implementing the RFS as currently drafted, and it is my hope that we can work to find an excellent common ground on this issue moving forward. With that Mr. Chairman, I yield back.

Mr. WHITFIELD. The gentleman yields—

Mr. RUSH. No, I yield a minute to Mr. Welch.

Mr. WHITFIELD. The gentleman yields to Mr.—OK.

Mr. WELCH. Thank you, Bobby. I thank the gentleman. Thank you, Mr. Chairman, for this hearing.

The RFS mandate has been a well-intended flop. It has not helped the environment, it has hurt it. It has not reduced fuel—it has increased food costs in this country and in foreign countries, and it has done an immense amount of engine damage to everyday folks who want to use chainsaws; want to use boats, boat motors; want to use motorcycles.

And I have here a photograph from the Burlington Free Press which shows a carburetor that was clean, it used regular gas, and this was one that was brought in that has been damaged by ethanol. And I have a carburetor here. It will be a little tougher to see, but this is from a Suzuki motorcycle owned by a veteran. And one side is what would be the condition of the carburetor with regular gas. This is the dirty, filthy side that is the carburetor from the use of ethanol, and the veteran who owned that motorcycle had to pay a bill of \$786 just to fix that up from the damage done by ethanol.

So we have got this situation here where in addition to the food costs, in addition to the environmental damage, everyday folks who are out there riding their motorcycles, veterans, everybody using a small engine, using their chainsaw are finding that when they leave it there suddenly it is wrecked. And in fact my chainsaw got wrecked as a result of ethanol, so I have got a chainsaw grievance along with a lot of my constituents.

This was a plan that had bipartisan support, RFS. It had the best of intentions, it had the worst of outcomes. It is time for us to change it, and I am delighted to be working with Mr. Flores of Texas in a strange partnership of the Lone Star State and the Green Mountain State. Thank you very much. I yield back.

Mr. WHITFIELD. The gentleman yields back and the gentleman's time has expired. Mr. Upton is not going to take the time for an opening statement. Is there anyone on our side of the aisle that would like to claim time for an opening statement? Mr. Barton. Mr. Barton is recognized for 5 minutes.

Mr. BARTON. Oh, I am not going to use 5 minutes, Mr. Chairman. I do want to thank the chairman and Mr. Rush for holding this hearing, and I want to thank Mr. Welch and Mr. Flores for introducing their bill.

I was chairman of the full committee when we put the original Renewable Fuel Standard in place in the Energy Policy Act of 2005. I supported it then. I was ranking member when they passed the 2007 Energy Bill that greatly expanded it, and I have vehemently opposed the expansion in committee and on the floor. And so I have been for it and I have been against it.

I today think, Mr. Chairman, that you could actually repeal it and market conditions would still provide a robust market for ethanol and all other alternative fuels. There is no question that the oxygenate ability of ethanol is a positive. There is also no question that this is not a struggling industry that needs the various protections and mandates that we have put into the law, and there is also no question that you can't meet the requirement, the market cannot meet the requirement that the current law requires.

So I think this is an excellent hearing. I am going to listen with an open mind. Again I want to thank the chairman and the ranking member and our two bipartisan cosponsors for this legislation. I am not sure we can legislate this year, but I think it is something that needs to be looked at in the near future.

And I will be happy to yield to Mr. Flores. It looks like he wants some time. I yield the balance of my time to Mr. Flores.

Mr. FLORES. I thank Mr. Barton for his comments and for yielding the time. I also thank Mr. Welch for working with me to introduce a common sense, market-driven, bipartisan solution to deal with the well-intended law that just hasn't worked out the way it should.

I also want to thank the chairman for holding today's hearing. It has been almost 9 years since the RFS was expanded under the Energy Independence and Security Act of 2007, and I am very pleased that we are revisiting the important role of this committee and the Congress to exercise oversight through today's hearing.

One of the biggest concerns that will be discussed today is that the 2007 era assumptions of increasing gasoline demand turned out

to be far too optimistic. And the volumes that were set forth in the statute do not come close to recognizing today's market reality with respect to gasoline demand. Consumers are now faced with a law, actually they are adversely impacted with the law that continues to increase a mandate in ethanol at a time when they are using less gasoline.

Last month, Mr. Welch and I introduced the Food and Fuel Consumer Protection Act and again this is a market-driven, common sense, bipartisan solution. It is a simple one. It prevents the RFS mandate from forcing more ethanol into the market than is technically and commercially feasible. And with that I yield back the balance of my time. Thank you.

Mr. WHITFIELD. The gentleman yields back. At this time the chair recognizes the gentleman from New Jersey, Mr. Pallone, for 5 minutes.

**OPENING STATEMENT OF HON. FRANK PALLONE, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF NEW JERSEY**

Mr. PALLONE. Thank you, Chairman Whitfield and Ranking Member Rush for this opportunity to hear from the Administration and many of the key stakeholders on the Renewable Fuel Standard program.

The transportation sector is our country's largest consumer of oil and the second largest emitter of carbon pollution, so the development of low carbon renewable fuels is certainly critical. The RFS program that Congress established in 2005 and amended significantly in 2007 has helped extend our domestic fuel supply and it has spurred investment in alternative fuel production. The RFS has also supported farm incomes and rural economy in a number of states.

In recent years, domestic production of fuel overall increased due to expanded domestic production of oil and gas, and the production of ethanol has also provided us with a stable supply of domestic fuel. And the availability of ethanol provided an alternative to MTBE as an octane enhancer and oxygenate when MTBE proved to be a problem in water systems across the country.

Despite these successes, there have also been a number of challenges. For example, the annual obligation for the EPA to set RFS targets has been more controversial and challenging than Congress originally anticipated. Moreover, the increase in renewable fuel production targets Congress passed in 2007 anticipated faster and broader based development of cellulosic ethanol and other advanced biofuels.

There are also a number of constituencies, particularly equipment manufacturers and their customers including small boaters, who still have concerns about increasing the percentage of ethanol beyond the ten percent fraction that is commonly sold throughout the country. And there are others who question whether increasing biofuel production will achieve the program's important environmental goals, particularly the goal of reducing greenhouse gas emissions from the transportation sector.

I want to thank Assistant Administrator McCabe for coming today to discuss the EPA's implementation of the RFS. This is a

challenging assignment. Every year, EPA must balance many different factors with the needs and desires of many assorted players throughout the fuel supply chain from production to distribution to use. And to some degree, this has been made more difficult by the fact that the targets we set in 2007 assumed that the demand for transportation fuels would continue to grow. However, we have actually seen reduced demand nationally for transportation fuel due to a combination of historically higher fuel prices, increased vehicle fuel efficiency, slower growth in vehicle miles traveled, and of course the recession.

So I look forward to hearing more about the implications for the fuel market from Mr. Gruenspecht from the Energy Information Agency, as well as from witnesses on our second panel. During today's hearing we should consider how the RFS contributes to the deployment of the low carbon transportation system of the future that benefits both our environment and our economy, but we should also consider how this program could work better to help us meet our climate goals. Fortunately, we have an excellent panel of witnesses here today who can speak to these matters, so I look forward to hearing their perspectives on the RFS program.

[The prepared statement of Mr. Pallone follows:]

#### PREPARED STATEMENT OF HON. FRANK PALLONE, JR.

Thank you Chairman Whitfield and Ranking Member Rush for providing us an opportunity to hear from the Administration and many of the key stakeholders in the Renewable Fuel Standard (RFS) program.

The transportation sector is our country's largest consumer of oil and the second largest emitter of carbon pollution, so the development of low carbon renewable fuels is critically important. The RFS program that Congress established in 2005 and amended significantly in 2007 has helped extend our domestic fuel supply, and it spurred investment in alternative fuel production. The RFS has also supported farm incomes and rural economies in a number of states.

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Despite these successes, there have also been a number of challenges. For example, the annual obligation for the Environmental Protection Agency (EPA) to set RFS targets has been more controversial and challenging than Congress originally anticipated. Moreover, the increase in renewable fuel production targets Congress passed in 2007 anticipated faster and broader-based development of cellulosic ethanol and other advanced biofuels.

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And to some degree, this has been made more difficult by the fact that the targets we set in 2007 assumed that the demand for transportation fuels would continue to grow. However, we've actually seen reduced demand nationally for transportation fuel due to a combination of historically higher fuel prices, increased vehicle fuel efficiency, slower growth in vehicle miles traveled, and the recession.

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During today's hearing we should consider how the RFS contributes to the deployment of the low-carbon transportation system of the future that benefits both our environment and our economy. But, we should also consider how this program could work better to help us meet our climate goals. Fortunately, we have an excellent panel of witnesses here today who can speak to those matters. I look forward to hearing their perspectives on the RFS program.

Mr. PALLONE. I yield the remainder of my time to Representative Loeb sack.

Mr. LOEBSACK. Thank you, Mr. Pallone, and thank you, Mr. Chair, for having this hearing. It is very important. I only came to Congress in 2007 so I was able to vote on at least the 2007 bill. Assistant Administrator McCabe, Deputy Gruenspecht, thank you for taking the time to come here today to discuss the RFS.

And harnessing the power of our renewable resources is an absolutely critical part of our energy portfolio here in America. I think we can all agree on that. The RFS, I believe, has proven that it works. It has created jobs, it has supported our agricultural communities, and it has decreased our dependence on foreign oil.

The RFS has helped bring competition, something that was intended, and consumer choice, another thing that was intended, to the retail transportation fuel marketplace while reducing at least to some degree our dependence on foreign oil imports. In addition, the industry supports over 400,000 U.S. jobs that can't be outsourced and has contributed some \$45 billion to the U.S. economy, while in fact reducing the emissions of greenhouse gases.

As you also all know my state is a leader in biofuels, and before we get too carried away with ethanol, that also includes biodiesel, by the way. That is very important as far as the RFS is concerned and it has positively impacted of course our domestic energy sources. To help advance greater choice at the pump I have also introduced legislation to establish a grant program through the USDA to invest in renewable and alternative fuel infrastructure. My bill, the Renewable Fuel Utilization, Expansion, and Leadership Act, or REFUEL, will create a new and retrofit existing infrastructure including pumps for biofuels and hydrogen tanks, piping, and electric vehicle chargers so that we have not just ethanol and biodiesel.

Too often, infrastructure constraints are cited as the reason for not giving consumers the choices they deserve and this is about choices—keep that in mind—and for holding back the development of our renewable and alternative energy sources that create jobs in Iowa and across the country. The REFUEL Act will help bridge that divide by making important investments in the infrastructure needed to provide consumers with the choices that they want at the pump.

We must do more to decrease our dependence on foreign oil and expand our use of renewable energy sources that boost economic development in our rural areas and at the same time promote homegrown fuel sources such as biofuels and wind power. Administrator McCarthy stated in February of 2016, “We need to get the program RFS back on track. Every gallon of ethanol you take out you can only replace with more fossil fuels, so we must continue

to fight to ensure that our rural communities are part of to put our nation back on a sustainable path so that those rural communities can do that and create good jobs in our rural areas.”

And I don’t have any visual aids with me, but one of them I could think of might be a corn cob although not necessarily that. Also I think if we had a soldier or a Marine here who has gone to fight in the Middle East, I think that would be important because this is also about making sure that we reduce our dependence on foreign oil, and I think we lose sight of that sometimes when we talk about the RFS. It is about choices. Yes, it is about jobs, but it is also creating a situation where we are not so dependent on other countries for oil.

So thank you for yielding, Mr. Pallone. And thank you, Mr. Chair, for having this hearing today and look forward to the testimony. Thank you.

Mr. WHITFIELD. The gentleman yields back. And that concludes the opening statements, so we are now ready for our first panel of witnesses and I am delighted that both of you joined us this morning. Our first witness is Ms. Janet McCabe who is the acting assistant administrator at the U.S. Environmental Protection Agency.

Ms. McCabe, thanks for being with us. You are recognized for 5 minutes for your opening statement. Just make sure the microphone is on and you know the drill.

Ms. MCCABE. I know the drill.

Mr. WHITFIELD. Thank you.

Ms. MCCABE. Been here before.

**STATEMENT OF JANET MCCABE, ACTING ADMINISTRATOR,  
U.S. ENVIRONMENTAL PROTECTION AGENCY; AND HOWARD  
GRUENSPECHT, DEPUTY ADMINISTRATOR, U.S. ENERGY IN-  
FORMATION ADMINISTRATION**

**STATEMENT OF JANET MCCABE**

Ms. MCCABE. Thank you, Chairman Whitfield, Ranking Member Rush, and other members of the subcommittee. I very much appreciate the opportunity to testify on the RFS program today and EPA’s current proposed rule setting the annual volume standards for 2017 and biomass-based diesel volume requirement for 2018.

As has been noted, the RFS program began in 2006 under the Energy Policy Act of 2005, and the program was then modified by the Energy Independence and Security Act of 2007. The goals of that law include moving the United States towards greater energy independence and security and increasing production of clean, renewable fuels. The law established new annual volume targets for renewable fuel that increase every year to reach a total of 36 billion gallons by 2022, including 21 billion gallons of advanced biofuels.

Congress included tools known as waiver provisions for EPA to use to adjust the statutory targets in specified circumstances, including where the statutorily prescribed volumes could not be met. After an extensive notice and comment process including working closely with our federal partners at the USDA and the DOE, EPA finalized regulations to implement those requirements and those became effective in July of 2010.

The Clean Air Act requires EPA to issue annual standards for four different categories of renewable fuels: total, advanced, biomass-based diesel, and cellulosic. These standards designate the percentage of each biofuel category that producers and importers of gasoline and diesel must blend into transportation fuel, heating oil or jet fuel, and those must be issued by November 30th of each year for the following year, and 14 months in advance for the biomass-based diesel category.

On November 30th, 2015, we finalized standards for 2014 through 2016, and a biomass-based diesel volume for 2017. In that final rule, we used the waiver authorities provided by Congress to lower the volume requirements for total, advanced, and cellulosic below the statutory targets, but only to the extent necessary and appropriate in light of supply limitations and to levels that will drive ambitious, achievable growth.

On May 16th of this year, we issued a proposed rule to establish the annual percentage standards for cellulosic, advanced, and total renewable fuel that will apply in 2017, and also the volume requirement for biomass-based diesel for 2018. In this proposal, we are proposing to take the same approach to setting standards and volume requirements as in last year's rule.

This Administration is committed to supporting continued growth and renewable fuels, especially advanced biofuels, through this proposed rulemaking. We are proposing volumes that once again would require significant growth in renewable fuel production and use over historical levels directionally consistent with congressional intent. The proposed volumes represent increases across the board, and while they are not as high as the statutory volumes they are intended to drive increased production and use of renewable fuel.

As proposed, total renewable fuel volumes would grow by nearly 700 million gallons between 2016 and 2017. Advanced renewable fuel which requires a minimum 50 percent lifecycle greenhouse gas emissions reduction would grow by nearly 400 million gallons. The conventional or non-advanced portion of the renewable fuels would increase by 300 million gallons which is 99 percent of the congressional target of 15 billion gallons.

Biodiesel which must also achieve at least 50 percent lifecycle emission reductions would grow by 100 million gallons between 2017 and 2018, which is more than double the congressionally mandated minimum level of one billion gallons. And cellulosic biofuel which is the most advanced, requires 60 percent lifecycle reductions, would grow by 82 million gallons which is 35 percent increase between 2016 and 2017. We believe that these proposed volumes are achievable and consistent with Congress' clear intent to drive renewable fuel use even as we propose to use the waiver authorities that Congress also provided so that we can manage the program responsibly.

We had a public hearing in Kansas City, Missouri, on June 9th. There were more than 125 people who spoke there representing a broad range of interests. The public comment period for our proposed rule will remain open through July 11th, 2016, and we look forward to reviewing everybody's comments and continuing to engage with the stakeholders as we do as we work towards a final



rule. We also look forward to any additional information and data that will come our way that will inform our final standards. We are committed to issuing those standards on the statutory time frame which would be by November 30th of this year.

We continue to encourage and support production and blending of renewable fuels to maximize reductions in greenhouse gases. This has and will continue to be a high priority for my office and the EPA. We are continually monitoring developments in the industry as a result of both the RFS program and other programs run by USDA and DOE that support biofuels and biofuel infrastructure such as USDA's Biofuel Infrastructure Partnership program. And we will continue to work closely with our federal partners as we implement this statute.

Again I thank you for an opportunity to be here this morning, and I look forward to your questions and to the discussion.

[The prepared statement of Janet McCabe follows:]

**Janet McCabe**  
**Acting Assistant Administrator**  
**Office of Air and Radiation**  
**U.S. Environmental Protection Agency**

**Committee on Energy and Commerce**  
**Subcommittee on Energy and Power**  
**U.S. House of Representatives**  
**June 22, 2016**

**Statement**

Chairman Whitfield, Ranking Member Rush, and other members of the Subcommittee, I appreciate the opportunity to testify on the Renewable Fuel Standard (RFS) program and the EPA's current proposed rule setting the annual volume standards for 2017, and the biomass-based diesel volume requirement for 2018.

The RFS program began in 2006 under the Energy Policy Act of 2005. The program's requirements were then modified by the Energy Independence and Security Act of 2007 (EISA). EISA's stated goals include moving the United States toward "greater energy independence and security," and increasing "production of clean renewable fuels." EISA established new annual volume targets for renewable fuel that increase every year to reach a total of 36 billion gallons by 2022, including 21 billion gallons of advanced biofuels. Congress also included tools, known as waiver provisions, for EPA to use to adjust the statutory targets in specified circumstances, including where the statutorily prescribed volumes could not be met. After an extensive notice and comment process, including working closely with our federal partners at the U.S. Department of Agriculture (USDA) and U.S. Department of Energy (DOE), EPA finalized regulations to implement the EISA requirements, which became effective in July 2010.

The Clean Air Act requires EPA to issue annual standards for four different categories of renewable fuels: total, advanced, biomass-based diesel, and cellulosic. These standards designate the percentage of each biofuel category that producers and importers of gasoline and diesel must blend into transportation fuel, heating oil, or jet fuel – and must be issued by November 30<sup>th</sup> of each year for the following year and 14 months in advance for the biomass-based diesel category.

On November 30, 2015, we finalized standards for 2014 through 2016, and a biomass-based diesel volume requirement for 2017. In that final rule, we used the waiver authorities provided by Congress to lower the volume requirements for total, advanced and cellulosic biofuels below the statutory targets – but only to the extent necessary and appropriate in light of supply limitations, and to levels that will drive ambitious, achievable growth. On May 16, 2016, we issued a proposed rule to establish the annual percentage standards for cellulosic biofuel, advanced biofuel, and total renewable fuel that apply for 2017, and the volume requirement for biomass-based diesel for 2018. In this proposed rule, we are proposing to take the same approach to setting standards and volume requirements as in the recent final rule establishing the 2014 through 2016 standards.

This Administration is committed to supporting continued growth in renewable fuels, especially advanced biofuels, through this proposed rulemaking. We are proposing volumes that—once again—would require significant growth in renewable fuel production and use over historical levels, directionally consistent with Congressional intent. The proposed volumes represent increases across the board. While not as high as the statutory volumes, they are intended to drive increased production and use of renewable fuel.

As proposed, total renewable fuel volumes would grow by nearly 700 million gallons between 2016 and 2017. Advanced renewable fuel – which requires a minimum fifty percent lifecycle greenhouse gas emissions reduction – would grow by nearly 400 million gallons from

2016 to 2017. The non-advanced or “conventional fuels” portion of total renewable fuels would increase by 300 million gallons and achieve 99 percent of the Congressional target of 15 billion gallons under this proposed rule. Biomass-based biodiesel – which must achieve at least 50 percent lifecycle emissions reductions – would grow by 100 million gallons from 2017 to 2018, and the proposed 2018 standard is more than double the Congressionally-mandated minimum level of one billion gallons. Finally, cellulosic biofuel – which requires 60 percent lifecycle carbon emissions reductions – would grow by 82 million gallons, or 35 percent between 2016 and 2017.

We believe that these proposed volumes are achievable, and consistent with Congress’ clear intent to drive renewable fuel use, even as we propose to use the waiver authorities that Congress provided EPA to manage the program responsibly.

We held a public hearing in Kansas City, Missouri on June 9th, at which more than 125 people spoke representing a broad range of interests. The public comment period for the proposed rule will remain open through July 11, 2016. We look forward to reviewing the comments on the proposed rule, and continuing to engage with stakeholders, as we work towards a final rule. We are committed to setting these standards on the statutory timeline, and the May proposal keeps us on track to finalize the rule by November 30<sup>th</sup> of this year.

The Agency continues to encourage and support production and blending of renewable fuels to maximize reductions in greenhouse gases. This, and related efforts, have been and continue to be a high priority for my office. We are continuously monitoring developments in industry as a result of the RFS program and other programs run by both USDA and DOE supporting biofuels and biofuel infrastructure, such as USDA’s Biofuel Infrastructure Partnership program. And we will continue to work closely with with our federal partners as we implement this statute.

Again, I thank you for the opportunity to serve as a witness at this hearing.

Mr. WHITFIELD. Thank you, Ms. McCabe. And our next witness is Mr. Howard Gruenspecht who is the deputy administrator of the U.S. Energy Information Administration. Mr. Gruenspecht, you are recognized for 5 minutes for an opening statement.

#### STATEMENT OF HOWARD GRUENSPECHT

Mr. GRUENSPECHT. Chairman Whitfield, Ranking Member Rush, members of the committee, I appreciate the opportunity to appear before you today. The Energy Information Administration is a statistical and analytical agency within the Department of Energy. By law our data analyses and projections are independent, so my views should not be construed as representing those of the Department or any other federal agency.

My testimony has eight main points. First, the RFS program is not expected to come close to the legislated target of 36 billion gallons of renewable motor fuels use by 2022. All of EIA's referenced case projections since enactment of the present RFS targets in 2007 reflect a shortfall that continues to grow through 2022. Virtually all of the shortfall involves cellulosic biofuels.

Second, substantial increase in biofuels use would require moving beyond the low percentage blends that account for nearly all current biofuels consumption. Third, the hope that large volumes of liquid cellulosic biofuels would be available within the decade following adoption of the 2007 RFS targets has not been realized. The actual supply of liquid cellulosic fuels was less than one-tenth of one percent of the legislated RFS target for cellulosic biofuels in 2015.

In mid-2014, EPA began issuing cellulosic RFS credits for compressed natural gas and liquid natural gas derived from landfills and other biogas recovery facilities that exist independently of the RFS program. Cellulosic biogas, which unlike liquid cellulosic fuels does not displace petroleum use, provided more than 97 percent of total cellulosic biofuels credits in 2015.

A fourth point, ethanol faces demand, distribution system, and regulatory challenges that pose barriers to increasing its use as a motor fuel. As some of the members have indicated, ethanol has three distinct roles in motor fuels markets: providing octane, adding to fuel volume, and providing energy content. Ethanol has achieved great success in the first two roles where it is supported by factors independent of the RFS. While these two uses also provide some energy content, additional use of ethanol as an energy content source faces significantly higher economic hurdles, as shown in Figure 1 of my written testimony, and therefore depends more directly on the RFS.

Fifth, while gasoline demand has been very robust over the last 18 months, longer term EIA projections shown in Figure 2 show a declining trend in motor gasoline use, significant change from projections made prior to 2010. Even these updated projections do not reflect the recently proposed fuel economy standards for heavy-duty trucks because our projections are based on current laws and regulations, and those proposed regulations if finalized would significantly reduce projected diesel fuel use.

Reductions in the long term projections for gasoline use mainly reflect higher fuel economy standards actually also enacted in 2007

at the same time the RFS targets were changed, slower economic growth, possible changes in consumer behavior, and until recently higher gasoline prices. So we think that some of these adjustments in gasoline demand have likely affected the timing of some current RFS compliance challenges, but unlike the other factors addressed in my testimony it is not a major cause of the persistent past and projected shortfalls in biofuels use relative to the legislative targets.

Sixth, and I think this has also been mentioned in the opening statements, actual and projected reliance on oil imports is significantly lower than it was when the expanded RFS program was enacted in 2007. Figure 3 of my testimony shows that reflecting the combined effects of more robust domestic petroleum production and lower petroleum demand. Biofuels volumes added in response to the RFS program have played only a smaller part in reducing net import dependence taking account of the fact that ethanol would continue to be used as an octane and volume source independent of the RFS, and I think that was also made a comment by one of the opening statements.

Seventh, the near and long term costs of the RFS depend on the price of oil, the price of agricultural commodities used to produce biofuels, future implementation decisions, and all else equal lower oil prices tend to raise the cost of RFS compliance.

And then I just want to close by pointing out that EIA remains actively engaged in matters related to the RFS—of course we don't get involved in policy matters—including data on biodiesel and ethanol production and ethanol blending. We provide EPA with short term forecasts for motor fuels use and cellulosic biofuels production as required by statute and also develop longer term projections. Thank you again for the opportunity to testify.

[The prepared statement of Howard Gruenspecht follows:]

STATEMENT OF HOWARD GRUENSPECHT  
DEPUTY ADMINISTRATOR  
ENERGY INFORMATION ADMINISTRATION  
U.S. DEPARTMENT OF ENERGY

BEFORE THE  
COMMITTEE ON ENERGY AND COMMERCE  
SUBCOMMITTEE ON ENERGY AND POWER  
UNITED STATES HOUSE OF REPRESENTATIVES  
JUNE 22, 2016

Chairman Whitfield, Ranking Member Rush, and members of the committee, thank you for the opportunity to appear here today to discuss the Renewable Fuel Standard (RFS).

The Energy Information Administration (EIA) is the statistical and analytical agency within the U.S. Department of Energy. EIA collects, analyzes, and disseminates independent and impartial energy information to promote sound policymaking, efficient markets, and public understanding regarding energy and its interaction with the economy and the environment. By law, EIA's data, analyses, and forecasts are independent of approval by any other officer or employee of the United States Government, so the views expressed herein should not be construed as representing those of the Department of Energy or any other Federal agency. EIA is active in providing both data and analysis that bear directly on the RFS program.

The main points of my testimony are as follows:

1. **The RFS program is not expected to achieve the legislated target that calls for 36 billion gallons of renewable motor fuels use by 2022.** This is not a new or surprising finding – all of EIA's Annual Energy Outlook (AEO) Reference case projections since the present RFS targets were enacted in the Energy Independence and Security Act 2007 (EISA) have suggested such a shortfall. For example, AEO2010, which was developed and published in the second half of 2009, already projected a shortfall of over 10 billion RFS credits relative to the legislated target for 2022. In the AEO2016 Reference case, the shortfall is projected at more than 19 billion credits. Virtually all the projected shortfall is in the category of advanced biofuels, which includes cellulosic biofuels.



**2. Substantially increased use of biofuels can only occur if they can be used in forms other than the low-percentage blends of ethanol and biodiesel that account for nearly all of their current use.**

There are four potential alternative pathways (1) increased use of ethanol blends above 10% by volume, (2) increased use of biodiesel blends above 5% by volume, (3) the advent of drop-in biofuels, such as renewable gasoline, diesel, or jet fuel that can be used as direct replacements for their petroleum-based counterparts, and (4) the development and use of new renewable fuel components, such as biobutanol, that might be more easily blended in increased volumes. To date, none of these options has achieved a significant market role.

**3. The premise that advanced biofuels, particularly liquid cellulosic biofuels, would be available in significant quantities at reasonable costs within 5 to 10 years following adoption of the 2007 RFS targets has not been borne out.** The supply of liquid cellulosic fuels (including primarily cellulosic ethanol and renewable fuel oil) in 2015 was 2.6 million ethanol-equivalent gallons, less than 0.1 percent of the 3 billion ethanol-equivalent gallon legislated target for that year. Renewable compressed natural gas and renewable liquefied natural gas, which were approved for the RFS program in mid-2014, are available in much greater quantity than cellulosic liquids; in 2015, their total supply was 140 million ethanol gallon equivalents. Unlike liquid cellulosic fuels, cellulosic biogas does not displace petroleum consumption and is mainly obtained from landfills and other biogas recovery facilities that exist independently of the RFS program.

**4. Ethanol faces demand, distribution system, and regulatory challenges that make it difficult to increase its use as a motor fuel regardless of its source.** Ethanol potentially has three distinct roles in motor fuels markets (1) providing octane, (2) adding volume to motor fuel, and (3) providing energy content. Ethanol has achieved considerable market success in the first two roles, when blended into

gasoline up to 10% by volume (E10), where it is supported by market forces that are largely independent of RFS program requirements. While its use in these two roles also provides some energy content, additional use of ethanol as a source of energy content faces a significantly higher economic hurdle, as shown in Figure 1, and is therefore more directly dependent on the implementation of the RFS.

With the possible use of mid-level blends such as E15 and higher-percentage blends such as E85, where ethanol provides a larger proportion of the energy in each gallon of fuel, one important behavioral question is when consumers start to notice the impact of ethanol's lower energy content per gallon on the range provided by a tankful of fuel and factor that impact into their buying decisions. Experience in Brazil, where high-percentage ethanol fuels are widely sold, suggests that consumers consider energy-content pricing (top line in Figure 1) rather than simply buying the cheapest gallons. In fact, the range penalty associated with less energy-dense fuels may require that they be sold at a discount to their relative energy value to be attractive to most buyers.

Although the Environmental Protection Agency (EPA) has granted two partial waivers allowing the use of E15 in model year 2001 and newer light-duty vehicles, very few gasoline retailers currently sell E15. This situation may reflect concerns related to automobile warranties, potential liability for misfueling, infrastructure costs, consumer acceptance, and restrictions in franchise and other marketing agreements. Also, E15 does not qualify for the one pound Reid Vapor Pressure (RVP) waiver that was legislated for E10, so it would not be an environmentally compliant fuel for general use in summer months when made using the most prevalent summer gasoline blendstocks.

E85 is more widely available at retail fuel stations, but can only be used in designated flex-fuel vehicles (FFVs). In the *Annual Energy Outlook 2016* Reference case, EIA projects there will be about 19.6 million FFVs in use in 2016, about 8 percent of the overall light duty vehicle fleet. Manufacturers built flex fuel capability into these vehicles in order to receive credits towards compliance with fuel economy standards under provisions that are being phased out under the implementation of future Corporate Average Fuel Economy (CAFE) and greenhouse gas emissions standards promulgated by the National Highway Traffic and Safety Administration (NHTSA) and the EPA.

5. **The projected long-term decline in motor gasoline use in recent EIA AEOs, including the AEO2016 Reference case (Figure 2) reflects a significant change from earlier projections of growth (AEO2007) or stasis (AEO2010). AEO2016 projections for diesel use do not reflect proposed fuel economy and greenhouse gas standards for heavy duty trucks, which if finalized, would significantly reduce projected diesel fuel use.** Changes in the projections for gasoline use since AEO2007 mainly reflect higher vehicle fuel economy standards adopted subsequent to its release, together with slower economic growth, higher gasoline prices, and possible changes in consumer behavior. Lower gasoline demand has likely affected the timing of some current RFS compliance challenges that are briefly discussed later in this testimony. However, in contrast to the issues raised in my previous points, it is not a cause of the persistent past and projected shortfall of the RFS program relative to its legislated targets.

6. **Actual and projected reliance on oil imports (Figure 3) is significantly lower than it was when the expanded RFS program was enacted in 2007. Recent and projected reductions in net import dependence primarily reflect a combination of more robust domestic petroleum production and the effects of the significant lowering in petroleum demand and its projected growth, as discussed**

previously. The decline in crude oil prices since mid-2014 and resulting decline in drilling activity in tight oil plays and in crude oil production over the past year, which EIA forecasts will continue into 2017, has increased the forecast share of net imports in overall U.S. petroleum consumption over the next few years. However, the AEO2016 Reference case projects renewed growth in domestic crude oil production and a decline in the net import share to less than 10% by 2040. Biofuels volumes in response to the RFS program have played only a small part in reducing projected net import dependence given the expectation of continued use of ethanol as an octane and volume source independent of RFS program requirements.

7. The near-and longer-term costs of the RFS program will depend on the price of oil, the prices of agricultural commodities used to produce biofuels, and future RFS implementation decisions. Several different cost concepts are potentially relevant. All else equal, lower oil prices tend to raise the cost of RFS compliance. As noted above, current volumes of ethanol are applied almost exclusively as a source of octane and volume in E10 gasoline, uses that are largely independent of RFS implementation. As illustrated by Figure 1, ethanol is more expensive than gasoline on an energy-equivalent basis, so significant uses of ethanol beyond those uses would require leverage from the RFS program.

Current use of biodiesel is more directly influenced by the RFS program. In its November 2015 final RFS rule, EPA set the renewable volume obligation for biomass-based diesel (biodiesel plus renewable diesel) at 1.9 billion gallons for 2016 and 2 billion gallons for 2017. In May 2016, EPA proposed a volume obligation for biomass-based diesel of 2.1 billion gallons in 2018. These volume obligations are calculated in biodiesel gallon equivalents rather than ethanol gallon equivalents. As shown in Figure 4, biodiesel is significantly more costly than petroleum-based diesel under recent market conditions.

Between January 4, 2016 and June 10, 2016, the difference between the Gulf Coast spot market prices of biodiesel and petroleum-based diesel averaged \$1.43 per gallon. Despite this, a combination of biodiesel tax credits (BTC) and the implementation of the RFS itself enable the blending of the biodiesel volumes required by the RFS program.

The most common raw material for biodiesel production in the U.S. is soybean oil. Soybean oil prices, along with costs of other inputs required and the value of byproducts from the biodiesel production process, can be used to estimate the cost of soy-based biodiesel production. Based on Chicago Mercantile Exchange soybean oil prices, the difference between biodiesel production cost and Gulf Coast diesel averaged \$1.23 per gallon between January 4, 2016 and June 10, 2016.

Assuming that the average premium for biodiesel relative to petroleum diesel in 2016 as a whole are the same as the differences calculated through June 10, the extra cost of using 1.9 billion gallons of biodiesel rather than cheaper petroleum-based diesel would range from \$2.3 billion to \$2.7 billion, or 1.1 to 1.3 cents per gallon of gasoline and diesel fuel based on the volume of gasoline and diesel consumption assumed in EPA's final RFS rule for 2016. Costs would be higher to the extent that additional biodiesel is consumed to meet the advanced or total biofuels targets. This cost is borne by both gasoline and diesel consumers served by the refiners and blenders that are obligated parties under the RFS program, by the Treasury, and by taxpayers more generally when the cost of the BTC is considered.

While the RFS is likely a key driver of biodiesel use given current oil prices and biodiesel costs, it is possible that biodiesel use could be competitive with petroleum diesel prices independently of the RFS if oil prices were higher; alternatively, competitive parity with petroleum diesel independently of RFS obligations might also be attained through lower costs for biodiesel inputs.

At the retail level, EIA expects diesel fuel prices to be most affected by the RFS program. Typical biodiesel blending yields only about one-third of blenders' RIN obligation under the RFS, a shortfall that diesel blenders make up by purchasing RINs. In contrast, at current levels of the RFS renewable volume obligation (RVO), E10 gasoline is close to RIN-neutral; blending an additional gallon of this fuel generates roughly the same number of RINs that must be surrendered to meet the current RVO. Looking forward, however, the ramp up in the legislated targets through 2022, if confirmed through the EPA rulemaking process, would significantly increase the RVO for each gallon of motor fuel that is sold. In this setting, E10 gasoline would become more like diesel fuel is today in having an RVO that significantly exceeds the RINs generated by blending the fuel.

**8. EIA remains actively engaged in matters related to the RFS program. We collect monthly data on biodiesel and ethanol production, as well as weekly and monthly data on ethanol blending.** EIA also provides input to EPA on short-term forecasts for motor fuels use and cellulosic biofuels production, consistent with the statutory requirement for EIA to provide this information a month prior to the deadline for EPA to issue its annual rule implementing the RFS program for the following calendar year. Most recently, EIA provided information covering 2014 through 2016 for the EPA's final rule covering those three years. EIA also includes biofuels as part of its Annual Energy Outlook, Short-Term Energy Outlook, and has also published several *Today in Energy* and *This Week in Petroleum* articles addressing topics related to the RFS and biofuels use in the United States. In April 2016, EIA initiated monthly estimates of ethanol and biodiesel movements by rail in order to better understand the flow of biofuels from producing regions to blending terminals.

Thank you for the opportunity to testify before the Committee.

Figure 1. Ethanol and gasoline prices on the Gulf Coast

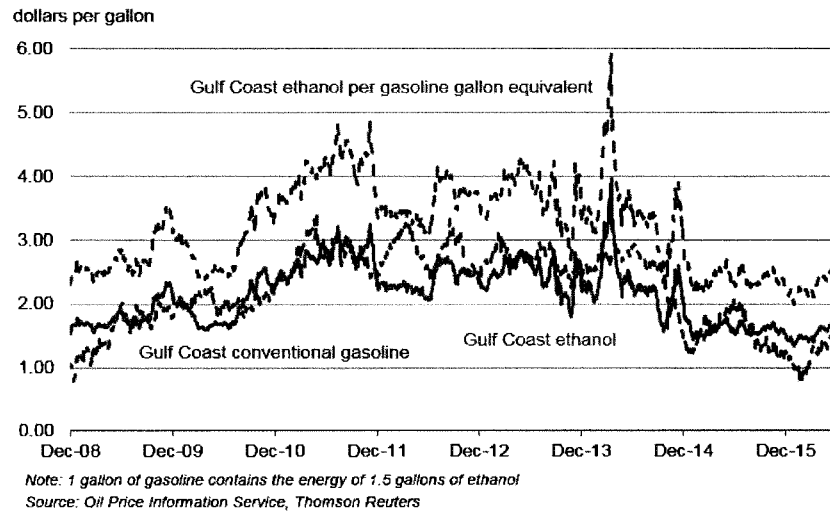


Figure 2. The gasoline and diesel demand outlook has changed significantly since the expanded RFS was passed, mainly due to efficiency policies and economic weakness; proposed new heavy-duty truck standards, if finalized, could lower future diesel use

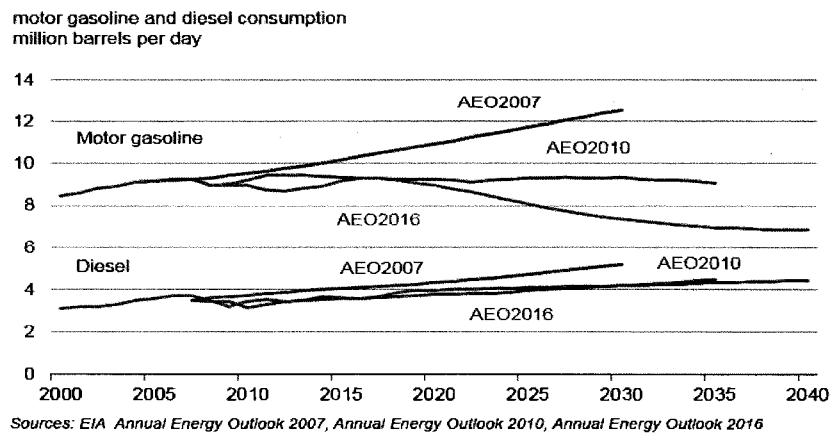


Figure 3. Projected oil import dependence, an important motivation for adoption of the expanded RFS in 2007, has declined significantly with the advent of tight oil

net crude oil and petroleum product imports as a percentage of total U.S. supply percent

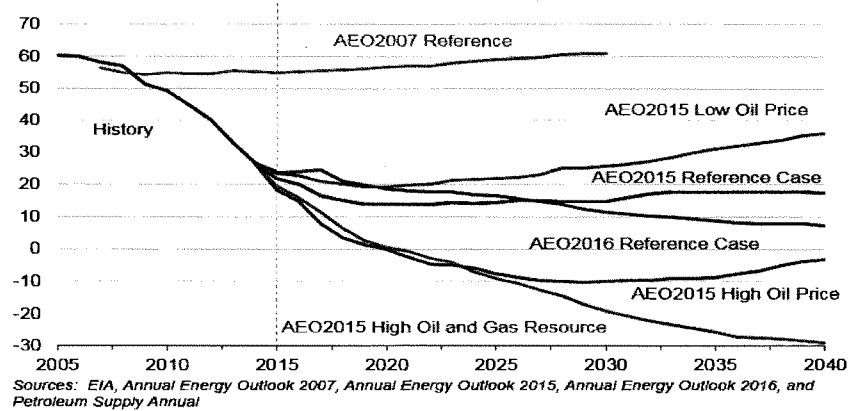
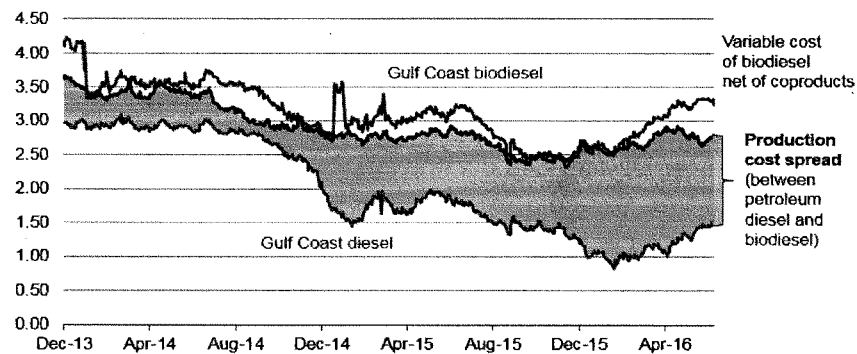


Figure 4. As oil prices have declined, the gap between petroleum diesel and biodiesel production costs has grown

daily spot prices of wholesale diesel, biodiesel, soy oil, and RINs  
dollars per gallon



Note: BTC = biodiesel tax credit

Sources: Oil Price Information Service, Argus, CME, Thomson Reuters, and Bloomberg



Mr. WHITFIELD. Well, thank you, Mr. Gruenspecht, and thank both of you for your testimony. At this time I would like to recognize the gentleman from Texas, Mr. Olson, for 5 minutes of questions.

Mr. OLSON. I thank the chair.

Mr. WHITFIELD. Sorry, Mr. Barton.

Mr. BARTON. If Mr. Olson is fired up, I will let him go first. I am going to be here a while.

Mr. OLSON. The chairman knows we Texans are always fired up.

Mr. BARTON. I will yield to Mr. Olson, and then I will go on the next Republican, because he is ready.

Mr. WHITFIELD. All right, Mr. Olson.

Mr. OLSON. I thank both the gentlemen. Welcome, Mr. Gruenspecht, and a special welcome to Ms. McCabe. Every time we ask you to show up, you show up, and I appreciate that.

Together we have seen huge changes in the American energy sector. Together we have changed outdated policies to reflect our current situation. Together we ended the ban on American crude oil exports, a 40-year law that we ended together. Together we started shipping American liquefied natural gas overseas striking blows to Russia, OPEC, and ISIS. Together we have said out with the old, in with the new. Our RFS policy is old and I hope together we can make it new.

Here is an idea for you to consider, Ms. McCabe. As you know the obligation to comply with the RFS is currently on the refiner. Not all refiners, but some independent refiners. They get hit hard by this fact. These refiners don't control the ethanol. They generally don't even see it, but yet they are on the hook for the mandate.

What are your thoughts, ma'am, about changing the point of obligation or other like issues important to major refiners?

Ms. McCABE. Well, thank you for that question, Congressman, and I indeed am always happy to come here and speak with you about these interesting issues and important issues. The point of obligation issue which you raise is one that is very much on our minds right at the moment and it has been for some months because there is a great deal of interest in it from a variety of perspectives.

When the original RFS rule was done in 2010, this was our discussion, where would the obligation land. And there was a robust and public process, and the final rule with the support of many in the industry was that the right place to put it was on the refiners. And in recent years we have been hearing people question that and say wouldn't it be better to put it somewhere else.

We now actually have several petitions pending in front of us to ask us to undertake a rulemaking to look at that issue. So we are looking at that. We are talking to people across the board. Not everybody is of that view as you might expect. So we need to be collecting that information, talking to people. We will respond to the petitions. I don't have a time frame to give you this morning, but we are looking at them very closely and know this is an important issue to look at.

Mr. OLSON. Thank you, good news.

Mr. Gruenspecht, a question for you, my friend. EPA's final rule for the RFS has yet another increase in the renewable fuel mandates. To up this work and avoid hitting the blend wall, EPA assumes that the use of higher blends of ethanol will increase and that demand for E0, fuel without any corn ethanol, will remain low.

EPA's estimated projections that demand for E0 will only be 200 million gallons going forward per year, yet boat owners and chainsaw owners and small engine owners still buy plenty of E0 to avoid damaging their engines. In fact, in a "Today in Energy" piece EIA put out this May, you all said that Americans used 5.3 billion gallons of E0 in 2015. E0 is really hard to find, yet somehow motivated Americans have found a way to buy over five billion gallons of it.

EPA projects that E0 use will be, again 20 million gallons in the future. You guys are about five billion gallons apart going forward. As they say in Texas, that is a big E0 enchilada to swallow. My question is, how likely is it that E15 use will explode to by five billion gallons or that if that is not going to happen, how likely is it that E0 will sink by 96 percent and get down to 200 million gallons per year?

Your thoughts with that, sir?

Mr. GRUENSPECHT. I guess so. So yes, EIA does data work and analysis work. And what we have put out in our data is data. We know how much E0 is produced. We know how much is exported. You know, there is some, a little bit of ethanol that we can't account for and so we kind of assume that that was used to blend some of the E0 down and then we came up with that number.

That is not a statement about what should happen or might happen. You know that is a statement looking back with the data we have available as what has been happening. I don't think that necessarily there are differences—well, EPA should obviously speak for itself. But our statement is not about what should happen or how much E0 is needed for certain uses, it is just a statement that we know, we think we know how much of this is being absorbed by domestic consumers. Now people want something—

Mr. OLSON. Ms. McCabe, do you coordinate at all with the EIA? Do you coordinate with them and get their input? Because he said it is five billion gallons per year. You guys are down to 200 million. I mean, five billion, 200, it is way off. So do you listen to them at all?

Ms. MCCABE. No, we certainly coordinate with them very closely. This is a very recent report and as soon as it came out our staff was on the phone with Howard's staff very quickly to make sure that we understand what is behind those numbers. Every time we go to a proposal we have got a set of information in front of us. We do our best to project into the future, which is what our job is about. And then between proposal and final not only do we get information from the stakeholders but we get further updates from the EIA, and those are absolutely informative to us as we finalize our rule.

Mr. OLSON. But you shouldn't be surprised. You should work together. I yield back.

Mr. GRUENSPECHT. And I would also say that in that article again just factually that over the last 3 years the calculated use of E0 to final consumers, has been dropping. So again, but you correctly cite what was in the article.

Mr. WHITFIELD. The gentleman's time has expired. At this time the chair recognizes the gentleman from Illinois, Mr. Rush, for 5 minutes.

Mr. RUSH. Thank you, Mr. Chairman. Administrator McCabe, the issue of RFS seems to have morphed into an all or nothing scenario where there is no room for common ground or compromise. Almost immediately after the EPA finalized the RFS volumes for 2017, your agency was attacked from both sides of the debate. Supporters believed the volumes were too low while opponents thought they were too high, and both sides are bringing lawsuits against the agency.

How do you respond to these charges and did the agency really foresee being sued by both sides?

Ms. McCABE. We were not surprised to be sued by both sides, Congressman. And there are some important issues here and I think once the courts speak to those issues there will be more clarity going forward.

Our job is to try to implement the statute, and as you say we haven't pleased everybody entirely. This statute is, and this program is about choice, it is about diversity, it is about providing incentives and opportunity for cleaner fuels to compete in the marketplace, so you are going to have people from different vantage points having very strong views about it.

But we think that we are doing what we are supposed to do, which is to look at the information, to talk to everybody, to understand the industry as well as we can, and to do our very best to implement what we understand the intent of Congress to be, which is to have more renewable fuels in our transportation supply.

Mr. RUSH. On the issues that surround the RFS, the issues that have been discussed today, and there are some issues that we haven't talked about today, but is it your opinion that the EPA has the tools and the authority to deal with the challenges as they arise or is there some more that the Congress should be doing?

Ms. McCABE. Well, I believe that Congress gave us the tools in the statute that we need in order to implement it. And as has been recognized today, the world changes and certainly over the last decade the world has changed considerably. The world will change. We will come back here in 2 years and it will be different again, and 5 years and 10 years.

And Congress had a long vision for this program, and I think that is one of the challenges that people are seeing is that it takes a while to introduce this kind of change into a market system. But Congress gave us clear goals, they gave us clear criteria that we are supposed to consider, and they gave us the waiver authority to use in situations where in our judgment regulating the statutory volumes was just not feasible. So we are comfortable moving forward with the tools that Congress has given us.

Mr. RUSH. I would like to switch lanes if I could. What is the EPA's views on the so-called blend wall? Does the agency have con-

cerns surrounding this issue, and if so how are these issues and these concerns being addressed by the agency?

Ms. MCCABE. So the blend wall is a term that people use to refer to the amount of ethanol that is generally blended into E10, which is ten percent, and if you go above that amount it is referred to as exceeding the blend wall. In order to reach Congress' statutory volumes there needs to be more ethanol in the system than can be absorbed just through E10 and we think that that is doable through blends like E15 and E85, and of course there are other types of renewable fuels that are being developed and can get into the system as well.

So this is one of the key issues of debate. This proposal that we put out would call for ethanol above that ten percent ceiling, but we think in a responsible and a doable way that will help encourage the higher ethanol blends into the system.

Mr. WHITFIELD. The gentleman yields back. This time the chair recognizes the gentleman from Texas, Mr. Barton, for 5 minutes.

Mr. BARTON. Thank you. Thank you, Mr. Chairman. Mr. Gruenspecht—is that correct, Gruenspecht? Your Figure 2 that in your testimony—I want to make sure I understand this. In the estimate, the original estimate back in 2007, if I read it correctly your agency estimated that we would be using about ten million gallons of gasoline a day; is that correct? The little blue line on—

Mr. GRUENSPECHT. Yes, that is approximately ten million.

Mr. BARTON. And diesel was about four million a day; is that right?

Mr. GRUENSPECHT. Yes.

Mr. BARTON. OK. How many gallons of gasoline are we using a day right now?

Mr. GRUENSPECHT. I believe that this year we actually expect gasoline demand to be about 9.3 million barrels a day.

Mr. BARTON. Nine, so a million less.

Mr. GRUENSPECHT. Yes.

Mr. BARTON. And what is it on diesel?

Mr. WHITFIELD. Use your mic.

Mr. GRUENSPECHT. I am sorry. Right, so this year, gasoline about 9.3 million barrels a day.

Mr. BARTON. And on diesel it is—

Mr. GRUENSPECHT. Diesel I am not quite sure.

Mr. BARTON. But is it safe to say it is less than you estimated?

Mr. GRUENSPECHT. I think it may be a little bit less.

Mr. BARTON. OK.

Mr. GRUENSPECHT. On the gasoline it has mostly to do, frankly, so the same legislation that enacted the RFS also enacted fuel economy standards, and this AEO 2007 line, again these reference cases use current laws and regulations.

Mr. BARTON. Well, the point I am trying to make is the estimates that were used when we passed the expanded RFS in 2007 were gasoline volumes and diesel volumes going up, and in fact they are not. But the volume of ethanol that is required to be used is growing substantially. Is that not true?

So we have created a situation, I mean, if you give the best of intentions to the Congress 9 years ago, those estimates that the volumes were based on haven't happened.

Mr. GRUENSPECHT. I would agree with that.

Mr. BARTON. Well, you have to because that is a fact. I mean—

Mr. GRUENSPECHT. Right. Well, on the other hand, I mean, so far be it from me to criticize Congress, but in the very same piece of legislation—

Mr. BARTON. You are the only person in America that doesn't if you don't, so—

Mr. GRUENSPECHT. Well, maybe I will cross over to the other side then and join the majority. Not the majority here.

But actually, remember, in the same piece of legislation, you raised the fuel economy standards. So the notion of using that projection and saying that is what we thought, I realize that different groups probably were working on the RFS provision—

Mr. BARTON. Well, my point, it would be one thing if we had projections from 9 or 10 years ago that have happened so that all these volume increases could be absorbed because gasoline usage has increased, but that is not happening.

Mr. GRUENSPECHT. Right. I would agree with that.

Mr. BARTON. And it is not expected to happen.

Mr. GRUENSPECHT. Right. And it is something, I agree, it is a factor, but the notion of 36 billion gallons of renewable fuels, you know that kind of—

Mr. BARTON. It is fantasy, and my word fantasy. That is fantasy.

Mr. GRUENSPECHT. Well, I am not going to say that.

Mr. BARTON. I know. You can't say it but I can. So I am going to ask the EPA representative now. How long does EPA keep insisting that you can make the law work? At what point in time do you agree with the majority of this panel that as currently written it is simply not workable?

Ms. McCABE. Congressman, it is our job to implement the laws that you all have—

Mr. BARTON. I didn't ask you what your job was. I am asking you for a policy statement. You are the highest ranking EPA official here.

Ms. McCABE. Yes. Well, it is really not up to me to speak to the legislation itself or any changes that Congress may be thinking about, although we are happy to work with you on it.

Mr. BARTON. Let me ask you a different question. I am not going to let you stall me for the next 40 seconds. What would happen if we just repealed the RFS, just repealed it?

Ms. McCABE. Well, the—

Mr. BARTON. Would we still use ethanol?

Ms. McCABE. Oh, yes.

Mr. BARTON. Wouldn't we still use a lot of ethanol?

Ms. McCABE. There would be ethanol put into the gasoline, to E10 gasoline. There is a lot of investment already in higher blends of E10, or ethanol. I don't think I am in a position to speak to what might happen to that if the law were repealed though.

Mr. BARTON. But there would still—the ethanol market wouldn't disappear if we repealed the RFS?

Ms. McCABE. I don't expect that it would.

Mr. BARTON. The market would require that we use ethanol.

Ms. McCABE. As Howard mentioned, there are a number of values that ethanol adds to the system.

Mr. BARTON. I agree. Unfortunately my time is expired, Mr. Chairman.

Mr. WHITFIELD. The gentleman's time has expired. At this time we will recognize the gentleman from Vermont, Mr. Welch, for 5 minutes.

Mr. WELCH. Thank you very much. I want to ask Administrator McCabe a few questions, and by the way Mr. Barton, it is our job to pass a law and yours to implement it. Thank you for understanding that. But it is your job to do the reports that Congress has asked for. And there was an EPA triennial report to Congress in 2011, and in that report it indicated that the most plausible land use changes and production practices from the ethanol mandate will likely be neutral or slightly negative. It also concluded that the majority of negative impacts of the RFS to date have been associated with corn ethanol. That report now is supposed to be done, updated, and it is really 5 years overdue and there has been no indication from EPA as to when Congress can expect to receive it. So my question is when does the EPA plan to send the next Triennial Report on the environmental impacts of RFS to Congress as required by law?

Ms. MCCABE. Thank you, Congressman. We don't like missing deadlines and we realize that there are deadlines in the statute that we have not made. I will tell you that our emphasis over the last several years has been on doing the annual volume standards which is what we felt the absolute priority in order to keep the program going.

Mr. WELCH. So when do you think we might get that?

Ms. MCCABE. I don't have a date to give you. We are always looking at this information. We work with our Office of Research and Development on it.

Mr. WELCH. All right, I will go on to the next question. It is helpful for us to have that because this data is really important in assessing whether the hopes and aspirations of the Congress about the original law are actually working or they are not. A second area of concern is the use of land. The USDA's Farm Service Agency data shows that about 400,000 acres of previously uncultivated land was converted to cropland just between 2011 and 2012. And a University of Wisconsin-Madison study found that biofuel crops expanded onto seven million acres of new land between '08 and 2012, including millions of acres of native grasslands. How many acres of native grasslands and wetlands have been torn up or drained, respectively, since the RFS was passed in 2007, and does this land use change total more than a de minimis amount of acres that the EPA predicted in the 2010 RFS2 rule?

Ms. MCCABE. I don't have the exact numbers with me, Congressman, although we will be glad to provide them and follow up. But I will say that in each annual volume rule we look at the net use of land and whether in a net sense it has grown or gone down.

Mr. WHITFIELD. Yes, and that is very much in dispute as a methodology because there is an immense loss of wildlife habitat where because of the incentives that Congress has passed, not just our RFS but we used to have the tax credit and we used to have the tariff barrier, it really promoted the over-cultivation of land. Then finally, there is a hope, there was a hope that the greenhouse gas

emissions would be reduced by using ethanol, and it has turned out that most of the evidence indicates that is not the case. The corn ethanol's net emissions over 30 years are expected to be about 28 percent higher than emissions that would result from the use of gasoline over that same period. And in 2011, the National Academy of Sciences' study on RFS also questioned the greenhouse gas emission reduction potential of corn ethanol. Given that the majority of RFS gallons produced to date have been corn ethanol, what has the overall impact of the RFS been on the climate?

Ms. McCABE. Well, again we would be glad to follow up with more specifics, but I will say that the statute focuses on developing these advanced biofuels and moving those into a larger portion—

Mr. WHITFIELD. Right. This gets us back to Mr. Barton's question. I mean, we have to answer it. We created the policy so we have to change it. But what is extremely helpful to us is to get real-time information about the climate impacts, the habitat impacts, the greenhouse gas emissions, so I thank you for your appearance here and I yield back the balance of my time.

Mr. WHITFIELD. The gentleman yields back. At this time I recognize the gentleman from Ohio, Mr. Latta, for 5 minutes.

Mr. LATTI. Well, thanks, Mr. Chairman, for the hearing today and for our first and second panel of witnesses for being with us today. We appreciate your testimony and the information you are giving us today. Administrator, if I could ask you the first question, on your second page of your testimony you speak of the waiver authority in setting recent standards and the proposed standard. Would you elaborate on the waiver authority and how EPA uses this authority on the waiver?

Ms. McCABE. Sure, I would be happy to. The statute provides two types of waiver authority: the cellulosic waiver and the general waiver. When we project the amount of cellulosic fuel that we think will be available in the year that we are setting the standard for, if it is below the statutorily prescribed amount then we are to lower it. And we have the ability to then lower the amounts of advanced and total fuel by the same amount. We are not required to, but we can. That is the cellulosic waiver authority. The general waiver authority, Congress provided that under two circumstances can we waive down or lower the statutory volumes on advanced and total, and one of those is when we find that there is an inadequate domestic supply. And so we have proposed in this rule, as we did in the rule we did last year, to use both of those waiver authorities to set expected standards that are lower than what the statute would require.

Mr. WELCH. Thank you.

Mr. Gruenspecht, in your testimony on your point 6, and I know we have had some discussion already about this, you discussed the calculations for net imports for overall U.S. petroleum consumption and EIA's determination of what has led to the decline. Would you comment on this data and the conclusions again that you have come up with on that?

Mr. WHITFIELD. Is your microphone on?

Mr. GRUENSPECHT. I expected Ms. McCabe to get most of the questions, so—U.S. crude oil production has risen rather dramatically, as I am sure other hearings here have explored, from about

five million barrels a day to over nine million barrels a day and then have since fallen a bit with the lower oil prices. And that was clearly a major contributor.

The other major contributor to reduced dependence, on net dependence on oil imports, were greater fuel economy, which many people, I think, would view as a very positive thing. There have been some economic problems in the country that people might not view as a very positive thing, but those certainly have also affected fuel consumption. And then I think the increased use of biofuels has also had some contribution.

But the question is how much have biofuels increased because of the RFS? As much of the conversation has pointed out, there are a lot of biofuels that would be used with or without the RFS, a lot of ethanol. So in looking at how much biofuels have increased because of the RFS, if you would convert back those gallons into million barrels per day that is actually sort of a much smaller number than the increase in crude oil production, or I think the reduction in consumption due to greater fuel efficiency. I think that is what the testimony says.

Mr. LATTA. Well, let me ask you. Also in your testimony, because you also mentioned point 5, you also discussed the projected decline in the motor gasoline use and you say that it is not a cause of past or projected shortfalls. Could you explain that?

Mr. GRUENSPECHT. Sure. That really goes back to Mr. Barton's—

Mr. LATTA. Mr. Barton's question, right.

Mr. GRUENSPECHT [continuing]. Question. So sure, remember that the program calls for getting to 36 billion gallons by 2022. And yes, clearly you could, if fuel consumption was somewhat higher as in those 2007 projections, you could put more ethanol into E10 with more gasoline consumption, but that would get you nowhere near the 36 billion gallons. So clearly the statute was not envisioning getting to 36 billion gallons based on E10 type blending into the gasoline pool. The statute was envisioning something completely beyond that in terms of transformation of the fuel system and that has very little to do with exactly whether we are consuming ten million barrels a day of gasoline or 9.3. And that is what I think that statement meant.

Yes, it has had an effect. But no, it is not that everything would be great with this program in terms of meeting the legislative targets if those AEO 2007 demand projections for gasoline had been realized.

Mr. LATTA. Thank you. Mr. Chairman, my time is expired and I yield back.

Mr. WHITFIELD. The gentleman yields back. At this time I will recognize the gentleman from Iowa, Mr. Loeb sack, for 5 minutes.

Mr. LOEBSACK. Thank you, Mr. Chair. Thank you again for having this hearing. I think that while we debate, this whole RFS issue, it is really important that we get the facts on the table, and that is hopefully what we are doing today. No matter which side of the issue you are on, I just think that often in Congress we have anything but a fact-based discussion. So this is important for you folks to be here and I do appreciate both sides of the issue and the questions that are being asked.



It is clear, Madam Administrator, that you are asking farmers and our rural communities, I think, to shoulder the consequences of the so-called blend wall. I think it is also clear that there are other logical and common sense ways around the blend wall.

If the concern of the blend wall is the price of RINs, for example, it seems economical to think that if oil companies were indeed concerned about RIN prices they would invest in more biofuel infrastructure to keep RIN prices down.

Can you tell me what is being done by the EPA to look into the big oil companies' control of the market and lack of choice for consumers and why these aren't being addressed as part of the blend wall concern?

Ms. MCCABE. Well, our process of setting the annual RVO requirement each year, is all about setting that expectation for the producers because they are the obligated parties. And the RIN mechanism and the RIN prices you have identified is a mechanism to create incentives for the refiners to actually make sure that there is more alternative fuel in the system.

There are also programs such as the ones at USDA that help provide encouragement and funding to increase infrastructure and investment and those that will continue to make this more attractive in the market. And as you say, it is about consumers and about choice, and if people want the fuel it will be there for them. The RIN system provides that extra incentive and the requirement, the obligation, does as well.

Mr. LOEBSACK. OK. I have a question about in the proposed rule where you state, and I quote, to date we have seen no compelling evidence that the nationwide average ethanol concentration in gasoline cannot exceed ten percent, unquote.

So with that statement in mind, why do you feel the need to roll back this policy based on demand and the so-called blend wall when you readily admit that we as a nation can go beyond ten percent ethanol in the fuel supply?

Ms. MCCABE. Well, we haven't rolled back the requirement at all, and in fact our proposed rule would require ethanol above ten percent in the system. I think it is about 10.4 percent. And so that is exactly what we do in considering the waiver where the statutory volumes would go significantly beyond that ten percent.

Our evaluation is that those are not realistic or feasible, our job then as we see it is to set a volume that is as close to that statutory volume as we think is appropriate. And this proposal will require more ethanol or more renewable fuel. It will be served by whatever fuel is competitive and makes it into the system. But it accommodates certainly more ethanol than ten percent.

Mr. LOEBSACK. Well, the third thing I want to address is, it was brought up by Mr. Welch—and by the way, I think it is a good thing that Democrats disagree with Democrats and Republicans disagree with Republicans and not just Democrats and Republicans disagreeing. We don't hear too much about that out there in the rest of the country.

But at any rate, the intent of the RFS was to help the U.S. become more energy independent and secure while also reducing greenhouse gas emissions. And I take Mr. Welch's point about sort of evaluating that on the part of the EPA. Each gallon of renewable

fuel taken away can only currently be replaced by a gallon of gasoline and it doesn't seem to help address our climate concerns and has a potential to greatly reduce investments in the next generation of biofuels which promise even more greenhouse emissions, I would argue, greenhouse gas reductions, excuse me.

Can you tell me how the potential RVOs contribute to the EPA and Administration's goal of greenhouse gas reduction now and into the future and how we might be able to measure that to address Mr. Welch's question as well?

Ms. McCABE. Well, Congressman, I think it was you that said earlier that every gallon of renewable fuel that replaces a gallon of petroleum is bringing the benefits of that fuel. And especially with advanced biofuels, the greenhouse gas advantages of that are considerable.

I will also say in answer to your question that, as I have said already, this program has a long trajectory and we are still in the early days in terms of the system is really gearing up to produce the kinds of fuels that Congress was looking for. So I think that people will agree that as this continues to be implemented people will be able to see more and more actual impact. But even today when you use those renewable fuels you are replacing petroleum and moving toward that goal that Congress set.

Mr. LOEBSACK. Thank you. Thank you. Thank you, Mr. Chair.

Mr. WHITFIELD. The gentleman's time has expired. At this time I recognize the gentleman from Pennsylvania, Mr. Pitts. OK. At this time we will recognize the gentleman from West Virginia, Mr. McKinley.

Mr. MCKINLEY. Thank you, Mr. Chairman. Two quick questions if I could, Ms. McCabe, and again welcome back. It is my understanding that you can't blend ethanol with diesel fuel and the market will not accept more than two to five percent of the biodiesel blend in diesel; is that correct?

Ms. MCCABE. Well, I am not an expert on this issue. I would be glad to get you specific answers. But there is a blend concept relative to diesel as there is—

Mr. MCKINLEY. Under biodiesel we might be able to do that two to five percent, but the EPA imposes the same proportional RIN obligation on all refiners, even some that produce significantly more diesel than gasoline. From what I understand, these diesel-rich refiners can't separate enough RINs to meet their obligation and so they are forced to buy RINs to offset that. And one in my district it is going to cost him millions of dollars and they are just a small boutique-type refinery that is being hurt with this.

So I am curious, can't we develop or would you be willing to develop a refiner's obligation for corn at one level, excuse me, ethanol on one for gas and a separate one for diesel fuel? Would that not make sense that we separate the two rather than treat them as equal because they are not? Would that make any sense to you?

Ms. MCCABE. Well, I don't think that is the way that the statute was set up, and through the way the statute was set up and then the rules that EPA set up—and I wasn't there at that time so I wasn't personally involved, but the notion that the RIN market as a big open and flexible and liquid market was the best tool for the refiners to be able to meet their obligations under—

Mr. MCKINLEY. OK. But would it make sense to have two separate obligations, one for diesel and one for gasoline?

Ms. MCCABE. We would be glad to talk with you about that further.

Mr. MCKINLEY. Let us pursue that a little bit because I think we have a unique situation with a small refinery that is being penalized because they are producing far more diesel than gasoline but yet they have this problem.

Let me go to another question. Does the EPA assume that their RIN bank will increase or decrease once the obligated parties begin reporting their RIN compliance for 2014, 2015, and 2016? Do you think it is going to increase or decrease?

Ms. MCCABE. I don't know that I have an opinion right now. We watch these numbers on an ongoing basis and I think the RIN bank has been relatively stable. You know, people can, they have these credits, they can use them the next year and so they roll over.

Mr. MCKINLEY. OK. But if perhaps the RIN bank is depleted, if it is depleted which apparently that is what a lot of refiners are expecting that to happen on it, would the EPA consider adjusting their proposal to account for the shortage of RINs in the market?

Ms. MCCABE. Well, we think that the RIN bank is a really important feature of the program because it provides that cushion for manufacturers and they accumulate RINs in a RIN bank to provide them with that kind of security. So in the proposal that we put out, we designed it in a way that did not have an expectation that the RIN bank would be used to satisfy these obligations.

Mr. MCKINLEY. OK. I yield back the balance of my time. I hope that maybe we can sit down and talk about how we might be able to treat the small refinery different than someone else. Thank you very much. I yield back.

Mr. WHITFIELD. The gentleman yields back. At this time the chair recognizes the gentleman from New York, Mr. Tonko, for 5 minutes.

Mr. TONKO. Thank you, Mr. Chair.

Ms. McCabe, what are the greenhouse gas emission benefits of advanced biofuels, and just how much cleaner are they required to be?

Ms. MCCABE. Per Congress, advanced biofuels have to be 50 percent cleaner and cellulosic have to be 60 percent cleaner.

Mr. TONKO. And can you give your perspective on the state of the advanced biofuels industry in terms of perhaps domestic production how much has been added, and into the future what is the expected growth rate in the coming years?

Ms. MCCABE. Yes. That is the question, Congressman, so we stay in very close touch with the domestic industry. There is the biodiesel industry, which has had a very optimistic and good growth and continues to and has invested and is producing increasing amounts of volume.

On the cellulosic side that has been a little bit harder for those firms to get going. There are, however, a handful of firms in the country that are now starting to produce actual volumes and generate RINs. That is very encouraging. It is still at a pretty small level and certainly way below what Congress would have expected

by now or was hoping for by now. But we see it on an upward trend. That is why it has been our focus to get these volume standards back on track, get them out on time so that there is more certainty in the market for those to develop.

We have done some, working on some other things, improved our pathway approval process which is ways for people to come in with new production processes to get those approved to be able to generate RINs. We are now processing those very, very quickly so that those can move through and we have I would say a steady stream of those. So I think it is on the upturn for sure.

Mr. TONKO. And you certainly see some of those barriers being lowered now from—

Ms. McCABE. I think with certainty in the market, with greater consumer acceptance and desire for a variety of fuels that we will see those penetrating more.

Mr. TONKO. Thank you. And Mr. Gruenspecht, I believe for the first time since the 1970s there are higher levels of carbon dioxide emissions from the transportation sector than from the electricity generation sector. Is that accurate?

Mr. GRUENSPECHT. I think that may be coming to be the case mostly because of the drop in the electricity sector carbon dioxide emissions.

Mr. TONKO. And what factors, are there factors that would enable the transportation numbers to overcome the electricity numbers?

Mr. GRUENSPECHT. I am not sure I understand the question, sir.

Mr. TONKO. Well, if there is now this overwhelming or this bypassing of the electricity carbon emission numbers by the transportation sector, how would you explain that phenomenon from having happened?

Mr. GRUENSPECHT. Well, again, primarily driven by the drop in the electricity sector with less coal fire generation, more renewable generation, more natural gas generation which is much lower in carbon emissions than coal-based generation.

On the transportation side, I think we have significant fuel economy standards that are being phased in over, you know, through for light duty vehicles through 2025. In the present environment right now, I think we have rising gasoline consumption. There is interesting questions as to why that is the case, so there may be obviously lower gasoline prices, a lot of job creations in recent years, so when people get jobs they drive to work often. So lower gasoline prices, drive to work more, and also the vehicles that people are buying are changing.

So yes, present each year the fuel economy standards are getting tougher, but remember there are separate ones for depending on the footprints of the vehicles. So if the mix between larger and smaller light duty vehicles, let's say, what are called light trucks and cars, if the balance is shifting more toward light trucks you will find even with the standards getting tougher for each of them maybe the fuel economy of new vehicles, let's say over the last couple of years, has actually not decreased.

Of course those new vehicles only get added to the fleet stock of vehicles, but I think the rate of change in fleet fuel economy has

not declined as much because of some of these changes as some people might have thought.

Mr. TONKO. OK. Well, thank you for that. And with that Mr. Chair, I yield back.

Mr. WHITFIELD. The gentleman yields back. At this time the chair recognizes the gentleman from Kansas, Mr. Pompeo, for 5 minutes.

Mr. POMPEO. Thank you, Mr. Chairman.

Ms. McCabe, in your opening testimony you said we believe these proposed volumes are achievable. You listed a series of volumes for that. Do you really think they are all achievable? Do you think that without RINs do you think those volumes will be reached?

Ms. MCCABE. The ones that we have proposed?

Mr. POMPEO. Yes.

Ms. MCCABE. We do think that those are reasonably achievable.

Mr. POMPEO. Great. We will come back in a year and see how you score against that. Your track record is pretty poor in achieving that whether those proposals have exceeded, so this would be a first. That would be great. I hope you are right. Now let me just keep going.

Ms. MCCABE. All right.

Mr. POMPEO. We talked about the obligated party with Mr. Olson for a moment. You are convinced you have the authority without statutory change to change the obligated party. That is, it is an administrative task. You have the authority if he has the authority to change who the obligated party is. Is that correct?

Ms. MCCABE. I believe that is right. We did it by regulation to begin with.

Mr. POMPEO. I agree. And in 2010 when RFS2 came out, you said that if the RIN market went—I want to summarize because it is long. If there were problems in the RIN market you would revisit this, and you said now in light of the petitions you have received you are in fact revisiting who the appropriate obligated party might be.

Ms. MCCABE. We are looking at those issues, yes.

Mr. POMPEO. But you are not willing to give us any timeline for when you might tell us what it is, your ultimate judgment comes to be?

Ms. MCCABE. I don't have a timeline right now.

Mr. POMPEO. Great, thank you. You said where at the beginning of the program a little bit earlier it ends in 2022 in one sense. That is, the requirements end. The program, however, continues forever. Tell me what restrictions there are on what volume levels will be set by the EPA after 2022.

Ms. MCCABE. This is what I understand from the statute. The statutory volumes end in 2022 as you said, the EPA is then directed to set those thereafter. We are to do it based on our review of the implementation of the program on the list of criteria considerations that Congress put in. And I believe there are two minimum expectations, one relates to biodiesel and one relates to advanced and that we are to have minimum volumes at least as great as the last ones we set.

Mr. POMPEO. For those two items?

Ms. MCCABE. Yes, I believe that is right.

Mr. POMPEO. I think that is right as well. So it is the case that you could completely eliminate the corn based requirement. That would be within your statutory authority to completely eliminate the corn-based requirement post-2022 volumes that are set forth in the statute.

Ms. MCCABE. I haven't looked at that question explicitly, but I don't believe there is an expectation in the statute itself with respect to what is not advanced. There is no corn-based or conventional mandate in the statute. It is what fills up the space between advanced and total.

Mr. POMPEO. I think that is right. The statute specifically lists environmental impact as one of the criteria that you should use including climate change as criteria for setting those volumes. Do you think that corn-based ethanol has a negative environmental impact?

Ms. MCCABE. I think that this is a challenging question with many considerations, and I think in—

Mr. POMPEO. But what do you think? You have been looking at this for an awfully long time.

Ms. MCCABE. So in some respects there are greenhouse gas benefits. A lot of it depends on the feedstock and the particular lifecycle elements of any particular feedstock including corn. There are some advanced fuels that can be made with corn materials as well as conventional corn ethanol.

Corn ethanol has differing impacts on other environmental features such as air quality. In some cases it reduces air pollution, in other cases it may increase air emissions. So it is a very mixed picture.

Mr. POMPEO. The Administration entered into what they commonly called the Paris Agreement. Assuming that the United States is still party to the Paris Agreement in 2022, would the EPA consider that as a factor as it is evaluating America's attempt to comply with its commitments under the Paris Agreement? Would the EPA consider that as it is deciding what the appropriate level should be from 2022 and beyond?

Ms. MCCABE. I can't speak to what the EPA might do in 2022. I think its first priority would be to implement the statute.

Mr. POMPEO. Right. But I am asking would it be appropriate to consider an agreement, a climate change agreement that the Administration entered into as a criteria as it is evaluating whether or not its levels that it sets post-2022 would comply with the statute?

Ms. MCCABE. Well, I think that the RFS and other programs that are climate focused provide the support for the United States' commitment internationally, not the other way around. But I can't speak for a future EPA.

Mr. POMPEO. Do you believe you would have in 2023 the statutory authority to restructure the RFS to mirror the California Low Carbon Fuel Standard Program? Could you do that, would have the authority to do that?

Ms. MCCABE. I don't know, Congressman, but would be happy to follow up with conversation on that point.

Mr. POMPEO. Thank you. I yield back.

Mr. WHITFIELD. The gentleman yields back. At this time the chair recognizes the gentleman from Virginia, Mr. Griffith, for 5 minutes.

Mr. GRIFFITH. Thank you very much, Mr. Chairman. I do appreciate that. Thank you all for being here today.

I am trying to sort some of these things out. I am concerned about the comments about the wildlife habitat that has been destroyed as a part of this that Mr. Welch brought up earlier. And I thought it was really nice that one of my colleagues mentioned that sometimes Republicans don't agree with Republicans and the Democrats don't agree with Democrats and the issues get a little blurred particularly in this area. But I am concerned about that.

I am also concerned, Mr. Gruenspecht, you indicated in your testimony that the greenhouse gas standards for heavy duty trucks might impact RFS. Could you explain a little bit more on that?

Mr. GRUENSPECHT. Well, the reason I mentioned that in the testimony or the reason that was included, we have heard a lot about what was expected, in 2007. And again, in 2007, there was an increase in more stringent fuel economy standards for light duty vehicles which wasn't reflected in that outlook that apparently people relied on even though they were changing the fuel economy standards.

So all I am saying here is, we have present outlooks and they are based on current laws and regulations. Right now those Phase 2, so-called Phase 2 standards are not part of that although we are going to do a side case that looks at the proposed Phase 2 standards because they have already been proposed.

But in that projection there would be significantly less diesel consumption than in the baseline projection, so we are not trying to guess what either the people in Congress are going to do or the people in the Administration are going to do. Since we know there is a specific proposal we feel like we can put that out there.

But I guess I put that in the testimony not as a caution but just so if someone says, gee, we looked at your outlook and it said there would be this much diesel, it is very dependent on policy. Policy matters a lot.

Mr. GRIFFITH. And it is clear that you are trying to be very careful in your projections and so forth, but you did indicate that if the greenhouse gas standards for heavy duty trucks are finalized that would significantly reduce projected diesel fuel use—

Mr. GRUENSPECHT. Exactly.

Mr. GRIFFITH [continuing]. And these things are going on, the lower cost of gasoline has had an impact and et cetera as you have mentioned previously in your testimony.

And then it makes me wonder, Ms. McCabe, when you respond to Mr. Pompeo that you are confident that all these goals can be met, how can you be so confident when you have got all these different variable factors out there which you have already established in the past that you weren't able to meet all those goals?

Ms. MCCABE. Yes, there is a really important factor to mention here. Congress set absolute numbers in the statute, but then the way the obligation is actually given to the industry is through a percent. So because there are absolute numbers in the statute we need to be guided by absolute numbers.

But then the expectation is not that any given producer will produce x number of exact gallons based on our absolute number but rather on the percentage, so we translate that to a percentage. So that means if we are wrong on we predict more gasoline use than actually happens or less gasoline use than actually happens, the refiner's obligation it will take that into account because it is a percent obligation.

Mr. GRIFFITH. Well, I appreciate that. I will ask you to give me information later because I don't expect you to have this, although some of the answers I thought the questions that were asked I thought you might have had answers in preparation for this hearing.

But biodiesel that comes from grease as opposed to coming from plant material, if you can get me whatever it is you all are working on in that regard and how you might be increasing that or what proposals you may be making behind the scenes to increase the amount that is made from waste grease fats. I know there is some research out there and if Singapore is looking at it and other folks are looking at it to try to take our love of hamburgers and turn it into a renewable fuel source. So just give me that information later if you would.

My time is running out and so I would also ask Administrator Gruenspecht, according to the U.S. Department of Energy vehicles will typically go three to four percent fewer miles per gallon on E10, four to five percent fewer on E15 than on a hundred percent gasoline. And according to the Institute of Energy Research, Americans have paid about 10 billion in additional cost for the privilege of having ethanol blended into their gasoline.

Can you verify this information, and if it is correct why should Virginians in my region of the state continue to be forced to foot the bill in order to prop up the ethanol industry?

Mr. GRUENSPECHT. I think the first set of information is probably correct, the lower energy content of ethanol. I am not sure the second set of information about how much it has cost is really open to a lot of interpretation. And the reason is, as many of the members have said, ethanol contributes octane which is very important to make gasoline good and that we would be, many people I guess, Administrator McCabe, myself, some of the members believe that we would be using a lot of ethanol in gasoline even if there were no RFS requirement.

So again I am not sure how that 10 billion figure was calculated, but if it is providing other necessary parts of gasoline I don't know that you would necessarily call that a cost. So the first part yes, I think.

Mr. GRIFFITH. All right, I appreciate that and I yield back.

Mr. WHITFIELD. The gentleman's time has expired. At this time the chair recognizes the gentleman from Illinois, Mr. Kinzinger, for 5 minutes.

Mr. KINZINGER. Thank you, Mr. Chairman. And before I begin my questions I am going to ask unanimous consent to insert into the record a study that shows, showing the impact of the EPA's lack of certainty on the biofuels industry titled, "Estimating Another Year of Chilled Investment in Advanced Biofuels Due to RFS Uncertainty."



Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. KINZINGER. To the administrator, thank you for your service and thank you for being here. I really appreciate it. I just have a couple of questions. I am curious how the EPA determined the biodiesel targets for 2017 and the proposed targets for 2018. It is my understanding that these targets will both be below the amount of biodiesel EPA estimates will be produced this year. Can you elaborate on how they were determined?

Ms. MCCABE. Sure, happy to do that and to follow up if I am not detailed enough for you. So the statute establishes an amount for biodiesel through 2012, gets up to one billion gallons and then it is up to the EPA to determine an amount after that. So what we do with biodiesel is what we do with all of the fuel categories which is we get as much information as we can about what the expectations are with respect to the industry.

But there is a difference with biodiesel because biodiesel is one of a number of advanced fuels. It fits into that advanced category and we have to set a separate amount, expected amount for the advanced category. And one of the questions is how much of that advanced category should biodiesel basically get a guarantee on? And we believe that it is important to have competition and choice and opportunity for a variety of fuels to compete.

So we consider very carefully how much biodiesel can contribute because it is very important, right, but also leaving room for other fuels to compete. Now it is not a limit on how much biodiesel can be produced nor sold, and depending on what other fuels are out there and how they are priced it can be very competitive. But in fact it has provided a substantial amount of our advanced biofuel.

So that is the process we go through. We look at the information, but then we have this other consideration to make sure that other fuels have an opportunity to compete.

Mr. KINZINGER. OK. And I am sure you appreciate the amount of planning that goes into this infrastructure, purchases by obligated parties or preparation made by the ag community which comes along with complying with the annual volumes. I am glad the EPA is working to get back on schedule with the 2017 rule deadlines.

What are you as an agency doing to ensure that you will remain on schedule for 2017 and beyond?

Ms. MCCABE. Yes. I think we have done a good job of getting ourselves back on track. The big issue was approaching the blend wall, the use of the general waiver. We have now used it. We have proposed to use it again. It is being litigated as has been mentioned, so presumably will get some direction from a court at some point.

So some of those very difficult issues are behind us now and so we are able to do our routine work, just make sure that we are on schedule. We got this proposal out absolutely on time to get a final out by November and there is no reason we shouldn't make that.

Mr. KINZINGER. So your feeling is that basically from here on out we are probably going to be on track better with timing?

Ms. MCCABE. Well, that is my belief. I won't speak for future EPA leadership, but I feel confident that the program can do it.

Mr. KINZINGER. OK, thank you. And just in closing to just remind people because there is obviously a lot of talk and it is important, and I have a lot of, a hugely agricultural district and I remember back in the '90s there was a lot of talk about whether the family farmer would be able to survive. And is this just going to become in essence major corporations taking over these farms to do it?

And I think ethanol has been a big part of the survival of the family farmer and obviously very important going forward, especially when we see corn prices today and knowing that the importance of producing food not just for ourselves but for frankly the world and the importance of it. So again, thank you for your service and thank you both for being here, and I will happily yield back.

Mr. WHITFIELD. The gentleman yields back. At this time the chair recognizes the gentleman from Texas, Mr. Flores, for 5 minutes.

Mr. FLORES. Thank you, Mr. Chairman. I thank the witnesses for joining us today.

Mr. Gruenspecht, do you believe that the market can absorb 14 ½ billion gallons of renewable fuels in the 2016 RVO? I am talking gasoline only for all of my conversation.

Mr. GRUENSPECHT. Yes, I am an economist and I tend to believe in markets. And I think that there are certainly conditions I could imagine that the market can absorb that.

Mr. FLORES. OK.

Mr. GRUENSPECHT. I don't know what the RIN prices would be. At some point, the higher ethanol blends get very attractive to the people who can use them, so I would not rule out anything.

Mr. FLORES. OK. How about the 14.8 billion gallons for the 2017 RVO?

Mr. GRUENSPECHT. Again it is a market-based issue.

Mr. FLORES. OK, but it could generate a higher RIN cost which would generate higher gasoline costs?

Mr. GRUENSPECHT. Well, again the figuring out—yes, it could generate higher RIN costs. Exactly who bears those costs is a very complex—

Mr. FLORES. OK. So I guess that leads to the broader question. What happens to the market if either the 2007 statute and/or the EPA continue to push higher and higher volumes of ethanol into a fuel market, a gasoline market where volumes have flattened and are actually you are predicting to decline? What happens to the market?

Mr. GRUENSPECHT. If I knew the answer to that question I guess I wouldn't be a government official.

Mr. FLORES. There you go.

Mr. GRUENSPECHT. But seriously, there are actually, I did try in the written testimony, although I didn't mention it in the oral, there are options, higher volume blends which has all kinds of issues related to infrastructure that I actually feel like the members here are extremely well informed on this issue, probably better informed than I am to be the truth.

But the opportunity for something like biobutanol, say, which potentially could be blended at a high—there is no rule that says that

the biofuel has to be ethanol and biodiesel. There are processes to create biobutanol using the same feedstocks, so there are a lot of different options. I am not going to say it is a cinch. I am not going to say it is, but if—

Mr. FLORES. But it could cause market disruption, do you think?

Mr. GRUENSPECHT. It would definitely change things.

Mr. FLORES. Exactly.

Mr. GRUENSPECHT. It might change the blendstocks that have to be used in conjunction.

Mr. FLORES. Let me move on though, we have got a lot of ground to cover in a short period of time.

Ms. McCabe, you and I both understand the EPA has got some waiver authority to adjust the volumes, also I think you have essentially admitted that the mandated volumes don't match the trends in consumer fuel demand. And so I believe that means that they are technically and commercially unachievable and I think that is what the 2017 proposal or the rulemaking by the EPA essentially says is that the statutes can't be achieved so we the EPA are going to do the best we can in an uncomfortable situation.

So that leads me to the next question. Congress said volumes. Would it be easier for you if Congress had just said we set percentages of renewable fuels that have to be blended based on actual gasoline demand? Wouldn't that have been a better solution?

Ms. MCCABE. Well, as you might expect I am not going to opine on what Congress, whether one thing or another would have been better for Congress to do.

Mr. FLORES. But you have to implement these things. Would it have been easier for you to implement if you had a percentage mandate instead of a volumetric mandate?

Ms. MCCABE. Well, I think we would, Congressman, go through much of the same inquiry to make sure that whether it is expressed as a percentage to begin with or whether it is an actual volume that then is translated to a percentage, we would still be inquiring into where the industry is going and what is feasible and realistic. So, and I think we would be doing a lot of the same work.

Mr. FLORES. OK. Wouldn't though, let's put it this way. Right now every year, everybody involved in the gasoline market if you will, whether it is a consumer, a refiner, a corn grower, an advanced ethanol company, goes through an extreme amount of uncertainty because they just don't know what the EPA is going to do, because they know there is a statute out there that is volumetrically driven that cannot be achieved through the current technology and current market conditions.

So wouldn't it be better and more stable for the market if there was an easily understood percentage mandate instead of a volumetric mandate?

Ms. MCCABE. Well, I think uncertainty has been a real concern of people and that is why it is so important for us to get our rules out on time. But even if we get them out on time it is an annual process, right. So people have those concerns.

Mr. FLORES. Let me say this. I think the market would respond better just knowing, OK, expected gasoline demand is  $x$  and the percentage is  $y$  and therefore the outcome that the market has to be driven toward is  $z$ . That is a lot simpler. There is a lot more

stability and a lot more transparency to the market. Thank you. I have overstayed my welcome. I yield back.

Mr. WHITFIELD. The gentleman yields back. At this time the chair recognizes the gentleman from Mississippi, Mr. Harper, for 5 minutes.

Mr. HARPER. Thank you, Mr. Chairman.

Ms. McCabe, at a Senate hearing earlier this year you indicated that the EPA in consultation with the DOE has continued to grant small refinery hardship waivers. For those that were denied was the denial based on their profitability, and has DOE and EPA implemented a new hardship standard by which you are denying hardship relief to refineries that remain profitable even if they have a disproportionate regulatory burden by producing more diesel than the national average and lower refining margins?

Ms. MCCABE. We do continue to look at hardship waivers and we have a pretty standard number of them every year and we coordinate closely with the DOE. We worked with the DOE and the DOE developed an evaluative process that they use to then give us a recommendation and they used a couple of different factors. As you know, DOE has recently made some adjustments in their process based on some recommendation language that they got through legislation directed to them. We continue to coordinate with the DOE, but we however feel that our job is to implement the statute and to exercise our hardship waiver authority in conjunction with the statute. So we take DOE's input but we have not made changes in our process that are consistent with the DOE changes that they have made in response to direction that they got.

Mr. HARPER. Well, I am not sure I really got an answer to my question. Is profitability a factor in approving or denying a hardship petition?

Ms. MCCABE. Yes, it is. There are a number of economic factors. It is one of a number of factors.

Mr. HARPER. So their profitability is a factor. So you could have two entities doing the same amount of work but one is not profitable, the other one is for whatever reason it is, and the hardship waiver may be granted to the refinery that is financially not as viable or as profitable, and the one that may be doing it right and more profitable is going to get denied under the same set of circumstances.

Ms. MCCABE. These are really complicated decisions, Congressman, and they are—

Mr. HARPER. Well, it is pretty complicated when you are being punished for trying to do it right and denied this in this regard.

Ms. MCCABE. Well, Congressman, when somebody comes and asks for an exemption that means that they are asking to not be expected to do what the rest of the industry is asked to do. And so we look at these very, very carefully, because it matters greatly to the person coming to us but it also matters greatly to everybody else that has that burden. And that is why we think that the range of factors we have established are appropriate ones.

Mr. HARPER. And I know you have mentioned it and I would maybe not agree with you that they are appropriate and maybe need to be looked at closer, and you have mentioned the language included in the Omnibus Appropriations bill last year restating

congressional intent regarding small refiner hardship. Can you please tell me how the EPA intends to apply to small refiner hardship petitions going forward?

Ms. MCCABE. That language was directed towards DOE's process and how they would make their recommendations to the EPA. And so they are doing that and we are paying attention to DOE's recommendations as we always do and to the analysis that goes into their ultimate recommendations. We are making our decisions based on our understanding of what our statutory obligations are.

Mr. HARPER. For hardship petitions that are submitted this year will you follow the 90-day time clock for a response?

Ms. MCCABE. Yes.

Mr. HARPER. OK. Mr. Chairman, I don't believe I will have enough time to get into another question here, so I will yield back.

Mr. WHITFIELD. The gentleman yields back. At this time the chair recognizes the gentleman from Oklahoma, Mr. Mullin, for 5 minutes.

Mr. MULLIN. Thank you, Mr. Chairman. And thank you for taking the time to be here. So I am going to focus on a couple of things real quick since you are the economist on the panel today. With the RIN's price what is the current price today on the RINs, do you know?

Mr. GRUENSPECHT. I probably have it written down somewhere.

Mr. MULLIN. 85 cents.

Mr. GRUENSPECHT. Sounds right.

Mr. MULLIN. OK. And before the blend wall do you know what the RIN's price was?

Mr. GRUENSPECHT. I know that for a long, long time the RFS wasn't binding at all. We were using much, much more ethanol than required by the RFS and the RIN prices were—

Mr. MULLIN. Right. Before the blend wall it was like trading between 2 and 4 cents. At its highest point it was costing 1.48. Do you know what the total was going to the refineries, what the refineries were spending on this?

Mr. GRUENSPECHT. I am not sure. The blenders were buying ethanol—

Mr. MULLIN. But the refineries were forced to buy them even though—

Mr. GRUENSPECHT. Right.

Mr. MULLIN [continuing]. This blend was out of their control.

Mr. GRUENSPECHT. Right.

Mr. MULLIN. Do you know how much the refineries were costing them?

Mr. GRUENSPECHT. I am not sure because when they bought ethanol it had RINs attached, so the question is how much—

Mr. MULLIN. How much does it—OK, let me rephrase this then. How much is the RINs costing the consumer out there? How much is it adding to a gallon of gas?

Mr. GRUENSPECHT. I am actually not sure I know the answer to that question, honestly. It is a tricky question because—

Mr. MULLIN. Well, it is but you are the economist.

Mr. GRUENSPECHT. I understand that.

Mr. MULLIN. And so that is why I am asking you the question because this is part of the debate. Is this healthy for the consumer?

If ethanol is a cheaper, better, smarter way to move forward we are talking today about what is the percentage of the blend, what is it required, and then the bigger picture is what is it actually costing the consumer? We already know that as a guy that has over a hundred vehicles on the road in my company and that we have multiple small engines out there—we are in the construction business—we know it is not healthy for our vehicles. I don't think either side is even debating that.

So if it is not healthy for our vehicles we are wanting someone to tell us, where is it good? Is it good for the economy?

Mr. GRUENSPECHT. I have not looked at that sir.

Mr. MULLIN. So—

Mr. GRUENSPECHT. A challenge as we discussed earlier is that the ethanol serves multiple purposes in the fuel, so it adds octane, it helps meet other kinds of requirements unrelated to the RFS.

Mr. MULLIN. But are they the smarter, better way to move forward? I mean for the economy, you are an economist.

Mr. GRUENSPECHT. Yes.

Mr. MULLIN. Is it healthy for the economy?

Mr. GRUENSPECHT. I am actually not sure it is a primary consideration for the economy. It is more of a consideration for fuels policy and environmental policy. There are definitely effects.

Mr. MULLIN. Well, for the environmental policy—

Mr. GRUENSPECHT. I think it affects the agricultural community to some extent. I mean—

Mr. MULLIN. Well, sir, for the environmentalist, let's just talk about that. I think you said it was higher fuel standards; is that what you said earlier? You were answering a question and you spoke about higher fuel standards. And so let's talk about the environment. Ethanol doesn't burn better. I get less miles per gallon in my vehicles when we burn ethanol.

Mr. GRUENSPECHT. Absolutely. Ethanol has less energy content than gasoline.

Mr. MULLIN. On our vehicles we run about 150 vehicles of one particular brand. When I run non-ethanol versus ethanol I see roughly a 12 percent increase in fuel mileage, when I run 100 percent fuel E0. And so for the environment that is not good, so I focus once again on the economy side of things. Where is it good?

And I don't mean to be pinning you, but you are the economist and I find it funny that we can't get an answer on that; that no one has studied downstream. Because we always talk about the consumer, we always talk about the middle class, we always talk about how much better and healthier it is for them and lower fuel standards, but I am just not seeing it.

Mr. GRUENSPECHT. All right. Again it is something we could look at. I think there are a variety of views on it, a variety of perspectives on it.

Mr. MULLIN. So the EPA has never looked at this?

Mr. GRUENSPECHT. Well, I can't speak for the EPA.

Mr. MULLIN. Ma'am?

Mr. GRUENSPECHT. That sounds like throwing my colleague under the bus, but—

Mr. MULLIN. But you think some economists should be looking at this?

Ms. McCABE. Yes, we have economists at EPA as well who look at these issues. A couple things I will say in response to the points that you have made, there has been development in rural America as a result of the investment in not just ethanol but other renewable fuel operations, and I am sure you will hear that from the second panel to a great degree. So it has added to the economy in that way.

Mr. MULLIN. What has it added to other than higher consumer prices?

Ms. McCABE. Well, it has created jobs and——

Mr. MULLIN. At the cost of who, the consumer. We have created jobs through regulation.

Ms. McCABE. Well, so another point that I want to be sure to make is that a lot of people have looked at and are looking at the dynamics of the RIN price and does it or doesn't it affect prices at the pump for the consumer. And——

Mr. MULLIN. It has to, because it has cost the refineries billions of dollars and who do they pass it on to? As a business owner I have got to pass my regulation costs to someone. You can't absorb it. That is why I find it odd that we through either economists or the EPA haven't looked at this downstream on actually what it is costing the consumer at the pump.

Ms. McCABE. We actually have looked at this issue in great detail and would be glad to follow up with you and provide some more information on it.

Mr. MULLIN. Please do, I would appreciate that. Thank you so much.

Mr. WHITFIELD. The gentleman's time has expired. At this time the chair will recognize the gentleman from Ohio, Mr. Johnson, for 5 minutes.

Mr. JOHNSON. Thank you, Mr. Chairman. And I appreciate the panel for joining us today. Ms. McCabe, how might the EPA go about setting blending requirements differently after 2022, fully understanding that a different President and Administration will be in place at that time?

Ms. McCABE. Yes, sir. Well, thank you for recognizing that I won't speak for a future EPA. But we would use the guidance that Congress gave us in the statute. So our job is to look at the list of considerations and concerns that are laid out in the statute which are very explicit. We are to look at the implementation of the program through 2022 and take that into account, and we are to also make sure that we set minimum requirements for advanced fuel that are no less than the last level that we set in 2022, and likewise for biodiesel. And so those are two specific directions that Congress gave us, and beyond that we would use our consideration of the list of factors.

Mr. JOHNSON. Do you anticipate any immediate or significant changes to blending requirements once the EPA is not bound by these statutory requirements?

Ms. McCABE. That is something I really can't speak to. It is not only would it not be me, it is many years into the future.

Mr. JOHNSON. OK. Do you believe that the agency is on track to meet all statutory blending requirements by 2022?

Ms. McCABE. I think we have made clear that the statutory volumes that Congress put, the actual numbers that Congress put into the statute we will not be able to make, and so that is why we have used our waiver authority in this proposed rule and the last one to set standards that are less than that.

Mr. JOHNSON. So if you can't meet the statutory blending requirements by 2022, then how many more years might the agency need to achieve those blending requirements, any idea?

Ms. McCABE. The actual numbers in the statute?

Mr. JOHNSON. Yes.

Ms. McCABE. I really wouldn't know.

Mr. JOHNSON. I mean, if you know you are not going to meet them have you not looked at how long it would take you to meet them?

Ms. McCABE. I don't believe we have looked at that, Congressman, because we know that there is a process for us to set appropriate but aggressive standards in the meantime. We know that there is a process in the statute for what happens afterwards and that would, I expect, be the intent of the agency would be to follow that process.

Mr. JOHNSON. It seems to me that because these are statutory requirements that the agency would be planning to meet the statutory requirements, and if not, at least inform Congress as to when they expected to be able to meet them. But you say you haven't looked at that.

Ms. McCABE. Well, if Congress asks us that specific question we would do our best to answer it. I can tell you that the expectation for 2017, which is the proposal we have out now, I believe is a total volume of 24 billion gallons and our proposal is 18. So that is the delta on the total.

Mr. JOHNSON. OK. One final question, Ms. McCabe. EPA's CAFE and GHG standards came out after the RFS was last revised. Explain how this program changes compliance with the RFS.

Ms. McCABE. Yes, sir. That is a good question and it is actually one that has been present in a lot of these questions today. I mentioned a few minutes ago that the way the statute works is it starts from absolute numbers, but then the actual obligation for the obligated party is converted into a percent. And what that means is that the obligation can be sensitive to increases or decreases in fuel use.

So you have noted that there are programs in place now that we didn't have before that require increased fuel economy that could well lead to less fuel being used overall, maybe not for some of the reasons that Howard mentioned, but whether it is higher or lower the percentage obligation for each obligated party will be able to adjust.

Mr. JOHNSON. OK, all right. Mr. Chairman, I don't have time for another question either, so I yield back.

Mr. WHITFIELD. The gentleman yields back. And that concludes all of the questions for the first panel. So Ms. McCabe and Mr. Gruenspecht, thank you very much for being with us and you are dismissed.



At this time I would like to call up the second panel of witnesses. And you all take a seat and we will just introduce each of the witnesses as we call on them to give their opening statement.

OK, our first witness on the second panel will be Mr. Chet Thompson, who is the President of the American Fuel and Petrochemical Manufacturers. And all of you are experienced witnesses, but I would just remind you to pull the microphone up and make sure the microphone is on. And when the red light goes on that means your time is up, but we will give you a few minutes to wind up.

So Mr. Thompson, thanks very much for being with us this morning. We look forward to your testimony, and you are recognized for 5 minutes.

**STATEMENTS OF CHET THOMPSON, PRESIDENT, AMERICAN FUEL AND PETROCHEMICAL MANUFACTURERS; BOB DINNEEN, PRESIDENT AND CEO, RENEWABLE FUELS ASSOCIATION; TODD J. TESKE, CHAIRMAN, PRESIDENT, AND CEO, BRIGGS & STRATTON CORPORATION; BROOKE COLEMAN, EXECUTIVE DIRECTOR, ADVANCED BIOFUELS BUSINESS COUNCIL; COLLIN O'MARA, PRESIDENT AND CEO, NATIONAL WILDLIFE FEDERATION; ANNE STECKEL, VICE PRESIDENT OF FEDERAL AFFAIRS, NATIONAL BIODIESEL BOARD; AND TIM COLUMBUS, GENERAL COUNSEL, NATIONAL ASSOCIATION OF CONVENIENCE STORES AND SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA**

#### **STATEMENT OF CHET THOMPSON**

Mr. THOMPSON. Thank you, Chairman. I appreciate the opportunity to be here. To all the members of the subcommittee, again my name is Chet Thompson and I am the president of the American Fuel and Petrochemical Manufacturers. AFPM represents the domestic petroleum refining sector. Our members account for 98 percent of the capacity of the refining industry which transforms crude oil into the many fuels and products that Americans rely on for their everyday life. Unlike others on the panel, our members are obligated parties under the RFS, which means we are the ones left holding the bag if this program is not properly implemented.

I would like to use my limited time just to touch on the key points we made in our written testimony. First, the RFS is irreparably broken and needs to be repealed. After more than a decade of implementations, it is clear to almost everyone but our friends in the biofuel industry that the RFS program is not working as Congress intended, and that the two purposes cited by Congress for establishing the program—energy security and emission reductions—are either no longer an issue and are not being addressed by the program or in fact being made worse by the program.

The United States is more energy secure now than ever before, and indeed we are the world's largest producer of oil and natural gas. And according to EIA—you heard it this morning—the RFS has played only a small part in this transformation.

Mr. WHITFIELD. Mr. Thompson, would you pull the microphone a little bit closer? We are having a little bit of difficulty hearing.

Mr. THOMPSON. Not enough rope here, I will move closer. And so as I was saying, the RFS has played only a small part in this transformation in making us more energy secure. And the notion that the RFS program is better for the environment is at best debatable, and many including the National Academy of Sciences believe the RFS may in fact be a negative to the environment. The time has come for Congress to repeal the RFS and let the biofuels industry stand or fall on its own like all the other industries in this country.

Second and importantly, AFPM, we are not anti-biofuel. To the contrary. Several of our members are large ethanol and biofuel producers. We believe biofuels play an important role in the U.S. fuel supply and will continue to do so even when this body repeals the RFS. What we are however is anti-government mandates.

Third, as to last year's standards and this year's proposal, we support EPA's acknowledgment that the ethanol blend wall is real and that we also support their decision to use their general waiver authority to adjust the standards accordingly. That said, we do not believe that EPA has gone far enough to ensure the annual standards are in fact reasonably achievable.

The RFS requires increasing volumes of biofuel to be squeezed into an inadequate biofuel infrastructure and a decreasing demand for transportation fuel and also confronts a fact that consumers' demand for these programs, or these fuels are just nonexistent.

This is what gives rise to the blend wall, and as EPA has repeatedly recognized, only a tiny fraction of the fuel distribution and retail infrastructure is designed to accommodate fuels containing more than 10 percent ethanol. Moreover, the vast majority of cars on the road today are not warrantied to handle more than E10 and nor are the small engines equipped to handle these blended fuels. Demand is much lower—again we heard this from EIA—today than Congress thought when they enacted the program. Projections for 2007 are down by more than 10 percent and projections for 2022 use has dropped by more than 23 percent.

To overcome this and meet its aggressive 2017 proposals, EPA would eliminate in 1 year starting 6 months from now their proposal would eliminate 96 percent of the ethanol-free gasoline or E0, taking it from 5.3 billion gallons down to just 200 million. It would also require consumers to purchase record-breaking volumes of E85, E15, and biodiesel, ignoring the very obstacles they acknowledge in the rulemaking still exist today. If biofuel production so far this year is any indication, EPA's proposed standards are indeed unachievable.

As the former deputy general counsel of EPA, I would be remiss not to mention that the Clean Air Act clearly provides EPA with the authority to adjust annual standards to account for the E10 blend wall. The biofuel industry's challenge to this authority is simply without merit.

Finally, AFPM strongly supports H.R. 5180, the Food and Fuel Consumer Protection Act of 2016. While certainly we would prefer full repeal of this program, the Association fully supports H.R. 5180 introduced by Congressman Flores and Welch and cosponsored now by ten members of the subcommittee. This legislation would prevent EPA from forcing more ethanol into the fuel market

than it can handle, which in turn would provide at least some stability in the RIN market and preserve some consumer choice for ethanol-free gasoline. This legislation importantly represents a good faith compromise on our part that deserves the support of every member of Congress. Thank you, and I look forward to answering your questions.

[The prepared statement of Chet Thompson follows:]



**Written Testimony of Chet Thompson  
President, American Fuel & Petrochemical Manufacturers  
Before the U.S. House Energy and Commerce Subcommittee on Energy and Power**

June 22, 2016

The American Fuel & Petrochemical Manufacturers ("AFPM") appreciates the opportunity to provide its views on the implementation of the Renewable Fuel Standard ("RFS") program. AFPM represents 98 percent of U.S. refining capacity and all of our refining members are obligated parties under the RFS.

This hearing comes at a critical time for the RFS and for AFPM's members. Last year, pursuant to a consent decree with AFPM and the American Petroleum Institute, the Environmental Protection Agency ("EPA") finalized its annual percentage standards for 2014-2016. For the first time, EPA recognized the E10 blend wall and utilized its waiver authorities to adjust the renewable percentage standards accordingly. In May 2016, EPA proposed the 2017 RFS and again proposed to use its waiver authorities to reduce the cellulosic biofuel, advanced biofuel, and total renewable fuel volumes. Although AFPM supports EPA's use of its waiver authorities, EPA is nevertheless once again proposing unrealistic targets untethered from market realities. This proposal and its potential impacts on consumers are yet more evidence that Congress must repeal or, at the very least, significantly reform the RFS.

AFPM members are not anti-biofuel. To the contrary, many of AFPM's members own or invest in biofuel facilities and have used ethanol well before the RFS mandates took effect. Ethanol has

positive blending properties and would still be widely used even if Congress repeals the mandates. AFPM members are, however, anti-mandates, oppose limiting consumer choice, and oppose propping up some interests at the expense of others. AFPM believes that consumers and the free-market should decide which fuels are used in the marketplace—not the federal government. The following testimony discusses issues with the RFS generally and then highlights our concerns with EPA’s 2017 proposed rule, which are indicative of the core problems with the program.

**I. U.S. Energy Markets are Very Different than in 2005 and 2007, Affecting both the Justifications for the RFS and the Feasibility of the RFS**

The RFS was implemented through two statutes. The first was the Energy Policy Act of 2005 (“EPACT”), which required U.S. consumers to use 7.5 billion gallons of biofuels by 2012.<sup>1</sup> Two years later, Congress enacted the Energy Independence and Security Act of 2007 (“EISA”), which significantly expanded the RFS (“RFS2”) by effectively requiring the consumption of 36 billion gallons of biofuels by 2022.<sup>2</sup> The stated purposes of the RFS program were twofold: (1) to move the United States to greater energy independence; and (2) to reduce greenhouse gas emissions from the transportation sector. More than a decade after enactment, U.S. domestic energy production is near an all-time high, with little or no assistance from the RFS, and the notion that the RFS is better for the environment is at best debatable, and questioned by many. In other words, the original premises for the RFS no longer hold true.

RFS2 includes four “nested” mandates. Of the 36 billion gallons, 21 billion were intended to be advanced biofuels, which in turn was to be comprised of at least 16 billion gallons of cellulosic biofuel

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<sup>1</sup> Energy Policy Act of 2005, Pub. L. No. 109-58 (2005).

<sup>2</sup> 42 U.S.C. §7545(o).

and 1 billion gallons of biomass-based diesel. The remaining 15 billion gallons can be filled by any qualifying biofuel, but is colloquially known as the “conventional biofuel mandate” or “corn ethanol mandate.” Each year, EPA must translate the aggregated volumes into percentage standards that obligated parties use to determine their individual compliance obligation, or renewable volume obligations (“RVOs”).

EPA created the Renewable Identification Number (RIN) system as the mechanism for obligated parties to demonstrate compliance with their RVOs. In the RFS1 rulemaking, EPA identified several advantages to having a RIN-based system, including verification of renewable fuel production, real-time RIN trading to provide compliance certainty, ensuring the ability of renewable fuel to be produced, distributed, and blended “*where economic to do so*” (emphasis added), and reduction in double-counting of renewable fuel claimed for compliance.<sup>3</sup> EPA described the RIN-based trading program as “an essential component of the RFS program, ensuring that every obligated party can comply with the standard while providing the flexibility for each obligated party to use renewable fuel in the most economical ways possible.”<sup>4</sup> The RIN-based system was recognition that some refiners would have access to terminal blending facilities and others would not. RINs allow for trading that would ensure the RFS volume standards could be met without requiring wholesale changes to the fuel distribution infrastructure. In promulgating the RFS2 implementation rules, EPA reiterated its reasoning for utilizing the RIN-based system, emphasizing yet again that the RFS was not intended to change the existing system of fuel distribution and blending, despite claims to the contrary. EPA discussed its adoption of a RIN-based system as:

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<sup>3</sup> Regulation of Fuels and Fuel Additives: Renewable Fuel Standard Program 72 Fed. Reg. 23900, 23908 (May 1, 2007) [hereinafter “RFS1 Final Rule”].

<sup>4</sup> *Id.*

[f]or compliance and credit purposes as the one which met our goals of being straightforward, maximizing flexibility, ensuring that volumes are verifiable, and *maintaining the existing system of fuel distribution and blending*. RINs represent the basic framework for ensuring that the statutorily required volumes of renewable fuel are used as transportation fuel in the U.S. *Since the RIN-based system generally has been successful in meeting the statutory goals*, we are maintaining much of its structure under RFS2” (emphasis added).<sup>5</sup>

Throughout its implementation of the RFS, EPA has continually reaffirmed its interpretation of the statute that the intent of Congress was to minimize costs, ensure flexibility, and maintain the existing system of fuel distribution and blending. EPA noted that its approach in RFS1 was predicated on the belief “that there would be an excess of RINs at low cost” and that the “ability of RINs to be traded freely between any parties once separated from renewable fuel would provide ample opportunity for parties who were in need of RINs to acquire them from parties who had excess.”<sup>6</sup> RINs were merely intended to serve as a compliance mechanism; there is no evidence in the legislative and regulatory history of the RFS that RINs were intended to function as a tool to spur investment or to compel refining companies to subsidize gasoline marketers and retailers for mid-level ethanol blends or E85 sales.

Despite the enormous incentive the RFS provides, commercially available advanced and cellulosic biofuels have failed to materialize in significant volumes. During a Senate Environment and Public Works Committee hearing in February 2016, the Energy Information Administration (“EIA”) testified that the RFS volume targets will not be met by 2022, and the shortfall is projected at 18 billion credits, virtually entirely within the advanced biofuels category.<sup>7</sup> Last year, corn ethanol accounted for

<sup>5</sup> Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program 75 Fed. Reg. 14670, 14684 (March 26, 2010) [hereinafter “RFS2 Final Rule”].

<sup>6</sup> Regulation of Fuels and Fuel Additives: Changes to Renewable Fuel Standard Program 74 Fed. Reg. 24904, 24963 (proposed May 26, 2009) [hereinafter “RFS2 Proposed Rule”].

<sup>7</sup> *Oversight of the Renewable Fuel Standard: Hearing before S. Comm. on Environment and Public Works*, 114<sup>th</sup> Cong. (2016) (Testimony of Howard Gruenspect, Deputy Administrator, Energy Information Administration) [hereinafter “EIA Testimony”].

80 percent of biofuel production. The balance was filled primarily by biomass-based diesel and renewable diesel. In fact, only 2.2 million gallons of liquid cellulosic biofuels were produced in the U.S. last year. This fact is important, because it demonstrates that corn ethanol and biodiesel are currently the only real options to comply with growing mandates, and each have significant market barriers that EPA is either ignoring or downplaying.

In addition to the reliance on corn ethanol and biodiesel brought on by the failure of drop-in biofuels to materialize, the gasoline market has also changed. More specifically, the U.S. is using less gasoline than Congress envisioned when it enacted the RFS program and mandated biofuel volumes, and EIA projects that domestic gasoline demand will drop further in the coming years. When Congress debated and enacted RFS2, the EIA projected gasoline demand would continue to rise each year. However, a number of factors have reversed that trend, including increased new vehicle efficiency standards and changes in Americans' driving habits. In 2007, EIA projected that the U.S. would consume 159 billion gallons of gasoline in 2016. It now forecasts demand of 142 billion gallons—a 10 percent decrease.<sup>8</sup> EIA has reduced its demand projection for 2022 by 23 percent compared to its 2007 forecast (from 172 billion gallons to 132 billion gallons)(see figure 1). For obligated parties, this means there is an increasingly smaller gasoline pool into which to blend increasing volumes of mandated biofuels. As discussed below, this conflict has led to the onset of the E10 blend wall.<sup>9</sup>

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<sup>8</sup> EIA Short Term Energy Outlook (June 2016).

<sup>9</sup> The E10 blend wall is reached when all gasoline contains 10 percent ethanol.



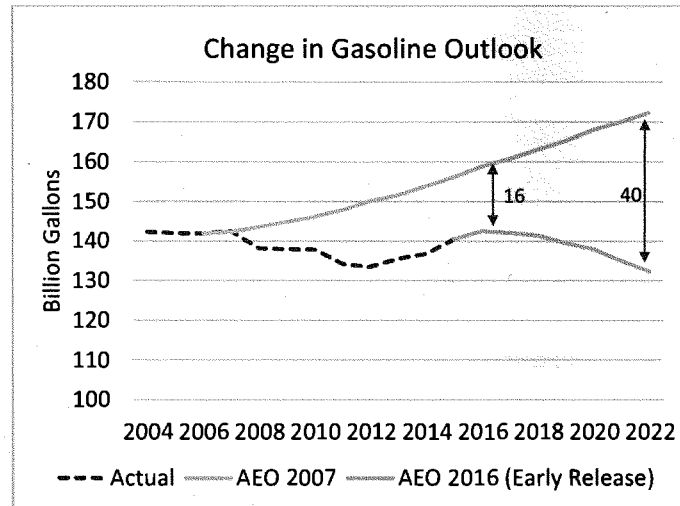


Figure 1

The U.S. has undergone a seismic shift in domestic energy production since 2007 undermining one of the main objectives of the RFS program. Indeed, the U.S. produced 9.4 million barrels per day of crude oil in 2015, the highest domestic production since 1972. As a result of increased domestic crude oil production, gross U.S. crude oil imports have dropped by 30 percent since 2007. Additionally, in contrast to popular belief, of U.S. crude oil imports, only 30 percent come from OPEC countries—the rest comes from non-OPEC nations, mostly Canada and Mexico. In fact, Canada alone accounted for nearly 40 percent of U.S. crude oil imports in 2015. The fact is that the conversation of energy security has gone from one of energy scarcity in 2007 to one of abundance in 2016. According to EIA, the RFS played only a small part in this shift.<sup>10</sup> The vast majority is the result of innovation in domestic crude oil production techniques.

<sup>10</sup> EIA Testimony at 5-6 ("biofuels volumes in response to the RFS program have played only a small part in reducing projected net import dependence given the expectation of continued use of ethanol as an octane and volume source independent of RFS program requirements.").

The other stated goal of the RFS program, the reduction of GHGs and other environmental benefits, also is not being realized. In 2011, the National Academies of Science (“NAS”) reviewed the RFS, and concluded that “RFS2 may be an ineffective policy for reducing global GHG emissions because the effect of biofuels on GHG emissions depends on how the biofuels are produced and what land-use or land-cover changes occur in the process.”<sup>11</sup> In addition to the marginal GHG impacts, EPA also examined other environmental impacts, including on criteria pollutants and both water quality and quantity. EPA found that the RFS is projected to increase emissions and “lead to increases in population-weighted average ambient PM and ozone concentrations.”<sup>12</sup> NAS put a finer point on its findings, stating “[t]hose projected air-quality effects from ethanol fuel would be more damaging to human health than those from gasoline use.”<sup>13</sup> In addition to air quality impacts, biofuels can have a significant impact on water use. NAS found that “consumptive water use over the life cycle of corn-grain ethanol is higher than petroleum-based fuels even if the biofuels are produced from non-irrigated crops.”<sup>14</sup> Although NAS warned that there is significant variability in results depending on regional characteristics, production methods, and other factors, it is important that Congress recognize that there is significant and ongoing scientific debate about whether the RFS worsens the environment.<sup>15</sup>

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<sup>11</sup> National Research Council Comm. on Economic and Environmental Impacts of Increasing Biofuels Production, *Renewable Fuel Standard: Potential Economic and Environmental Effects of U.S. Biofuels Policy* (National Academies 2011)[hereinafter “NAS Report”].

<sup>12</sup> *Id.* at 206, citing RFS2 Final Rule Regulatory Impact Analysis.

<sup>13</sup> *Id.* at 246.

<sup>14</sup> *Id.*

<sup>15</sup> See, e.g., House Comm. on Science, Space, and Technology Subcommittee on Environment and Subcommittee on Committee on Oversight, *Renewable Fuel Standard: A Ten Year Review of Costs and Benefits*, 114 Cong. (Nov. 3, 2015) (testimony of John M. DiCiccio, Research Professor, University of Michigan Energy Institute) (“The program has resulted in higher cumulative CO2 emissions than otherwise would have occurred and has also damaged the environment in many other ways. In summary, careful scientific analysis indicates that the lifecycle studies used to justify the RFS were flawed.”).

In addition to the RFS' failure to meet its most basic goals, the program does not pass basic cost benefit analysis, even using EPA's own data. In 2014, the Government Accountability Office ("GAO") found that the net costs of the RFS, under EPA's own Regulatory Impact Analysis ("RIA"), would range from \$64.5-77.5 billion dollars after accounting for the infrastructure overhaul needed to distribute the statutory volumes of renewable fuels.<sup>16</sup> GAO also found that EPA did not quantify some adverse water quality effects, used murky discount rates, and ultimately did not even use the RIA in implementing the program. The foregoing discussion highlights the disconnect between Congress's original intent in enacting the RFs and the current realities after a decade of experience with the implementation. In addition to these core problems, EPA's 2017 proposed rule exemplifies the problems with the annual implementation of the program.

## **II. EPA Correctly Recognizes the E10 Blend Wall, but Continues to Ignore Market Realities**

As previously discussed, U.S. gasoline demand has remained flat and is projected to decline in the coming years. For obligated parties, this means there is a smaller volume of gasoline into which to blend increasing volumes of renewable fuels. This situation has led to the onset of the blend wall, which is the maximum amount of ethanol that the gasoline market can absorb given market, technical, and infrastructure barriers.<sup>17</sup> AFPM is pleased that EPA has and continues to recognize the existence of the blend wall and that it is appropriate and necessary for it to its statutory waiver authorities to adjust the annual ethanol mandates. However, the agency did not reduce the requirement enough to adequately address the inability of the fuel supply to handle greater biofuel volumes. The failure of the agency to waiver the volume sufficiently will create compliance and consumer challenges.

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<sup>16</sup>Government Accountability Office, *Environmental Regulation: EPA Should Improve Adherence to Guidance for Selected Elements of Regulatory Impact Analysis*, GAO-14-519 (July 2014).

<sup>17</sup> The E10 blend wall is reached when all gasoline contains 10 percent ethanol.

The predominant gasoline-ethanol blend in commerce is 10 percent ethanol mixed into 90 percent gasoline ("E10"). Nearly all gasoline engines and infrastructure are designed and warranted to handle no more than E10. As previously discussed, when Congress enacted EISA, EIA projected that the U.S. would consume 159 billion gallons of gasoline in 2016. Simple math shows that Congress believed the full 15 billion gallon conventional biofuel mandate would be capable of being consumed as E10, since 159 billion gallons would allow for 15.9 billion gallons of ethanol consumption. Unfortunately, given declining gasoline consumption, full adoption of E10 nationwide would only allow for 14.2 billion gallons of ethanol consumption this year. This highlights the need for EPA to exercise its waiver authority.

On May 31<sup>st</sup>, 2016 EPA proposed the renewable percentage standards for 2017. As a recognition that there are practical constraints on the amount of ethanol that can be used, EPA proposed to utilize its waiver authority "but only to the extent necessary to derive the applicable volume of total renewable fuel that reflects the maximum supply that can reasonably be expected to be produced and consumed by a market that is responsive to the RFS standards."<sup>18</sup> The table below summarizes the proposed volumes (billion):

|                   | 2016       | 2017  |       | 2018  |      |
|-------------------|------------|-------|-------|-------|------|
|                   | Final Rule | EISA  | NPRM  | EISA  | NPRM |
| <b>Total</b>      | 18.11      | 24    | 18.8  | 26    | N/A  |
| <b>Advanced</b>   | 3.61       | 9     | 4     | 11    | N/A  |
| <b>BBD</b>        | 1.9        | ≥ 1.0 | 2*    | ≥ 1.0 | 2.1  |
| <b>Cellulosic</b> | 0.230      | 5.5   | 0.312 | 7     | N/A  |

Volumes shown as ethanol-equivalent RINs, except BBD, which is shown as physical gallons (multiply by 1.5 to convert to RINs)

\*Finalized in the 2014-16 rulemaking.

<sup>18</sup> Renewable Fuel Standard Program: Standards for 2017 and Biomass-Based Diesel Volume for 2018; Proposed Rule, 81 Fed. Reg. 34778, 34781-82 (proposed May 31, 2016).

In proposing the 2017 renewable percentage standards, EPA assumes that the market will consume 14.4 billion gallons of ethanol in 2017, an increase of 270 million gallons beyond the volume assumed by EPA for 2016 in the 2014-16 RFS final rule. EPA also assumed a consumption increase of 170 million gallons from 2015 to 2016. Additionally, EPA estimates that 400 million gallons of biomass-based diesel and renewable diesel would be used to meet the total renewable requirement over and above the aggressive ethanol, biomass-based diesel, and advanced biofuel requirements. Despite EPA's argument that its proposed volumes are reasonably achievable, it nevertheless relies on compliance pathways that have never been demonstrated in the real world.

*A. EPA Drastically Over-Estimates the Amount of Ethanol-Free Gasoline (E0) that can be Removed from the Market*

EPA's proposed rule would reduce the market for ethanol-free gasoline (E0) to only 200 million gallons in both 2016 and 2017, despite the fact that EIA recently reported that E0 demand in 2015 reached 5.3 billion gallons.<sup>19</sup> This difference in E0 demand is significant when faced with the blend wall. If E0 demand holds steady around 5 billion gallons, that means EPA is overestimating the amount of ethanol that can be consumed by at least 500 million gallons. It would require 700 million gallons of E85 to be used in 2017 to offset 5 billion gallons of E0 demand. As described in more detail below, the market for E85 in 2015 only reached 87 million gallons. Ethanol-free gasoline is currently offered at approximately 10,000 stations nationwide,<sup>20</sup> compared to fewer than 3,500 E85 stations.<sup>21</sup>

Congress should not underestimate the impact this proposal has on consumers. Despite the fact that most engines are capable of utilizing E10, many consumers nevertheless prefer E0 for any

<sup>19</sup> Energy Information Administration, Almost all U.S. gasoline is blended with 10% ethanol, Today in Energy (May 4, 2016) <http://www.eia.gov/todayinenergy/detail.cfm?id=26092>.

<sup>20</sup> PURE-GAS.ORG, Pure-gas.org (2016).

<sup>21</sup> DOE Alternative Fuels Data Center shows about 3100 station, while E85prices.com indicates almost 3500.

number of factors. This is particularly true of boaters, but retailers report consumer demand for lawn equipment, motorcycles, and “anything with a small engine.”<sup>22</sup>

*B. EPA Drastically Over-Estimates the Amount of E85 that Consumers will Use*

In addition to underestimating the amount of E0 demand, EPA’s 2017 proposal overestimates E85 demand. EPA continues to use estimates for historical E85 demand that are not reflected in EIA data. For instance, EPA performs a stochastic analysis of E85 data from five states and from proprietary data from only 200 stations. As a result, EPA estimates that 166 million gallons of E85 were sold in the U.S. in 2015, while EIA’s data indicate only 87 million gallons. It is widely accepted that Minnesota is among the most developed E85 markets in the U.S. Yet in 2015, the Minnesota Department of Commerce showed a 13 percent decline in E85 sales compared to 2014, despite (1) E85 being priced, on average, at a 21 percent discount or more to E10 in 8 of the 12 months, and (2) station counts increasing throughout the year.<sup>23</sup> Even if EPA is correct that 166 million gallons of E85 were sold in 2015, the agency’s proposed 2017 compliance scenarios nevertheless show E85 varying from potentially 200-600 million gallons. The volumes would have to be even higher if EPA’s estimates for E0 demand or biodiesel production prove wrong, which we believe is the case.

There are many reasons that E85 usage and demand are low. First, there are only between 3100 and 3500 retail stations offering E85, representing about 2 percent of U.S. retail stations. Further, only 7 percent of vehicles are Flex-Fuel Vehicles that can handle E85.<sup>24</sup> Finally, there is low consumer acceptance of E85. This can be attributed to a number of factors, including that gasoline contains 50

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<sup>22</sup> see Ryck Lydecker, *Could Ethanol-Free Gas Evaporate?*, BoatUS Magazine (Dec. 2015) (“But given the choice, boaters will fuel up with the ethanol-free gasoline in the places where they can find E0, even at an extra 30 cents a gallon, as at the Chinook Country Store. ‘That’s all we run, non-ethanol gas,’ says Kathy Whiteman, store manager. ‘People want it for their boats, of course, but also for their weed eaters, four-wheelers, motorcycles. Anything with a small engine.’”).

<sup>23</sup> EIA Testimony, *supra* note 7 at 5.

<sup>24</sup> Minn. Dept. of Commerce, *2015 Minnesota E85 + Mid-Blends Station Report* (2015).

percent more energy per gallon than ethanol—meaning that the higher the ethanol content in fuel, the worse gas mileage one gets. As a result, consumers can pay more money to drive the same distance, and have to fill up more often.

Because of low consumer acceptance and the high capital costs associated with installing E85 infrastructure, most retailers are reluctant to install E85 pumps. For instance, according to the Petroleum Marketers Association of America, “99 percent of existing [underground tanks] currently in the ground are not legally certified as compatible with ethanol blends higher than 10 percent.”<sup>25</sup> This means that a retailer selling ethanol blends higher than 10 percent may be violating federal and state regulations, and likely the retailer’s insurance policy. Installing the underground storage tank and associated dispensing equipment can cost as much as \$200,000 per station. As a result, station owners, who make an average of less than \$50,000 per year, are hesitant to expend significant resources on installing infrastructure for a fuel in which consumers have no demonstrated interest.

Most retail gas stations are independently owned and operated. Indeed, according to GAO, major integrated oil companies own less than 1 percent of retail stations. In addition, approximately 48 percent of retail fueling outlets are operated by independent businesses who do not sell gasoline under a brand owned or controlled by a refining company. Approximately 52 percent are owned by independent businesses who sell fuel under the brand of one of the major oil companies or refineries. These retailers sign a supply and marketing agreement with the supplier to sell fuel under the name of the supplier. According to the National Association of Convenience Stores (“NACS”), 59 percent of convenience stores selling fuel are single store operators, “so having a branded contract with a major

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<sup>25</sup> PMAA letter to Chr. Upton and Ranking Member Pallone (May 1, 2015).

refiner/supplier instantly provides a retailer with a familiar brand for their top product: motor fuels.”<sup>26</sup>

NACS reports that the benefits of being branded include not only the marketing benefits associated with a known brand, but also guaranteed fuel supply when supplies are tight and less exposure to the volatility in the wholesale gasoline market.

A retailer selling fuel under a franchise contract is obligated to sell a certain amount, maintain image requirements of the brand, and have purchase requirements from their supplier. But as a general matter, franchisees are free to sell higher ethanol blends. Nothing in the typical franchise agreement or anywhere else prohibits them from doing so. They merely need to make the necessary investment in equipment and infrastructure to sell the higher ethanol blends, and they are free to make these decisions based on their own competitive decisions and the demands of the marketplace.

Several laws protect the ability of franchisees to sell renewable fuels, including the Gasohol Consumption Act and the Petroleum Marketing Practices Act (“PMPA”). The PMPA in particular protects both franchisees and franchisors by ensuring that franchisors have two grades of gasoline being sold while barring a franchise agreement from preventing franchisees from carrying higher ethanol blends as a third grade of fuel. Thus, marketers are free to make the investments needed to store and sell higher ethanol blends.

Finally, nothing in the law or in the market prevents ethanol companies from buying retail stations or franchising their brands to sell E85. They likely choose not to enter the retail market because they recognize consumers have no interest in buying what they are selling.

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<sup>26</sup> 2016 NACS Retail Fuels Report at 4 (2016), <http://www.nacsonline.com/YourBusiness/FuelsCenter/Documents/2016/2016-Retail-Fuels-Report.pdf>.



*C. EPA Drastically Over-Estimates the Amount of E15 that Consumers will Use*

The sole remaining pathway to push more ethanol into the market to meet EPA's 2017 proposal is through E15. EPA has approved the use of E15 in model year 2001 and newer cars and light duty trucks, but not in older vehicles or in any smaller engines (e.g. lawnmowers, motorcycles, and boats). In approving E15, EPA determined that the fuel did not defeat the emissions control system of the cars it tested. However, EPA did not design or run tests to determine the impact of E15 on the full engine. When the fuel and auto industries ran their own testing, it was determined that E15 had the potential to harm other engine components.<sup>27</sup> As a result, auto makers have refused to warranty potential damage cause by E15 in all models prior to 2012 and have only recently started designing engines to handle E15. The auto fleet takes more than a decade to turn over, so many cars on the road today are not designed or warrantied to handle E15. The ethanol industry repeatedly makes the claim that E15 "is the most tested fuel on the planet" and claims that it is safe for a 15-year-old car because NASCAR uses E15. This argument has no merit. First, NASCAR has designed the multi-million dollar cars to use E15/98 octane and the engines are rebuilt after every race. The ethanol industry's logic is no different than saying rocket fuel can be used in a 2002 Camry. Moreover, regardless of what the ethanol industry claims, it does not change the fact that using E15 can terminate a car's warranty.

In addition to vehicle compatibility, there is also significant infrastructure barriers that are very similar to those presented by E85. Retailers are required to have compatible underground storage tanks ("USTs") and dispensing equipment. EPA regulates approximately 600,000 actives USTs at about 215,000 sites in the U.S.<sup>28</sup> The Occupational Safety and Health Administration requires that all equipment used to dispense gasoline be certified for safety by a nationally recognized testing

<sup>27</sup> See, e.g., Coordinating Research Council, *Intermediate-Level Ethanol Blends Engine Durability Study* (April 2012).

<sup>28</sup> Government Accountability Office, *Challenges to the Transportation, Sale, and Use of Intermediate Ethanol Blends*, GAO-11-513 at 9 (July 8, 2011).

laboratory, such as Underwriters Laboratory. Additionally, in 2015, EPA promulgated new regulations that affirmatively require station owners to notify the state implementing agency of plans to sell greater than E10 and that in doing so, they must “demonstrate compatibility of UST system.” Many station owners do not have complete records of USTs, which may be as old as 40 years old. As a result, stations are reluctant to take on the liability associated with selling incompatible fuel like E15. Of course, retailers and refiners alike are concerned about consumer misfuelling. EPA has done an inadequate job of making consumers aware of what E15 is and its approved uses, instead relying solely on a 4x4 inch label affixed to gas pumps.

There has been a low level of consumer education associated with E15. An estimated 95 percent of boats are filled at retail gas stations, but a 2016 Harris Poll commissioned by the Outdoor Power Equipment Institute found a startling 60 percent of consumers believe any gas sold at retail stations is suitable for all engines and products. Further, only 36 percent know E15 is harmful to some engines—with just five percent aware that its use in those engines is also illegal.

In addition, a recent Harris Poll found that fewer than half (47 percent) of respondents admit they check the fuel pump for warning labels. This is consistent with earlier findings from the Association for Consumer Research, showing that warning labels are “not effective in influencing consumers’ perceptions of hazards and risks.” Though the government is aware that the RFS is changing the makeup of the fuel supply, it has undertaken no serious education campaign—beyond requiring small warning labels on fuel pumps—to inform boaters and other consumers about the problems they may face from improper or accidental fueling.

As a result of the infrastructure compatibility and liability concerns associated with E15, very few retail stations offer the fuel. In fact, only 312 stations offer E15 despite EPA's assumption in the 2014-16 RFS rule that 700 stations would offer E15 in 2016. EPA goes on to increase its assumption for 2017 to 1700 stations, based not on market response, but on a federal government grant program in conjunction with state funding to have 1500 stations be able to offer higher ethanol blend fuels.<sup>29</sup> It is not clear how many will actually offer E15, E85, or both. Stretching this assumption even further, EPA assumes that under the most favorable conditions, these stations would add 600-800 million gallons of ethanol to the ethanol supply in 2017. Given the infrastructure and liability concerns associated with E15, EPA's assumptions about E15 demand in 2017 are not credible.

*D. EPA Drastically Over-Estimates the Amount of Biodiesel that the Market will Handle*

Biomass-based diesel is approved to meet the total renewable mandate. Last year, EPA finalized a 2016 biomass-based diesel requirement of 1.9 billion gallons and a 2017 requirement of 2 billion gallons. The record production for combined biomass-based diesel and renewable diesel was 1.9 billion gallons in 2015 and the U.S. is on pace to produce the same volume in 2016. However, EPA also assumes an additional 0.4 billion gallons of biodiesel to meet the proposed 2017 conventional biofuel requirement, and 0.3 billion gallons to meet the advanced biofuel requirement, for a total of 2.7 billion gallons of biodiesel. EIA is showing U.S. biodiesel capacity in place (excluding renewable diesel) of just under 2.1 billion gallons as of March 2016.<sup>30</sup> Although nameplate capacity of the biodiesel industry and imports combined suggest ample capacity, the simple fact is that the U.S. has never produced that much biodiesel in any year, raising the likelihood that greater imports would be required. EPA justifies this by taking an average annual increase in production since 2011, the year after RFS2 was implemented,

<sup>29</sup> U.S. DEPT. OF AGRICULTURE BIOFUEL INFRASTRUCTURE PARTNERSHIP, <http://www.usda.gov/wps/portal/usda/usdahome?contentid=2015/05/0157.xml>.

<sup>30</sup> Energy Information Administration, Monthly Biodiesel Production Report, March 2016, <http://www.eia.gov/biofuels/biodiesel/production/>

dismissing the fact that the largest increases came before 2013, with subsequent increases showing significantly less growth.<sup>31</sup>

There are many factors restraining biodiesel production. In its 2017 proposed rule, EPA identifies local feedstock availability, production and import capacity, and infrastructure constraints (e.g. it requires specialized storage to prevent the fuel from gelling in cold temperatures).<sup>32</sup> An important factor to consider, however, is the sheer cost to consumers and taxpayers of forced biodiesel consumption. According to EIA, biodiesel is “significantly more costly than petroleum-based diesel under recent market conditions.”<sup>33</sup> To put a finer point on it, EIA reported that “between August 2015 and January 2016, the difference between Gulf Coast spot market prices of biodiesel and petroleum-based diesel averaged \$1.25 per gallon.”<sup>34</sup> EIA further estimated that “[b]ased on Chicago Mercantile Exchange soybean oil prices, the difference between biodiesel production cost and Gulf Coast diesel averaged \$1.15 per gallon between August 2015 and January 2016. For the month of January 2016 alone, when oil prices fell markedly, the difference between biodiesel production cost and Gulf Coast diesel averaged \$1.55 per gallon.”<sup>35</sup>

Using these data, EIA estimated that using 1.9 billion gallons of biodiesel rather than the petroleum diesel will cost between \$2.2 - 2.4 billion in 2016 alone, and will be higher if biodiesel is used to meet the advanced or total biofuel targets.<sup>36</sup> This cost “is borne by both gasoline and diesel consumers. . . , by the Treasury, and by taxpayers more generally.”<sup>37</sup> EPA’s own analysis bears this fact

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<sup>31</sup> 2017 Proposed Rule, *supra* note 18 at 34795

<sup>32</sup> *Id.* at 34791

<sup>33</sup> EIA Testimony, *supra* note 7 at 6

<sup>34</sup> *Id.*

<sup>35</sup> *Id.* at 7.

<sup>36</sup> *Id.*

<sup>37</sup> *Id.*

out. In the 2017 proposed rule, EPA estimates that the incremental cost of using soybean biodiesel to meet the advanced biofuels standards will be \$453-683 million over 2015.<sup>38</sup>

Finally, biodiesel RIN fraud is also a problem and creates obstacles to compliance. Between 2011 and 2015, 154 million fraudulent RINs were identified. Not only did EPA punish refiners with fines for being unwitting victims of fraud, but also required refiners to purchase replacement RINs to account for the fraudulent credits. If additional fraud is identified in the coming months and years and EPA continues its past practice of requiring replacement, there will simply not be enough RINs to simultaneously meet the volume requirements and the replacement requirements.

*E. EPA Proposes an Infeasible Cellulosic Requirement*

The final category of renewable fuels is the cellulosic biofuel category. As previously discussed, there are very few gallons of cellulosic biofuels commercially available, much less available to meet EPA's aggressive increased standards. EPA proposes a 312 million gallon requirement for the 2017 standards. However, RIN generation through the first quarter of 2016 would only indicate approximately 141 million available credits, meaning EPA is assuming capacity will double between this year and next. There is no demonstrated ability of the cellulosic industry to meet that level of growth. In addition, more than 90 percent of the cellulosic requirement is being met through biogas generation, not through liquid transportation fuels. The biogas generation is available for RFS compliance purposes if it can be shown that the biogas was used in transportation, or burned for power generation that is subsequently used to power electric cars. In neither instance does a petroleum refiner distribute the fuel.

*F. EPA Correctly Proposes to Maintain a Robust RIN Bank*

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<sup>38</sup> 2017 Proposed Rule, *supra* note 18 at 34802.

Although EPA proposed overly aggressive targets for the 2017 RFS, we support the agency's recognition of the vital importance of maintaining the RIN bank and not relying on it to propose 2017 standards. AFPM agrees with EPA's reasoning as articulated in the 2017 proposed rule:

The availability of carryover RINs is important both to individual compliance flexibility and operability of the program as whole. We believe that carryover RINs are extremely important in providing obligated parties compliance flexibility in the face of substantial uncertainties in the transportation fuel marketplace, and in providing a liquid and well-functioning RIN market upon which success of the entire program depends. As described in the 2007 rulemaking establishing the RFS regulatory program, and further reiterated in the 2014–2016 final rule, carryover RINs are intended to provide flexibility in the face of a variety of circumstances that could limit the availability of RINs, including weather-related damage to renewable fuel feedstocks and other circumstances affecting the supply of renewable fuel that is needed to meet the standards.<sup>39</sup>

AFPM supports EPA's proposal to maintain the RIN bank, but takes notice that the overly aggressive volumes would necessitate obligated parties to draw down the RIN bank, thereby reducing liquidity in the RIN market and making future years' standards increasingly fraught with peril. The blend wall, lack of drop-in compliant fuels, and aggressive mandates virtually eliminate the potential to build RINs in the future.

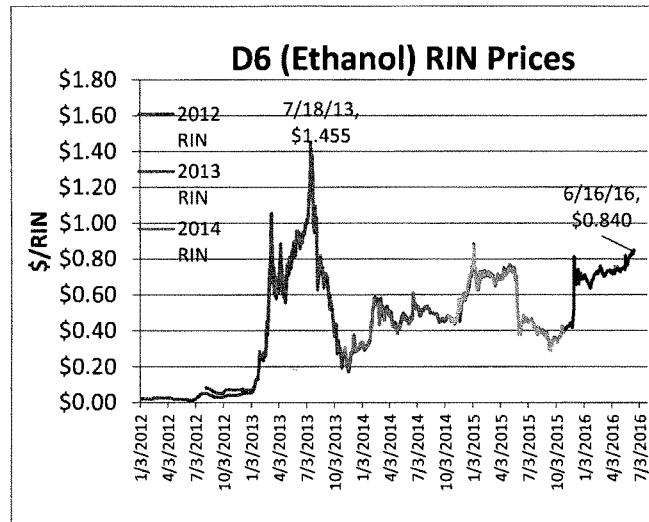
*G. Summary Comparison and RIN Market Reaction*

Taken together, EPA's proposed 2017 standard is very aggressive and very likely unachievable, as indicated by 2016 production to date. For example, RIN generation for the first quarter of 2016 would imply 3.039 billion advanced RINs (cellulosic+biodiesel+other), compared to a 2016 requirement of 3.61 billion. This suggests that the biofuels industry will not produce enough volume to meet the 2016 standards, much less a further 400 million gallon increase for 2017.

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<sup>39</sup> 2017 Proposed Rule, *supra* note 18 at 34789, 34793.

Likewise, total renewable RIN production for 2016 is only on track to hit 17.625 billion RINs, well short of the 18.11 billion RIN obligation for 2016. The 2017 standard would increase that obligation to 18.8 billion, leaving obligated parties with few, if any, compliance options. As evident from the following graph showing D6 (ethanol) RIN prices, RIN prices have increased since EPA proposed the 2017 standards. As the chart shows, RIN prices increased dramatically in 2013, the year the market anticipated the blend wall would be breached. The volatility since 2013 is largely attributable to various EPA announcements, whether proposed rules, withdrawn rules, or promulgation of final rules.



### III. Other Systemic Issues with the RFS Indicate the Need for Repeal or Significant Reform

#### A. EPA is Chronically Late in Promulgating Annual Volumes

EPA faces an enormously difficult task in implementing the RFS, and as a result has historically had difficulty finalizing timely annual rulemakings. EPA appears to be on track for a timely promulgation of the 2017 volumes. However, EPA's timely action in 2016 and (presumably 2017) was preceded by six

years of late rules. In the case of the 2014 standards, obligated parties did not have notice of their obligation until two years after the standards were required by statute. The following chart summarizes the timing of the 2010-2015 rulemakings.

| RFS Compliance Year | Federal Register publication of final rule | Number of days late compared with statutory schedule |
|---------------------|--------------------------------------------|------------------------------------------------------|
| 2010 RFS            | March 26, 2010                             | 116 days late                                        |
| 2011 RFS            | December 9, 2011                           | 9 days late                                          |
| 2012 RFS            | January 9, 2012                            | 40 days late                                         |
| 2013 RFS            | August 15, 2013                            | 258 days late                                        |
| 2014 RFS            | November 30, 2015                          | 730 days late                                        |
| 2015 RFS            | November 30, 2015                          | 365 days late                                        |

AFPM is pleased that EPA finalized the 2016 volumes on time and appreciates EPA's use of its waiver authorities reflecting the agency's recognition of the blend wall. However, it is a concern that some parties are challenging EPA's authority to utilize its waiver authorities. Should those parties succeed in their litigation, there will be tremendous pressure on fuel markets and consumers, leaving Congress with no option other than to repeal or reform the RFS.

*B. Congress Should Consider Consequences of Post-2022 Implementation and End the RFS*

In addition to the short-term issues posed by the blend wall and the administrative challenges with the RFS, AFPM urges the Committee to end the RFS before 2022. Because the statute does not specify volumes after 2022, many mistakenly believe that the mandates end. However, not only do the mandates continue in perpetuity, the statute provides wide discretion to EPA to determine what the volumes should be. In particular, EPA may set the standards at a level it deems appropriate (under restrictions noted in the next paragraph) provided it considers the following six factors: (1) environmental impacts; (2) energy security; (3) annual production rate of renewable fuels; (4) impact on infrastructure, including the sufficiency of infrastructure to deliver and use renewable fuel; (5) cost to consumers; and (6) other factors such as job creation, price and supply of agricultural commodities, rural



development and food prices.<sup>40</sup> EPA must apply these factors in coordination with the Secretaries of Energy and Agriculture.<sup>41</sup> These are also the same factors that EPA currently now applies in setting biomass-based diesel standards each year.

The statute requires EPA to set the advanced biofuel volume standard at least the same percentage of the applicable volume in 2022.<sup>42</sup> It also requires that the cellulosic biofuel standards assume EPA will not need to issue waivers as it has in each year since the RFS was enacted.<sup>43</sup> Furthermore, the biomass-based diesel volume cannot be less than 1.0 billion gallons.<sup>44</sup>

AFPM supports full repeal of the RFS at the earliest possible time. However, an alternative solution would be for Congress to sunset the program after 2022. The biofuels industry would have had 17 years to get up and running and compete on a level playing field. Sunsetting the program in 2022 would also address any arguments about stranding assets.

#### **IV. Recommendations to Congress**

The time has come for Congress to repeal the RFS program. Not only is RFS implementation unwieldy and unworkable, but the ultimate goals of the program are not being met. This multi-billion dollar subsidy program is a drain on the economy, impedes true innovation, prevents consumers from making meaningful choices about their fuel purchases, may be causing more environmental harm than benefit. Again, full repeal is AFPM's preferred remedy.

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<sup>40</sup> *Id.*

<sup>41</sup> *Id.*

<sup>42</sup> 42 U.S.C. § 7545(o)(2)(B)(iii).

<sup>43</sup> 42 U.S.C. § 7545(o)(2)(B)(iv).

<sup>44</sup> 42 U.S.C. § 7545(o)(2)(B)(v).

However, AFPM also supports other measures that prevent the short-term problems from growing worse while Congress considers repealing this law. For example, AFPM would support legislation that meets the following:

**1. Cap Ethanol Content in Gasoline as a Function of the RFS at 9.7 Percent or Less.** AFPM

supports a 9.7 percent cap on mandated ethanol content. The cap has a number of virtues.

First, it would allow consumers continued access to at least some ethanol free gasoline and prevent mandated use of higher ethanol blends. Second, it would preserve some liquidity in the RIN market. In AFPM's analysis of the RIN market, it became apparent that the increases in RIN prices occurred after the average ethanol content exceeded 9.7 in 2013. Third, it would account for measurement disparities at the terminal rack and historical differences between EIA projections and actual demand.

It is important to recognize what a 9.7 percent ethanol cap would not do. First, by allowing more than 13.8 billion gallons of mandated ethanol demand in 2017, it would essentially freeze in place current usage. It would not prohibit higher consumption in a free market or disallow the nearly billion gallons of corn ethanol exports that are on track to occur this year. In other words, it will not disadvantage ethanol producers or rural America. It would also not affect drop-in biofuels, biodiesel, or indeed any non-ethanol biofuel. In other words, it is a targeted approach to the discrete problem of the blend wall.

**2. Put a Consequence in Place if EPA Misses its Statutory Deadlines**

Congress should also enact a consequence in the event EPA begins to miss its statutory deadlines. In particular, if EPA misses its November 30<sup>th</sup> deadline to timely promulgate a standard, the standard should automatically be set at the previous year's standard. This would

provide certainty for obligated parties, renewable fuels producers, and other stakeholders, as well as provide an incentive for EPA to get rules done on time.

### **3. Sunset the RFS as Quickly as Possible**

Finally, Congress should sunset the RFS as quickly as possible. It has been nearly a decade since Congress debated this mandate, and we now know much more about the costs and benefits of the current structure. Rather than delegating important decisions about the fuel supply to a future Administration, Congress should reclaim its authority and sunset the program before it is taken over by unelected bureaucrats.

AFPM notes that the first two of these concepts are embodied in legislation led by two members of this Committee, Congressmen Flores and Welch, and cosponsored by many of Members on both sides of the dais. This bipartisan legislation, H.R. 5180, deserves support from every Member of Congress.

AFPM appreciates the opportunity to testify today and the Committee's continued leadership in addressing this important issue.

Mr. WHITFIELD. And thank you, Mr. Thompson. And our next witness is Mr. Bob Dinneen who is the President and CEO of the Renewable Fuels Association. Welcome, Mr. Dinneen, and you are recognized for 5 minutes.

#### STATEMENT OF BOB DINNEEN

Mr. DINNEEN. Thank you, Mr. Chairman. Good afternoon, members of the committee. I must confess I am feeling a little bit nostalgic this morning reflecting on the many times I have testified in this room on this very subject going back to 2002, as the committee wrestled with how best to accommodate oil companies looking to eliminate the requirement to use MTBE, a petroleum-based additive contaminating drinking water across the country. The result was the first RFS supported by the oil industry and a bipartisan majority here.

The success of that bill gave rise to the expanded RFS in 2007, creating the very first carbon metric for liquid fuels. RFS2 was transformative legislation and it is accomplishing everything it was asked to do. It was intended to stimulate investment and expansion of conventional ethanol—done. U.S. ethanol producers met the challenge and we now have the capacity to produce more than 15 ½ billion gallons annually. It was intended to create a value-added market for farmers—done. Ethanol has created a robust ag economy that importantly allowed Congress to reduce farm program costs saving taxpayers money.

It was intended to provide competition at the pump—done. Ethanol is the lowest cost octane on the planet and because it is cheaper than gasoline has reduced petroleum demand and extended the barrel. It has significantly reduced consumer prices. It was intended to enhance energy security—done. U.S. oil dependence has plummeted in part because of fracking, but most certainly also because of ethanol. Indeed, gasoline imports have virtually been eliminated in direct response to the RFS.

It was intended to reduce carbon—done. Ethanol produced today reduces greenhouse gas emissions 34 percent relative to gasoline, and ethanol from tomorrow's cellulosic feedstocks will do even better making the RFS the single most effective transportation related carbon policy in the world. It was intended to stimulate investment in advanced biofuels—doing. While the inexorable march towards cellulosic ethanol was interrupted by the worldwide recession and banking crisis precipitated by \$140 a barrel oil in 2008, these technologies are now rolling out and the promise of advanced biofuel technology is being realized.

So what has changed from when the RFS passed with such broad enthusiasm? Some have said, well, the RFS is driving up food costs. No, the price of corn today is about where it was in 2007. Retail food price inflation has actually been demonstrably lower since the RFS2 was passed, and as the World Bank reported again just last week, demand for ethanol has not had a meaningful impact on world food prices. Rather, the price of food is far more related to the price of oil.

Refiners will say we are producing more crude oil domestically and the RFS is just an anachronism of our energy scarcity past. Well, we have been reminded lately of the boom and bust cycle that

is oil extraction as the rig count has plummeted. 80,000 workers were laid off and fracking operations in the Bakken have shuttered, leaving communities holding the lost hope of economic opportunity. Faced with the same falling oil prices, U.S. ethanol producers added 2,000 jobs last year, invested in new technologies, and worked to build new markets here and abroad. Tell me what has been better for America.

Some, including EPA, have said we have hit a blend wall. We can't blend any more than 9.7 percent of the gasoline market. There aren't enough cars that can run on more than ten percent, and boats and small engines will be harmed if forced to use the higher ethanol blends. Hogwash. There is nothing magical about 9.7 percent. Twenty seven states today already use more, 23 states use more than ten percent, and Minnesota uses 12.2 percent all because of the increasing demand for E15 and E85.

Today, more than 25 percent of the vehicles on the road are fully warrantied for E15 or higher. Eighty percent of the new cars produced last year were warrantied for E15. For comparison, just 11 percent of the cars on the road today require premium. You can find premium every place, so what is the big challenge about providing that E15 fuel for those consumers that want it and can use it?

That said, there is no mandate for E15. Even API says E0 is on the rise and E10 will remain the ubiquitous fuel option. The pumps selling E15 will be clearly labeled. There is no reason to believe folks needing E10 or less for their small engines, boats, or motorcycles will be unable to find it.

Now the only thing that has changed is the incumbent industry is fiercely trying to relitigate the legislative battle it lost a decade ago. But the policy objectives, energy, economic, and environmental security have not subsided. Indeed, they have become even more critical as the planet warms, consumers struggle, and OPEC flexes its muscle.

This committee wrote a great law in 2005. You gave EPA very clear guidance on how to implement the program and the flexibility to deal with issues. There is nothing wrong with the RFS that cannot be fixed with what is right with the RFS. There is no need to legislate changes to a program that is working. EPA needs to implement the program as you wrote it, and the full potential of the program will be realized. Don't be bullied by an incumbent industry intent on recapturing lost market share and preventing a more sustainable energy future. Celebrate as I do the success of this program. Thank you, Mr. Chairman.

[The prepared statement of Bob Dinneen follows:]



**House Energy and Commerce Committee  
Subcommittee on Energy and Power  
United States House of Representatives**

**Hearing on  
Overview of the Renewable Fuel Standard: Stakeholder Perspectives**

**Testimony of**

**Bob Dinneen  
President & CEO, Renewable Fuels Association**

**June 22, 2016**

Good morning, Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee. My name is Bob Dinneen and I am president and CEO of the Renewable Fuels Association (RFA), the national trade association representing the U.S. ethanol industry.

The RFA is the leading trade association for America's ethanol industry. Its mission is to advance the development, production, and use of fuel ethanol by strengthening America's ethanol industry and raising awareness about the benefits of renewable fuels. Founded in 1981, our members are committed to helping our country become cleaner, safer, and more energy independent.

**Success of the Renewable Fuel Standard**

By virtually any measure, the Renewable Fuel Standard (RFS) has been an unmitigated success. Renewable fuel production and consumption have grown dramatically. Dependence on petroleum — particularly imported gasoline — is down significantly. Greenhouse gas emissions from the transportation sector have fallen. The value of agricultural products is up appreciably. And communities across the country have benefited from the job creation, increased tax revenue, and heightened household income that stem from the construction and operation of a biorefinery.

In 2015, the production of 14.8 billion gallons (bg) of ethanol supported 85,967 direct jobs in renewable fuel production and agriculture, as well as 271,440 indirect and induced jobs across all sectors of the economy.<sup>1</sup> Net petroleum import dependence fell to just 25% in 2015, but would have been 32% without the addition of 14.8 bg of domestically produced ethanol to the nation's fuel supply.

While the oil industry would like to re-litigate the RFS today because its continued implementation will mean a further loss of market share, doing so would devastate investments that have been made in

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<sup>1</sup> J. M. Urbanchuk. ABF Economics. "Contribution of the Ethanol Industry to the Economy of the United States in 2015." February 2016.

next generation biofuel technologies and stop the evolution of the transportation fuels market just as it is getting started. It is important to note that Congress did an excellent job of crafting the RFS, building in a great deal of administrative and market flexibility to deal with issues as they arise. As a result, there is nothing wrong with the RFS that cannot be fixed with what is right with the RFS, and there is no need to legislate changes to a program that is working well today.

#### **EPA Waiver Authority**

One example of that flexibility is the ability for the U.S. Environmental Protection Agency (EPA) to waive certain program requirements given specific circumstances. For example, the slower than expected commercialization of cellulosic ethanol and other advanced biofuels has prompted EPA to waive more than 98% of the cellulosic (D3 RIN pool) since the program began. EPA has responsibly and accurately reflected the available supply of cellulosic ethanol when setting annual standards for these fuels. Refiner's claims that the Agency is requiring them to sell fuels that don't yet exist are simply wrong. There has never been a situation where an obligated party has been unable to meet its EPA-determined D3 obligation because of inadequate supply.

Nevertheless, we believe the Agency greatly over-stepped its statutory authority when, in 2015, it used its general waiver authority to reduce the level of conventional biofuels required in 2014, 2015 and 2016 (D6 RIN pool) because the Agency believed there was insufficient infrastructure to distribute and blend the statutory levels required. In proposing the 2017 RVO for refiners last month, the Agency again pointed to its concern about infrastructure to justify a reduction in the conventional biofuel obligation.

The statute provides EPA with only two specific justifications for waiving the conventional biofuels requirement – significant harm to the economy and/or inadequate supply of biofuels. EPA has relied upon the latter – inadequate supply -- to justify its reductions in conventional biofuels. But adequate supply has never been in question. In fact, the U.S ethanol industry has demonstrated the ability to produce well more than 15 billion gallons, the level stipulated by the statute for 2015 and beyond. To justify its reductions, EPA has adopted the narrative of the oil industry that there isn't the infrastructure to blend that much ethanol into gasoline to create its own "distribution waiver."

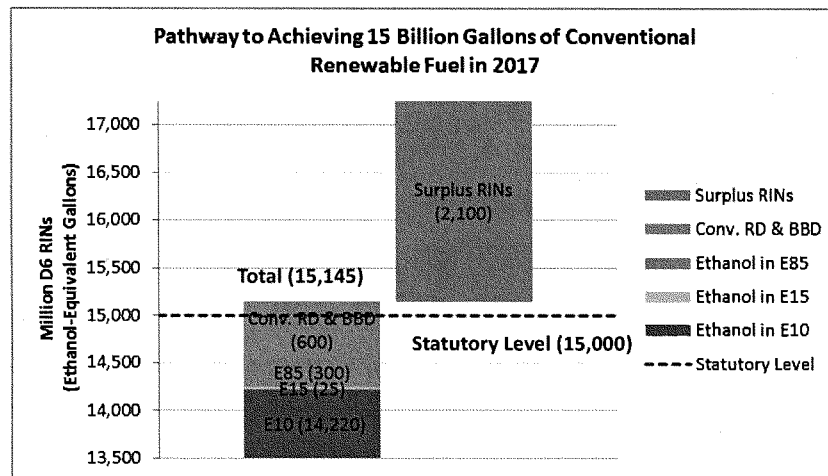
However, the statute does not allow the Agency to take infrastructure into account when determining the required volumes under the RFS. In fact, Congress specifically considered, and rejected, an infrastructure or distribution waiver. Congress intended the RFS to drive investment in infrastructure to allow greater use of renewable fuels. Otherwise, how much renewable fuel is used in this program would be determined by the oil industry itself, based on the level of infrastructure it would make available to its competition. Obviously, there would be little motivation for the oil industry to accommodate biofuels by investing in pumps to supply higher level blends or to allow gasoline marketers downstream to blend new products like E15.

The issue of EPA's statutory authority is the subject of ongoing litigation. But we remain resolute that the RFS was intended to change the way oil companies do business and maximize the use of renewable fuels. It was not intended to appease the incumbent industry that is simply unwilling to recognize the energy, economic, and environmental benefits of increased biofuel use.

#### **A Clear Pathway Exists to 15 Billion Gallons of Conventional Renewable Fuel in 2017**

Even if infrastructure and distribution capacity were factors EPA could consider in deciding whether to use its general waiver authority, careful analysis shows that the market can readily distribute and consume the statutory 15 bg requirement for conventional biofuels in 2017.

The Department of Energy's June Short-term Energy Outlook raised the 2017 gasoline consumption forecast to 142.9 bg. That means more than 14.2 bg of ethanol will very likely be consumed in E10 blends next year. In addition, the number of stations offering E15 and E85 is expanding rapidly in response to USDA's Biofuels Infrastructure Partnership grants and industry programs like Prime the Pump. As a result, it is expected that more than 300 million gallons of ethanol will be consumed in E15, E85 and mid-level blends in 2017. Further, EPA's own proposal suggests 0.4 bg of conventional (i.e., non-advanced) biodiesel and renewable diesel will be consumed, adding roughly 0.6 bg (ethanol-equivalent) toward compliance with the conventional renewable fuel RVO. Altogether, that means conventional renewable fuel consumption will be roughly 15.1 bg (ethanol equivalent) in 2017.



#### Surplus RINs Are Part of the “Available Supply”

Even if obligated parties blend a volume of conventional biofuel that is slightly less than 15 bg in 2017, they would still easily comply with the statutory RVO because nearly 2 billion surplus RINs remain available in the market today. Incomprehensively, EPA has ignored RIN stocks in estimating the supply of renewable fuel available to facilitate compliance with 2017 RVOs.

EPA's exclusion of carryover RINs is confounding given the Agency's treatment of surplus RINs in previous rulemakings and administrative actions. In the past, EPA has consistently accounted for the flexibility provided by carryover RINs when proposing annual RVO requirements and deciding waiver requests. Indeed, the 2010 final rule implementing the expanded RFS program concluded that “...it is ultimately the availability of qualifying fuel, as determined in part by *the number of RINs in the marketplace*, that will determine the extent to which EPA should issue a waiver of RFS requirements



on the basis of inadequate domestic supply.”<sup>2</sup> Moreover, in denying requests to waive the RFS in 2012, the Agency relied on an economic model that “...utilizes EPA estimates regarding excess, or ‘rollover’ RINs, that *will be available for use for compliance purposes* in the 2012/2013 corn marketing year time period.”<sup>3</sup> The Notice further recognized that:

[t]he *availability of rollover RINs*, the beneficial economics of producing ethanol gasoline blends, the generally low level of flexibility of refiners to shift from ethanol over a one year period, and the low price currently in the market for renewable fuel RINs all support the conclusion that waiving the RFS program would not be expected to have any effect on the production of ethanol.<sup>4</sup>

More recently, the final rule establishing 2013 RVOs explicitly included carryover RINs in its assessment of the obligated industry’s ability to comply with statutory requirements.

...[T]he combination of available volumes of advanced and non-advanced biofuel from both domestic and foreign sources, the ability of the transportation sector to consume some quantity of ethanol in blend levels higher than E10, *and carryover Renewable Identification numbers (RINs) from 2012* has led us to conclude that the statutory volumes for both advanced biofuel and total renewable fuel can be met in 2013. As a result, we are not reducing the national applicable volumes in the statute for either advanced biofuel or total renewable fuel volume...<sup>5</sup>

Further, in referencing *Monroe v. EPA* (D.C. Cir. 2014), EPA’s proposed rule for 2014-2016 acknowledges that the “...availability of carryover RINs is a relevant consideration in determining the extent to which a waiver is justified...”<sup>6</sup> Indeed, the Court determined that EPA had reasonably declined to use the cellulosic waiver authority to reduce the 2013 advanced and total renewable fuel statutory volumes by examining “...the availability of renewable fuels that would qualify as advanced biofuel and renewable fuel, the ability of those fuels to be consumed, *and carryover RINs from 2012.*”<sup>7</sup>

#### **RINs: A Cost for Some, a Profit for Others, No Impact on the Consumer**

In addition to providing year-to-year compliance flexibility for obligated parties, the RIN system was expressly designed to stimulate investment in expanded renewable fuels production and distribution capacity. RIN credits are “attached” to renewable fuels at the point of production; thus, when an obligated party purchases and blends a gallon of renewable fuel, it also obtains the associated RIN credit at no additional cost. In this scenario, RINs are “free” to the obligated party.

The RIN works as an incentive to expand infrastructure by forcing obligated parties to make a fundamental choice: acquire necessary RINs by investing in the capacity to blend more renewable fuel (with attached RINs), or acquire necessary RINs by purchasing the detached credits on the open market from non-obligated parties or obligated parties who have blended more renewable fuel than required.

<sup>2</sup> EPA, *Regulation of Fuels and Fuel Additives: Changes to the Renewable Fuel Standard Program*, 75 Fed. Reg. 14,698 (emphasis added).

<sup>3</sup> EPA, *Notice of Decision Regarding Requests for a Waiver of the Renewable Fuel Standard*, 77 Fed. Reg. 70,752, 70,757 (Nov. 27, 2012) (emphasis added).

<sup>4</sup> 77 Fed. Reg. at 70,775 (emphasis added).

<sup>5</sup> 78 Fed. Reg. at 49,794 (emphasis added).

<sup>6</sup> 80 Fed. Reg. 33,110 citing *Monroe v. EPA*, 750 F.3d 909, 915 (D.C. Cir. 2014)

<sup>7</sup> *Monroe v. EPA*, 750 F.3d 916, 915 (D.C. Cir. 2014) (emphasis added)

RINs are primarily traded in a “closed loop” market amongst parties in the gasoline supply chain. That is, a party buying a detached RIN will incur an additional cost, but the counterparty selling the RIN will simultaneously incur a profit. In this manner, one party’s RIN expense is exactly offset by the counterparty’s RIN revenue, and the net effect is no impact to the consumer. Second, the gasoline market is highly competitive and market actors are compelled to match, or undercut, the wholesale selling prices of their competitors. Thus, a refiner who has purchased RINs on the open market cannot markup the selling price of its gasoline to recoup RIN expenses if it wishes to remain competitive with other refiners who profited from the sale of detached RINs. In short, there are winners and losers in the RIN market, but because the system is essentially a closed loop, retail gasoline prices are unaffected. A number of refiners and blenders substantiated the “zero sum” nature of the RIN market in financial earnings statements.<sup>8</sup>

As renewable fuel blending requirements approach or exceed perceived market barriers such as the so-called E10 “blend wall,” demand for detached RINs for compliance will increase and, naturally, prices will rise. When RIN prices are lower than the cost of installing infrastructure to dispense ethanol blends above E10, obligated parties will purchase RINs on the open market to cover unsatisfied blending obligations. But as demand for RINs increases and prices rise, rational obligated parties will, at some price point, find it more economical and financially responsible to invest in the infrastructure necessary to distribute high-level ethanol blends than it is to purchase RINs on the open market. As explained by Babcock & Pouliot (2013a), “The cure for high compliance costs is investment in E85 and E15 infrastructures, which, in turn, would allow for the higher future biofuel consumption levels that are envisioned in current policy.”<sup>9</sup>

Installing the infrastructure to dispense greater volumes of E85 and E15 decreases pressure on the RIN market, results in lower RIN prices and, in turn, lowers compliance costs for obligated parties. Babcock & Pouliot (2014a) show that every \$1 of investment in E85 infrastructure would have reduced compliance costs for obligated parties by \$108 in 2014 if the statutory RVO had been maintained. In other words, rational economic actors considering the financial tradeoffs associated with meeting RFS obligations would favor installation of infrastructure over purchasing detached RINs.

At the same time, higher RIN prices enable retail discounting of E15, E85, and mid-level blends (“MLBs”)<sup>10</sup> by lowering the effective cost of ethanol in the blend. That is, a marketer who purchases ethanol (with RINs attached) and blends it with gasoline to make E15, E85 or MLBs can separate the RINs from the ethanol gallons and sell them to obligated parties who need additional RINs for compliance. As such, the sale of RINs allows marketers and retailers to reduce the price of E15, E85 and MLBs for consumers, thus stimulating increased consumption.

Unfortunately, EPA’s proposal has diminished the economic incentive to invest in the infrastructure necessary to dispense higher-level ethanol blends and has impaired the ability of retailers to offer E85 and E15 at significant discounts to E10. In essence, EPA’s proposal seeks to make the alternative method of complying with RFS requirements (i.e., purchasing and turning in banked RINs) less costly for obligated parties than the intended primary method of compliance (i.e., purchasing and blending

<sup>8</sup> See Geoff Cooper, RFA, *What do Big Oil's Quarterly Earnings Say About the Real Impact of RINs on U.S. Gas Prices?* (Aug. 1, 2013), available at <http://www.ethanolrfa.org/exchange/entry/what-do-big-oils-quarterly-earnings-say-about-the-real-impact-of-rins-on-u/>.

<sup>9</sup> Bruce A. Babcock and Sebastien Pouliot, Iowa State University Center for Agricultural and Rural Development, *The Economic Role of RIN Prices*, at 4. CARD Policy Brief 13-PB 14 (Nov. 2013) (hereafter “Babcock & Pouliot (2013a)”), available at <https://www.card.iastate.edu/publications/dbs/pdfiles/13pb14.pdf>.

<sup>10</sup> Mid-level blends, or MLBs, are gasoline/ethanol blends containing 16-50% ethanol by volume.

*physical volumes* of renewable fuels). This is plainly a backward approach to complying with the RFS.

Setting the 2017 RVO for renewable fuel at the statutory level of 15.0 bg would help restore the efficacy of the RIN market mechanism and help drive the investments necessary to facilitate compliance in 2017 and beyond.

#### RINs and Retail Gasoline Prices

In its efforts to undermine the RFS, the oil industry has speciously suggested that higher RIN prices contribute to higher retail gasoline prices, which could result in “harm” to the economy of the United States. Regrettably, it appears that some in the Administration may have shared the oil industry’s position. In reality, there is no evidence that fluctuations in RIN prices have had any impact on retail prices for gasoline (i.e., E10), and in fact there *is* evidence that higher RIN prices result in lower retail prices for fuel blends containing higher levels of ethanol.

EPA now definitively concludes that “the RIN market seems to be functioning generally as expected; providing an incentive for the continued growth of renewable fuels in the transportation fuel market *without causing overall increases to the retail price of transportation fuel.*”<sup>11</sup>

EPA’s finding is corroborated by analyses conducted by academia and private economic consulting firms:

- Irwin & Good of the University of Illinois examined 2012-2013 prices for CBOB, ethanol and D6 RINs to determine the impact of rising RIN prices on retail gasoline prices.<sup>12</sup> They found that “the basic zero sum nature of relationships in the supply chain and recent price trends for CBOB blendstock and ethanol suggests that the impact, if any, has likely been small, at most a few cents.”
- In a May 2015 update to a 2014 study, Informa Economics (Attachment 4) concluded that, “Changes in prices of renewable identification numbers (RINs) did not cause changes in retail gasoline prices from 2013 through the first quarter of 2015.”<sup>13</sup>
- Analysis by economists at Iowa State University found that “the most likely outcome from increasing ethanol mandates is a drop in pump prices, not an increase.”<sup>14</sup> Further, they concluded, “Many in the oil industry have used the specter of higher pump prices to argue against increased mandates. ... These findings show that concern about the consumer price of fuel do not justify a reduction in feasible ethanol mandates.”
- Retired Yale and Calgary professor Philip Verleger conducted an economic study that concluded the “RIN price impact on retail prices is small and transient.”<sup>15</sup> He found that

<sup>11</sup> Burkholder, Dallas. “A Preliminary Assessment of RIN Market Dynamics, RIN Prices, and Their Effects,” U.S. EPA-Office of Transportation and Air Quality (May 14, 2015). Available at:

<http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2015-0111-0062>

<sup>12</sup> Irwin, S. & D. Good (Mar. 2013), “High Gasoline and Ethanol RINs Prices: Is There a Connection?” Link:

<http://farmdocdaily.illinois.edu/2013/03/high-gasoline-ethanol-rins-prices.html>

<sup>13</sup> Informa Economics, Inc. (May 2015), “Analysis of Whether the Prices of Renewable Fuel Standard RINs Have Affected Retail Gasoline Prices.” Link: [http://ethanolrfa.3cdn.net/f1c5dfa9ac9743e9f8\\_csm6bcb8e.pdf](http://ethanolrfa.3cdn.net/f1c5dfa9ac9743e9f8_csm6bcb8e.pdf)

<sup>14</sup> Pouliot, S. and B.A. Babcock (Jan. 2014). Center for Agricultural and Rural Development (CARD); Iowa State University.

“Impact of Increased Ethanol Mandates on Prices at the Pump.” CARD Policy Brief 14-PB 18. Link:

<http://www.card.iastate.edu/publications/synopsis.aspx?id=1218>

<sup>15</sup> Verleger, P.K., Jr. (Jan. 2014), “The Renewable Fuel Standard: How Markets Can Knock Down Walls.” Link:

<http://www.pkverlegerllc.com/publications/papers/the-renewable-fuel-standard-how-markets-can-knock-down-walls-january-2014-1162/>

competition in the gasoline supply chain tends to diminish any price increases when refiners or blenders tried to embed the RIN price into E10 prices.

- EIA confirmed the absence of any connection between RIN prices and retail gasoline prices, stating: “To date, there is no evidence that retail gasoline prices have been affected by high RIN prices. While the cost of refined gasoline blendstock can be affected by high RIN prices, the increased cost to gasoline blenders is almost exactly offset in 2013 by their increased revenue generated from the sales of RINs separated when they blend ethanol into gasoline.”<sup>16</sup>
- Even a former member of President Obama’s Council of Economic Advisers, who took part in the interagency review of the original 2014 RVO proposal, recently found that “...the price of E10 does not vary with RIN prices...” and that RIN prices actually serve to “...decreas[e] the price of fuels with high renewable content (like E85).”<sup>17</sup>

Far from leading to higher retail gasoline prices, elevated RIN prices would — as demonstrated elsewhere in these comments — induce expansion of E15 and E85 infrastructure and allow retailers to discount prices for these fuels relative to gasoline.

#### **The So-Called Blend Wall is No Barrier to Increased Ethanol Usage**

In creating the narrative to justify repeal or reform of the RFS, the oil industry has steadfastly maintained that the market cannot possibly absorb more than 9.7% ethanol, which according to them represents an unbreakable “blend wall” limiting the amount of ethanol that can be used in the RFS. But there is no magical marketplace limit or constraint on ethanol at 9.7%. The American Petroleum Institute (API), American Fuel & Petrochemical Manufacturers, Petroleum Marketers Association of America and others suggest exceeding that 9.7% threshold is somehow “dangerous for consumers.” In fact, the marketplace has already demonstrated it can handle much higher levels of ethanol. EIA data show that gasoline consumed in 27 states in 2014 contained more than 9.7% ethanol on average, with 23 states above 10.0% due to small volumes of E15 and E85. Minnesota’s average ethanol content was 12.2% in 2014. And in the 74 weeks since the beginning of 2015, the *national* average ethanol blend rate has exceeded the 9.7% level 25 times — more than one-third of the time. In the end, the oil industry’s 9.7% “barrier” argument is just one more desperate attempt to add mortar to their so-called “blend wall.”

#### **Infrastructure for Higher Level Ethanol Blends is Expanding**

Indeed, belying the notion of a blend wall and despite EPA’s tepid enforcement of the RFS to date, retail fuel infrastructure to support more than 10% ethanol blends will grow faster in the remainder of 2016 and throughout 2017 than any other timeframe in history. The combination of USDA’s Biofuels Infrastructure Partnership Program, the ethanol industry’s Prime the Pump initiative, and multiple state and local efforts, will lead to approximately 2,000 new stations that will offer E15 and E85 in the next 12-18 months. The E15 misinformation campaigns around misfueling concerns, and the cost of offering these fuels is being minimized with facts, and major companies like Sheetz, Kum & Go, Protec, Thorntons and others are leading by example. These companies are demonstrating that if consumers have the option, they will embrace it. Further, if EPA would eliminate the unequal

<sup>16</sup> Presentation by Mindi Farber-DeAnda, EIA Office of Petroleum, Natural Gas, and Biofuels Analysis to Advanced Biofuels Association (Nov. 20, 2013). Washington, D.C.

<sup>17</sup> Stock, James H. (April 2015). Columbia SIPA Center on Global Energy Policy. “The Renewable Fuel Standard: A Path Forward.” Available at: [http://energypolicy.columbia.edu/sites/default/files/energy/Renewable%20Fuel%20Standard\\_A%20Path%20Forward\\_April%202015.pdf](http://energypolicy.columbia.edu/sites/default/files/energy/Renewable%20Fuel%20Standard_A%20Path%20Forward_April%202015.pdf)

treatment of E10 and E15 during the summer volatility season, more retailers would embrace E15 overnight.<sup>18</sup>

#### **Small Engines/Marine Engines/Motorcycles**

Some of the national associations representing small engines, motorcycles and other offroad engines, have suggested that proposed increased volumes under the RFS will lead to “calamitous” engine failures. But none of these engines were approved for E15, and none are approved for flex fuels, like E85. These groups suggest that higher ethanol blends will cause more confusion, and will eliminate the opportunity to fuel with E10 or ethanol free fuel. No fuel retailer is going to stop offering regular unleaded in exchange for E15. They are not going to ignore the previously mentioned groups, or those that might not want to purchase a higher level blend. According to API, the availability of ethanol free fuel has climbed over the last few years, as the volume obligations have climbed under the RFS. The flexibility of the RFS allows this to happen, and there is no reason to believe it will stop. The EPA’s requirement for a Misfueling Mitigation Plan (MMP) is there to protect those with engines that should not use E15. RFA has the only approved MMP, and retailers follow it to meet their compliance requirements. In addition, E15 has a large orange and black required label to be posted for all to see. In the four years that E15 has been available in the marketplace, there has not been one confirmed case of misfueling, and not one instance of engine damage or warranty issues.

#### **Food vs. Fuel**

Even in the face of low corn prices, record feed supplies, and falling food prices, opponents of ethanol unbelievably cling to the contrived “food vs. fuel” myth. Lobbyists representing fast food restaurants, grocery manufacturers, and corporate poultry producers continue to suggest that the RFS is responsible for higher food prices. But their absurd claims are increasingly falling on deaf ears...and for good reason.

Farmers harvested a corn crop of 13.65 billion bushels in 2015 — the third-largest ever, trailing only 2014’s record crop and 2013’s robust haul. That means the three largest crops in U.S. history have been produced in the last three years. Prior to 2000, U.S. farmers produced just one corn crop larger than 10 billion bushels. Since 2000, they’ve done it 13 times. As a result, more grain is available for domestic food and feed today than ever before. What’s more, global grain production, supplies and ending stocks are projected to hit all-time highs in 2016/17, and just 2.9% of that record supply is expected to be used for U.S. ethanol production.

Meanwhile, food price inflation continued its downward trend, and consumers are spending a smaller portion of their income on food today than before. Between 1980 and 2004, food prices increased by an average of 3.5% per year; in contrast, food prices have risen by an average of just 2.7% per year since 2005, the year RFS was adopted. Further, the world food price index has fallen to its lowest point since the global financial crisis of 2009.

USDA now forecasts corn prices to average \$3.60 per bushel in the upcoming 2016/17 marketing year, higher than the season average price of \$4.20 per bushel when the RFS was expanded in 2007. Corn prices are averaging \$3.70 per bushel in the current 2015/16 marketing year, the same as in

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<sup>18</sup> Currently, EPA provides a 1 psi RVP tolerance for 10% ethanol blends during the summer volatility control season. The tolerance was deemed necessary in 1988 because gasoline marketers were having difficulty securing specially tailored blendstocks for blending E10. EPA has not extended that same tolerance to E15, meaning those marketers wanting to offer E15 year round to their consumers must secure a lower volatility blendstock. Refiners are not producing those blendstocks nationwide today. EPA needs to provide parity on the volatility issue if E15 is ever to realize its full marketplace potential.

2014/15. Meanwhile we saw record ethanol production in 2014 and another record again in 2015. Clearly, many factors other than ethanol demand are driving corn prices.

Just as ethanol demand isn't the only driver of corn prices, the cost of corn and other feed commodities isn't the only driver of retail food prices. In fact, only 17 cents of every dollar spent on food pays for the raw farm ingredients in the food item. The other 83 cents pay for processing, transportation, labor, packaging, advertising and other costs.

Just last week, a report published by World Bank, the U.S. Department of Energy, and others found that biofuels expansion has not been a significant factor in the increase in world food prices over the past decade. "The high-profile expansion of ethanol production in the United States and Brazil, in tandem with a global price spike in food and commodities in 2007–2008, led many to contend that a causal relationship exists between biofuels expansion and food insecurity," according to the report. "The apparent short-term correlations are often cited as evidence of negative impacts of biofuels on food security. There are several problems with such assertions. First, many studies attribute the food price spikes in 2008 primarily to other factors such as oil prices, economic growth, currency exchange rates and trade policies. Speculation in food commodities also contributed to price spikes in 2008 and 2011. Second, the correlations did not persist as global biofuel consumption continued to grow and cereal prices fell or showed distinct patterns over the last six years, driven by oil price, national agricultural policies and exchange rates."

Among other conclusions, the report noted that while the 2012 U.S. drought caused some ethanol plants to reduce output or temporarily shut, "[t]hanks, in part, to the ethanol 'supply cushion' and market flexibility, there was not a notable jump in commodity prices as the 2012–2013 crop was harvested, despite a drought affecting 80% of U.S. agricultural land."

And in response to those who argue the RFS has resulted in higher food prices, the Congressional Budget Office recently found that consumer food prices might fall by "less than 0.1%" — an imperceptible change — if the RFS was repealed.

#### **Yes, We Are Producing More Oil Domestically, But the RFS Remains a Critically Important Energy and Environmental Program**

Opponents of the RFS have suggested that the domestic oil "boom" that resulted from the emergence of fracking makes the RFS unnecessary and irrelevant. Nothing could be further from the truth, and the fracking boom is going bust.

After peaking in July 2015, U.S. oil production has fallen nearly 10%. EIA data show that last week's U.S. oil production was the lowest in 93 weeks and further declines are expected. Meanwhile, crude oil imports are on the rise again. In March, U.S. crude oil imports averaged 8 million barrels per day, while refinery crude oil input averaged 16.1 million barrels per day; in other words, half of the oil processed by U.S. refineries was imported.

We see constant reminders of the dangers of over-reliance on one source of energy. Just last August, a large oil refinery in Indiana unexpectedly shut down and gas prices all across the Midwest spiked by 30-50 cents per gallon overnight.

Further, OPEC continues to manipulate the oil market — and U.S. economy — through predatory and monopolistic behaviors. By refusing to curtail production and creating a glut of cheap crude oil, OPEC oil ministers have driven oil prices to a 13-year low and brought the U.S. fracking boom to an abrupt halt. The number of active U.S. oil rigs has plunged 70% since October 2014 and domestic

production appears to have peaked. The fracking bust has been devastating to the work forces and economies of oil producing states, and it is a reason the U.S. stock market got off to its worst 10-day start in history as 2016 began. Using more renewable fuels like ethanol — the very purpose of the RFS — would absolutely help insulate U.S. consumers from this kind of volatility, which cuts both ways.

And the RFS introduces real competition into the fuel market, resulting in lower prices and cleaner fuels for consumers. By requiring that oil companies blend certain amounts of renewable fuel with gasoline and diesel, the RFS is the only mechanism that guarantees consumer access to lower-carbon biofuels in a fuel market that is overwhelmingly and unfairly dominated by petroleum. Indeed, if the U.S. is ever going to abide by the carbon reduction goals established by the COP21 Agreement, an aggressive biofuels policy like the RFS is going to be essential.

#### **Conclusion**

We believe the RFS has been and continues to be an extraordinary success story. It is doing exactly what this Committee designed it to do a decade ago. While some stakeholders may not like the policy objectives this program was designed to address, the fact is energy diversity and security, rural economic development, reducing carbon, and spurring investment in new technologies remain critical policy priorities today. Repealing or dramatically reforming the RFS now will only undermine those critical policy goals at a time when the program is on the cusp of realizing its most challenging objective — commercializing the new, lower carbon technologies that promise to revolutionize our nation's transportation fuel system. Frankly, that's really what all the fuss is about. The incumbent industry has already lost 10% of the market, if the RFS is implemented consistent with the statute, the market will make the final push to see cellulosic ethanol and other advanced biofuels to fruition, resulting in the loss of 30% of the market.

You wrote a good law in 2005. Don't be bullied by the hyperbole and scare mongering by the incumbent industry that fundamentally disagrees with the need for alternative, low carbon options for consumers.

As we always have, the RFA looks forward to working with you to further develop and implement sound policies that provide the proper incentives to make a more sustainable energy, economic and environmental future.

Thank you.

Mr. WHITFIELD. Thank you, Mr. Dinneen. And our next witness is Mr. Todd Teske, who is the Chairman, President, and CEO of Briggs & Stratton Corporation. Welcome, Mr. Teske, and you are recognized for 5 minutes.

#### **STATEMENT OF TODD J. TESKE**

Mr. TESKE. Chairman Whitfield, Vice Chairman Olson, Ranking Member Rush, and distinguished members of the committee, thank you again for inviting me to offer Briggs & Stratton's perspective on the EPA's implementation of the Renewable Fuel Standard. I have been extremely impressed by the committee's workman-like approach to educate itself and the public on the challenges of the RFS that it presents to manufacturers, consumers, and the environment.

The Outdoor Power Equipment Institute on which I currently serve as a board member has previously submitted formal comments in response to the committee's white papers issued in 2013. My statement today which is submitted strictly in my capacity as chairman, president, and CEO of Briggs & Stratton will attempt to define the RFS challenges as they pertain to small engine manufacturers, and offer suggestions on how to protect consumers from significant economic and environmental damage.

Briggs & Stratton, headquartered in Milwaukee, Wisconsin, is the world's largest producer of gasoline engines for outdoor power equipment. We are a leading designer, manufacturer, and marketer of power generation, lawn and garden, turf care, and job site products through its Briggs & Stratton, Simplicity, Snapper, Snapper Pro, Ferris, PowerBoss, Allmand, Billy Goat, Murray, Branco, and Victa brands.

Briggs & Stratton products are designed, manufactured, marketed, and serviced in over a hundred countries on six continents by 6,200 employees. Approximately 5,300 of those employees work here in the U.S. As a U.S.-based manufacturer, our company is proud to be celebrating its 108th anniversary this year, and continues to manufacture over 85 percent of its products in America.

Let me first state that Briggs & Stratton has tremendous respect for EPA's career employees. Our engineers and their engineers collaborate on complex emission standard-setting rulemakings, and we have found them to be fair and objective in their effort to reach the right balance between environmental protection and economic reality.

Achieving that balance is essential to Briggs & Stratton's over 5,000 employees in our Kentucky, Georgia, New York, Wisconsin, Alabama, Nebraska, and Missouri manufacturing facilities and the communities whose economies depend on the revenue generated from those plants.

As is the case with manufacturers of every internal combustion engine, our facilities are carefully designed to produce small engines and outdoor power equipment that is designed, warranted, and EPA approved and certified to operate on gasoline containing not more than ten percent ethanol.

It is for this reason that we are so deeply concerned about EPA's conditional certification of E15, a fuel which would produce severe engine damage if used in our small engine powered products. The



partial certification of E15 is not satisfying the industry's current RFS targets. This ensuing process of revising ethanol fuel standards has and will continue to create uncertainty in the marketplace for manufacturers and increased misfueling risk to consumers. Misfueling will result in economic harm to all parties as engine's failures are met with voided product warranties and changes in brand loyalties. These changing targets will result in inefficient use of manufacturing resources and more expensive products.

Following are five factors why we believe that the EPA should revisit the conditional certification of E15. One, research has shown and EPA has agreed that use of E15 in small non-road engines can have harmful and costly consequences on small engines and outdoor power equipment. Two, research on warning label effectiveness suggest that an E15 warning label will do very little to mitigate misfueling. Three, behavioral studies of customers at the gas pump conclude that consumers overwhelmingly favor the lowest price option regardless of the consequences. Four, misfueling due to a lack of education of consumers regarding the proper use of E15 will be significant. And five, the use of biofuels or, quote, drop-in fuels, has been tested and could prevent misfueling.

If public policy requires that the federal government drive the market for alternative fuels, Briggs & Stratton urges that the policy be amended to more fully support the development and use of biofuels for many feedstock which are intended to be used as drop-in fuels. Drop-in fuels by definition meet existing gasoline specifications and are ready to drop in to infrastructure minimizing compatibility issues. These fuels are capable of satisfying the additional growth of biofuel use while also providing a safe and highly performing general fuel for both legacy and newly manufactured small engines and outdoor power equipment.

At our expense we conducted extensive testing with a drop-in isobutanol blended gasoline which demonstrated evidence that such fuels can provide the performance and operational criteria necessary to remain in compliance with EPA's emission standards without demonstrating any negative effects. It is unfortunate that the production of RFS-compliant drop-in fuels has struggled to reach commercial scale. I suspect that this is a factor in EPA's decision to grant the partial waiver to meet the statutory requirements using ethanol.

In closing, I would like to note that for the past several years we have worked closely with our Congressman, Jim Sensenbrenner, in an effort to rescind the recertification of E15 until such time as the National Academy of Sciences can convene a peer review panel to evaluate EPA's action and recommend alternative approaches which protect consumers and the environment.

This bill along with several others, including the bill introduced by Congressman Flores and Congressman Welch, serve to offer a variety of options for this committee to work with. I wanted to publicly thank these members of Congress for their work and for their dedication to finding creative, common sense solutions to the problems with the RFS. Briggs & Stratton urges this committee to work in a bipartisan bicameral manner to pass reform legislation through revisions to the RFS which will align domestic goals for

biofuel use with the market's ability to produce, distribute, and consume such fuels.

At a minimum we recommend that the reform legislation rescind the partial waiver for E15 and establish gasoline blended with up to ten percent ethanol as the general purpose domestic fuel. The legislation should also require that all considerations to increase domestic biofuel levels in the future be subject to a formal EPA rulemaking whereby the market's ability to safely distribute, retail, and consume such fuel is provided.

Thank you once again for holding a hearing on this important issue and for allowing me the opportunity to testify before this distinguished committee. I would be happy to answer any questions you and your colleagues may have.

[The prepared statement of Todd J. Teske follows:]



June 21, 2016

**Energy and Commerce Committee  
The Subcommittee on Energy and Power  
U.S. House of Representatives**

Written Testimony of Mr. Todd J. Teske, President, Chairman & CEO, Briggs & Stratton Corporation

Chairman Whitfield, Vice Chairman Olson, Ranking Member Rush, and distinguished Members of the Committee, thank you for again inviting me to offer Briggs & Stratton's perspective on the EPA's implementation of the Renewable Fuels Standard. I have been extremely impressed by the Committee's workmanlike approach to educate itself, and the public, on the challenges the RFS presents to manufacturers, consumers and the environment. The Outdoor Power Equipment Institute, on which I currently serve as a board member, has previously submitted formal comments in response to the Committee's white papers issued in 2013. My statement today, which is submitted strictly in my capacity as Chairman, President and CEO of Briggs & Stratton, will attempt to define the RFS challenges as they pertain to small engine manufacturers and offer suggestions on how to protect consumers from significant economic and environmental damage.

Briggs & Stratton Corporation, headquartered in Milwaukee, Wisconsin, is the world's largest producer of gasoline engines for outdoor power equipment. We are a leading designer, manufacturer and marketer of power generation, lawn and garden, turf care and job site products through its Briggs & Stratton®, Simplicity®, Snapper®, Snapper Pro® Ferris®, PowerBoss®,





Allmand™, Billy Goat®, Murray®, Branco® and Victa® brands. Briggs & Stratton products are designed, manufactured, marketed and serviced in over 100 countries on six continents by 6,200 employees. Approximately 5,300 of those employees work here in the United States. As a U.S. based manufacturer, our company is proud to be celebrating its 108<sup>th</sup> anniversary this year and continues to manufacture over 85% of its products here in America.

Briggs & Stratton's long standing commitment to the environment remains a key focus for our business. We continue to manufacture our products with recycled materials that are highly efficient and with reduced emissions. Since 1995, we have reduced our emissions by 75% and, after completing the phase in of our new product offering, achieved an additional 35% reduction in those emissions in January, 2014. In 2007, we signed a pledge with the Department of Energy to reduce our energy consumption by 25% over 10 years. Just 9 years later, we have met this goal. These are just a few of the many examples that demonstrate our commitment to the environment.

We remain steadfast in our commitment to the environment and we believe the RFS in current law is problematic for a variety of reasons

Below are five factors that I believe justify rescission of EPA's conditional certification of E-15:

**1. Research has shown, and EPA has agreed, that use of E15 in small non-road engines can have harmful and costly consequences on small engines and outdoor power equipment.**

Briggs & Stratton has conducted extensive testing on levels of ethanol above 10%. Increasing levels of ethanol in gasoline result in increased levels of alcohol. Alcohol has inherent properties that cause issues with our engines and they become more acute with increasing alcohol content. Increasing the alcohol in fuel changes the air-fuel ratio (enleanment) in our carbureted engines. E-





15 fuel, by definition would have an alcohol content ranging from 0 to 15%. Our engines would have great difficulty in meeting both emissions and performance expectations with this type of alcohol range. Enleanment will also result in higher operating temperatures that will lower engine life due to issues such as valve sealing, piston scoring, and head gasket leakage, just to name a few. Ethanol is also hygroscopic (absorbs water). Increased levels of water will cause the engine to run poorly, and will also cause corrosion by means of acidic attack, galvanic activity, and chemical interaction. Ethanol will also cause other problems such as reduced fuel storage life, starting issues and reduced fuel economy.

Furthermore, Department of Energy (DOE) testing of E-15 on a representative sample of small non-road engines, including Briggs & Stratton powered generators and power washers, DOE found that small engines experienced a variety of difficulties with intermediate blends of ethanol. Most engines performed worse in several metrics when running on higher ethanol blends -- engines often had higher operating temperatures, higher exhaust temperatures, and NOx emission rates. Higher operating temperatures, lead to increased wear and tear and more frequent maintenance. Moreover, 7 out of the 11 engines behaved "poorly" or "erratically", according to DOE's report, with incidents of unstable speeds, stalling, and clutch engagement at idle. As a result of this testing, small engines were specifically excluded by EPA from the E-15 Waiver.

**2. Research on warning label effectiveness suggests that an E-15 warning label will do very little to mitigate misfueling.**

In response to our concerns and the concerns of other interested parties, EPA has issued a mandatory warning label for pumps that distribute E-15. Given the body of research on the





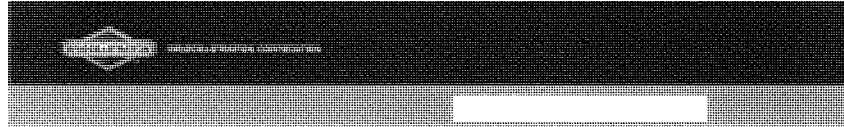
effectiveness of warning labels, we believe that this warning will not prevent consumers from misfueling their engines with the E-15 blend, and, with no one else liable, will leave the equipment owner liable for the damage to their products. Warning labels have been the subject of many research studies, with results often showing little change in consumer behavior. To address this concern, there are standards and testing protocol that have been completed. The Association for Consumer Research further reports that warning labels are considerably less likely to be successful when applied to products that consumers use frequently and feel comfortable with, e.g. gas pumps. If consumers visit their local gas station and do not realize that the ethanol blend has been increased, this research would indicate that they are unlikely to heed the warning label on the pump. There has been no testing done by EPA to validate the effectiveness of the warning label, which is not consistent with recognized safety standards such as ANSI.

When the U.S. transitioned from leaded gasoline to unleaded gasoline in the 70s and 80's, new cars running on unleaded gasoline were designed with different fuel tanks to be incompatible with older leaded gasoline in an effort to prevent misfueling. There is no such "transition" plan or tangible differentiation in place for E-15 and it is solely up to the consumer to know what fuel is appropriate for their automobile, lawn mower, generator, pressure washer, etc.

**3. Behavioral studies of customers at the gas pump conclude that consumers overwhelmingly favor the lowest priced option, regardless of the consequences.**

Historical evidence suggests that when faced with a range of prices at the pump, consumers are far more likely to choose the lowest-priced option despite potential damages to their engines. Through our industry association, the Outdoor Power Equipment Institute, we have conducted several

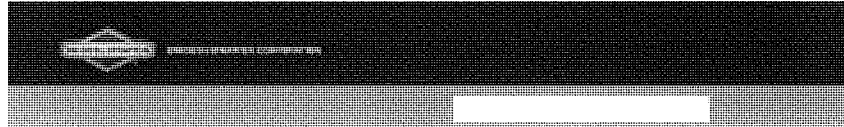




Harris Poll Surveys. The latest poll results, conducted in March 2016, show that almost two-thirds (64 percent) of American adults age 18+ who own outdoor power equipment say they either are not sure (42 percent) or do not pay any attention (22 percent) to what type of fuel they are using. In 2015, almost half (45 percent) were not sure what type of fuel they used and one in five (20 percent) did not pay any attention to the type of fuel used. As previously mentioned, when the United States transitioned from leaded gasoline to unleaded gasoline in the 70's and 80's, new cars running on unleaded gasoline were designed with different fuel tanks, to be incompatible with older leaded gasoline pumps. Additionally, car buyers were educated at the point of purchase about the new fuel. Even with those prevention and education measures, the EPA reported that in 1983 – ten years after the introduction of unleaded gasoline – misfueling rates remained as high as 15.5%. The New York Times reported that “customers would go out of their way to pump leaded gas if it was just a few cents cheaper. What they gain at the pump they lose at the repair shop in higher maintenance costs.” If high rates of misfueling still occurred when physical obstacles were in place, we believe that a simple warning label next to the pump will not yield better results. Similarly, the National Bureau of Economic Research reports very strong price elasticity of demand in its own study on the use of premium vs. regular gasoline during times of high gasoline prices. When gasoline prices increased, consumers switched to less expensive, regular gasoline even though premium gasoline was recommended for their vehicles. NBER concludes that households are nearly 20 times more sensitive to the income effect for gasoline than to equivalent effects from other sources.

**4. Misfueling due to lack of education to consumers regarding the proper use of E-15 will be significant.**





EPA has instructed stakeholders to “develop a broad public education and outreach campaign that provides both consumers and retailers with the information they need to avoid misfueling.”

Briggs & Stratton is already taking steps to educate its customers about proper fueling for its products through its “Look Before You Pump” Campaign and has introduced additives and E-0 gasoline products to assist consumers with selecting the proper fuel. Briggs & Stratton does not feel we, nor the outdoor power equipment industry, should be held solely responsible for educating tens of millions of Americans of the dangers of misfueling, especially when many already own products which are incompatible with E-15. In a study previously conducted, AAA found that 95% of Americans had not heard of the new E-15 waiver. In a separate study by the National Association of Convenience Stores, it was clear that consumers were confused by E-15; many believed that E-15 had higher fuel economy than E-10. And the study also found that of participants who said they would consider fueling their cars with E-15, 60% of them owned cars for which E-15 is incompatible and prohibited. Despite our best efforts at education and prevention, we believe the risk of misfueling will be substantial, and damage to our products will be irreversible. We risk losing decades of trust and our brand reputation as a manufacturer of quality, reliable products while owners will not get the value they expected when they purchased the product.

**5. The use of Biofuels or “drop-in fuels” has been tested and could prevent misfueling.**

Small engines and outdoor power equipment are not designed, warranted, or EPA-approved to operate on gasoline containing more than 10% ethanol. Briggs & Stratton fully supports the development and use of biofuels, from any feedstock, which are “drop-in fuels”. Drop in fuels, by definition, meet existing gasoline specifications and are ready to “drop-in” to infrastructure,







minimizing compatibility issues. These fuels are capable of satisfying the additional growth in biofuel use, while also providing a safe and highly performing general fuel for both legacy and newly manufactured small engines and outdoor power equipment. We have conducted extensive testing with a drop-in isobutanol blended gasoline which demonstrated evidence that such fuels can provide the performance and operational criteria necessary, without demonstrating any negative effects. Drop in fuels had not yet materialized when the RFS was developed in previous market conditions and the EPA was compelled to grant the partial waiver to meet the statutory targets using ethanol. E-15 will not provide compliance with current RFS targets and has required EPA to continue to revise fuel standards creating uncertainty in the marketplace and for manufacturers and increasing misfueling risks to consumers. Misfueling will result in economic harm to all parties and void product warranties. Ever changing targets will result in less efficient investment of manufacturing resources and more costly products.

**Briggs & Stratton Corporation's request to the committee**

In closing, I would like to note that for the past several years we have worked closely with our Congressman, Jim Sensenbrenner, in an effort to rescind the certification of E-15 until such time as the National Academy of Science can convene a peer review panel to evaluate EPA's action and recommend alternative approaches which protect consumers and the environment. This bill, along with several others, including bills drafted by Congressman Flores and Congressman Welch, serve to offer a variety of options for this Committee to work with. I want to publicly thank these Members of Congress for their work and for their dedication to finding creative, common sense solutions to the problems with the RFS. Briggs & Stratton urges this Committee to work in a bi-





partisan, bi-cameral manner to pass reform legislation through revisions to the RFS which will align domestic goals for biofuel use with the market's ability to produce, distribute and consume such fuels. At a minimum we recommend that the reform legislation rescind the partial waiver for E-15, and establish gasoline blended with up to 10% ethanol as the general purpose domestic fuel. The legislation should also require that all considerations to increase domestic biofuel levels in the future be subject to a formal EPA rulemaking whereby the market's ability to safely distribute, retail and consume such fuel is provided.

Thank you once again for holding a hearing on this important issue, and for allowing me the opportunity to testify before this distinguished committee. I would be happy to answer any questions you and your colleagues have.



Mr. WHITFIELD. Thank you, Mr. Teske. And our next witness is Mr. Brooke Coleman who is the executive director for the Advanced Biofuels Business Council, and you are recognized for 5 minutes.

#### STATEMENT OF BROOKE COLEMAN

Mr. COLEMAN. Thank you. Good afternoon, Chairman Whitfield, members of the committee. My name is Brooke Coleman. I am the executive director of the Advanced Biofuels Business Council. Thank you for the opportunity to testify today. We represent worldwide leaders in the effort to develop and commercialize the next generation of advanced and cellulosic biofuels.

I want to start with a general observation about the Renewable Fuel Standard. I think it is safe to say that the RFS is a lightning rod of sorts; the question is why. There are those who say it is because the RFS doesn't work. But I think if you look at the success rate of innovation and deployment in the renewable fuels industry and the historic positioning of the oil industry when it comes to trying to avoid competition at the pump you will have your answer.

In just 10 years, the biofuel industry has emerged to create hundreds of thousands of jobs and displace the need for billions of gallons of petroleum imports annually. If you look at perhaps the most criticized biofuel, ethanol, you will find that it also happens to be the most disruptive to the status quo. The ethanol industry supports hundreds of thousands of U.S. jobs alone in more than two dozen states and now threatens to bring new blends and real consumer choice to the pump. The ethanol industry is a target for a reason.

And now we are innovating. The United States is home to the largest commercial cellulosic ethanol plant in the world, DuPont's facility in Nevada, Iowa. POET-DSM cellulosic facility in Emmetsburg, Iowa, produces enough renewable electricity as a co-product to power itself and the grain ethanol facility next door. Quad County's first generation ethanol plant in Galva, Iowa, now produces cellulosic ethanol from corn fiber using a technology called Cellerate that also reduces energy inputs. Quad County's fuel is 126 percent better than gasoline on carbon. It is a carbon sink.

But disrupting the status quo does not come easily. Our adversaries have enough money to fill the airways with allegations about the RFS, but are any of these allegations actually true? We have heard about corn ethanol and food prices, but corn prices are about the same today as when the RFS was passed, and food industry profits—an important part of this—are soaring.

Higher ethanol blends like E15 could damage cars, they say, except the Department of Energy found no problems with 15 percent ethanol blends or 20 percent ethanol blends in 86 cars tested for up to 120,000 miles each. Some small engine producers including Briggs say they are concerned about ethanol, but they sell their engines to Brazil where gasoline contains more than two times as much ethanol as we have in the United States today.

Oil even ran a commercial during the World Series last year claiming that ethanol is worse for the climate than gasoline and we heard Congressman Welch say it today, except that USEPA, the

California Resources Board, and the national labs like Argonne and National Research Energy Laboratory all say they are wrong.

On the issue of pump prices don't take my word for it. Former Shell Oil president John Hofmeister recently stated, quote, we need a competitor for oil. We need to open the market to replacement fuels. Competition will drive transportation fuel prices down structurally and sustainably, unquote.

This is exactly what is happening with the RFS. Energy economist Phil Verleger, he used to advise Presidents Ford and Carter and the oil industry itself, recently said, "The renewable fuels program translates to consumers paying between 50 cents and 1.50 per gallon less for gasoline, when gasoline prices were high, by adding the equivalent of Ecuador to extremely tight world liquid fuel markets.

If there is one thing that we should all agree on it is this. Having only one option to power cars and trucks runs contrary to the fundamental premise of competition that underpins our economic system, and if we do not control that resource, as we have seen, it leaves us vulnerable to foreign cartels often working against us.

And that is where I want to close. There are those who want policymakers to believe that quote, things have changed; that we don't need the RFS anymore because the U.S. oil boom and low gas prices. But really, nothing has changed. When we got hit with record high oil prices in 2008, Americans transferred nearly \$1 trillion to OPEC members in just 6 to 8 months paying for motor fuel, a predicament that helped throw the United States into deep recession.

Now Saudi Arabia is hitting us with the other end of the stick by intentionally making oil so cheap that U.S. shale and deepwater drillers cannot compete, and it is working. U.S. tight oil and deepwater drilling operations are going belly up putting Americans out of work. It is nice to pay \$1.50 for gasoline, but what is actually happening is foreign oil cartels are using their market position to snuff out competition and repossess the U.S. fuel energy sector. Ironically that is exactly what the oil industry hates about the RFS here in the United States, that it threatens their chokehold over the American consumer at the pump.

If I could leave you with one thought it is this. Congress made a commitment and investors have spent billions in private capital to answer the call to create these biorefineries and create these fuels. The RFS doesn't distort a free market, it corrects a non-competitive one by forcing choice at the pump. It also happens to be the best advanced low carbon biofuel policy in the world.

What we do not need is for Congress to change a good law. What we do need is help convincing the Obama administration to block out the noise and administer the program as designed. Thank you for the privilege of speaking today and I look forward to your questions.

[The prepared statement of Brooke Coleman follows:]

Written Testimony of:  
**Mr. Brooke Coleman**  
**Executive Director, Advanced Biofuels Business Council**

Congress of the United States  
House of Representatives  
Committee on Energy and Commerce  
Subcommittee on Energy and Power

**"The Renewable Fuel Standard – Implementation Issues"**

**June 22, 2016**

Good morning Chairman Whitfield, Ranking Member Rush, and members of the committee. My name is Brooke Coleman and I am the Executive Director of the Advanced Biofuels Business Council (ABBC).

The Advanced Biofuels Business Council represents worldwide leaders in the effort to develop and commercialize next generation, advanced and cellulosic biofuels, ranging from cellulosic ethanol made from switchgrass, wood chips and agricultural waste to advanced biofuels made from sustainable energy crops, municipal solid waste and algae. Our members include those operating production facilities, those augmenting conventional biofuel plants with "bolt on" or efficiency technologies, and those developing and deploying the technologies necessary to make advanced biofuel production a commercial reality.

We are honored to be here today to help assess the impacts of the federal Renewable Fuel Standard (RFS) roughly ten years into the program. My primary role today is to talk about the continued development of the advanced biofuels industry. However, we would also like to provide context for the ongoing discourse about the rationale for federal policy support for biofuels.

**1. Oil dependence is still a problem, and recent trends are not changing the big picture**

If there was a central underpinning of Congressional support for the RFS ten years ago – and again when it was amended in 2007 – it was bipartisan support for reducing U.S. dependence on foreign oil. Between 2000 and 2012, the cumulative total of U.S. spending on imports of goods and services exceeded U.S. export earnings by \$7.1 trillion dollars – U.S. trade deficits in crude oil and refined petroleum products were \$2.87 trillion during this period, or 40.5 percent of the cumulative deficit in all goods and services (petroleum accounted for 55 percent of the trade deficit in 2012).<sup>1</sup>

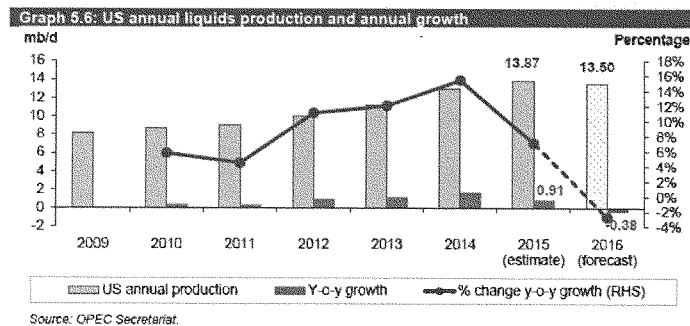
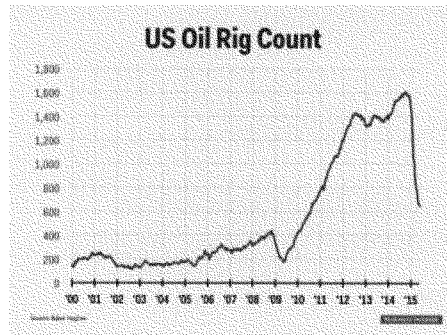
One argument made against the RFS is the United States no longer has a serious issue with foreign oil dependence due to recent trends in U.S. and global oil markets. However, it would be a

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<sup>1</sup> U.S. Department of Commerce, Bureau of Economic Analysis, International Data, pulled October 2015. See <http://www.bea.gov/international/index.htm>.

mistake to confuse the short-term economic benefits of the recent uptick in U.S. oil production and decreases in gasoline prices with long-term energy security for the following reasons:

- **Low gasoline prices are occurring primarily because controlling interests in the Organization of the Petroleum Exporting Countries (OPEC) are using their market power to snuff out the U.S. oil boom.** Certain members of OPEC decided in late 2014 to allow global crude oil prices to slip in part to snuff out competition and reclaim market control. In simple terms, colluding to lower the price of oil changes the economics on U.S. oil production, which cannot compete with today's oil prices. A recent Bloomberg report entitled "OPEC Is About to Crush the U.S. Oil Boom" notes that the strategy is working.<sup>2</sup> In just 12 months, OPEC has knocked U.S. oil production back significantly. OPEC's September report openly acknowledges the effort and its effects: "'In North America there are signs that US production has started to respond to reduced investment and activity. Indeed, all eyes are on how quickly US production falls.'"<sup>3</sup> In essence, policymakers would be unwise to be lulled into a false sense of security by low gasoline prices and a U.S. oil boom now paralyzed by OPEC.

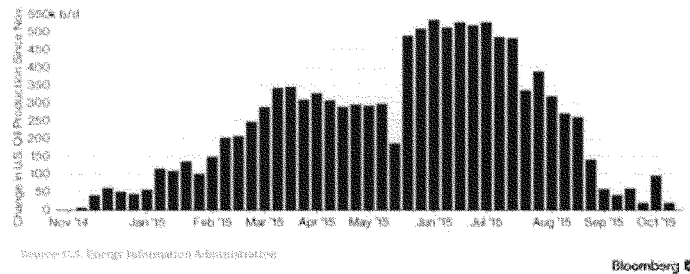


<sup>2</sup> See: <http://www.bloomberg.com/news/articles/2015-10-20/after-year-of-pain-opec-close-to-halting-u-s-oil-in-its-tracks>.

<sup>3</sup> See: [http://www.opec.org/opec\\_web/static\\_files\\_project/media/downloads/publications/MOMR\\_September\\_2015.pdf](http://www.opec.org/opec_web/static_files_project/media/downloads/publications/MOMR_September_2015.pdf)

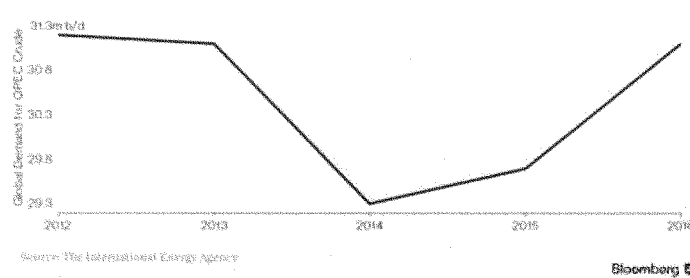
### The Fruit of OPEC's Labor

U.S. oil output has risen and fallen and is now close to the level seen at OPEC's Nov. 27 meeting.

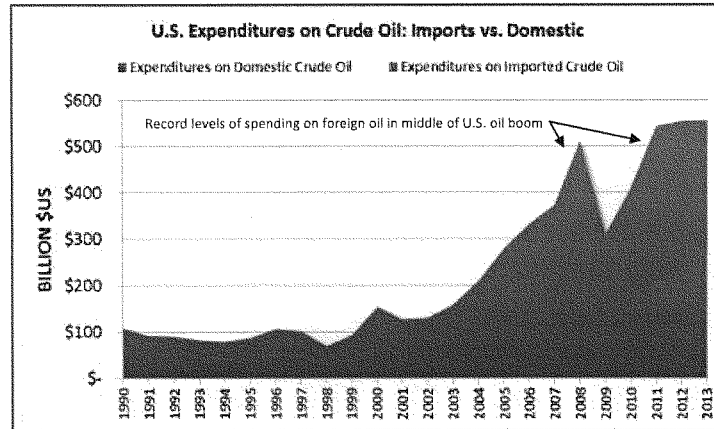


### OPEC Loses (and Reclaims) Market Share

U.S. supply ate into demand for OPEC's crude. Now the group is on the rise again.



- Even if a significant percentage of “new” U.S. oil production survives OPEC’s predatory strategy, a scenario that is looking increasingly unlikely, the vulnerability of the U.S. economy to foreign oil dependence is all about price. Even if U.S. oil production stabilizes, OPEC will reduce output at some point and crude oil prices will increase sharply. If the U.S. continues to consume far more oil than it produces (inevitable) and oil prices increase (inevitable), consumers will continue to spend enormous sums of money on foreign oil and the U.S. economy will continue to suffer at the hands of its dependence on foreign oil. The problem was evident from 2007-2013. U.S. consumers were spending more and more money buying oil from U.S. producers as U.S. production increased, but consumers were also spending more and more money on foreign oil because oil prices were so high and increasing at the same time. The magnitude of the economic drain can be staggering. Americans transferred nearly \$1 trillion to OPEC members during the oil price spike of 2008, in just 6-8 months. The figure below demonstrates how increasing U.S. oil production does not necessarily protect the U.S. economy and consumers from unsustainable and dangerous levels spending on foreign oil.



- **Recent headlines notwithstanding, the federal government cannot assess accurately the energy security and economic risks of global oil depletion.** In making arguments against the RFS, the oil industry and their assets want policymakers to believe that the economic and national security threat from oil dependence has abated, and is no longer a problem. But when assessing energy security risk as associated with oil, Congress should be aware that: (1) there is virtually no transparency when it comes to “source data” for the myriad of claims about future oil markets made on an everyday basis by analysts in the sector; and, (2) the oil industry and its analysts have a long history of seriously overestimating the vastness of its claimed reserves.
  - With regard to transparency, Russia (one of the world’s largest conventional oil producers) declared all oil data a state secret in 2004. Neither Saudi Arabia nor Venezuela share data publicly when they make claims about future capacity. This is a concern in part because “there are political and financial pressures to misreport figures.”<sup>4</sup> OPEC member quotas are based on reported reserves; the higher the reserve, the higher the quota relative to other members. OPEC members also face the challenge of attracting investment, from both government and outside sources. As reported in a recent peer-reviewed article in *Science*, “there are fears that Saudi oil reserves (and others) may have been over-estimated by at least 40%,” and, “[a]t best Saudi reserves are seen as near maturity,” given that 7 million barrels of sea water are being injected in the main field on a daily basis to increase flow.<sup>5</sup> The oil industry and OPEC also has the incentive of exaggerating reserves to weaken political

<sup>4</sup> Chapman, I., *The end of Peak Oil? Why this topic is still relevant despite recent denials*, Energy Policy (2013). <http://dx.doi.org/10.1016/j.enpol.2013.05.010> at p. 3.

<sup>5</sup> See Chapman, I., *The end of Peak Oil? Why this topic is still relevant despite recent denials*, Energy Policy (2013). <http://dx.doi.org/10.1016/j.enpol.2013.05.010> at p. 4.



and market interest in developing alternatives. OPEC first admitted its focus on alternative fuels in 2006, when it openly admitted that its price setting is designed partially to deter their use.<sup>6</sup> The U.S. Energy Information Administration (EIA) issues monthly oil price forecasts, but openly admits that its forecasts come with large uncertainty. For example, EIA's January 2016 report states, "EIA recognizes that there is still high uncertainty in the crude oil price outlook. For example, EIA's forecast for the average WTI price in April 2016 is \$37/b, while the market expects WTI prices to range from \$25/b to \$56/b (at the 95% confidence interval) based on the recent prices of futures and options contracts for April 2016 delivery."<sup>7</sup>

- With regard to overestimation, recent statements about game changing oil reserves should be regarded carefully because we have heard similar claims in the past about Alaska and the Gulf of Mexico. In 2002, the U.S. Geological Survey estimated that the National Petroleum Reserve-Alaska contained 10.6 billion barrels (mean estimate) of oil. In late 2010, USGS revised their estimate to 896 million barrels – a downward adjustment of roughly 90 percent.<sup>8</sup> When BP discovered the Thunder Horse field in the Gulf of Mexico in 1999, they estimated that the reserve contained more than a billion barrels of oil. The discovery fundamentally changed projections about U.S. oil capacity and was credited with changing the global price of oil. BP and partners built the largest oil platform in the Gulf. However, oil extraction was delayed by more than 3 years due to technical difficulties, and according to a consultant for oil exploration, "Thunder Horse hasn't reached anywhere near its expected potential."<sup>9</sup> Tight oil plays (e.g. the Bakken) face similar challenges. As noted in an April 2013 article in *Science*, "data on reserves of many unconventional sources are now regarded as optimistic, compounded by thermodynamic inefficiencies in the processes, often relying on high energy inputs, will ultimately limit the net gain to provide fuel quantities well below predicted figures."<sup>10</sup> As a point of reference, the 4.3 billion barrels of technically recoverable tight oil from the Bakken (as estimated by the U.S. Geological Survey) is less than one year's worth of crude oil consumption by U.S. refineries. And investors are running away from tight oil in the current marketplace, due to the aforementioned market conditions imposed by OPEC.

**2. The United States is not going to "free market" its way out of its foreign oil dependence problem or emerge as the global leader in advanced biofuel development without aggressive policies to attract investment**

In a competitive marketplace, the increasing cost and scarcity of crude oil in recent years would play to the benefit of alternatives such as advanced biofuels. That is, the declining production

<sup>6</sup> See <http://www.foxnews.com/story/0,2933,222840,00.html>

<sup>7</sup> See <http://www.eia.gov/todayinenergy/detail.cfm?id=24532>.

<sup>8</sup> See [http://www.newsminer.com/news/alaska\\_news/oil-estimates-slashed-for-national-petroleum-reserve-alaska/article\\_999d982e-5823-59c2-82f7-8b6bb65d8fd6.html](http://www.newsminer.com/news/alaska_news/oil-estimates-slashed-for-national-petroleum-reserve-alaska/article_999d982e-5823-59c2-82f7-8b6bb65d8fd6.html).

<sup>9</sup> See <http://www.theoilboom.com/node/6415>.

<sup>10</sup> Chapman, I., *The end of Peak Oil? Why this topic is still relevant despite recent denials*, Energy Policy (2013). <http://dx.doi.org/10.1016/j.enpol.2013.05.010>.

cost of biofuels would attract investment over the increasing cost and scarcity of petroleum, and new alternative fuel products would emerge to replace petroleum. In essence, free markets reward innovation. However, U.S. and global liquid fuel markets are not free markets. As discussed, they are distorted by the price-controlling behavior of OPEC, driven by policy as opposed to price, and are dominated by highly-consolidated and vertically integrated incumbent oil companies that continue to receive the large majority of federal subsidies to the U.S. fuel energy sector. While many of these policies lie outside of the jurisdiction of these committees, the RFS must be assessed in its proper context – as a fuel energy policy designed to address problems in motor fuel markets – to be properly understood.

For example, the largest leaseholder in the Bakken told the Senate Finance Committee in 2012 that “[w]ithout the current capital [federal tax] provisions in place ... that let us keep our own money ... we would not have been able to fail over and over again, which is what it took to advance the technology needed to produce the Bakken and numerous other [tight oil/fracking] resource plays across America.”<sup>11</sup> It is critical to point out that cellulosic biofuel producers and “tight oil” producers have something in common; they are both endeavoring to supply the country and world markets with what the Energy Information Administration (EIA) terms “unconventional fuel.” While facing similar technology risk, the cellulosic biofuels industry does not receive the same tax treatment as companies like Continental Resources (from the perspective of value or duration).

More broadly, the fossil fuels industry enjoys the benefit of a number of unique federal tax allowances – unavailable to renewable fuels – that de-risk and lower the cost of the ongoing development of oil and gas resources relative to other sources of liquid fuel. For example, a recent study estimates that fossil fuels received 70 percent of U.S. federal energy subsidies between 2002 and 2008, to the tune of more than \$70 billion during this time period.<sup>12</sup> This number does not include the loopholes in oil and gas laws that, according to the Government Accountability Office (GAO), allowed petroleum companies to forego paying \$53 billion in royalty payments, over just four years, for extracting natural resources from lands owned by the American taxpayer. The federal government also helps incumbent industries develop new technologies. According to a recent Congressional Research Service report, [f]or the period from 1948 through 2012, 11.6% of Department of Energy R&D spending went to renewables, 9.7 % to efficiency, 25% to fossil energy, and 49.3% to nuclear.<sup>13</sup> According to a recent report, “energy innovation has driven America’s growth since before the 13 colonies came together to form the United States, and government support has driven that innovation for nearly as long.”<sup>14</sup> Governmental support drove investment in coal, timber, engine innovations, land settlement for resource extraction and other forms of innovation in the 19<sup>th</sup> and 20<sup>th</sup> centuries, and domestic energy consumption and GDP have tracked closely for at least 200 years.<sup>15</sup> Given the importance of energy security, we believe that the federal government’s engagement in domestic energy development is appropriate, and there is a clear case for making advanced biofuels a focal point of that effort going forward.

<sup>11</sup> <http://www.finance.senate.gov/imo/media/doc/Hamm%20Testimony1.pdf>, p. 2.

<sup>12</sup> See [http://www.eiistore.org/Data/products/d19\\_07.pdf](http://www.eiistore.org/Data/products/d19_07.pdf).

<sup>13</sup> See <http://www.fas.org/srg/crs/misc/RS22858.pdf>

<sup>14</sup> See note 2, at p. 11.

<sup>15</sup> *Id.*

**3. RFS opponents are using misleading arguments to try to convince the Obama Administration and U.S. EPA to arrest or slow down implementation of the program**

In recent years, the public discourse around U.S. EPA's annual rulemakings has been substantial on all sides. Until November 2015, EPA had not finalized a rule since 2013 (for the 2013 compliance year). This is no longer the case. The agency published and finalized a multiyear 2014-2016 rule in November 2015, and expects to complete the 2017 rule by the end of November, as required by statute.

The focal point of the oil industry's attempt to escape their obligations under the RFS administratively (i.e. via EPA rules) is to cast their willful non-compliance with the law as involuntary (i.e. because of the so-called blend wall) and in the interest of protecting consumers (i.e. because higher RFS credit prices are a "cost of compliance" that will be passed on to consumers). This testimony discusses the vast majority of these arguments in more detail in Addendum A & B attached below, but there are a few claims worth mentioning here:

- *The so-called blend wall is nothing more than a line drawn in the sand by the oil industry to mark the point at which they no longer want to blend more ethanol*

The genesis of the blend wall argument is very simple: "U.S. refueling infrastructure and vehicles can only handle up to 10 percent blends of ethanol, and so the RFS (which calls for more ethanol volume than that) is unworkable." The argument usually breaks down into one of three claims: (1) the cars cannot use higher renewable fuel blends; (2) U.S. refueling infrastructure cannot deliver higher renewable fuel blends; (3) higher blends are not priced low enough to drive demand.

All three of these claims are untrue. For example, it is not uncommon for RFS critics to say that higher ethanol blends (like E15) ruin engines. However, the most comprehensive vehicle testing ever conducted – by the U.S. Department of Energy – showed no issues in 86 vehicles driven 120,000 miles each on both E15 (15% ethanol blends) and E20 (20% ethanol blends).<sup>16</sup> E15 is now available in many states across the country, without reports of engine failures. It is not uncommon for RFS critics to say that there are not enough pumps or vehicles to facilitate compliance with the RFS. However, obligated parties have a number of choices to meet their biofuel blending targets, including blending more E15 (15% ethanol by content; a high-octane premium fuel approved by EPA for use in two-thirds of the vehicles on the road today), E85 (85% ethanol by content), biodiesel (most engines are warrantied to handle higher biodiesel blends), and/or more renewable diesel. With specific regard to E85, there are enough "flex fuel" vehicles on the road today to consume at least 3 billion additional gallons of ethanol – a number that would vastly exceed the RFS statute for ethanol – if, according to independent analysis, price per mile costs aligned with E10.<sup>17</sup>

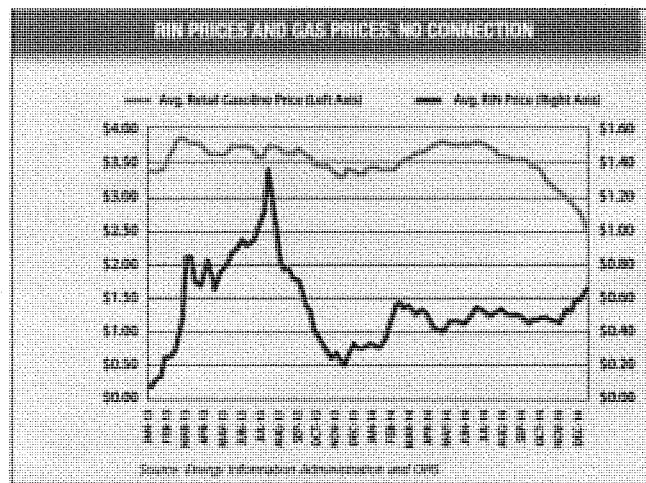
<sup>16</sup> See <http://energy.gov/articles/getting-it-right-accurate-testing-and-assessments-critical-deploying-next-generation-auto>

<sup>17</sup> See <http://www.card.iastate.edu/publications/dbs/pdffiles/13pb15.pdf>

Finally, some economists argue that E85 pricing is the issue when it comes to the achievability of RFS goals – i.e. that E85 has *not* been priced to facilitate compliance/consumption and therefore the RFS volumes must be waived. In reality, independent retailers (constituting ~ 50% of gas stations) tend to price E85 to sell while gas stations controlled by the oil majors are more reluctant to do so.<sup>18</sup> This raises questions with regard to whether oil majors are using their market power to price E85 to fail (while gouging consumers in the process). In either case, there is enough fuel distribution capacity and interest among independents to drive the consumption necessary to meet the RFS, and policymakers should be comfortable with a program that rewards independent marketers for selling more renewable fuel.

- ***The oil industry can avoid utilizing liquid renewable fuel gallons all together by purchasing RFS (RIN) credits on the open market, but this voluntary compliance cost does not increase gas prices.***

Attachment B below discusses the RIN/gas price relationship in detail. However, it is easy to see from the figure below that no correlation exists between higher RIN prices and gas prices. This is due, in part, to the fact that those obligated parties choosing to comply with the RFS via RIN credits are usually buying RINs from oil companies holding more than enough RINs to satisfy their obligations under the RFS. Put another way, the ethanol industry cannot detach and sell RINs – only the oil industry has the power to detach and sell RINs on the free market (for profit) under the RFS.



<sup>18</sup> <http://aiw-inc.com/are-market-distortions-depressing-consumer-demand-for-e85/#post/0>

- *Unfortunately, the Obama Administration did modify the agency's position on certain key RFS administrative issues in the face of pressure from obligated parties*

Facing concerns about higher RIN credit prices and the so-called blend wall, U.S. EPA essentially changed its approach to administering the RFS in two primary areas: (1) the agency broadened its waiver authority by reinterpreting the word “supply” in the waiver provision “inadequate domestic supply” to mean supply-to-consumer, which is a reversal of EPA’s prior interpretation of the word “supply” to mean supply of renewable fuel to obligated party; and, (2) the agency is proposing to not count “carryover RINs” (i.e. RINs accumulated by obligated parties from year-to-year) toward compliance when it comes to maintaining the statute. The problems associated with U.S. EPA’s change of position are documented in the Council’s comments to U.S. EPA (see footnote).<sup>19</sup> But the key issues are: (1) midstream methodological rule changes, of any type, discourage investment in current and future federal energy policy because energy investments are made into non-competitive markets and are therefore driven by policy and can be stranded by policy change; (2) waiving the RFS for issues related to “supply to consumer” or distribution-capacity gives obligated parties too much power over the RFS, because the oil industry controls fuel distribution; (3) failing to account for carryover RINs is the equivalent of ignoring available RFS compliance fuel, because RINs are only produced when a gallon of RFS-eligible renewable fuel is produced. Notably, distribution-related waivers were expressly rejected by Congress during the RFS legislative process.

Because the shift to distribution waivers was catalyzed by concerns about conventional biofuel RINs and use, the controversy is often connected to first generation ethanol. But the primary effect will be on advanced ethanol. The underlying value of the RFS (and RINs) for innovators is it provides a reasonable expectation of demand/market against the backdrop of openly collusive market control behavior that would otherwise drive innovators away from motor fuel markets. Looking at the problem from an investor perspective, deals to finance second generation biofuel projects are driven by the availability of a market; or, in the case of motor fuels, by bringing an off-take agreement with those who distribute motor fuels to the consumer (in almost all cases, the oil industry). The RIN drives off-take because obligated parties know that they can profit from compliance if they acquire RINs via off-take but will have to pay for RINs on the open market if they refuse to sign offtake agreements. To illustrate, nearly 40 leading developers of cellulosic biofuel wrote a letter to President Obama in October 2013, stating:

“The RFS is engineered to address challenges like the oil industry’s historic and current refusal to blend more renewable fuels. Investors in next generation biofuels understand how the RFS and RIN values work to introduce market access for advanced biofuels. As such, any perceived unwillingness on the part of RFS administrators to allow the program to work would send a clear signal to the advanced biofuel marketplace that the RFS may not be allowed to change market behavior as promised. This mere possibility increases investment risk, which in turn decreases the effective deployment of advanced biofuels.”<sup>20</sup>

<sup>19</sup> See <http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2015-0111-3528>.

<sup>20</sup> See <http://www.reuters.com/article/bio-aec-wh-letter-idUSnBw296398a+100+BSW20131029>

It cannot be overstated that the best solution to the administrative concerns associated with the RFS is not re-legislation. The RFS is good law, and is well-designed to work. The issue related to distribution waivers is already in federal court. The advanced biofuels industry continues to work with EPA staff to ensure that all reasonable means are taken to promote advanced biofuels from within the current framework of the law. We remain confident that we can resolve administrative problems with administrative solutions without the need for Congressional intervention.

- ***Warnings about the delta between the RFS targets set forth in 2007 and actual production of advanced biofuels (in particular) are a red herring omitting the fact that the RFS is an adjustable mandate***

RFS critics frequently point out that while the conventional biofuels industry has produced more than enough renewable fuel to comply with the RFS from year-to-year, the advanced biofuels industry has not produced sufficient volumes to meet the targets set forth by Congress in 2007. Critics say the cumulative difference between the statute and actual production means that the program is unworkable and must be re-legislated.

In reality, the targets set forth by Congress in 2007 were ambitious by design – so that investors would invest in advanced biofuels without the fear that success could strand investment from an exceeded mandate (i.e. if the advanced biofuel blending requirement is 1 billion gallons in a given year and 2 billion gallons are produced, half of capacity would run the risk of not being purchased by oil companies otherwise disinterested in using renewable fuels). Knowing that the targets were ambitious, Congress also gave U.S. EPA the authority to waive the year-to-year blending requirements if RFS-eligible renewable fuel is not available or is too expensive. And this is exactly what U.S. EPA has done in multiple years. In fact, the point of controversy in 2015 was U.S. EPA's decision to waive RFS requirement when the renewable fuel gallons *were* available and cost competitive for reasons related to the oil industry's unwillingness to secure and blend renewable fuel. If anything, U.S. EPA has aired on the side of caution when it comes to waiving the RFS based on the concerns expressed by the oil industry. It is even more illogical to see some economic entities modeling the impacts of the RFS as a rigid rather than waivable mandate. Modeling the impacts of the RFS as if EPA is not doing (and has not done) its job may produce provocative results, but it does little to inform the debate about the program.

4. **The RFS has a clear record of success when it comes to achieving its economic and environmental objectives in the face of a perpetually uncertain and non-competitive global oil marketplace.**

Any objective analysis of the RFS shows that the program has met or exceeded expectations when it comes to the primary objectives set forth by Congress in passing the law.

- ***Petroleum Dependence and Gas Prices***

While motor fuel prices are temporarily low as a result of OPEC's decision to weaken competition in the global oil marketplace, most of the last ten years have been marked by historically high oil prices. The primary reason for higher prices is the reduced availability of cheap crude oil supply relative to increased demand, and the market response (both direct and via speculation) to this dynamic. The RFS has driven the development of a new alternative fuel industry during a period of very high economic vulnerability and fuel prices in the United States. Speaking to this dynamic, energy economist Philip K. Verleger (who served as an advisor on energy issues to both the Ford and Carter administrations) recently said, "the U.S. renewable fuels program has cut annual consumer expenditures in 2013 between \$700 billion and \$2.6 trillion ... [t]his translates to consumers paying between \$0.50 and \$1.50 per gallon less for gasoline."<sup>21</sup> Mr. Verleger notes that the RFS put the equivalent of Ecuador's world oil output on the market during a period of extreme tightness:

Had Congress not raised the renewable fuels requirement, commercial crude oil inventories at the end of August [2013] would have dropped to 5.2 million barrels, a level two hundred million barrels lower than at any time since 1990 ... [t]he lower stocks would almost certainly have pushed prices higher. Crude oil today might easily sell at prices as high as or higher than in 2008. Preliminary econometric tests suggest the price at the end of August would have been \$150 per barrel."

Renewable fuels reduce gas prices in two ways: (1) the predominant fuel used to date to meet the RFS is ethanol, which has been \$.60 to \$1.00 cheaper per gallon than wholesale gasoline for the bulk of the time that the RFS has been in place; and, (2) by adding supply to very tight oil markets, which reduces the impact of both perceived and real disruptions to supply and curtails speculative engagement by the markets. One would have to stand basic economics on its head to argue that reducing the use of renewable fuels will not exacerbate petroleum dependence and increase gas prices.

- ***Economic Development and Job Creation***

Given the inherent uncertainties with analyzing the economic impact of any industry, the most effective way to assess the job and economic development impacts of the RFS is to consider multiple reports conducted by different entities. It is clear, however, that the RFS triggered the development of a robust, homegrown renewable energy industry. For example, a recent RFS footprint analysis conducted by Fuels America concluded that the RFS now creates \$184.5 billion of economic output, 852,056 jobs, and \$46.2 billion in wages and \$14.5 billion in taxes each year in the United States.<sup>22</sup> A recent assessment published by the Oak Ridge National Laboratory found that the RFS is producing significant positive economic effects ("the net global economic effects of the RFS2 policy are positive with an increase of 0.8% in U.S. gross domestic product (GDP) in 2022...[well in

<sup>21</sup> See [http://www.pkverlegerllc.com/assets/documents/130923\\_Commentary.pdf](http://www.pkverlegerllc.com/assets/documents/130923_Commentary.pdf).

<sup>22</sup> See [http://www.fuelsamerica.org/pages/fuels\\_america\\_releases\\_new\\_footprint\\_analysis](http://www.fuelsamerica.org/pages/fuels_america_releases_new_footprint_analysis)

excess of \$100 billion]” stemming from the fact that the RFS is reduces crude oil prices, decreases crude oil imports, increases gross domestic product (GDP), and is having only minimal impact on global food markets and land use.<sup>23</sup> Roughly half of the projected economic benefits will stem from advanced biofuel production. The economic picture is even more robust in certain states. The RFS supports more than 70,000 jobs and \$5 billion in wages in Iowa, 60,000 jobs and \$3.7 billion in wages in California, 39,000 jobs and \$3.9 billion in wages in Ohio, and more than 28,000 jobs in Kentucky (e.g.) and other states not commonly associated with the biofuels industry.<sup>24</sup>

While much of the economic footprint of the RFS stems from the production and use of first generation biofuels, the advanced biofuels industry is deploying commercially today. And the scale of opportunity is enormous. According to the Sandia National Laboratory, the U.S. could produce 75 billion gallons per year of cellulosic biofuels (one subset of the advanced biofuel industry, and 4.5 times the amount of cellulosic biofuel required by the RFS) without displacing food and feed crops.<sup>25</sup> This would be enough cellulosic biofuel alone to displace more than half of gasoline demand. A Bloomberg analysis released in 2012 looked at eight select regions to assess the potential for next generation ethanol production.<sup>26</sup> The study found that eight regions -- Argentina, Australia, Brazil, China, EU-27, India, Mexico and the United States -- could displace up to 50 percent of their demand for gasoline by 2030 making ethanol from a very small percentage of its each region’s agricultural residue supply. The economic opportunity, with specific regard to advanced biofuel production, is robust. First, roughly half of the economic benefits discussed in the Oak Ridge paper above are from advanced biofuels. An RFS study by Bio-Economic Research Associates (commissioned by BIO) concluded that compliance with the advanced biofuels requirement of the RFS could create up to roughly 800,000 direct and indirect jobs.<sup>27</sup>

The cellulosic biofuels industry is acutely aware of public criticism about our rate of deployment. But we would encourage the committees to focus closely on the clear visual and data-statistical evidence of real progress in our industry. From an RFS perspective, the production capacity of the broader advanced biofuels industry (i.e. all types of fuel qualifying as advanced biofuel under the RFS) exceeded the 2013 statutory target of 2.75 billion gallons established by Congress via RFS2.<sup>28</sup> U.S. EPA relied on the administrative flexibility provided to the agency by Congress to allow more bio-/renewable diesel and less cellulosic biofuel to be used to meet the 2013 standard. But delay should not be interpreted to mean failure when it comes to the commercial deployment of the most carbon-reductive, innovative fuels in the world. The ABBC’s website ([AdvancedBiofuels.org](http://AdvancedBiofuels.org)) details roughly two dozen advanced/cellulosic biofuel projects in the United States and abroad. And there are numerous U.S. commercial facilities now in commissioning or production phases, including:

<sup>23</sup> See <http://www.future-science.com/doi/abs/10.4155/bfs.12.60?journalCode=bfs>.

<sup>24</sup> <http://fuelsamerica.guerrillaeconomics.net/>; [http://www.fuelsamerica.org/pages/fuels\\_america\\_releases\\_new\\_footprint\\_analysis](http://www.fuelsamerica.org/pages/fuels_america_releases_new_footprint_analysis)

<sup>25</sup> See [https://share.sandia.gov/news/resources/news\\_releases/biofuels-can-provide-viable-sustainable-solution-to-reducing-petroleum-dependence-say-sandia-researchers/](https://share.sandia.gov/news/resources/news_releases/biofuels-can-provide-viable-sustainable-solution-to-reducing-petroleum-dependence-say-sandia-researchers/).

<sup>26</sup> See [http://www.novozymes.com/en/sustainability/benefits-for-the-world/biobased-economy/white-papers-on-biofuels/Documents/Next-Generation%20Ethanol%20Economy\\_Executive%20Summary.pdf](http://www.novozymes.com/en/sustainability/benefits-for-the-world/biobased-economy/white-papers-on-biofuels/Documents/Next-Generation%20Ethanol%20Economy_Executive%20Summary.pdf)

<sup>27</sup> See U.S. Economic Impact of Advanced Biofuels Production: Perspectives to 2030, Bio-Economic Research Associates.

<sup>28</sup> See <http://www.epa.gov/otag/fuels/rfsdata/2013emts.htm>



- Quad County/Syngenta Cellerate (Galva, IA): Quad County Corn Processors and Syngenta formed a joint venture to produce 2 million gallons of cellulosic ethanol (from corn fiber) at their first generation ethanol plant in Iowa and license the technology elsewhere. The facility is producing and selling cellulosic ethanol today that reduces carbon emissions by more than 100 percent in comparison to gasoline, and uses a technology that also decreases energy use while increasing the production of valuable co-products like corn oil.
- DuPont (Nevada, IA): DuPont held a grand opening for a ~ \$225 million cellulosic ethanol facility in Nevada, Iowa in 2015. The 30 million gallon per year capacity plant is the largest cellulosic ethanol plant in the world, and will use corn stover biomass (an agricultural “waste” stream) secured from up to 500 farmers within a 30-mile radius around the facility. The project created 1000 construction jobs and will maintain 85 permanent jobs.
- POET/DSM (Emmetsburg, IA): Project Liberty – a joint venture between POET and Royal DSM – produces cellulosic ethanol from corn cobs, leaves, husk and stalk that pass through the combine during corn harvest. The 25 million gallon per year plant will produce enough renewable electricity, as a co-product, to power itself and the POET grain ethanol plant next door. POET owns and operates 27 first generation ethanol facilities; most of which are candidates to deploy the cellulosic biofuel production technologies developed in Emmetsburg very quickly.
- Novozymes (Blair, NE): Novozymes, a global advanced bio-products and sustainable agriculture company, operates the largest industrial bio-enzymes production facility in the U.S. in Blair, NE. The facility produces enzymes for conventional and advanced biofuels.

- ***Climate Change Emissions***

The vast majority of independent analysis (not directly or indirectly industry funded) confirms that most types of first and second generation biofuels reduce climate change emissions, in many cases by very large amounts, including analysis conducted by U.S. EPA, the California Air Resources Board, the U.S. Department of Energy and top energy labs such as Argonne and Oak Ridge National Laboratories.

For example, the latest peer-reviewed analysis coming out of the U.S. Argonne National Laboratory shows that all types of ethanol – the type of renewable fuel usually scrutinized for its GHG emissions – have significantly lower lifecycle greenhouse gas emissions than petroleum, even with penalty for indirect land use change. Advanced ethanol, in particular, is: (a) vastly more carbon reductive than petroleum; (b) vastly more carbon reductive than the baseline used to analyze the RFS – 2005 gasoline; and, (c) significantly more carbon reductive than technologies often regarded to be the most innovative (electric drive, hydrogen).

**Latest Well-to-Wheels Greenhouse Gas Emissions Reduction  
Relative to Average Petroleum Gasoline**

| WTW GHG emission reductions | Corn            | Sugarcane       | Corn stover      | Switchgrass     | Miscanthus         |
|-----------------------------|-----------------|-----------------|------------------|-----------------|--------------------|
| Including LUC emissions     | 19–48%<br>(34%) | 40–62%<br>(51%) | 90–103%<br>(96%) | 77–97%<br>(88%) | 101–115%<br>(108%) |
| Excluding LUC emissions     | 29–57%<br>(44%) | 66–71%<br>(68%) | 89–102%<br>(94%) | 79–98%<br>(89%) | 88–102%<br>(95%)   |

Source: Argonne National Laboratory<sup>29</sup>

The carbon benefits of increasing the use of renewable fuels are actually even greater when you take into account the fact that renewable fuels replace marginal (rather than average) gallons of petroleum. To illustrate, Petrobras chief Jose Sergio Gabrielli has declared that “the era of cheap oil is over.” This means that oil companies are shifting very quickly to an increasing reliance on more expensive and riskier “unconventional” fuels – including tight oil (e.g. the Bakken), deep water (e.g. Gulf of Mexico, Deep Water Horizon) and Canadian tar sands (e.g. Keystone) – to meet the global demand for fuel energy.<sup>30</sup> These fuels are more carbon intensive than the “2005 average petroleum” legislated by Congress in 2007, and replacing RFS renewable fuel gallons with marginal petroleum gallons will result in backsliding with regard to both raw GHG emissions and the Obama Administration’s commitment to cut carbon emissions to “protect the health of our children and move our economy toward American-made clean energy sources that will create good jobs and lower home energy bills.”<sup>31</sup>

There are a number of recent studies that have looked at the real world “marginal” impact of increasing the use of renewable fuels. For example, a 2014 analysis conducted by Life Cycle Associates in California concluded that today’s corn ethanol – assessed by EPA in 2010 to be 21 percent better than 2005 petroleum with regard to lifecycle GHG emissions – is 32 percent better than 2012 average petroleum and 37-40 percent better than petroleum derived from tar sands and fracking. The report notes that using less renewable fuel will increase the use of these unconventional types of oil:

The majority of unconventional fuel sources emit significantly more GHG emissions than both biofuels and conventional fossil fuel sources ... [t]he biggest future impacts on the U.S. oil slate are expected to come from oil sands and fracking production ... significant quantities of marginal oil would be fed into U.S. refineries, generating corresponding emissions penalties that would be further aggravated in the absence of renewable fuel alternatives.”

Source: Life Cycle Associates, January 2014

<sup>29</sup> See [http://iopscience.iop.org/1748-9326/7/4/045905/pdf/1748-9326\\_7\\_4\\_045905.pdf](http://iopscience.iop.org/1748-9326/7/4/045905/pdf/1748-9326_7_4_045905.pdf)

<sup>30</sup> See [http://www.eia.gov/forecasts/aeo/MT\\_liquidfuels.cfm#crude\\_oil](http://www.eia.gov/forecasts/aeo/MT_liquidfuels.cfm#crude_oil)

<sup>31</sup> See <http://www.whitehouse.gov/the-press-office/2013/06/25/fact-sheet-president-obama-s-climate-action-plan>

These findings are consistent with recent (lower resolution) assessments by federal agencies. For example, a recent report released by the Congressional Research Service (CRS) found that Canadian oil sands are 14-20 percent more carbon intensive than the 2005 EPA baseline.<sup>32</sup> As such, it is an inescapable reality that any proposal to reduce renewable fuel blending is a proposal to increase U.S. consumption of high carbon intensity, unconventional oil.

**5. Conclusion: Congress should not legislate on the RFS and allow the program to deliver on its economic and environmental record and promise**

We are often asked by members of Congress if there are ways to accelerate the deployment of the advanced biofuels industry. We would like to respectfully suggest the following:

- **A Stronger Commitment to No Backsliding/Policy Certainty Would Help Attract Project Finance to U.S. Advanced Biofuel Markets**

The U.S. has a number of well-designed policies in place that are driving innovation in the biofuels sector, including but not limited to the RFS, several important tax provisions currently being considered for extension (e.g. the second generation biofuel producer credit, the special depreciation allowance for second generation biofuel plant properties, etc.) and the critical energy title programs in the farm bill. The issue around these policies is not their design; but rather, their dependability as related to legislated permanence (i.e. the perpetual risk of expiration) and funding (i.e. the perpetual risk that they are de-funded). By contrast, federal government support for the fossil fuels industry – primarily through the federal tax code but also indirectly via infrastructure and other policies – is almost always permanent. This clear inequity has the practical effect of increasing the risk of investing in renewable versus fossil energy, which in turn drives the development of clean energy overseas to countries with more durable policy commitments (e.g. China, Brazil, etc.). Ironically, policy risk is often more perceptive than substantive and incumbents leverage this investment reality to create a perpetual cloud of uncertainty around landmark biofuel programs. As such, it is absolutely critical to our industry to protect landmark programs – RFS and farm bill energy title among them – at both the messaging and substantive levels. Changing the rules in the middle of the game for any of these policies – however framed politically – has the practical effect of spooking investors and making the U.S. less competitive globally. Ultimately, it will also be critical to reform the federal tax code to, at minimum, remove the inequities that distort investment markets.

- **Transparency in RFS RIN Trading Markets Would Help Reduce Unnatural Volatility in RIN Markets and Put the RFS on a More Stable Path Going Forward**

The RFS is designed to drive investment in advanced biofuels and more renewable fuel blending (including infrastructural development). The primary driver of additional biofuel market access within the RFS is the RIN. A RIN is an identification number generated when a gallon of RFS-qualifying renewable fuel is produced. The RIN is attached to the renewable fuel gallon at the point of sale to obligated parties (i.e. oil companies), but can be separated (from the liquid gallon) by

<sup>32</sup> See <http://www.fas.org/srgp/crs/misc/R42537.pdf>

obligated parties and sold for whatever price the market will bear. The primary value of the RIN program, other than facilitating compliance accounting and some level of compliance flexibility, is its ability to increase market access for renewable fuels. That is, when an oil company refuses to blend more liquid biofuel, they can buy a RIN on the open market instead. If a significant number of oil companies refuse to blend liquid gallons and seek RINs on the open market, RIN trading and values will increase as a result of their affirmative non-compliance. Higher RIN prices should not be considered a bug in the RFS; they actually provide an extra incentive for other obligated parties to blend liquid renewable fuel gallons, because they acquire a valuable and saleable RIN free of charge with each gallon of renewable fuel purchased. In essence, higher RIN values reward good behavior and facilitate the objectives of the RFS.

Some oil companies and refiners are trying to miscast higher RIN prices as a potential cause for higher gas prices. The Babcock analysis discussed above – which was not funded by industry – clearly shows that higher RIN prices do not increase gas prices primarily because: (a) RINs enter the marketplace free-of-charge with each gallon of renewable fuel; (b) RIN values are created by trading among obligated parties, so it is often the oil industry itself on the profit side of the RIN transaction;<sup>33</sup> and, (c) higher RIN prices actually *reduce* the cost of a gallon of renewable fuel at the wholesale level, which erases the threat of higher gas prices at the retail level.

That said, the current RIN trading marketplace lacks transparency to the point in which it is difficult for traders and obligated parties to make trades based on dependable, real-time information. While it is not clear what percentage of the 2013 spike in D6 RIN prices came as a result of the lack of transparency in RIN markets – either through hoarding from (blind) “shortage mentality” or other strategies – it is clear that a non-transparent RIN marketplace could be a liability for the program, and in turn, a point of uncertainty for advanced biofuel investing. We believe that federal agencies (e.g. EPA in collaboration with the CFTC) could set up an electronic trading platform – similar to those used in other commodity markets – to ensure that RIN positions and trades are disclosed in real time. We believe this can be done expeditiously and would have an immediate calming effect in the marketplace with regard to RIN volatility and predictability.

- **Market Access to Allow Fair Competition**

There are a number of incongruencies between the goal of increasing the production of advanced biofuels and the regulations that largely dictate outcomes in U.S. liquid fuel markets. It is a basic economic notion that emerging advanced bio-based fuels need a market (i.e. demand) to deploy at commercial scale. And yet, EPA has yet to resolve a number of roadblocks for the increased use of renewable fuels in gasoline.

For example, EPA has thus far refused to address regulatory inconsistencies with regard to vapor pressure (RVP) for E15 that are contributing to the slower than necessary deployment of the fuel. There is no real substantive issue that supports treating E10 and E15 differently with regard to vapor pressure, but the practical effect is gasoline retailers cannot offer E15 year round as an

<sup>33</sup> See <http://www.ethanolrfa.org/exchange/entry/what-do-big-oils-quarterly-earnings-say-about-the-real-impact-of-rins-on-u/>

*additional* option at the pump (i.e. if consumers do not want to use it, they do not have to). This discourages the utilization of pump infrastructure for marketing and selling of E15. Another very simple and inexpensive way to further promote the goals of the RFS is to incent the production of Flex Fuel Vehicles (FFVs). Ensuring that every new car manufactured in the U.S. is an FFV would cost consumers next to nothing, but would open up new frontiers for the advanced ethanol industry. This is just one example applicable to ethanol, but it is important to understand that all petroleum alternatives currently face the challenge of having to go through their competitors to reach consumers. Regulatory agencies must be careful not to make market access more challenging.

It is both an exciting and challenging time for the cellulosic biofuels industry and the advanced biofuel industry as a whole. The technology is commercial ready and the industry is deploying at commercial scale. We are embarking on the process of securing efficiencies that can only be achieved via commercialization (i.e. the “experience curve”) and economies of scale. When the corn ethanol industry started building plants, their production costs exceeded their feedstock costs by a large margin. However, corn ethanol producers have reduced their production costs by roughly 60 percent since the first commercial plants were built in the 1980s. Likewise, some solar companies have seen a similar 60-70% production cost reduction in just the last ten years, as capacity has increased significantly. The U.S. is in position to lead the world when it comes to the development of advanced, low carbon biofuels. And yet, we face as much policy uncertainty as we ever have before, almost always generated by fabricated claims about renewable fuels and the RFS. Incumbents in the fuel energy space are going after our tax provisions, our farm bill programs, and of course, the RFS. It is important to understand that this is happening because of the effectiveness, rather than ineffectiveness, of these programs to drive consumer choice at the pump.

We very much appreciate the opportunity today to highlight the fact that advanced biofuels are emerging, that renewable fuels are creating jobs and driving pump prices down, and efforts to undercut biofuel programs are occurring because these programs are working, not vice-versa.

Thank you for the privilege of speaking before you today. I look forward to your questions. We have attached some information below to shed light on much of the misinformation associated with implementation of the RFS. Thank you.

**ATTACHED:**

**Attachment A: Easy Answers to a Number of Complex Allegations Made Against Biofuels**

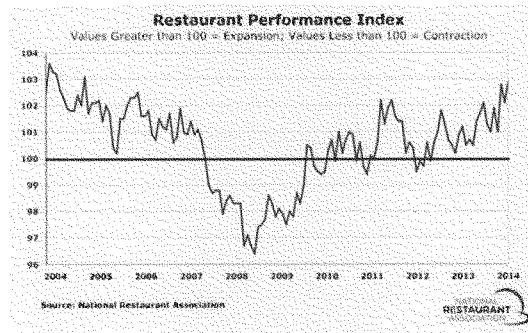
**Attachment B: Further Analysis of Gas Price Impact of the RFS**

## Attachment A

## Easy Answers to a Number of Complex Allegations Made Against Biofuels

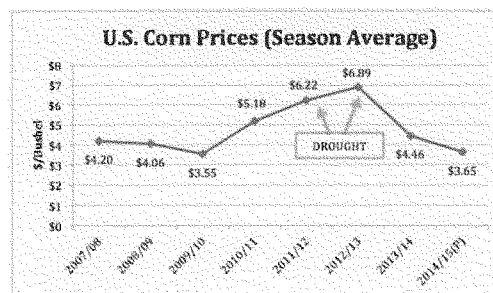
## 1. "Restaurants and the broader food industry are hurting as a result of the RFS."

The restaurant industry is not hurting. Chain restaurants, which are outspoken against the RFS, are actually posting some of the best returns in a decade (with the RFS in place).



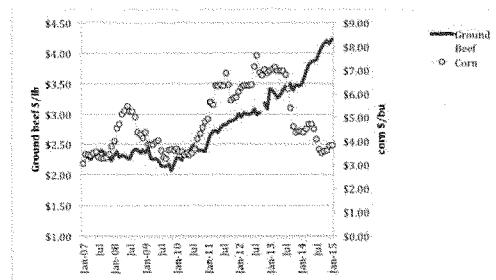
## 2. "Biofuel programs increase feed prices and hurt the livestock industry."

Corn prices today are lower than corn prices on the day that President Bush signed RFS2 in December 2007. And it does not appear that livestock is suffering. The gross farm value of livestock, dairy and poultry production has increased from an average of \$123 billion per year before passage of the RFS to roughly \$148 billion per year since 2008. The average profit margin for livestock and poultry values over purchased feed costs has increased by nearly \$6 billion per year on average.



If livestock products like beef are so affected by the RFS and corn prices, why then is the price of beef not coming down with corn prices?

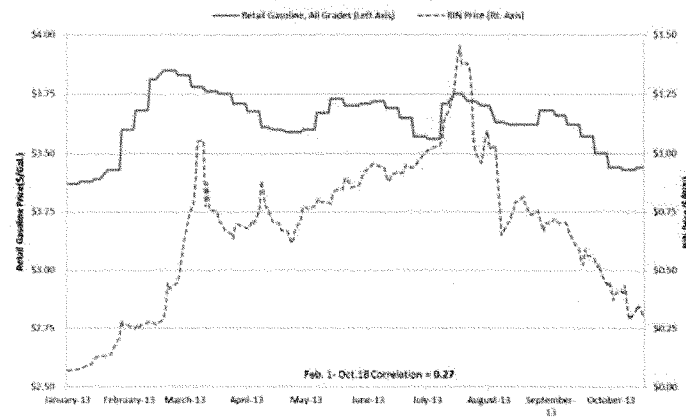
**Corn Price vs. Ground Beef**



3. "The 2013 RFS-RIN price spike showed that the RFS is a liability when it comes to gas prices"

Higher RIN prices do not increase gas prices. Many oil companies are now on record on earnings calls attesting to the fact that they are the ones *profiting* from higher RIN values, because they get the RIN for free when they buy a gallon of renewable fuel and can sell it to other obligated parties.<sup>34</sup>

**2013 Weekly Retail Gasoline Prices and Daily RIN Prices**

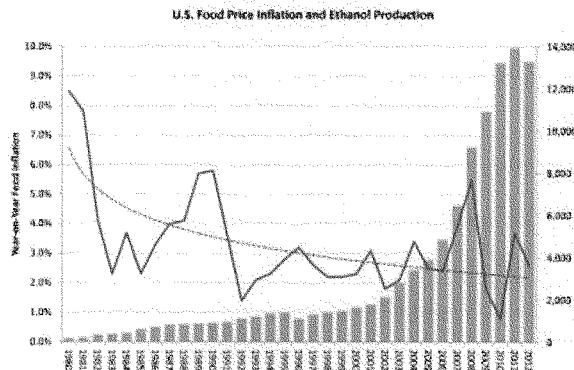


Source: EIA, OPIS

<sup>34</sup> See: <http://www.fuelsamerica.org/blog/entry/something-funny-about-those-oil-company-profits>

4. "Biofuels have increased food prices in the grocery aisle."

Grocery aisle food prices are not increasing, and they are decreasing *against* increases in ethanol use.

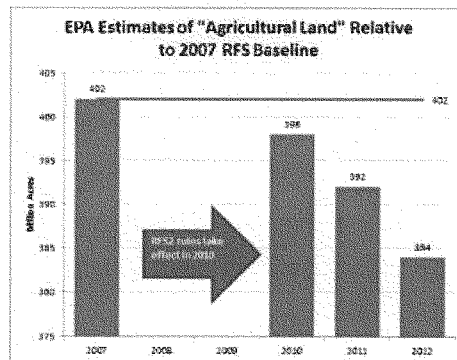


5. "E15 is a threat to boaters and small engines."

E15 is an option at the pump, as opposed to the new baseline fuel, and small engines and boats are not approved to use E15. Boaters and small engine users can simply fill up with other fuel to avoid higher ethanol blends.

6. "The increased use of biofuels has resulted in the plowing of virgin and pristine land."

The national agricultural footprint is not expanding, it's contracting due to efficiency gains.



Update: Total cropland was 336 million acres in 2013 and 340 million acres in 2014 (USDA, 2015)



There is always some regional variation with regard to agricultural land use, but recent allegations about prairie conversion are misleading:

- Critics of the RFS point to reduced acreage in the Conservation Reserve Program (CRP), but acreage in the program went down commensurate with the funding cut in the 2008 farm bill.
- Allegations about “15 million more corn acres planted” are true, but should be considered relative to the more than 20 million acres of wheat taken out of production during the same period. Crops are generally rotating, not expanding.
- Wheat acres dropped more than corn acres increased in the specific states that the Associated Press claimed were using pristine lands for corn ethanol production.

#### 7. “Biofuels do not decrease climate change emissions.”

The vast majority of independent analysis (not funded by or associated with the oil industry) confirms that most types of first and second generation biofuels reduce climate change emissions, including analysis conducted by U.S. EPA, the California Air Resources Board, the U.S. Department of Energy and top energy labs such as Argonne and Oak Ridge.

**Latest Well-to-Wheels Greenhouse Gas Emissions Reduction  
Relative to Average Petroleum Gasoline**

| WTW GHG emission reductions | Corn            | Sugarcane       | Corn stover      | Switchgrass     | Miscanthus         |
|-----------------------------|-----------------|-----------------|------------------|-----------------|--------------------|
| Including LUC emissions     | 19–48%<br>(34%) | 40–62%<br>(51%) | 90–103%<br>(96%) | 77–97%<br>(88%) | 101–115%<br>(108%) |
| Excluding LUC emissions     | 29–57%<br>(44%) | 66–71%<br>(68%) | 89–102%<br>(94%) | 79–98%<br>(89%) | 88–102%<br>(95%)   |

Source: DOE Argonne National Laboratory<sup>35</sup>

There are very few studies claiming that biofuels increase carbon emissions. These studies are often oil industry funded or associated with a group funded by the oil industry, and/or rely on questionable assumptions unsupported by the mainstream scientific community.

For example, the “Science” analysis used in recent oil industry television commercials is one conducted in 2008 by an analyst then affiliated with the German Marshall Fund and now affiliated with the World Resources Institute – both oil industry funded groups. The analysis drives a large land use carbon penalty by assuming in the modeling that the U.S. uses *double* the corn ethanol ever required by the RFS. The work is not part of the conversation anymore when it comes to accurate carbon accounting – as higher resolution, independent work has essentially debunked the report.

<sup>35</sup> See [http://iopscience.iop.org/1748-9326/7/4/045905/pdf/1748-9326\\_7\\_4\\_045905.pdf](http://iopscience.iop.org/1748-9326/7/4/045905/pdf/1748-9326_7_4_045905.pdf)

## Attachment B

### Further Analysis of Gas Price Impact of the RFS

The focal point of the oil industry's attempt to escape their obligations under the RFS is to cast their willful non-compliance with the law as involuntary (i.e. because of the blend wall) and in the interest of protecting consumers (i.e. because higher RIN prices are a "cost of compliance" that will be passed on to consumers). These arguments are not based in fact.

With regard to the ability to blend more renewable fuels, obligated parties can blend more E15 (15% ethanol by content; a high-octane premium fuel approved by EPA for use in two-thirds of the vehicles on the road today), E85 (85% ethanol by content), biodiesel (most engines are warranted to handle higher biodiesel blends), and/or more renewable diesel. With specific regard to E85, there are enough "flex fuel" vehicles on the road to consume at least 3 billion additional gallons of ethanol if, according to independent analysis, price per mile costs aligned with E10.<sup>36</sup> As discussed, market conditions and higher D6 RIN prices (which happened as a result of the oil industry's affirmative decision not to blend more E85 and E15 notwithstanding the lower price of ethanol) combined to allow E85 prices to be significantly below the wholesale cost of gasoline (including the energy density adjustment). If the underlying question at hand relates to the cost of enforcing the RFS as designed, which we suspect it is, the administration should be reaffirming its commitment to the RFS to save consumers money.

EPA now acknowledges that high RIN prices do not increase gas prices. In a recent memorandum on the subject, EPA states that "the RIN market seems to be functioning generally as expected; providing an incentive for the continued growth of renewable fuels in the transportation fuel market *without causing overall increases to the retail price of transportation fuel.*"<sup>37</sup>

As discussed in the EPA memorandum, the RFS basically imposes two realities on the marketplace: (1) the potential cost of paying for RINs if obligated parties choose not to blend more renewable fuel; and, (2) the cost or savings of the qualifying renewable fuel required by the program. Looking at RINs first, higher RIN prices are not costing the American consumer money because RINs enter the marketplace free of charge. For example, a D6 "conventional renewable fuel" RIN is generated with every gallon of renewable fuel produced, and cannot be separated for sale by the renewable fuel producer. RINs are separated for sale *by obligated parties*, so the profit from sale (or cost incurred from purchase) exists within the oil industry. This is why so many oil companies are now on record on earnings calls attesting to the fact that they were the ones *profiting* from higher RIN values in 2013.<sup>38</sup> It is also the reason why no correlation could be found between gas prices and RIN prices during the critical period in 2013 when RIN prices appeared to cause the Obama Administration to change its stance on the RFS. See next page.

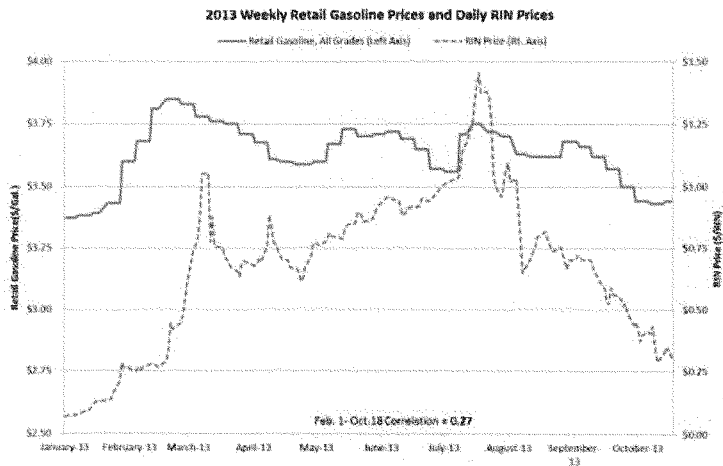
<sup>36</sup> See <http://www.card.iastate.edu/publications/dbs/pdf/13pb15.pdf>

<sup>37</sup> Burkholder, Dallas. "A Preliminary Assessment of RIN Market Dynamics, RIN Prices, and Their Effects," U.S. EPA-Office of Transportation and Air Quality (May 14, 2015). Available at: <http://www.regulations.gov/#/documentDetail;D=EPA-HQ-OAR-2015-0111-0062>

<sup>38</sup> For summary of oil companies RIN profits, see: <http://www.fuelsamerica.org/blog/entry/something-funny-about-those-oil-company-profits>.

## Examples of Oil Industry Earnings Call Statements Regarding RINs

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>American Petroleum Institute</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | The Mirage: Says its members are getting hit by high RIN prices, the costs of which are being passed through to consumers at a rate of \$14 billion per year |
| <p>• "RIN prices are near an all-time high ... the RFS is a grave economic threat and must be stopped immediately."</p> <p>• Jack Gerard, testimony to Energy and Commerce Committee, July 2013</p>                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                              |
| <b>BP</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Says it has profited from RIN trading                                                                                                                        |
| <p>• "We're net long RINs. We've been able to trade into this spike recently and done quite well out of it. I'm very pleased about that."</p> <p>(<a href="http://www.reuters.com/article/2013/07/30/bp-rins-idUSL1N0G00XG20130730">http://www.reuters.com/article/2013/07/30/bp-rins-idUSL1N0G00XG20130730</a>)</p>                                                                                                                                                                                                    |                                                                                                                                                              |
| <b>ExxonMobil</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Says that the obligation to purchase RINs has not affected its earnings                                                                                      |
| <p>• "No, not at all."</p> <p>• David Rosenthal, Vice President of Investor Relations &amp; Secretary, when asked by an analyst if RINs had any material impact on ExxonMobil's quarterly financial performance (ExxonMobil 2nd Quarter Earnings Call, 8-1-2013)</p>                                                                                                                                                                                                                                                    |                                                                                                                                                              |
| <b>Murphy Oil</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Says it has profited from higher RIN prices                                                                                                                  |
| <p>• Murphy reported the increase in its refining/marketing income in the quarter was "...primarily due to better results for ethanol production operations and higher sales prices for ethanol renewable identification numbers (RINs) in the current period. ...Profit from ethanol RIN sales was higher in 2013 due to significantly stronger sales prices for these credits." (<a href="http://online.wsj.com/article/PR-CO-20130731-916461.html">http://online.wsj.com/article/PR-CO-20130731-916461.html</a>)</p> |                                                                                                                                                              |
| <b>Oil Industry Economist</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Philip K. Verleger says renewable fuels have saved consumers at least hundreds of billions                                                                   |
| <p>• "The US renewable fuels program has cut annual consumer expenditures in 2013 between \$700 billion and \$2.6 trillion. This translates to consumers paying between \$0.50 and \$1.50 per gallon less for gasoline." (<a href="http://www.pkverlegerllc.com/assets/documents/130923_Commentary1.pdf">http://www.pkverlegerllc.com/assets/documents/130923_Commentary1.pdf</a>)</p>                                                                                                                                  |                                                                                                                                                              |



Source: EIA, OPIS

With regard to the cost of the qualifying fuel, higher RIN prices have the practical effect of increasing the available supply of affordable liquid fuel during a period of tightness in the global supply of petroleum. As discussed, energy economist Philip K. Verleger (who served as an advisor on energy issues to both the Ford and Carter administrations) recently said, “the U.S. renewable fuels program has cut annual consumer expenditures in 2013 between \$700 billion and \$2.6 trillion ... [t]his translates to consumers paying between \$0.50 and \$1.50 per gallon less for gasoline.”<sup>39</sup> Verleger adds:

Just as only Richard Nixon could ironically break the US taboo on trading with China, only George W. Bush could have successfully introduced measures to drive down crude prices. These prices today are between **\$15 and \$40 per barrel lower** than they would be had Congress not endorsed his proposals to boost ethanol production and blending with gasoline. Today, the Bush measures ***add the equivalent of Ecuador’s crude oil output to the world market at a time of extreme tightness.*** – Oil economist Philip K. Verleger, Jr. (September 23, 2013)

Other assessments have reached a similar conclusion.<sup>40</sup> The most comprehensive is a paper published by former EPA contractor Bruce A. Babcock and Sebastien Pouliet from the Center for Agricultural and Rural Development (CARD), with support from the National Science Foundation, which seeks to “to provide a transparent economic analysis of the impact on consumer fuel prices from mandates that increase the consumption of ethanol;” or, more specifically, “to estimate the impact of RIN prices on the pump price of fuel.”<sup>41</sup> CARD has developed a model to predict a range of different market impacts occurring as a result of the RFS. Among other findings, the paper concluded that:

- “... feasible increases in the ethanol mandate in 2014 will cause a small *decline* in the price of E10 [the predominant blend of gasoline in the market today].”
- “... one of the costs that does not need to be considered is an increase in the pump price of fuel, because we show that the most likely outcome from increasing ethanol mandates is a drop in pump prices, not an increase.”
- “The oil industry continues to rely on their own commissioned study (NERA 2012) that predicts gasoline producers will have no choice but to cut domestic sales of gasoline to reduce their obligations under the RFS ... [t]he study’s conclusions – that expansion of ethanol mandates would cause severe damage to the economy – are simply not credible unless EPA were to ignore set mandates at such a high level that they literally could not be met regardless of the level of investment in new fueling infrastructure.”

<sup>39</sup> See [http://www.pkverlegerllc.com/assets/documents/130923\\_Commentary.pdf](http://www.pkverlegerllc.com/assets/documents/130923_Commentary.pdf).

<sup>40</sup> See, for example, Cui, J., H. Lapan, G. Moschini, and J. Cooper. (2010). “Welfare impacts of Alternative Biofuel and Energy Policies.” *American Journal of Agricultural Economics* 93(5): 1235-1256.

<sup>41</sup> See <http://www.card.iastate.edu/publications/dbs/pdf/14pb18.pdf> at p. 5.

- “Our results should reassure those in Congress and the Administration who are worried that following the RFS commitment to expanding the use of renewable fuels will result in sharply higher fuel prices for consumers.”
- “The reason the oil industry and much of the livestock industry have joined forces against biofuels is one of simple industry economics: their industries would benefit from cheap corn and reduced competition from ethanol.”

There are numerous other examples of detailed analysis of the effect of RIN prices on gas prices:

- Irwin & Good of the University of Illinois examined 2012-2013 prices for CBOB, ethanol and D6 RINs to determine the impact of rising RIN prices on retail gasoline prices.<sup>42</sup> They found that “the basic zero sum nature of relationships in the supply chain and recent price trends for CBOB blendstock and ethanol suggests that the impact, if any, has likely been small, at most a few cents.”
- In a May 2015 update to a 2014 study, Informa Economics (Attachment 4) concluded that, “Changes in prices of renewable identification numbers (RINs) did not cause changes in retail gasoline prices from 2013 through the first quarter of 2015.”<sup>43</sup>
- Analysis by economists at Iowa State University found that “the most likely outcome from increasing ethanol mandates is a drop in pump prices, not an increase.”<sup>44</sup> Further, they concluded, “Many in the oil industry have used the specter of higher pump prices to argue against increased mandates. ...These findings show that concern about the consumer price of fuel do not justify a reduction in feasible ethanol mandates.”
- Retired Yale and Calgary professor Philip Verleger conducted an economic study that concluded the “RIN price impact on retail prices is small and transient.”<sup>45</sup> He found that competition in the gasoline supply chain tends to diminish any price increases when refiners or blenders tried to embed the RIN price into E10 prices.
- EIA confirmed the absence of any connection between RIN prices and retail gasoline prices, stating: “To date, there is no evidence that retail gasoline prices have been affected by high RIN prices. While the cost of refined gasoline blendstock can be affected by high RIN prices, the increased cost to gasoline blenders is almost exactly offset in 2013 by their increased

<sup>42</sup> Irwin, S. & D. Good (Mar. 2013), “High Gasoline and Ethanol RINs Prices: Is There a Connection?” Link:

<http://farmdocdaily.illinois.edu/2013/03/high-gasoline-ethanol-rins-prices.html>

<sup>43</sup> Informa Economics, Inc. (May 2015), “Analysis of Whether the Prices of Renewable Fuel Standard RINs Have Affected Retail Gasoline Prices.” Link: [http://ethanolrfa.3cdn.net/f1c5d9a9ac9743e9f8\\_csm6bcb8e.pdf](http://ethanolrfa.3cdn.net/f1c5d9a9ac9743e9f8_csm6bcb8e.pdf)

<sup>44</sup> Pouliot, S. and B.A. Babcock (Jan. 2014). Center for Agricultural and Rural Development (CARD); Iowa State University. “Impact of Increased Ethanol Mandates on Prices at the Pump.” CARD Policy Brief 14-PB 18. Link:

<http://www.card.iastate.edu/publications/synopsis.aspx?id=1218>

<sup>45</sup> Verleger, P.K., Jr. (Jan. 2014), “The Renewable Fuel Standard: How Markets Can Knock Down Walls.” Link:

<http://www.pkverlegerilc.com/publications/papers/the-renewable-fuel-standard-how-markets-can-knock-down-walls-january-2014-1162/>

revenue generated from the sales of RINs separated when they blend ethanol into gasoline.”<sup>46</sup>

- A former member of President Obama’s Council of Economic Advisers, who took part in the interagency review of the original 2014 RVO proposal, recently found that “...the price of E10 does not vary with RIN prices...” and that RIN prices actually serve to “...decreas[e] the price of fuels with high renewable content (like E85).”<sup>47</sup>

On the critical issue of cost, irrespective of its statutory relevance with regard to EPA’s proposal, it is clear that the RFS is engineered to achieve its objectives without increasing pump prices in the immediate term. The program is already creating – and will continue to facilitate – more systemic consumer benefits via its profound impact on reducing foreign oil dependence. Weakening the RFS, on the other hand, will cost consumers at the pump by tightening global liquid fuel supplies, reducing the availability of a cost reductive renewable fuel and exacerbating the impact of speculation.

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<sup>46</sup> Presentation by Mindi Farber-DeAnda, EIA Office of Petroleum, Natural Gas, and Biofuels Analysis to Advanced Biofuels Association (Nov. 20, 2013). Washington, D.C.

<sup>47</sup> Stock, James H. (April 2015). Columbia SIPA Center on Global Energy Policy. “The Renewable Fuel Standard: A Path Forward.” Available at: [http://energypolicy.columbia.edu/sites/default/files/energy/Renewable%20Fuel%20Standard\\_A%20Path%20Forward\\_April%202015.pdf](http://energypolicy.columbia.edu/sites/default/files/energy/Renewable%20Fuel%20Standard_A%20Path%20Forward_April%202015.pdf)

Mr. WHITFIELD. Thank you very much, Mr. Coleman. And our next witness is Mr. Collin O'Mara, who is the President and CEO of the National Wildlife Federation. Thanks for being with us. You are recognized for 5 minutes.

#### STATEMENT OF COLLIN O'MARA

Mr. O'MARA. Thank you, Mr. Chairman, Vice Chairman Olson, and Mr. Tonko. Thank you for having a wildlife voice on this panel and a sportsman voice on this panel. When this law was debated in 2007 there wasn't much conversation about land use, and as I travel the country I keep having that Toby Keith song in my head, "I wish I didn't know now what I didn't know then." There is a lot that we didn't know in 2007 about land use.

There is a study by the United States Department of Agriculture that said that more than eight million acres that were not in production that were in some kind of habitat are now in production, and a big chunk of that is because of the RFS. There is just a study from the University of Wisconsin that said that 7.4 million acres of habitat has gone into production.

Sixty seven percent of that land is marginal. These are things like grassland prairies. These are things like, some wetlands and some forest land. And there are a lot of factors for this, but one of the big reasons is this massive drive towards ethanol. Ethanol production in terms of the total kind of all of the supply of corn that is being produced went from nine percent going towards ethanol before the RFS to 40 percent today. So you are seeing a big demand.

And farmers are rational. I mean, I grew up in a farming community in Upstate New York. If there is a profit there they should go there, but it is an artificial one that is being created by government and once again wildlife and sportsmen are the ones that lose.

Seventy seven percent of these eight million acres that both USDA and University of Wisconsin have identified are grasslands. And these are incredibly important lands. I mean, you have had conversations before this committee and others around the imperiled sage grouse, around the meadowlark. I mean, things that you are hearing are having kind of precipitous declines. We are losing habitat at a pretty alarming rate.

Pheasant numbers right now in a whole lot of states are down. They had a million, a million birds were shot in Iowa before the RFS. There are about 100,000 now. Again there are many factors, but the drive for more and more corn on the ground is a big one of those and again wildlife and sportsmen end up losing.

If you only take one thing away from my testimony today it is that we have to better understand these land use impacts and the water implications. You know, if you look at, if you look right now we have lost more than a million acres, 1.6 million acres of native grasslands from 2008 until today, and that is bigger than my home state of Delaware. I mean that is a lot of land. And when you start thinking about those uses it gets kind of scary when these volumes continue to go up.

There was a commitment that this Congress made when we were debating this policy originally that there would be no, kind of no lands that weren't in production before 2007 would be affected by

this policy, and unfortunately though EPA has never upheld their end of the bargain.

They use something that they call aggregate compliance and so they basically look at all the acres across the entire country including those that are in the Conservation Reserve Program. They look at all these acres and they see whether or not there is any kind of impact. They don't know whether there is forest being lost in Wisconsin or Minnesota. They don't know whether there is wetlands being lost in the Prairie Potholes. They don't know whether there is kind of impacts in Nebraska or Iowa and the grasslands. And again wildlife loses over and over again.

I would also like to talk about water, because one of the things that happens when you put more and more corn in production you have folks switching from other crops to corn, corn is pretty hard on soils. You need a lot of fertilizer to grow corn. And what ends up happening is as you have more and more precipitation you have that water then wash those nutrients into the waterways and all of sudden then you get these big algal blooms.

Again you have seen record algal blooms. I was with Mr. Latta in his district up on Lake Erie. You know, you had algal bloom in the state of Ohio, in Toledo that had a half a million people not able to drink water for 3 days. Now when you put more and more kind of corn on the landscape and you take these acres of grasses or wetlands or forest out of habitat into production, you lose that value for them to bring up those nutrients. And so this wasn't supposed to happen. I mean there is very clear language that EPA is supposed to take action if there is any kind of economic or environmental harm. They haven't been doing this because of this compliance approach.

And so we have three recommendations that we hope the committee will consider. The first one is that—Mr. Welch brought this up earlier, we really need to demand the Triennial Report. Now there was a report in 2011 that said that the impacts would be very inconsequential on the landscape, it is just not true. We have verified from academic institutions—and I have no economic stake in this. I just want good hunting. I just want good fishing, good birding. I want to make sure that we have enough wildlife to pass on to our kids. So the first thing, we need that report because what it is going to show is that we have lost a lot of acres of habitat.

The second thing is that we have to have EPA follow the law. And you heard today when folks talk about the environmental consequences they only talk about air. You have heard it from EPA today, you have heard it from other people on this panel. They don't talk about the land use and the water implications. We need to look at all of those. And frankly we need to get that right now, because as you have billions of gallons of advanced biofuels coming onto the landscape we need to make sure that is also not taking more and more land away from hunters, anglers, and wildlife.

And then the third thing is that we need to make the RFS as a statute much more wildlife friendly. We need to make sure we get rid of this aggregate compliance mechanism where they look at the total land instead of looking at the individual lands that are being converted for crops. We need to accurately assess the impacts on wildlife. We need to make sure that we are moving the number



below the blend wall because we see when we are above that we are losing too much land for wildlife.

And also there is other policies, things like the Conservation Reserve Program that has been cut, things like the North American Wetlands Conservation Act, other subsidies, other conservation programs that we cut that now some folks say is a good thing. The problem is when you cut those things all of a sudden farmers want to put their land into production instead of keeping it for habitat.

So again we have kind of met the enemy and he is us in this case. This was a government-created crisis in many ways. Thank you.

[The prepared statement of Collin O'Mara follows:]

**Statement of Collin O'Mara**

**President and CEO, National Wildlife Federation**

**Before the House Energy and Commerce Committee, Subcommittee on Energy and Power**

**Oversight Hearing on the Renewable Fuel Standard**

**Wednesday June 22, 2016**

Chairman Whitfield, Ranking Member Rush, Members of the Committee:

Thank you for the opportunity to testify before you today. My name is Collin O'Mara, and I serve as President and Chief Executive Officer of the National Wildlife Federation, the nation's largest conservation organization with more than 6 million members and supporters and fifty state and territorial affiliates, representing hunters and anglers, birders and gardeners, and outdoor enthusiasts from across America. Our mission is to unite all Americans to ensure wildlife thrive in a rapidly changing world—and we work collaboratively to conserve habitat and waterways, promote our outdoor heritage, and connect the next generation with nature.

In 2007, Congress passed the Renewable Fuel Standard with good intentions: reducing dependence on fossil fuels, accelerating development of sustainable biofuels, and reducing greenhouse gas emissions.

Unfortunately, nine years later, there have been severe unintended consequences—large-scale loss of wildlife habitat (especially native grasslands) and degradation of water quality—and wildlife has borne the brunt of these impacts. These unintended consequences threaten some of our most beloved and rare wildlife species, including sage grouse, meadowlarks, longspurs, swift fox, and the monarch butterfly, as well as a range of fish and other aquatic life.

We applaud this Committee for evaluating the unintended consequences of this policy and whether it is time for changes.

From a wildlife perspective, the impacts of the current policy have been devastating. Everyone who hunts or goes birding to watch ducks, geese, or pheasants is alarmed at the loss of millions of acres of wetlands and attendant grasslands in the Prairie Pothole Region, where more than 60 percent of America's waterfowl breed and rear their young.<sup>1</sup>

Anyone who fishes for bass, walleye, trout, or any number of other species or who swims in water bodies fed by agricultural watersheds should be appalled by the decreased flows in some western streams from increased irrigation demands and the worsening water conditions and growing algal blooms caused by increases in farm runoff and the excess nutrients it carries. For example, harmful algal blooms have become an epidemic in Lake Erie – which was once the poster child for smart conservation due to environmental rebirth after being declared “dead” in the 1950's – forcing Toledo, Ohio, in 2014 to declare a drinking water emergency due to toxic algae overwhelming the city's water treatment capacity.<sup>2</sup>

And anyone who cares about iconic grassland species like the sage grouse, eastern and western meadowlark, swift fox, and the monarch butterfly should be alarmed that this energy policy has helped accelerate the destruction of our last remaining native prairies and the conversion of other important grasslands throughout farm country.

Recently, U.S. Geological Survey biologists announced that grassland birds and other species in the Northern Great Plains are reaching a “tipping point,” because of the significant acreage of grasslands lost to production. According to the report, between 2006 and 2011, North Dakota, South Dakota, Nebraska, Minnesota and Iowa lost more than 2,000 square miles of grassland – “a habitat loss rate

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<sup>1</sup> Doherty, K. E., Ryba, A. J., Stemler, C. L., Niemuth, N. D. & Meeks, W. A. Conservation planning in an era of change: state of the US Prairie Pothole Region. *Wildlife Society Bulletin* 37, 546-563 (2013).

<sup>2</sup> National Oceanic and Atmospheric Administration, *Experimental Lake Erie Harmful Algal Bloom Bulletin*. November, 2015. [http://www.glerl.noaa.gov/res/HABs\\_and\\_Hypoxia/lakeErieHABArchive/bulletin\\_2015-027.pdf](http://www.glerl.noaa.gov/res/HABs_and_Hypoxia/lakeErieHABArchive/bulletin_2015-027.pdf)

equal to that of high-profile deforestation rates in Brazil and Malaysia”<sup>34</sup> Further, “the McCown’s longspur, a bird once found throughout most of North Dakota, is now known only on a single 640-acre piece of land in the state’s southwest,” and pointed to steep declines as well in amphibians and pollinators.<sup>5</sup>

#### The RFS Has Unquestionably Accelerated Land Conversion and Habitat Loss

Unfortunately, most policy debate regarding the Renewable Fuels Standard does not take into account the wildlife and water consequences. With so many other issues related to the policy (many of which are being discussed here today)—fuel performance and efficiency, consumer choice and demand, national security, greenhouse gas emissions, and the competition between food and fuel crops, to name a few — it is easy to overlook the fact that numerous species and types of wildlife and the terrestrial and aquatic habitats and resources they depend on are being impacted. These impacts were foreseen, and more action could have been taken to avoid or mitigate them.

As the members of this committee well know, the vast majority of renewable fuel produced and blended to comply with the RFS to date (more than 97 percent) has been corn-based ethanol.<sup>6</sup> American farmers responded to the government-created market demand for corn in a big way. In 2007, the year Congress passed the Energy Independence and Security Act (EISA) that expanded the RFS, farmers reported to the U.S. Department of Agriculture (USDA) that they planted 91.1 million acres of corn. Five years later, as the number of ethanol plants continued to grow throughout rural America, farmers had increased their corn plantings to 94.1 million acres.<sup>7</sup> The portion of the U.S. corn crop devoted to

<sup>3</sup> Schuessler, Ryan. 2016. “The Enormous Threat to America’s Last Grasslands” Washington Post. June 16, 2016.

<sup>4</sup> Wright, C. K. & Wimberly, M. C. Recent land use change in the Western Corn Belt threatens grasslands and wetlands. *Proceedings of the National Academy of Sciences* **110**, 4134-4139 (2013).

<sup>5</sup> IBID

<sup>6</sup> Food and Agricultural Policy Research Institute. US Baseline Briefing Book: Projections for Agricultural and Biofuel Markets. (University of Missouri Columbia, MO, USA, 2015).

<sup>7</sup> USDA Farm Service Agency, Crop Acreage Data. <https://www.fsa.usda.gov/news-room/efoia/electronic-reading-room/frequently-requested-information/crop-acreage-data/index>

ethanol instead of other uses like food and animal feed rose from nine percent before the RFS, to about 40 percent.<sup>8</sup> In addition, soybeans, which often accompany corn in rotational planting and are also used to produce biodiesel (classified as an Advanced Biofuel under the RFS), increased even more dramatically, rising from 62.9 million acres in 2007 to 75.9 million acres in 2012. The growth in these two biofuel crops drove a rise in overall crop acreage among the major commodity crops of 8.1 million acres during the first five years of the RFS2.

These new acres of corn and soybean plantings came with a heavy price to wildlife habitats. Millions of acres of grassland habitat, one of the most endangered habitats in the world, was plowed under to make way for new fuel crops, or for other crops like wheat, which had been displaced by corn and soybeans elsewhere.

In the first comprehensive, nationwide assessment of land use change following implementation of the RFS, researchers at the University of Wisconsin looked at geospatial as well as crop and farm level data to paint a clear picture of the dramatic changes to the makeup of the rural landscape. They found that 7.3 million acres of land had been converted from non-cropland into crops between 2008 and 2012.<sup>9</sup> This is likely a significant underestimate of the total, since the study only included parcels of land 15 acres or larger. Adding in all the additional buffer strips, wind breaks, and roadsides that were plowed under to maximize production would bring that number very close to the 8 million acre increase reported to USDA for commodity crop plantings. Factoring in the 4.4 million acres that were abandoned during the study timeframe for various reasons, the overall net expansion totaled 2.9 million acres. This

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<sup>8</sup> USDA Economic Research Service, Corn Use Data. <http://www.ers.usda.gov/media/866543/cornusetable.html>

<sup>9</sup> Lark, T. J., Salmon, J. M. & Gibbs, H. K. Cropland expansion outpaces agricultural and biofuel policies in the United States. *Environmental Research Letters* 10, 044003 (2015).

number mirrors previous USDA estimates, including the Census of Agriculture 2007-2012, the National Agricultural Statistics Service survey, and the Natural Resources Inventory.<sup>10</sup>

The study identified agricultural conversion across the country, but pointed to certain hotspots, including the Dakotas, along the Iowa-Missouri border, and in western Kansas, Oklahoma, and the Texas panhandle. Non-traditional regions for agriculture represented a so-called “new frontier” in places like the western Plains from South Dakota to New Mexico, the edge of the forests in Minnesota and Wisconsin, and in the Appalachian piedmont. Disturbingly, the majority (67%) of new cropland was on lands considered marginal or unsuited for cultivation by the Natural Resources Conservation Service, and these new croplands were twice as likely as existing croplands to be on the poorest quality land. The expansions is also pushing cropping into more arid lands requiring heavy irrigation, while ethanol refineries consume very large volumes of water, adding additional stress to areas already burdened with declining aquifers and water storage and insufficient in stream flows.

Grasslands were the source of the vast majority of these newly converted lands, accounting for 77 percent of the total. This category included pasture and grazing land, grasslands coming out of the federal Conservation Reserve Program, and unutilized mixed grasses. More than a quarter of these grasslands, fully 1.6 million acres – an area the size of the state of Delaware -- came from grasslands that had not been plowed or developed for at least 20 years, many of them constituting native prairie that had never been disturbed before. The direct carbon release from these conversions alone is likely close to 87 MMT CO<sub>2</sub>e—equivalent to one year’s emissions from 23 coal-fired power plants or an additional 14 million cars on the road. Native prairie ecosystems are hot beds of biodiversity, huge sinks of carbon storage underground, and also rapidly disappearing.<sup>11</sup> Grasslands are perhaps our nation’s most

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<sup>10</sup> U.S. Department of Agriculture. Summary Report: 2010 National Resources Inventory (2013). [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb1167354.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1167354.pdf)

<sup>11</sup> Samson, F. B., Knopf, F. L. & Ostlie, W. R. Great Plains ecosystems: past, present, and future. *Wildlife Society Bulletin* 32, 6-15 (2004).

endangered ecosystems, even prior to the RFS era, with less than one percent of historic tall-grass prairies and 30 percent of mixed-grass prairies remaining.<sup>12</sup> With such precious little undisturbed prairie remaining, even small losses to agriculture have an outsized importance in terms of biodiversity and carbon release.

Grasslands, however, were not the only habitats converted to agriculture during this time. The Wisconsin study found forest lands accounting for three percent of the conversions, occurring largely in Minnesota, western Appalachia, and in Georgia. Wetland losses, accounting for an additional 2 percent of the conversion were centered in the Dakotas and Minnesota.

The Wisconsin study builds on previous studies and anecdotal evidence to paint a portrait of land conversion that touches every region of the country, but is concentrated in the heartland, and that disproportionately impacted our most imperiled grassland ecosystems. At the same time, the researchers looked at the results of this conversion to assign “responsibility” for the land use change. Since corn was the dominant crop planted on newly converted land, and it was the largest indirect contributor to change through its displacement of other crops, it was ascribed the majority (52 percent) of the responsibility for the conversion.

A study published just this year by researchers at USDA’s Economic Research Service more explicitly linked agricultural expansion to ethanol production. That study, published in February, showed that additional ethanol refinery capacity in a given location led to meaningful increases in both planted corn acreage and total agricultural acreage within 100 km of that location. The greatest impact was seen in areas with little previously existing agriculture, meaning that ethanol production was directly tied to the conversion of non-agricultural land.<sup>13</sup>

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<sup>12</sup> Dahl, T.E. 2014. Status and trends of prairie wetlands in the United States 1997 to 2009. U.S. Department of the Interior; Fish and Wildlife Service, Ecological Services, Washington, D.C.

<sup>13</sup> Motamed, M., McPhail, L. & Williams, R. Corn Area Response to Local Ethanol Markets in the United States: A Grid Cell Level Analysis. American Journal of Agricultural Economics, aav095 (2016).

Land Use Change and Agricultural Expansion Have Enormous Impacts on Water

These vast changes to the landscape have dramatic impacts even beyond terrestrial ecosystems and the wildlife species that depend on them. It is well documented that farm runoff constitutes a major challenge to achieving water quality goals, particularly in places like the Chesapeake Bay, the Gulf of Mexico, and, increasingly, in the Great Lakes.<sup>14 15</sup>

Corn, in particular, requires high nutrient inputs in the form of chemical or manure fertilizers, and these nutrients, without proper conservation measures, readily run off during spring rains and flow into waterways. Compared to other biofuel crops, including soybeans and perennial grasses, corn has the highest level of application of nutrients (fertilizer and pesticides), resulting in higher runoff from fields.<sup>16</sup> Scientific modeling has predicted that switching from other crops to corn, as we have seen happen extensively in the wake of the RFS, results in 42 percent more sediment outflow from farm fields, and switching from pasture to corn increases sediment loads by up to 127 percent.<sup>17</sup>

As farmers have taken land out of conservation and removed grass and forest buffer strips, planting ever closer to waterways in order to maximize their production, our waters have lost much of the natural filtration capacity that would help keep sediment, nutrients, and other pollutants out of streams, rivers, and lakes. The effects of a changing climate have exacerbated the problem by producing more intense rain storms, particularly in the spring when farmers are applying nutrients for the coming growing season. These storms wash the fertilizer away along with the topsoil.

<sup>14</sup> Donner, S. D. & Kucharik, C. J. Corn-based ethanol production compromises goal of reducing nitrogen export by the Mississippi River. *Proceedings of the National Academy of Sciences* **105**, 4513-4518 (2008).

<sup>15</sup> Chesapeake Bay Program. <http://www.chesapeakebay.net/issues/issue/agriculture#inline>

<sup>16</sup> National Research Council & Committee on Economic and Environmental Impacts of Increasing Biofuels Production. *Renewable fuel standard: potential economic and environmental effects of US biofuel policy*. (National Academies Press, 2011).

<sup>17</sup> Shao, Y., Lunetta, R. S., Macpherson, A. J., Luo, J. & Chen, G. Assessing sediment yield for selected watersheds in the Laurentian great lakes basin under future agricultural scenarios. *Environmental management* **51**, 59-69 (2013).



Lake Erie has become the unfortunate poster child for what intensifying agricultural production can do to degrade our waters. Toxic algal blooms have exploded in the western and central parts of the lake since 2007, with last year's being the largest on record. This uncontrolled algae growth is fed by the nutrients running off of farm fields, flowing from municipal water treatment plants, and being deposited from the air in greater amounts thanks to airborne pollution made worse by climate change.

These harmful algal blooms are not only unpleasant to look at; they are an environmental, economic, and public health disaster. Deprived of oxygen due to decaying algae, other marine life must migrate to other waters or suffocate. As a result, Lake Erie's thriving tourism industry and angling community have been hit extremely hard, losing unrecoverable income during the height of the summer fishing and recreation season. What's more, these blooms have produced the dangerous microcystis algae that produce a toxin that makes water dangerous for drinking, swimming, and bathing. In 2014, Toledo ordered its citizens not to use municipal water at all for three days due to levels 1,000 times the safe amount. At this level, the toxins in the water would cause illness affecting the liver, nervous system and skin. In response to this rising green tide, Ohio last year implemented a new law placing modest restrictions on the application of manure and chemical fertilizers to fields in order to control the flow of nutrients. Notably, this law was supported by both the Ohio Farm Bureau and Ohio Farmer's Union.<sup>18</sup> It will not be sufficient, however, to address the problem of nutrient pollution.

And it's not just the Great Lakes. States across the country have had to develop protocols and procedures for how to track and issue advisories when there is the presence of toxins from harmful algal blooms for drinking water and also for recreational contact with HAB-contaminated waters. Swimming, skiing, tubing and other water activities pose significant risk when there is a harmful algal bloom. Breathing aerosolized water droplets (misting) of contaminated waters is a health risk affecting all of the boating industry.

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<sup>18</sup> <http://www.farmanddairy.com/news/house-approves-new-rules-applying-manure-ohio/228086.html>

The National Wildlife Federation has long been a strong supporter of voluntary conservation programs to help farmers better manage nutrient and sediment losses, improve soil health and profitability, decrease drought risk, and create and maintain wildlife habitat. It is unfortunate that a federal energy mandate has not only exacerbated the underlying problems which these voluntary programs were created to address, but also has contributed to additional layers of regulation placed on farmers and ranchers.

This Was Not Supposed to Happen

When the RFS was expanded in EISA in 2007, the National Wildlife Federation and others who were worried about what the drive for more corn would mean on the landscape persuaded the law's authors here in Congress to include a provision aimed at preventing the widespread conversion of non-agricultural land in order to meet the mandate. To address this concern, the new law defined acceptable biofuels for use under the mandate as those coming from crops grown only on land in agricultural production before 2007. Thus, ethanol produced from corn or biodiesel produced from soybeans grown on land converted into agricultural production after 2007 should not be able to meet an obligated party's blending requirements under the law.

Unfortunately, the EPA has failed to implement the law as written, implementing this provision in such a way as to make it utterly meaningless. Because tracking the flow of corn from individual farms to ethanol refineries would be difficult, the EPA chose to take what it has termed an "aggregate compliance" approach. The agency worked with USDA to identify a baseline number of agricultural acres across the country. This number, problematically, includes all of the land enrolled in the Conservation Reserve Program – even though this is land set aside for conservation benefits, much of it is not prime agricultural land, and some of it has not been farmed for 20 or more years – some grazing lands, and other land not in crop production as of 2007. The EPA then compares annual cropland against this

baseline to see if it has been exceeded, in which case the agency would implement stricter tracking and reporting requirements.

The aggregate compliance approach has been an abject failure in preventing the conversion of lands to meet the biofuel mandate, to say nothing of the indirect expansion that happened as corn displaced crops like wheat from existing agricultural lands. The aggregate approach does not account for agricultural land that is lost each year to development, nor does it account for regional and local variations. Clearly, the intent of Congress in placing a conversion prohibition in the law has not been realized, and sensitive ecosystems, beloved wildlife, and nourishing water bodies are all paying a price as a result.

Where do we go from here?

As this Committee, this Congress, and both the outgoing and eventually the incoming Administrations grapple with the unintended consequences of this far-reaching policy, there are important choices to be made. No major law is ever perfect in its construction or in its implementation. In many ways, the damage to the landscape that has already been fueled in part by the RFS cannot be undone. Native grassland areas will never be restored to their full diversity, even if taken out of agricultural production. Species that rely on these habitats, like the beloved and imperiled Monarch butterfly, may continue to decline. Forest parcels chopped down in the mania to grow corn will take generations to regrow.

But looking to the future, there are improvements that can be made, and mistakes that should not be repeated. In looking at the first eight years of the RFS2, we would like to offer some thoughts on the program's future.

First, Congress must demand the information required of EPA on the law's effects on our environment and natural resources. The EISA calls on the agency to report on these impacts every three years. EPA's First Triennial Report to Congress was not finalized until December of 2011, a full year later than

expected. It has been 4.5 years since that report, yet EPA has given no indication of when it will release its next report. At an absolute minimum, EPA must comply with the law.

The First Triennial produced a very thorough look at many of the issues discussed and brought to light in this testimony. It proclaimed, based on information largely gathered in 2009 and early 2010, that the expansion and intensification of corn agriculture had led to small but negative impacts on the landscape due to land conversion and water pollution.<sup>19</sup> It also warned that these impacts would likely intensify as the demand for corn ethanol grew in subsequent years. Repeating such a thorough assessment in the wake of higher ethanol demand and greater land conversion would paint the picture needed for Congress and the agency to fully understand the law's unintended consequences.

Second, EPA should use its annual rulemakings on volumetric obligations to lower the amount of conventional corn ethanol biofuels. The agency has finally started down that path with its obligation for the current year, set 500 million gallons below the statutory level of 15 billion gallons. For 2017, however, EPA's proposed rule would call for an increase to 14.8 billion gallons. In setting the level below the statutory level for these two years, EPA invokes its general waiver authority under the law, which allows for reductions when the agency determines "that implementation of the statutory volumes would severely harm the economy or environment of a State, region, or the United States, or if there is inadequate domestic supply [emphasis added]."<sup>20</sup>

EPA justifies the slight reduction in the total volume requirement in the 2016 final rule and the 2017 proposed rule on the inability of the fuel supply to absorb higher levels of ethanol through greater overall fuel consumption or greater demand for higher ethanol blends such as E85. Neither rule considers the environmental impacts of such high levels of corn production to produce the required

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<sup>19</sup> U.S. Environmental Protection Agency. 2011. Biofuels and the Environment: First Triennial Report to Congress. Office of Research and Development, National Center for Environmental Assessment, Washington, DC; EPA/600/R-10/183F.

<sup>20</sup> Clean Air Act §211(o)(7)(A)

renewable fuel volumes. An accurate assessment of the environmental impacts (habitat loss, impaired waters, etc.) warrants a reduction in next year's required volumes, not an increase. Already, this year's corn crop is predicted to be the largest since 2013, making it the third largest since 1944.<sup>21</sup> Additional signals that EPA intends to further raise the demand for corn will only increase the incentive for farmers to expand production beyond lands already under cultivation and set new records. Instead, EPA should reduce next year's required volumes below the "blend wall" to ameliorate the environmental damage being caused on the landscape by sending a market signal that the demand for corn ethanol is declining.

Rather than continue its reliance on first generation corn ethanol and soy biodiesel, EPA should take advantage of the volumetric restrictions imposed by the "blend wall" to favor increases in the advanced and cellulosic biofuels that have greater potential for greenhouse gas emission reductions while at the same time requiring fewer fertilizer and pesticide applications. These next generation feedstocks represent the future of the RFS, one envisioned by the law's Congressional authors. The inability of the market to develop these next generation fuels calls for greater support within the law compared to the already mature conventional biofuel industry.

That said, the RFS envisions as many as 21 billion gallons of these next generation fuels being produced by 2022, while only a tiny fraction of this amount is being produced today. Meeting the law's lofty ambitions – assuming that level of production could be assimilated into the fuel supply – would likely bring about the potential for another wave of agricultural expansion to grow new fuel crops such as switchgrass or miscanthus. The EPA must not allow this second wave to spread unchecked by continuing its aggregate compliance approach. Rather, it must recognize that the time has come to follow the law's intent and begin verifying that biofuels are not being produced from crops grown on land not in production prior to 2007. If major companies can identify the specific farms from which coffee beans in every bag they sell originated, or from which forests originated the lumber they sell in their stores or

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<sup>21</sup> USDA Prospective Plantings. <http://www.usda.gov/nass/PUBS/TODAYRPT/pspl0316.pdf>

that comprise their buildings, surely USDA and EPA can work together to track crops destined for ethanol refineries. If national level tracking is, in fact, too difficult, then intermediary approaches could be developed, such as focusing only on land in the most at-risk states or counties, or lands within a certain radius of ethanol plants. At a bare minimum, it should be easy to track the next generation of feedstocks since there is no other real market for crops like switchgrass that could muddy the chain of custody.

Finally, we encourage Congress to consider the full scope of the law and its impacts when evaluating proposed reforms. When the law was passed it was intended to diversify our fuel supply, stimulate next generation technology, transform struggling rural economies, and help combat climate change. Whether the law has achieved these results is now being questioned. What is unquestioned is the massive and devastating unintended consequences this law has had for wildlife and water. It is now time to honestly appraise what the law has achieved and where it has failed. What price have we paid for any benefits the law has bestowed?

Given EPA's failure to enforce the law, Congress should consider wildlife-friendly improvements to the RFS, including strengthening provisions intended to prevent the conversion of non-agricultural lands (including eliminating EPA's ability to use an "aggregate compliance" approach), requiring more accurate and more frequent assessment of wildlife and water impacts, and reducing volumetric requirements below the "blend wall." Further, Congress should restore funding for effective habitat conservation programs, like the Conservation Reserve Program, the North American Wetland Conservation Act, and other agricultural conservation programs, as well as revisit other policies that distort markets at the expense of wildlife and water. Coupling reforms with increased investments in conservation programs will keep farmers profitable and not penalize them for rationally responding to the market-distorting government policies passed by Congress.

We are confident that we can secure both a bright future for wildlife and have a thriving agricultural industry in America, but it will take smart, forward looking policies. This starts with acknowledging the massive unintended consequences for wildlife and water. Monarch butterflies, in order to recover from their precipitous decline, need milkweed and nectar plants found in native grasslands. If McCowan's Longspur is to return to habitat beyond its tiny remaining patch in North Dakota and if we are to keep other grassland bird species from hitting the tipping point from habitat loss, we need to stem further habitat losses and begin to recover some grassland habitats. And if we are going to turn back the green tide choking Lake Erie and other water bodies around the country, we need smarter agriculture and energy policies. Continuing to ignore these environmental impacts of the RFS in subservience to energy and agricultural purposes will doom the policy to failure. The National Wildlife Federation, its millions of hunters, anglers, birders, and outdoor enthusiasts, stand ready to assist in any way to find long-term solutions that will mean success for all of these goals, and for our shared wildlife and other natural resources.

Mr. WHITFIELD. Thank you, Mr. O'Mara.

And now our next witness is Ms. Anne Steckel who is Vice President of Federal Affairs for the National Biodiesel Board, and you are recognized for 5 minutes.

#### STATEMENT OF ANNE STECKEL

Ms. STECKEL. Chairman Whitfield, members of the committee, thank you so much for the opportunity today to testify on behalf of the thousands of employees working across the country in the biodiesel and renewable diesel industries.

My name is Anne Steckel, and I am vice president of Federal Affairs for the National Biodiesel Board. I am proud to represent the most successful advanced biofuel in America. In fact, biodiesel and renewable diesel are the unsung heroes of the RFS Advanced Biofuel Program. If you take away one thing from my testimony today I hope it is the following. While there are certainly areas that could be improved, the RFS has made a tremendous progress in developing advanced biofuels and delivering them to American consumers.

Biodiesel and renewable diesel have made up the vast majority of the advanced biofuels in the RFS including filling more than 90 percent in the category in the last 2 years. Last year alone, American consumers used nearly 2.1 billion gallons of biodiesel and renewable diesel. That is 2.1 with a B, out of an overall diesel market of about 60 billion gallons. As a result of the RFS many truck stops around the country today are selling biodiesel blends of 10 to 20 percent. In fact, with help from a state program the majority of diesel fuel in Illinois, also my home state, is sold with at least 11 percent biodiesel.

Biodiesel is a clean, renewable diesel alternative made from a wide variety of fats and oils including recycled cooking oil, soybean oil, and animal fats. Our industry has plants in nearly every state in the country, in big cities and rural communities along the east and west coasts and throughout the heartland. Every 100 million gallons of biodiesel production supports some 3,200 jobs.

According to the lifecycle analysis conducted by the EPA, biodiesel reduces greenhouse gas emissions by at least 57 percent and up to 86 percent. The California Air Resources Board and other institutions have made similar or even stronger findings.

Greenhouse gas emissions reductions, however, are just one of biodiesel's many environmental benefits. It also reduces waste in landfills, keeps oil and sludge out of sewer infrastructure, maximizes the efficient use of agricultural byproducts, and significantly cuts emissions of other air pollutants particularly air toxins.

Building new energy industries is no small endeavor. Taking a biodiesel industry that barely existed a decade ago and building it into a commercial scale enterprise is something we should all be proud of. U.S. biodiesel producers have made tremendous investments diversifying their feedstocks and increasing efficiency. There remains significant untapped production capacity on the ground today, and biodiesel producers across the country will tell you they stand ready to invest and expand and hire with strong, stable policy.



I would be remiss if I did not thank the EPA for getting this program back on track from a timing perspective. The stability provided by timely standards is very important. However, we continue to believe the agency is underestimating the volume of biodiesel that can be delivered.

First, it is important to remember that biomass-based diesel volumes are currently established under a different process than the other RFS categories. The law requires the EPA to set a minimum applicable volume for biomass-based diesel 14 months in advance. So the most recent RFS proposal covers biodiesel volumes 2 years from now in 2018, while covering 2017 volume for other fuel categories.

Under the pending proposal, the EPA would set a biomass-based diesel volume of 2.1 billion gallons for 2018. The industry looks on pace to exceed the volume this year and the EPA itself projects that we will see 2.5 billion gallons of biodiesel and renewable diesel in 2016 and 2.7 billion gallons in 2017.

The RFS is not a status quo policy. It was designed to drive investment and innovation. We believe EPA can and must implement the program to provide aggressive growth. Specifically, we are calling for the EPA to finalize a volume of at least 2.5 billion gallons for biomass-based diesel and set more aggressive goals for advanced biofuels.

I believe the reasons the RFS were initially created are as compelling today as they were then and that biodiesel is leading the nation in the transition to clean advanced biofuels. Strong biomass-based diesel and advanced biofuels programs in the RFS are critical to ensure that this success continues. Again I appreciate the opportunity to speak with you all today and would be happy to answer any questions you may have. Thank you.

[The prepared statement of Anne Steckel follows:]



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Written Statement of Anne Steckel  
Vice President of Federal Affairs, National Biodiesel Board

Energy and Commerce Committee  
Subcommittee on Energy and Power  
U.S. House of Representatives  
The Renewable Fuel Standard – Implementation Issues  
June 22, 2016

**Executive Summary:**

Biodiesel and renewable diesel are the leading Advanced Biofuels in the nation, delivering the vast majority of Advanced Biofuel production under the RFS to date, including more than 90 percent in the last two years.

Last year alone American consumers used nearly 2.1 billion gallons of biodiesel and renewable diesel. That's out of an overall diesel market of about 60 billion gallons. As a result of the RFS, many truck stops around the country are today selling biodiesel blends of 10 percent to 20 percent.

However, we continue to believe the EPA is underestimating the volume of biodiesel that can be delivered under the RFS. Under the pending proposal, the EPA would set a Biomass-based Diesel volume of 2.1 billion gallons *for 2018*. The industry looks on pace to exceed that volume *this year*, and the EPA itself projects that we will see 2.5 billion gallons of biodiesel and renewable diesel in 2016 and 2.7 billion gallons in 2017.

Biodiesel is a clean, renewable diesel alternative made from a wide variety of fats and oils, including recycled cooking oil, soybean oil and animal fats. Our industry has plants in nearly every state in the country – in big cities and rural communities, along the East and West Coasts and throughout the Heartland. Every 100 million gallons of biodiesel production supports some 3,200 jobs.

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**Testimony:**

Chairman Whitfield, Ranking Member Rush, members of the committee, thank you for the opportunity to testify today on behalf of the thousands of employees working across the country in the biodiesel and renewable diesel industries.

My name is Anne Steckel and I am Vice President of Federal Affairs for the National Biodiesel Board. I am proud to represent the most successful Advanced Biofuel in America. In fact, biodiesel and renewable diesel are the unsung heroes of the RFS Advanced Biofuel program. If you take away one thing from my testimony today, I hope it is the following – while there are certainly areas that could be improved, the RFS has made tremendous progress in developing Advanced Biofuels and delivering them to American consumers. Biodiesel and renewable diesel have made up the vast majority of Advanced Biofuels in the RFS, including filling more than 90 percent of the category in the last two years.

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According to the lifecycle analysis conducted by the Environmental Protection Agency, biodiesel reduces greenhouse gas emissions by at least 57 percent and up to 86 percent. The California Air Resources Board and other institutions have made similar or even stronger findings. Greenhouse gas emission reductions, however, are just one of biodiesel's many environmental benefits. It also reduces waste in landfills, keeps oil and sludge out of sewer infrastructure, maximizes the efficient use of agricultural byproducts, and significantly cuts emissions of other air pollutants, particularly air toxics.

Building new energy industries is no small endeavor. Taking a biodiesel industry that barely existed a decade ago and building it into a commercial-scale enterprise is something we should all be proud of. US biodiesel producers have made tremendous investments, diversifying their feedstock and increasing their efficiency. There remains significant untapped production capacity on the ground today, and biodiesel producers across the country will tell you they stand ready to invest and expand and hire with strong, stable policy.

I would be remiss if I did not thank the EPA for getting this program back on track from a timing perspective. The stability provided by timely standards is very important.

However, we continue to believe the agency is underestimating the volume of biodiesel that can be delivered. First, it's important to remember that Biomass-based Diesel volumes are currently established under a different process than other RFS categories. The law requires the EPA to set minimum applicable volume for biomass-based diesel fourteen months in advance. So the most recent RFS proposal covers biodiesel volumes *two years from now* – for 2018 – while covering 2017 volumes for other fuel categories.

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The RFS is not a status quo policy. It was designed to drive investment and innovation. We believe EPA can, and must, implement the program to provide aggressive growth. Specifically, we are calling for the EPA to finalize a volume of at least 2.5 billion gallons for Biomass-based Diesel and set more aggressive goals for Advanced Biofuels.

I believe the reasons the RFS was initially created are as compelling today as they were then, and that biodiesel is leading the nation in the transition to clean, Advanced Biofuels.

Strong Biomass-based Diesel and Advanced Biofuels programs in the RFS are critical to ensure that this success continues.

Again, I appreciate the opportunity to testify today and would be happy to answer any questions you might have.

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w w w . b i o d i e s e l . o r g

Mr. WHITFIELD. Thank you, Ms. Steckel.

And our next witness is Mr. Tim Columbus, who is the General Counsel for the National Association of Convenience Stores and Society of Independent Gasoline Marketers of America. So Mr. Columbus, welcome, and you are recognized for 5 minutes.

#### STATEMENT OF TIM COLUMBUS

Mr. COLUMBUS. Mr. Chairman, members of the committee, thank you. My name is Tim Columbus. I am a partner at Steptoe & Johnson and I am here today on behalf of our clients, the National Association of Convenience Stores and the Society of Independent Gasoline Marketers of America.

From what you have heard so far there seems to be some diversity of view as to the pros and cons of the Renewable Fuel Standard. My clients are the guys caught in the middle. They are caught in the middle between two major sources of supply for what they sell, and consumers and manufacturers.

I think it is important for the committee to understand that retailers of motor fuels are for the most part absolutely agnostic about what liquid motor fuels we sell. Our objective is to sell legal fuels in a lawful way to people who want to buy them. I will tell you that for the most part, not uniformly but for the most part, the retail segment of the marketplace has been served well by the RFS because it has in fact achieved one of the statutory objectives which was to broaden and diversify the fuel pool from which my clients purchase the products they sell to consumers. Now having said that let me move on to the proposal that EPA has put before you.

At the outset, my market segment along with others is deeply grateful to EPA for putting this out on time this year. We are very grateful for the recognition by EPA of the existence of a "blend wall." And I have heard some people talk about an ethanol blend wall. The way I would define blend wall is there is a lack of RINs. There is an inadequate number of RINs to satisfy the demand of the obligated parties for RINs.

And because of the characteristics of this program where an advanced biofuel RIN can be used to retire more than one renewable volume obligation, the fact that biodiesel RINs can be used not only for advanced biofuel but also to retire other such as corn ethanol obligations is an important thing for you all to keep in mind when you are talking about a blend wall. So the fact that the RVO for gasoline this year has something more than ten percent doesn't mean that will all be satisfied by ethanol.

For those who want bigger RVOs, I have to tell you that achievement of those numbers is going to be tough and we face as retailers two very significant problems. Number one is an infrastructure problem. As most of you know, under four percent of the retail outlets in the United States are owned or operated by integrated refining companies. That means our folks own those and invest in them. More than half of the retail outlets in the United States have changed hands in terms of ownership in the last 15 years.

The impediment to going on for higher blends of renewables is the fact that we have an affirmative obligation under any number of regulatory regimes, whether that be a fire code at the state level or the Office of Underground Storage Tanks at EPA, to regulations

to make sure on an affirmative basis that the retailer can demonstrate that the equipment in which he is storing and through which he is dispensing these fuels is compatible with those fuels. That is really hard.

Now as to demand for new products, retailers live to satisfy demand. But retailers sell products only because customers want them. Customers don't buy products because retailers offer them. If that were true we would offer a lot shabbier stuff and we would make more money. The reality is that there are markets in which E15 and E85 demand has risen, and in those markets retailers are in fact offering the products that the market demands. That is not true as broadly as some would have you think.

Having said all those things, I think we would sum up with EPA has done a commendable job from our perspective of doing exactly what this committee and Congress in general asked it to do several years ago, which was to administer the program as if it were under adult supervision and to avoid a blend wall breach which would generate truly unpleasant consequences for the marketplace. And with that I thank you for your time and I offer to answer any questions you have that I can.

[The prepared statement of Tim Columbus follows:]

**Statement Of**

**R. Timothy Columbus  
Partner  
Step toe & Johnson LLP  
Washington, D.C.**

**On Behalf of the**

**Society of Independent Gasoline Marketers of America  
(SIGMA)**

**and the**

**National Association of Convenience Stores  
(NACS)**

**Before the**

**House Energy and Commerce Committee,  
Subcommittee on Energy and Power**

**June 22, 2016**

**Hearing on**

**“The Renewable Fuel Standard – Implementation Issues”**



## **I. SUMMARY OF TESTIMONY**

1. The Society of Independent Gasoline Marketers of America and the National Association of Convenience Stores commend the Environmental Protection Agency (“EPA” or the “Agency”) in setting its 2014-2016 renewable volume obligations under the Renewable Fuels Standard (“RFS”) program. We believe the Agency has struck an appropriate balance among many competing interests.
2. EPA has recognized the potential harm that could occur from breaching the so-called “blend wall.” It appropriately used its statutory waiver authority to establish renewable volume obligations below statutory levels and at a level achievable by the marketplace.
3. While the proposed renewable volume obligations for 2017 appear achievable, further growth in the renewable fuels industry is constrained by insufficient consumer demand and retailer liability concerns.

## **II. INTRODUCTION**

Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee, thank you for the opportunity to testify today on the Renewable Fuel Standard (“RFS”). My name is R. Timothy Columbus, and I am a partner at Steptoe & Johnson LLP in Washington, D.C.

I am testifying today on behalf of both the Society of Independent Gasoline Marketers of America (“SIGMA”) and the National Association of Convenience Stores (“NACS”), for both of which I serve as general counsel.<sup>1</sup> Members of SIGMA and NACS account for approximately 80% of retail motor fuel sales in the United States.

SIGMA and NACS believe the EPA has done a commendable job at getting the RFS back on track with its 2014-2016 renewable volume standards and proposed 2017 volume standards. My testimony also addresses continuing obstacles to greater renewable fuel usage, including insufficient consumer demand and retailer concerns regarding infrastructure and liability.

## **III. BACKGROUND ON THE FUEL RETAILING AND CONVENIENCE INDUSTRY**

In 2015, the fuel wholesaling and convenience industry employed more than 2.5 million workers and generated \$574.8 billion in total sales, representing approximately 3.2 percent of the U.S. GDP. Of those sales, approximately \$349 billion came from fuel sales alone. Because of the number of fuel and other transactions in which our industry engages, we handle approximately

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<sup>1</sup> SIGMA represents a diverse membership of approximately 260 independent chain retailers and marketers of motor fuel. NACS is an international trade association representing the convenience store industry with more than 2,200 retail and 1,800 supplier companies as members, the majority of whom are based in the United States.

one of every 30 dollars spent in the United States. Our retailers serve about 160 million people per day – around half of the U.S. population – and our industry processes over 73 billion payment transactions per year.

These figures may be daunting, but the convenience store and fuel retail industry is truly an industry of small businesses. Approximately 63 percent of convenience store owners operate a single store, and approximately 75 percent of the industry is composed of companies that operate ten stores or less.

The fuel wholesaling and convenience store market is one of the most competitive in the United States. SIGMA's and NACS' members operate on tiny margins (around 2 percent or less) and are unable to absorb incremental cost increases without passing them on to consumers.

#### **IV. RETAILER OBJECTIVE AND INTERACTION WITH THE RFS PROGRAM**

SIGMA and NACS had very serious misgivings about the enactment of the RFS in 2005. In general, these organizations support open markets that provide the maximum amount of supply available; a mandate on any specific element of supply has the potential to distort the market and drive up prices to consumers. Artificially high prices hurt our businesses.

Today, after a decade of experience, SIGMA and NACS generally support the RFS when EPA is able, through its regulatory powers, to strike the right balance for the fuels marketplace. SIGMA and NACS members want to sell legal products, in a lawful way, to customers who want to buy them. As new fuels enter the market, they want to be able to sell those fuels lawfully and with minimal volatility and risk. It is best for the American consumer and America's industrial position in the world marketplace to have reasonably low and stable energy prices.

It is important to keep in mind, however, that SIGMA's and NACS' support for the RFS is based upon an expectation that the program will be administered in a manner that reflects the realities of the market as it exists today, rather than how Congress projected the market would look in 2005 and 2007. When Congress last revised the RFS in 2007, those revisions were premised upon an expectation of (1) a rise in demand for gasoline and (2) widespread availability of cellulosic ethanol by 2013. Neither of those expectations has been met.

In 2007, demand for gasoline was expected to increase at an annual rate of approximately 1.3% through 2030. In reality, gasoline demand has diminished. The Energy Information Administration found that in 2015, 140.43 billion gallons of gasoline were consumed in the United States, approximately 1.5% less than the record high of 142.35 billion gallons consumed

in 2007 and far below the anticipated gasoline demand growth that was projected in 2007.<sup>2</sup> This is particularly significant because 2015 gasoline consumption was greater than the past few years, likely due to a lower price of gasoline compared to previous years. As retail gasoline prices increase, consumers may again drive fewer miles. Prices aside, higher corporate average fuel economy (“CAFE”) standards combined with a struggling economy have lowered the country’s gasoline usage. In addition, the country has not experienced the growth in flex fuel vehicles and sales of E85 (gasoline with a concentration of 51-83% ethanol) that experts anticipated.

At the same time, the cellulosic biofuel industry continues to transition from research and development and pilot scale operations to commercial scale facilities. This process has taken significantly longer than Congress expected when it revised the RFS in 2007.

Notwithstanding these unanticipated market realities, the statutory RFS volume targets continue to increase annually. If left in place, these targets could only be met if more ethanol is blended into every gallon of gasoline.

This was the situation the fuels market faced several years ago, which SIGMA and NACS highlighted in testimony before this Committee in 2012 and 2013.<sup>3</sup> Due to the aforementioned factors, the retail fuels market was and remains simply incapable of meeting the ever increasing renewable volume obligations (“RVOs”) under the RFS statute. Back in 2012, EPA appeared uncertain about whether it would use its statutory authority to reduce the RVOs below the statutory levels. Consequently, the nation was dangerously close to hitting the so-called “blend wall.”<sup>4</sup> Members on both sides of the aisle urged EPA to avoid breaching the blend wall to avoid a fuel supply catastrophe. As we stated in our 2013 testimony before this Committee, breaching the blend wall “will undoubtedly lead to a significant increase in the price of fuel, and will inflict substantial harm on the United States economy.”<sup>5</sup>

<sup>2</sup> Energy Information Administration, “Frequently Asked Questions,” How Much Gasoline does the United States Consume?, available at <http://www.eia.gov/tools/faqs/faq.cfm?id=23&t=10> (last accessed June 15, 2016).

<sup>3</sup> House Energy and Commerce Subcommittee on Energy and Power, “The American Energy Initiative: A Focus on Alternative Fuels and Vehicles, Both the Challenges and the Opportunities,” 112<sup>th</sup> Cong. (July 10, 2012), <https://energycommerce.house.gov/hearings-and-votes/hearings/american-energy-initiative-focus-alternative-fuels-and-vehicles-both>; House Energy and Commerce Subcommittee on Energy and Power, “Overview of the Renewable Fuel Standard: Stakeholder Perspectives,” 113<sup>th</sup> Cong. (July 23, 2013), <https://energycommerce.house.gov/hearings-and-votes/hearings/overview-renewable-fuel-standard-stakeholder-perspectives> [hereinafter *2013 Testimony*].

<sup>4</sup> The blend wall represents the point at which an insufficient supply of renewable fuel is delivered to consumers to generate the Renewable Identification Numbers (“RINs”) necessary to comply with the Program. If the market reaches the blend wall, there will not be enough RINs to allow obligated parties to satisfy their volume obligations under the RFS. This will result in significantly elevated prices for RINs that are available, and as occurs in every industry, these costs would be passed down to retailers and absorbed by consumers.

<sup>5</sup> *2013 Testimony*, *supra* note 3, at 4.

Fortunately, in its rulemaking finalized last year,<sup>6</sup> EPA recognized the existence of the E10 blend wall and how it acts as a constraint in achieving greater renewable fuel usage.<sup>7</sup> In its rulemaking, EPA appropriately recognized that the statutory levels established in 2007 bear no rational relationship to market conditions. Thus, EPA used its statutory waiver authority to lower the RVOs below the statutory levels to a level achievable by the marketplace.

We believe the EPA has similarly allowed significant flexibility in its current rulemaking to stay below the E10 blend wall through the use of carryover Renewable Identification Numbers (“RINs”) and allowable growth in the bio-mass based diesel market. This is particularly true in light of the “nesting” structure of RVOs, which provide flexibility in how obligated parties may satisfy their obligations. SIGMA and NACS members have an incentive to blend increasing amounts of biodiesel into the fuel supply because they can use the value of the RINs to lower their costs of goods sold and make biodiesel blends more cost competitive via the biodiesel blenders’ credit.<sup>8</sup> Continuation of the biodiesel blenders’ tax credit in its current form will continue to drive growth in the use of biodiesel, thus achieving the success of the program’s objectives.

As the Committee is aware, on May 31, 2016, EPA also published a proposed rule outlining proposed 2017 RVOs under the RFS.<sup>9</sup> EPA again proposes to use its statutory waiver authority to lower the RVOs to more reasonable levels, using similar methodology to that employed in the 2014-2016 final rule. Importantly for all involved in the fuels marketplace, EPA published the proposed RVOs well in advance of its November 30<sup>th</sup> deadline. EPA’s on-time performance will help generate stability in the market by allowing industry to prepare for the upcoming year. Based on our preliminary review of the proposal, SIGMA and NACS believe

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<sup>6</sup> It is worthwhile to note that during 2012 – 2015, EPA failed to establish RVOs on time, a situation that led to substantial marketplace uncertainty and elevated prices for RINs. SIGMA and NACS fervently hope that such a situation will never be repeated.

<sup>7</sup> EPA, Final Rule, Renewable Fuel Standard Program: Standards for 2014, 2015, and 2016 and Biomass Based Diesel Volume for 2017, 80 Fed. Reg. 77420 (Dec. 14, 2015), at 77449 (noting that “[c]onstraints including but not limited to the E10 blendwall, are real and can only be partially overcome by a responsive market in the near term.” available at <https://www.gpo.gov/fdsys/pkg/FR-2015-12-14/pdf/2015-30893.pdf>).

<sup>8</sup> Since 2005, there has been a biodiesel and renewable diesel blenders’ tax credit of \$1.00 for each gallon of biodiesel used in a qualified mixture. This tax credit, which expires at the end of 2016, has successfully stimulated production and driven consumer acceptance of biofuels by lowering the cost to consumers. The blenders’ credit creates a strong incentive for downstream fuel marketers to blend renewable fuel into the fuel supply while lowering prices at the pump for consumers.

<sup>9</sup> 81 Fed. Reg. 34778 (May 31, 2016).

the 2017 RVOs will be achievable and the fuels market will again avoid breaching the E10 blend wall.<sup>10</sup> That is good news for American consumers.

## V. CONSTRAINTS ON INCREASED RENEWABLE FUEL USAGE

SIGMA and NACS have devoted considerable resources to studying the renewable fuels marketplace on behalf of their customers, the American consumer.<sup>11</sup> That work has led to some firm conclusions about future renewable fuel usage, which we share here to inform the debate about the renewable market moving forward.

### A. Insufficient Demand

More than anything else, the number one trait of any successful retailer is an ability to identify what his or her customers want to buy, and then sell that product at a cost that enables the retailer to earn a profit. Motorists do not purchase products because members of SIGMA and NACS sell them; members of SIGMA and NACS sell products because their customers purchase them. To date, very few retailers selling mid to high level ethanol-gasoline blends such as E15 or E85 have seen substantial sales of these products. Quite the opposite: most retailers that sell E15 or E85 have seen minimal sales of these products. Indeed, retailers have found that even consumers with E85-compatible flex-fuel vehicles tend to purchase E10.

Although E85 normally can be sold for less dollars-per-gallon than the more widely available E10, this price differential does not generate sufficient demand to justify a retailer's capital investment costs. Because E85 provides vehicles fewer miles per gallon ("MPG") than E10, retailers must sell it at a discount in order to be priced equal to gasoline on a dollar per British Thermal Unit ("BTU") basis. Even if E85 is sold on an equal dollar per BTU basis as E10, for E85 to infiltrate the market on a more widespread basis, there likely would have to be an *additional* discount to justify consumers having to stop and purchase the product more frequently relative to E10. The economics are simply not present in most places in the United States for this level of price discounting and market infiltration to occur.

It is important to keep in mind that of the various mandates contained in the RFS, Congress did not include a mandate for consumers to purchase anything (and we are certainly not suggesting that it should have). While the U.S. Department of Agriculture is attempting to increase the number of retail outlets offering E15 and E85 through its Biofuel Infrastructure

<sup>10</sup> SIGMA and NACS do, however, have concerns with the U.S. Energy Information Administration's ("EIA") data upon which EPA relies. This data likely overestimates the amount of gasoline consumption in the United States by underestimating the amount of fuel component exports. As such, SIGMA and NACS encourages EIA to reevaluate its analysis methodology to better reflect marketplace realities to avoid setting improper RVOs in the future based on inaccurate data.

<sup>11</sup> See generally, <http://www.fuelsinstitute.org/research.shtm>.

Partnership, the number of outlets selling these blends will not by itself generate notably greater E15 and E85 consumption. Unless there is a substantial increase in consumer demand for higher fuel blends, retailers will naturally be reluctant to make the investments that are necessary in order to sell them.

## **B. Retailer Liability**

When Congress enacted its fuel usage policies in 2005 and 2007, it fundamentally failed to address the critical components of achieving its goals, such as the fuels distribution network and its infrastructure. As a result, federal and state laws and regulations pose significant potential legal liabilities for selling fuel blends with concentrations of ethanol greater than E10.

As SIGMA and NACS have noted previously – and as EPA cited in its final rule for the 2014-2016 RVOs – retailer liability concerns are a key factor in fuel retailers’ decision to not sell gasoline containing more than 10 percent ethanol.<sup>12</sup> Occupational Safety and Health Administration (“OSHA”) regulations require retailers to use equipment that has been listed by a nationally recognized testing laboratory as compatible with the fuel the equipment is storing and dispensing.<sup>13</sup> The primary testing laboratory is Underwriters Laboratories (“UL”). However, prior to 2010, UL had not listed a single dispenser as compatible with any ethanol concentration greater than 10 percent. Further, under UL’s policy, no device listing can be revised. Consequently, retailers who wish to sell any gasoline containing more than 10 percent ethanol (such as E15 or E85) must acquire a new dispenser that has been listed as compatible with the product if they have not purchased new dispensers in the last six years. Dispensers can cost upwards of \$20,000 and many retailers are understandably disinclined to dispose of functional and modern dispensers in order to sell a new fuel for which demand is at best uncertain.<sup>14</sup>

<sup>12</sup> EPA, Final Rule, *supra* note 7, at 77464 (noting that EPA “[does] not believe, based on past experience, that the core concerns retailers have with liability over equipment compatibility and misfueling would change if the RFS volume requirements were increased significantly...[and does] not believe that the E15 expansion can occur on the scale and timeframe that ethanol proponents believe it can.”).

<sup>13</sup> 29 C.F.R. 1926.152(a)(1) (“Only approved containers and portable tanks shall be used for storage and handling of flammable and combustible liquids.”) “Approved” is defined at 29 C.F.R. 1910.106(35) (“Approved unless otherwise indicated, approved, or listed by a nationally recognized testing laboratory.”) *See also* 29 C.F.R. 1910.7 (definition and requirements for a nationally recognized testing laboratory).

<sup>14</sup> The two primary device manufacturers (Gilbarco and Wayne-GE) have obtained UL listing for retrofit kits for some of their units to upgrade their compatibility to accommodate fuels containing up to 25% ethanol. These units are currently available for \$2,000 - \$4,000 per kit and may be available for more than 50% of the dispensers in the market. This reduces the costs for many retailers, but the expense still equates to nearly 10% of a store’s annual pre-tax income – a significant risk given uncertain consumer demand.

It is feasible to convert dispensers to ensure compatibility with higher levels of ethanol-blended fuel, but it is much more complicated to determine the compatibility of underground storage equipment for the many reasons described below.

- **Recordkeeping** – Retail fueling facilities often change hands several times after a tank system is installed, leaving the current owners uncertain of the listing status of underground equipment. Retail outlets have experienced significant turnover in recent history. Many retail gasoline outlets were once owned by major integrated oil companies. That is no longer the case, and those companies now own and operate fewer than 1% of the facilities. In fact, today when Americans fill up their tanks at a Shell or Exxon station, it is highly likely that gas station is a mom-and-pop operation. Further, for decades, there have been no regulations that require retail outlets to keep records for their underground equipment. With the turnover in the industry and lack of records on underground storage equipment, determining compatibility with higher ethanol content fuels is nearly impossible without breaking concrete, when costs can quickly exceed \$100,000 per location.

Last year, EPA published a final rule updating its Underground Storage Tank (“UST”) regulations.<sup>15</sup> Under the new regulations, UST owners and operators storing any regulated substance blended with greater than 10-percent ethanol or greater than 20 percent biodiesel must now demonstrate compatibility by either: (a) certification or listing of their system equipment or components by a nationally recognized testing laboratory (such as Underwriters Laboratories) for use with the fuel stored; (b) written explicit approval of the equipment or component by the manufacturer; or (c) another method that the implementing agency determines to be no less protective of human health and the environment than the other two options.<sup>16</sup>

Failure to demonstrate compatibility with these regulations is a violation of the Resource Conservation and Recovery Act, which could subject retailers to penalties of up to \$37,500 for each day of noncompliance. As a practical matter, without the ability to verify and proactively demonstrate that their equipment is UL-listed to store E15 or other ethanol blends, the retailer is assuming liability risk if it stores such fuels.

- **Misfueling** – Assuming a retailer’s equipment is listed as compatible with E15, there is still liability exposure if customers misfuel. EPA’s rule authorizing the sale of E15 restricts its use to vehicles manufactured after 2001 and prohibits its use in earlier models or small engines.<sup>17</sup> EPA issued a misfueling mitigation rule requiring the placement of

<sup>15</sup> Environmental Protection Agency, Final Rule, Revising Underground Storage Tank Regulations – Revisions to Existing Requirements and New Requirements for Secondary Containment and Operator Training, 80 Fed. Reg. 41566 (July 15, 2015), available at <https://www.gpo.gov/fdsys/pkg/FR-2015-07-15/pdf/2015-15914.pdf>.

<sup>16</sup> 40 C.F.R. §280.32.

<sup>17</sup> See 40 C.F.R. 80.1504; see also EPA, Final Rule, Regulation to Mitigate the Misfueling of Vehicles and Engines with Gasoline Containing Greater Than Ten Volume Percent Ethanol and Modifications to the Reformulated and Conventional Gasoline Programs, 76 Fed. Reg. 44406 (July 25, 2011).

dispenser decals near the E15 selector and requiring additional measures, but there are no *physical* applications available to prevent consumer misfueling.<sup>18</sup> Further, it is expected that a sizeable percentage of consumers may not know when their vehicles were manufactured.

This puts retailers in a precarious situation. If they offer E15 and a consumer uses that fuel in a non-approved engine, retailers can be held responsible for violating the Clean Air Act and be subject to fines of up to \$37,500 per violation. Even if the retailer is fully compliant with EPA's misfueling mitigation requirements, it may be subject to civil litigation under the Act's private right of action provision.<sup>19</sup>

- **Automobile Warranties** – As mentioned above, many engine manufacturer owner's manuals and warranties do not authorize the use of E15. Retailers may be subject to liability for engine damage or for selling a fuel that voids the consumer's warranty. This exposure could threaten a facility's economic viability.

The simple threat of enforcement actions or litigation deters many retailers from offering higher ethanol blends.

Legislation introduced in the past would have addressed many of the retailer liability concerns SIGMA's and NACS' members have with selling fuels containing more than 10 percent ethanol.<sup>20</sup> Enactment of this legislation would have provided legal certainty with respect to retailer liability, thus breaking down barriers to more widespread distribution and use of newer fuels such as E15. Unfortunately, the legislation failed to advance and has not been introduced this Congress.

Taken together, retailers have many significant obstacles to blending more renewable fuel into the fuel supply. Fuel retailers and marketers make decisions every day regarding the services and products they will offer to their customers. These decisions are not without risk. However, deciding to convert or switch a store's fuel infrastructure to accommodate new fuel for which demand is uncertain at best is very different from deciding whether or not to stock other consumer products, like fresh fruits and vegetables. Such decisions take time and retailers need

<sup>18</sup> See also Federal Trade Commission, Final Rule, Automotive Fuel Ratings, Certification and Posting RIN 3084-AB390, 81 Fed. Reg. 2054 (Jan. 14, 2016), available at <https://www.gpo.gov/fdsys/pkg/FR-2016-01-14/pdf/2015-32972.pdf>.

<sup>19</sup> See 42 U.S.C. § 7604.

<sup>20</sup> H.R. 4345, The Domestic Fuels Protection Act of 2012, 112<sup>th</sup> Cong. (2012)(introduced by Rep. John Shimkus (R-IL)). H.R. 4345 provided a way for existing retail equipment that is technically compatible with new fuels to be legally recognized as such, thereby eliminating some of the costs associated with unnecessary equipment replacement. It also protected market participants from liability in the event self-service consumers circumvent federally required misfueling measures; and, it protected market participants from retroactive liability should today's laws governing fuel sales change in the future. See also H.R. 1214, The Domestic Fuels Protection Act of 2013, 113<sup>th</sup> Cong. (2013)(introduced by Rep. John Shimkus (R-IL)).



to know there will be a return on investment large enough to justify the initial investment, and that the fuel in question can be sold legally. All of these issues prevent the introduction of more renewable and alternative fuels in the contemporary marketplace.

## VI. MODIFICATIONS TO THE RFS

As SIGMA and NACS have testified in the past, provided the program continues to be administered appropriately, the associations do not support the repeal of the RFS at this time. Over the last decade since Congress enacted the RFS, the road to implementation has not been easy. Fuel retailers and marketers did not ask for this program, and despite being caught in the middle of competing interests, they have learned to live with it. We believe the EPA has the statutory authority – and has used that authority lawfully – to properly align RVOs to ensure the RFS achieves its objectives while protecting American consumers and businesses. Although SIGMA and NACS believe that EPA’s waiver authority is clearly established and supported by law, if questions remain with respect to EPA’s waiver authority due to ongoing litigation, we would support this Committee’s clarifying EPA’s waiver authority to ensure EPA is able to make adjustments to the Program moving forward.

Also, I would be remiss if I did not address recent proposals that would make blenders (or the entity that owns the product immediately before it is dispensed from a terminal, the “position holder”) so-called “obligated parties,” rather than refiners and importers. Those advocating for this position state that such a change would bring more renewable fuels into the marketplace and address the currently perceived inequity of burdens between buyers and sellers of RINs. Those advocating for this position are wrong. Changing the point of obligation under the RFS would not achieve those objectives.

If blenders or position holders were classified as obligated parties, they would be subject to regulatory and market obligations with which they may not be able to comply. For instance, their ability to comply with point of obligation requirements would be dictated by their upstream counterparts, who would then have significant leverage and incentive to raise prices. This results in an anti-competitive environment that would lead to upward pressure on the retail price of motor fuel. Refiners and importers should remain obligated parties because those entities control the petroleum product’s composition and how product is introduced into commerce. Position holders, conversely, do not have such control because they are fundamentally *buyers* of refined products. Changing the point of obligation would inject substantial disruptions into the renewable fuels market and impose significant burdens on participants. Congress should reject calls to change the point of obligation under the RFS.

\* \* \*

While the 2017 RVOs appear achievable, retailer liability concerns and insufficient consumer demand will continue to prevent further expansion of renewable fuel usage. Retailers cannot force consumers to buy a particular product. Retailers already have an incentive to blend as much renewable fuel as they can, but the infrastructure liability concern imposes an enormous barrier to selling higher concentrations of ethanol. Setting the RVOs above the level that can reasonably be absorbed and consumed in the market would be counterproductive to a successful RFS program. It would result in significant market disruptions and higher prices for consumers.

## **VII. CONCLUSION**

SIGMA and NACS believe EPA is doing a responsible job of balancing competing political and regional interests in its implementation of a complex regulatory regime under the RFS program. The 2014-2016 final rule and the 2017 proposed rule appear to balance the desire to promote an increasing amount of renewables into the nation's fuel supply while recognizing the constraints imposed by the E10 blend wall. Moving forward, SIGMA and NACS remind policymakers that fuel retailers and marketers are the closest proxy for the consumer. We stand ready to assist the Committee in its oversight of the RFS program and in the future consideration of any policy changes.

Again, thank you for the opportunity to testify before you today. I am happy to answer any questions you may have.

Mr. WHITFIELD. Thank you, Mr. Columbus, and thank all of you for your testimony. At this time, Mr. Olson, I will recognize you 5 minutes for questions.

Mr. OLSON. I thank the chairman and welcome to our second panel. I have to correct oversight from the first panel. I want to enter a statement for the record from Commander Kirk Lippold. Kirk was a navy commander in charge at the USS Cole when she was blown up in Aden, Oman, and he submitted a statement for me about the effects of RFS on national security. He thinks it hurts it, so without objection, sir, I would like to enter that for the record.

Mr. WHITFIELD. Without objection.

[The information appears at the conclusion of the hearing.]

Mr. OLSON. Thank you. My first question is for you, Mr. Columbus. First of all, I have to say thank you, thank you, thank you. Your organization got me out to see a convenience store, the Stripes Store at 12091 Westpark Drive in Houston, Texas. There I learned a couple of things. First of all, members of Congress should never roll flour tortillas. They get all messed up.

I also learned that most of your members are not opposed to ethanol as a fuel. They just want to give customers the fuels they want and they need. At the same time, some folks point to E85 and E15 as our way forward on ethanol. Are most consumers at your member stores asking, begging for E15, and could you easily roll out the infrastructure for E15 if necessary?

Mr. COLUMBUS. Mr. Olson, what I have to tell you is it depends on the market you are in. You know, all markets are local in demand. If you are in Minnesota or Iowa there are people saying they want E15. If you are in Oklahoma there are people who want E0. And therefore what you are going to see is retailers across this country do what they have been doing for decades and that is responding to what the customers who walk into their establishments demand.

And, while retailers are always appreciative of any money Congress will offer them to upgrade their facilities—I assure you that is true—if there is substantial demand for E15 in a marketplace you are not going to have to give people grants to upgrade their tanks. They will make that because it is in their pecuniary interest to do so. That is how markets work. We have not seen the overwhelming demand that I think many people, particularly because of flex-fuel vehicles treatment, had anticipated for E85 anywhere.

Mr. OLSON. Thank you.

Questions for you, Mr. O'Mara. There is an article today in the Houston Chronicle, a study at LS University, Louisiana State, about a growing dead zone in the Gulf of Mexico. They say this year it will be one-third larger than it was last year primarily due to chemical fertilizers running down the watershed from all over the Mississippi River Water Basin. That is corn country.

You said that increased demand for corn ethanol has driven the creation of new acreage in some unusual places. Your written testimony talked about the Texas Panhandle, also a fact that 67 percent of new cropland like the Panhandle is marginal or unsuited for planting. Can you talk about what this means for Texans at the pump, at the grocery store, and at our Whataburgers?

Mr. O'MARA. Sure. Thank you, Mr. Olson. What you are seeing as folks are trying to meet the market demand because they are rational, they are trying to make money—we respect that—they are planting in more and more places that don't really make sense. And so when you are planting in the Panhandle as you know as well as anybody, the amount of irrigation you are going to need to try to make that land have any level of production is pretty high. Now you have had some water shortages in that part of the country too, and so that is water that ends up hitting in other places so then you see higher costs of water, other price impacts, and other increasing, both increasing price and also decreasing the amount of flow for fish and other wildlife. And so it is kind of bad on all fronts when you are growing in these places that we have never grown historically because it just doesn't make sense unless there is an artificial government price support.

Mr. OLSON. OK, yes. Final question for Mr. Thompson. As you know, I have long said the RFS is a mandate designed for a world that no longer exists. One of ever higher gasoline demand and ever lower oil capacity that world is gone. The terms peak oil and peak natural gas are not used anymore. And now both Congress and the EPA are left trying to cobble together a way forward trying to put a round peg in a square hole.

I know that you believe that EPA has done some good work in using its waiver authority to a degree, but do you believe that we are on a path that is realistic for your members to comply with long term?

Mr. THOMPSON. Certainly not, and that is why we believe full repeal is due. As I have pointed out in my testimony both written and oral, you know, the problem is EPA is for next year's proposal, again just 6 months from now, they are asking to increase the RFS by 700 million gallons. It is not feasible particularly when you tick down—a lot of folks on this panel talked about creating choice, it is really doing the opposite and it is eliminating choice. EPA's proposal will eliminate E0, something that we know the American consumer wants. It would take it from 5.3 billion gallons down to 200.

And also Mr. Columbus talks about whether people want E15. Well, the truth is it is virtually zero right now and what EPA is suggesting will happen in 6 months it will go from zero to 600 million gallons. It is not going to happen. E15 is only sold at 312 stores today. And then the same with E85. EPA argues that in 6 months the volume is going to go from 87 million gallons up to approximately 400 million gallons. Consumers don't want these products. This program is no longer serving the purpose that this body created the RFS to tackle. It is time for it to be repealed.

Mr. OLSON. Thank you. Well, I raise one final point. At the highest levels there could be confusion at the pump. President Obama went to Israel a couple years ago. He took his limousines there. Guess what, one was broken down by Secret Service guys because guess what they did, they put gasoline in a diesel engine.

Mr. DINNEEN. Congressman, just real quick. With the discussion about what consumers want in fuel I will guarantee you there is no consumer that wants benzene or xylene or any other toxic aromatics in their fuel either. And so the discussion about what con-

sumers want is interesting, but I assure you, you ask consumers they would want a domestic clean-burning fuel additive.

Mr. WHITFIELD. Thank you. Thank you.

Mr. OLSON. I yield back.

Mr. WHITFIELD. The gentleman's time has expired. At this time I recognize the gentleman from Vermont, Mr. Welch, for 5 minutes.

Mr. WELCH. Thank you very much, Mr. Chairman. I think you are right consumers want clean-burning fuel, but Mr. Teske, I will ask you. Has the ethanol had any impact on engines? I had a carburetor from a motorcycle that was just gunked up with ethanol according to the mechanic. Tell us your history with that.

Mr. TESKE. Thank you for the question. Ethanol certainly does have an impact on an engine. It really does two different things. When you have higher levels of ethanol, say E15 that you would put into a small engine, it will run at higher temperatures. These engines are really tuned, if you will, for emissions regulations to last for a long time and what happens is the higher temperatures will distort the material and thereby defeat some of the emissions requirements that are out there.

The other thing that ethanol does because it is alcohol related is it attracts water. And so when you have a fair amount of water that comes in to an engine it will corrode the engine, you will have scoring on the bore. You will have a number of different things. Your props, if you will, I am not surprised by. I didn't see them or examine them, but that is very consistent with what we generally see when you introduce higher levels of ethanol.

Mr. WELCH. It is interesting. I found out about—I didn't know about this issue, but I was up at a county fair and a bunch of Vermonters surrounded me. This was years ago after I was first elected, and I was clueless about ethanol as I was clueless about a lot of other things. But they were insistent that their motorboat engines, their chainsaws, and their snowmobiles to some extent were really having been damaged by ethanol, so that is all consistent with your experience.

Mr. TESKE. Yes.

Mr. WELCH. And my chainsaw got wrecked, and I guess I was stupid to leave the ethanol in there a little bit longer than it should have been, but my mechanic told—I was pretty blue because I love this chainsaw and ethanol does that to chainsaws?

Mr. TESKE. Yes. So from our perspective obviously our engines will run up to E10 and so it is plus or minus five percent, right, on each side we can design an engine. So we are not against ethanol, but ethanol does have negative impacts.

Mr. WELCH. Right.

Mr. TESKE. The higher the blends the more difficult it is for these engines to sustain—

Mr. WELCH. Thank you.

Mr. O'Mara—thank you. We all so want to have our fertile land in productive work feeding the United States, feeding other countries. But we had a situation here with ethanol where it was a trifecta of governmental policies to encourage this production of ethanol. There was the 54 cent a gallon tax incentive, it was the 45 cent a gallon tariff barrier, and then it was the requirement, the mandate that you or I purchase ethanol. And I literally know of no

other industry that has ever received that trifecta of governmental support. A lot of industries might like it, but it is as far away as you can get from a free market.

Now one of the concerns I have had you have talked about, and that is that incentive worked. Folks who were in the corn belt saw that there was an opportunity and—I don't have any problem with it. Why wouldn't you if you are a corn farmer? But what happened to the overplanting? What happened to the conservation land program that was really being quite successful and with the tradeoff where if you put your fragile land out of production you would get some help making it with soil conservation and with drainage and other things?

Mr. O'MARA. Thank you, Congressman. Thank you to you and Mr. Griffith for raising the wildlife and the land piece. That actually had a fourth and fifth point to your three. We saw massive reductions in the Conservation Reserve Program as you mentioned, and you have pretty generous insurance programs as well. And so you put that all together and it is again just wildlife bears the brunt of that.

And so we have seen the number of acres in Conservation Reserve go from little, 35–36 million before the RFS; you are around 25 million right now. Those ten million acres, a lot of which were providing very important habitat, is roughly equivalent to the same number that Wisconsin and USDA are saying went into production. And so, we are losing habitat at again at the expense—because of government policy we are doing it ourselves. This isn't market driven. This is government driven.

Mr. WELCH. I really appreciate it. What has been tremendous about my being involved in this issue was seeing folks who never thought they would probably be sitting at the same table. You know, you are here, you are here, you guys actually get along, you know. Let's take this model and put it in other places as well. But it is in the farm community it is a benefit. If you are a corn farmer it is tremendous.

And I am from a dairy state and I love our farmers. They are literally the hardest working people in Vermont. Nobody works harder than our farmers, whatever it is. But if you are a corn farmer it has been helpful, but if you are a feed-using farmer it has really been a hammer. The margins for our dairy farmers are really tight, and the grain costs which I absolutely believe have been affected by 40 percent of corn going into ethanol has increased their costs and decreased their security. So I want to thank all the panelists for being here.

Mr. COLEMAN. Congressman, could I provide a response on land or is—

Mr. WELCH. I think I am out of time. I am sorry.

Mr. WHITFIELD. That is OK. Go ahead.

Mr. COLEMAN. Thank you, Chairman. So there is another side of this, and as an advocate for advanced biofuels we want to grow responsibly. And I want to just add for the record a couple of different things that my colleague to my left and my colleague a couple seats down has not mentioned. With regard to the land and the agricultural footprint, one of the reasons that EPA has not gone through an acute analysis of this is because the agricultural foot-

print in this country continues to decline from an acreage perspective. So I want to correct the record. That doesn't mean there are not acute problems in different places, but Mr. O'Mara has suggested that the RFS is driving the land up and actually the agricultural footprint. And they have done that analysis. EPA has done that analysis.

The other thing that needs to be mentioned here is there is a correlation-causation issue here. It is true that Conservation Reserve acres have gone down since 2008 when the RFS went in. What is also true is the Conservation Reserve Program which pays farmers to keep those acres out of production has been cut from a funding perspective and the correlation between those acres in existence and being paid to make sure they are existence is a heck of a lot stronger than the RFS as the cause for that problem.

Third and final point, my more fundamental issue with folks who are blaming the RFS for all these land-based problems is that farmers, which Mr. O'Mara did mention, plant a price. If you are getting \$8 a bushel for corn versus \$4, you want to plant corn. That is not for biofuels. That is I can get \$8 for corn. What drove up the price of corn and all these other agricultural commodities, if you look at the correlation it is the increasing price of oil. Why does the price of oil go up? It is because we don't have alternatives.

And so from a boogeyman perspective, I think with respect that the biofuels industry is being blamed for things that are largely the response of markets to higher oil prices that happened over the last 5 years. Thank you for the opportunity to provide that.

Mr. WHITFIELD. So you said overall farmland has not decreased?

Mr. COLEMAN. Yes. From year to year USDA with EPA does an analysis of the U.S. agricultural footprint, and generally for the last 50 years it has been trending down because agriculture has gotten more efficient per acre and it continues to trend down. So there is not an explosion nationally that is happening. Now if we want to start talking about the seven million acres I would be happy to converse with my colleague on that as well.

Mr. WHITFIELD. Mr. O'Mara, what were you going to say?

Mr. O'MARA. Well, the concern that we have is the virginal habitat. Again, the habitat that has gone into production the last few years. I mean, we have lost 1.6 million acres of native grasslands that is incredibly important habitat for pheasant hunters and everything else. And so I don't disagree that the overall that—I do disagree. The USDA data shows the acres that we are losing for production is actually increasing. Now there are some acres that are taken out of production. Since the RFS the acres taken out of production are less than the acres being put into production, so most of these years so it is several million acres additional.

But at the end of the day, we are losing forests, prairies, and wetlands because folks are trying to meet this higher price, most of which is supported by government. This isn't a global commodity price that we are creating. The market here is fundamentally different than other places because of these price supports and the points that Mr. Welch made.

Mr. WHITFIELD. The gentleman's time has expired. Mr. Griffith, you are recognized for 5 minutes.

Mr. GRIFFITH. Well, I am enjoying this discussion immensely. I have to tell you it is exciting when you have environmentalists, people who are environmentalists disagreeing with each other. We heard comment earlier we have Democrats agreeing with Republicans and Republicans disagreeing with Republicans and Democrats disagreeing with Democrats. So it is an interesting discussion. Surely we must be able to find a balance in there somewhere.

I have to tell you, in my area some of that land is going out of production. And I can't say it is the only factor, but one of the factors might be the fact that it is hard to guarantee from year to year for my cattle farmers and my dairy farmers that their corn price isn't going to spike, and a big part of the concern when it does spike is ethanol. And so I can't say that that is not a legitimate concern.

I also have folks as Ms. Steckel pointed out—nice job—in her written stuff to my district that my district does produce some biodiesel. I also had a project that has not been successful that was taking hamburger grease, or had the plants take hamburger grease and turn that into biodiesel. I think that is exciting stuff. So the technology may eventually get there.

But I am very concerned, Mr. O'Mara, as you may recall from our previous conversations, I am very concerned that we are creating problems in the environment and I wish in some ways that the EPA would play fair, and let me explain.

I come from a coal producing district. They had a guideline at one point, which was later ruled invalid by the courts, on water based on a study in a handful of counties in central Appalachia with about seven or eight, nine species of mayflies in which one was significantly impacted by runoff water from the coal mines. If they did the same thing to ethanol, I think based on what you have told me today, Mr. O'Mara, the EPA might be up in arms but they haven't done that report. And I believe your written testimony tells us they are 4½ years on a 3-year program and no plans to get it done.

What can we do to help push them along to get that report done, because I want the data. I want to see a balance and I want to see the renewable fuels succeed. I would like to see more of it come from non-ethanol biodiesel, but at the same time we are going to have some ethanol out there. I don't think we should shut it down.

But Mr. O'Mara, what can we do to get the EPA to get us the data that we need so that we are able as Congress to make intelligent, appropriate decisions in trying to balance out the concerns?

Mr. O'MARA. And I thank you for that question and for everything you do for wildlife. I think this committee has to demand the report. I think Mr. Welch did, I think you did as well. I mean, I think there is data. And also we have to send a very clear signal that when we are asking them to evaluate the environmental impacts we are not just talking about air. You have the air administrator here, she is talking about it. And I am here defending her a lot of times. I have testified before you several times defending EPA on different issues.

This is indefensible, and I think there is two issues. One is that they are not looking at the land and water impacts, and the second is that they are not—this aggregate compliance approach, we know



where coffee comes from. We know where our trees come from, our paper products come from. We source these things in every other industry. The idea that we can't know where the corn is coming from and whether it is from a virgin prairie or a native prairie or it is coming from land that has been farmed for 200 years is crazy to me.

We can do a better—because we know that we are fine by having, if we actually did a good job as long as we are not taking additional habitat, but wildlife shouldn't have to lose so a couple of industries can win. I mean that is for me the bottom line.

Mr. GRIFFITH. Well, I think that is important and I hope that we can take a look at the effect on the species that you listed in your report. And I think it is important to underline again, because it is not just those of us that might like to watch wildlife, it is also the hunters that are affected. And you said in your opening statement, and I would like for you to repeat that if you would just because we don't know what insomniac might be watching this hearing sometime late at night. But you gave a number on the ring-necked pheasant hunt in Iowa.

Mr. O'MARA. Yes.

Mr. GRIFFITH. They are not usually in my area unless there is a stray. But give those numbers again if you would.

Mr. O'MARA. Yes. So I mean if you went out flushing in Iowa in 2004, 2005, the bag limit was more than a million; 100,000, the last couple years. Again there are many factors, but we are losing a lot of their habitat.

Mr. GRIFFITH. Right.

Mr. O'MARA. No habitat, no birds.

Mr. GRIFFITH. Now do you have any data on the fish species that might also be impacted? I know Mr. Olson mentioned the dead zones that might be impacted in part by this expanse of the cornfields.

Mr. O'MARA. Yes, so I mean on the freshwater side when you have these algal blooms in places like Lake Erie—walleye, perch—you are going to see, you are going to see an impact on bass, and basically they will go somewhere else.

And so the problem is that if you had another panel and you invited some of the tour boat captains, the folks that are taking folks out on Lake Erie, it is a death knell for them, because if you have that amount of runoff coming in and there is more rain so more is being washed off, they lose their livelihood.

And so I mean, we have been working with folks in the Great Lakes that are basically saying, look, like we shouldn't be the ones that bear the brunt of this because the walleye are gone because they are going further inland which we can't get to.

Mr. DINNEEN. Congressman, can you indulge me just for a moment of actual agreement?

Mr. GRIFFITH. All right, let us hear it. I have got agreement here.

Mr. DINNEEN. I absolutely agree that it would be a good idea for EPA to update much of this analysis. We have been living for years with a carbon analysis that the agency did on ethanol in 2007 that is just flat out wrong. The science has demonstrably changed and we would love for the agency to update that so that we can demonstrate again the significant carbon benefits.

And I would agree that they ought to do the Triennial Report as well and look at all the environmental impacts because we are quite frankly pretty confident that it is going to show tremendous benefits. I mean, we have talked about what the impacts might be on water. Indeed, throughout the RFS the size of the dead zone in the Gulf has been shrinking. I don't know about Lake Erie, but the one they usually talk about is in the Gulf and that has been shrinking. Farmers have been getting far more efficient.

So I agree, let's get the agency to get some of these analyses updated.

Mr. GRIFFITH. Well, and if I might, Mr. Chairman, if you would indulge me, I might say that I agree and it might be nice if the EPA would concentrate on these things that they are mandatorily supposed to be doing under the code sections instead of going into areas they are not supposed to be going into.

I note that there was a court case came out yesterday where the court said they don't have authority to do what they were doing regarding fracking. You know, OK, people, do what you are supposed to do and let us decide where you are supposed to go do something different. And I would appreciate it if they would get that done. And I am glad that I was able to bring the various parties into agreement this morning on that issue if nothing else, and I appreciate it and yield back.

Mr. DINNEEN. Well, the other place I think we would probably see some agreement is that the agency ought to be looking at the whole marketplace, because if ethanol as an oxygenate and octane enhancer goes away where is our next gallon of fuel going to come from? It is going to come from fracking, it is going to come from tar sands which also has their own environmental and land use issues. And so you have got to look at all of this.

Mr. WHITFIELD. The gentleman's time has expired. I might also mention that the Inspector General has initiated an investigation over at EPA regarding the RFS which I think looks like all sides are anxious for them to do what they are supposed to be doing over there. So I think that is probably a good development.

And I will recognize myself for 5 minutes of questions and then—Mr. Thompson, some of your member companies are merchant refiners that have no blending capacity. So can you describe just the unique challenges those companies face in complying with the RFS?

Mr. THOMPSON. Well, certainly their biggest challenge is that they are subject to the whims of the RIN market and as RIN prices go up their cost of compliance goes up. And so for a merchant refiner this is the number one compliance obstacle.

Mr. WHITFIELD. OK. And Mr. Teske, Briggs & Stratton has a nice facility down in Murray, Kentucky, and provides a lot of jobs as so do our corn growers in Kentucky. And on this small engine issue of using fuel above E10 of ethanol content, you say that above E10 it does create damage to these small engines and primarily because of a heat issue; is that what you were saying?

Mr. TESKE. That is correct. So what happens, Chairman, is essentially we design engines that are plus or minus a standard and so where we design them is E5, five percent ethanol. They can operate from E0 to E10. We can design to whatever plus or minus

five percent would be. The problem is a moving target. Our concern really comes back to the tens of millions of engines that are out there. In fact, there are hundreds of millions of engines that you include all small engines that are out there. They are not designed to run on anything above E10.

And so it is these consumers who have bought, paid good money for a piece of equipment and now, they are not going to get the value and the benefit that they need. So it is the moving target that is the issue, but to your point, yes. For the legacy equipment that is out there and everything that is being produced today, anything above E10 will cause issues because of heat distorting the components, the materials that are in the engine, as well as the ethanol attracting water which causes then ultimately corrosion and bore scoring and things like that as it relates to the effects of corrosion on an engine.

Mr. WHITFIELD. So do you frequently hear from owners of small engines? Do they come back to you as the manufacturer?

Mr. TESKE. They do. And to Congressman Welch's point when he went to the state fair, people don't know about the effects of ethanol. And we have done an awful lot of work. We have done here studies on do people understand what is happening to their engine, and they don't. They don't understand. They just look for the cheapest thing or they go for whatever they think they have been putting in for years. They have an issue. We see more fuel related issues. And ultimately they come back and they say, well, this must be a problem, Briggs isn't what they used to be, and in fact that is not the case. We are making arguably higher quality engines today than we ever have. In fact I think we do, we have the evidence. And ultimately we want to make sure they are getting the value that they paid for, and it is going to come back at us and they are going to blame us if there are issues when in fact it is a misfueling problem.

Mr. WHITFIELD. Mr. Dinneen.

Mr. DINNEEN. I would just like Mr. Teske maybe to clarify something for me if nobody else. These problems you are seeing, is this with E10 or E15?

Mr. TESKE. The problems that we—if I may, Chairman?

Mr. WHITFIELD. Sure.

Mr. TESKE. The problems we see is with ethanol. And so basically we design the engines to operate on E10, we warrant to E10. There are more and more fuel related—

Mr. WHITFIELD. So anything—

Mr. DINNEEN. That is my point. If you warrant to E10 you should not expect an issue with 10 percent ethanol blended gasoline used in your engines. And if there is there has to be some other problem. Either they didn't store it and care for it properly or something else. But you would not expect I would assume that you would see a problem with E10 if everything was done properly.

Mr. TESKE. May I?

Mr. WHITFIELD. Yes.

Mr. TESKE. This isn't an issue of E10 or caring for the unit properly. This is we know that when you put higher blends of ethanol in up to E15 it will destroy the engine. So people who take care of their products, no question. This isn't a question of whether they

can use E10 or E15. E15 will harm the engine no matter how well you take care of it. When you go to E10, E0 to E10, it will operate. You take care of it, it will operate. We do see more fuel related issues as ethanol continues, but the fact is, is that our testing shows that E15 will damage an engine.

Mr. DINNEEN. And I was not disputing the fact that E15 should not be used in a small engine. I think the question is, is E15 being used in small engines today, and I think the overwhelming evidence would be no. As Mr. Thompson pointed out, E15 is only being sold at 322 stations across the country. So I just don't see that as driving the kind of problems that he is talking about. And if—

Mr. TESKE. And Chairman Whitfield, if I may?

Mr. WHITFIELD. Yes.

Mr. TESKE. In my written testimony I talk about the fact that we see E15 in our area simply because we live in Wisconsin and there is a lot of corn. If you go back and look into the '70s and the '80s when leaded gasoline transitioned to unleaded gasoline, there are a lot of issues, a lot of misfueling problems along the way.

We are trying to avoid that from happening again, and that is why as we go down in our recommendations to this is ultimately better education, make sure people understand, and make sure that there is E10 that is widely available so that these tens of millions of our engines and hundreds of millions of engines that are out there can work.

Mr. WHITFIELD. Mr. Columbus, if I own a small minute market and I want to put in E85, what would that equipment cost me roughly?

Mr. COLUMBUS. Mr. Chairman, it will depend on where you are putting it and where that market is.

Mr. WHITFIELD. Yes.

Mr. COLUMBUS. If it is in a rural area you are probably looking—and remember size of the outlet. If you are putting in a Sheetz or a Wawa it is going to be a couple, \$300,000 anywhere. If you are going to have four to six fueling locations you are probably looking between \$50,000 and \$100,000. But if you are looking at an outlet that small \$50,000 to \$100,000 is all the money on earth.

Mr. WHITFIELD. That has—yes.

Mr. COLUMBUS. So unless and until somebody demonstrates that they can get a return on investment on that money it is not going to happen.

Mr. WHITFIELD. OK.

Bobby, do you have any questions?

Mr. RUSH. I think I have one question, Mr. Chairman.

Mr. WHITFIELD. The gentleman from Illinois is recognized for 5 minutes.

Mr. RUSH. Mr. Dinneen, in your testimony earlier you cited the successes of the RFS program especially when it comes to the issue of jobs. And would you elaborate on how this policy has helped spur the creation of jobs and what impact would amending or ending this program have on employment?

Mr. Thompson, you can jump in on this if you would. But Mr. Dinneen, I really want you to—jobs are critical to my constituents.

Mr. DINNEEN. Certainly, Congressman. The U.S. ethanol industry is responsible for about 380,000 direct and indirect jobs. Many of those jobs are in agriculture as farmers grow and deliver the corn. There are certainly high paying jobs, high tech jobs at the plants themselves.

But what we have seen is that when an ethanol plant is introduced to a community it revitalizes that rural community with high paying jobs. I have been to ethanol plant openings all across the country and, you know, rural America was losing population. There was no economic development. An ethanol plant in these areas is an economic engine that revitalizes those areas in demonstrable ways.

Mr. RUSH. Mr. Thompson, do you have anything you want to add to that?

Mr. THOMPSON. Well, this shouldn't be about whether we support jobs. Certainly we all support jobs. My industry supports over two million jobs. The issue is whether this should be congressionally mandated, right. As Mr. Dinneen says he has a thriving industry and that industry should be able to thrive on its own. It shouldn't have to rely on this, you know, congressional mandate. So we support the jobs.

Mr. RUSH. Thank you, Mr. Chairman. I yield back.

Mr. WHITFIELD. The gentleman yields back, and that would conclude today's hearing. And I want to thank the witnesses for being with us today. As I said in the beginning, this was kind of a status hearing to let everybody air it out and talk about it from their perspective, and I think we accomplished that. So I want to thank you very much for your time and effort.

Also I want to enter into the record a letter from the Advanced Biofuels Association; a letter for the record from Growth Energy; the National Farmers Union; the National Council of Chain Restaurants; a statement from Representative Steve King of Iowa.

[The information appears at the conclusion of the hearing.]

Mr. WHITFIELD. And we will keep the record open for 10 days.

Mr. RUSH. Mr. Chairman.

Mr. WHITFIELD. Yes.

Mr. RUSH. I have a report that I would like to enter into the record. It is the Biotechnology Innovation Organization's study on greenhouse gas reductions from the RFS.

Mr. WHITFIELD. Yes. Without objection, we will enter that into the record as well.

[The information appears at the conclusion of the hearing.]

Mr. WHITFIELD. Anything else? OK.

OK. Well, thank you all once again. We look forward to working with you as we move forward and appreciate your time very much. Thank you.

[Whereupon, at 1:11 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

#### PREPARED STATEMENT OF HON. FRED UPTON

This committee takes seriously its oversight duties, and today we will give the Renewable Fuel Standard a much-needed review. I welcome Environmental Protection Agency Assistant Administrator Janet McCabe, Energy Information Administration

Deputy Administrator Howard Gruenspecht, as well as a cross section of stakeholders who will be providing their perspectives on this program.

It has been 9 years since the RFS was last revised in 2007, and it goes without saying, much has changed since then. Widespread fears at the time that America was running out of oil have been replaced with the reality of rising domestic production and even the U.S. is now exporting crude oil for the first time in four decades. Concerns about rising gasoline demand have been replaced by declines in actual usage, and assumptions that cellulosic biofuels were just around the corner have been replaced with very slow development of these fuels. Overall, we find ourselves in a very different place today than anticipated when we last legislated changes to the RFS.

Of course, just because circumstances have changed does not necessarily mean the RFS needs to be revised, but it does mean that we should take a careful look at the program. And no questions or ideas for improvements should be off the table.

One topic that warrants serious discussion is the fate of the program after 2022. The law sets out the requirements through 2022, but afterwards it essentially gives the reins to EPA. I suspect many of us are concerned about having that much discretion in the hands of unelected bureaucrats, and now is a good time to start the discussion on potential changes to this aspect of the RFS.

We all know that there are those who call for complete repeal of the RFS, and there are those who don't want any changes at all, even modest ones. But I can't help but think that if we approach this issue in a bipartisan fashion, that we can find a path forward for an RFS that works for all the parties involved—farmers, renewable fuel producers, refiners, automakers, power equipment makers, and most of all consumers.

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### **Estimating Another Year of Chilled Investment in Advanced Biofuels Due to RFS Uncertainty**

- **EPA's Renewable Fuel Standard rules force conventional and advanced biofuel producers to compete for limited shares of the transportation fuel market, discouraging investment in new technology.**
- **BIO estimates that EPA's methodology for setting annual RVOs has caused a \$22.4 billion shortfall in investment in advanced biofuels.**
- **EPA has relieved obligated parties of any responsibility to invest in infrastructure for distribution of biofuels and has placed that responsibility squarely on biofuel producers.**
- **Investors have reacted immediately and very strongly to EPA's delays and changes to RFS methodology since 2013.**
- **Investment patterns clearly demonstrate that EPA is sending a sustained market signal that disincentivizes advanced biofuels.**

EPA recognizes that its delays in rulemaking since 2013 have undercut investment in advanced biofuels. The agency fails, however, to recognize that its methodology in the proposed 2014 rule and the proposed and final 2014-2016 rules also undercut investment in advanced biofuels. The agency's rules attempt to force conventional and advanced biofuel producers to compete for limited shares of the transportation fuel market, discouraging investment in new technology. Further, the agency shifts the responsibility and costs of building biofuel distribution infrastructure to biofuel developers, delaying investments in added advanced capacity. Moreover, EPA is using past production figures to project future market space for renewable fuels, a method proposed by the oil refining industry specifically to slow growth in renewable fuel production.

Many advanced biofuel developers also invest in conventional biofuels or intend to collocate production with or license technology to conventional biofuels producers, strategies that create economies of scale in feedstock and production infrastructure. EPA's new methodology forces these developers to choose between protecting sunk capital in conventional biofuel and risking new capital in advanced. Data on



investment in the biofuel sector bears out that EPA's methodology has forced producers to consolidate investment in conventional biofuel production capacity and distribution infrastructure, while sacrificing investment in advanced.

In 2009, Bio Economic Research Associates ("bio-era"), in a report commissioned by BIO, modeled the investment necessary to build an advanced biofuel industry from the ground up to meet the goals of the RFS.<sup>1</sup> BIO now estimates that the impact of EPA's rulemaking delays, unwarranted expansion of its waiver authorities, and methodology for setting annual RVOs has caused a \$22.4 billion shortfall in investment in advanced biofuels.

EPA can easily correct course in the 2017 rule by reversing its arbitrary use of the general waiver authority to reduce overall volumes, raising advanced biofuel volumes sufficiently to obviate competition among biofuel developers, and taking seriously its responsibility to ensure that U.S. transportation fuel market is open to every gallon of renewable fuel that can be produced, up to the statutorily set volumes.

#### **EPA Ignores the Impact of Its Rulemakings on Investment**

EPA acknowledges that its delays in annual rulemaking failed to drive increased use of advanced biofuels in 2014 and 2015. As the agency states in the final rule for 2014-2016, "The final 2014 standards are based on actual production levels in 2014, possibly suggesting that the 2014 standards we are finalizing are what would have happened in the marketplace absent a rulemaking."<sup>2</sup> And further, "The final standards for 2015 are being set late in the 2015 calendar year, so it is not clear how much extra renewable fuels (and thus costs) the standards are requiring above what the marketplace would have supplied absent them."<sup>3</sup> Allowing the market, which continues to be dominated by oil companies, to set required volumes of renewable fuel is flatly inconsistent with the statutory goal of the RFS.

The agency clearly understands the need for stability in the RFS rulemaking process in order to drive investment. In its Response to Comments on the proposed RFS rules for 2014-2016 the agency acknowledges, "In the longer term, sustained

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<sup>1</sup> Bio Economic Research Associates, U.S. Economic Impact of Advanced Biofuels Production: Perspectives to 2030 (Feb. 2009), *available at* <https://www.bio.org/sites/default/files/EconomicImpactAdvancedBiofuels.pdf>.

<sup>2</sup> 80 FR 77487, Monday Dec. 14, 2015.

<sup>3</sup> 80 FR 77487, Monday Dec. 14, 2015.





increases in volume requirements are necessary to provide the certainty of continued growth in a future market that is needed by investors; the development of new technology won't occur unless there is clear market potential, and it requires multiple years to build new production, distribution, and consumption capacity and to develop the marketing effectiveness among consumers that is needed."<sup>4</sup> And again, in the 2017 proposed rule, the agency states, "Volume requirements over the longer term that are issued in a timely manner and which provide the certainty of a guaranteed and growing future market are necessary for the industry to have the incentive to invest in the development of new technology and expanded infrastructure for production, distribution, and dispensing capacity."<sup>5</sup>

Despite this understanding, the agency disputes that its rulemakings are primarily responsible for a shortfall in investment in advanced biofuels, stating that EPA "does not believe these claims are accurate or supported by the data."<sup>6</sup>

#### **EPA Is Directly Responsible for Lost Investment**

EPA acknowledges that its delays in establishing the 2013, 2014 and 2015 annual rules created untenable uncertainty for advanced biofuel producers and impacted investment.<sup>7</sup> The agency also acknowledges that its final 2016 RVO, while issued by the statutory and Court ordered deadline of November 30, 2015, was nevertheless impacted by its previous delays. In the 2017 proposed rule, the agency states, "The 2016 standards were designed to reflect the fact that the 2014 and 2015 standards had not been set by the statutory deadlines."<sup>8</sup> Investment in advanced biofuel continues to fall short of what is needed, and EPA's methodology along with its delays are responsible for that ongoing shortfall.

The agency's proposed rule for 2017 continues to create unwarranted competition between advanced and conventional biofuel producers for a limited share of the transportation fuel market. As the agency states, "Our analytical approach is to first ascertain the maximum reasonably achievable volumes of all types of renewable

<sup>4</sup> EPA OTAQ, "Renewable Fuel Standards for 2014, 2015 and 2016, and the Biomass-Based Diesel Volume for 2017: Response to Comments." EPA-420-R-15-024, November 2015, 2.3.1, p. 149.

<sup>5</sup> 81 FR 34784. Tuesday May 31, 2016.

<sup>6</sup> EPA OTAQ, "Renewable Fuel Standards for 2014, 2015 and 2016, and the Biomass-Based Diesel Volume for 2017: Response to Comments." EPA-420-R-15-024, November 2015, 7.3, p.687

<sup>7</sup> See, e.g., 80 FR 33120, June 10, 2015,

<sup>8</sup> 81 FR 34798, May 31, 2016.



fuel. Having done so, we next determine the extent to which a portion of those fuels should be required to be advanced.<sup>9</sup> Many of the first cellulosic ethanol producers have made significant investments in conventional biofuels or hope to license their technology to conventional biofuel producers as a bolt-on technology or collocate facilities to create economies of scale. The agency's methodology discourages conventional biofuel producers from investing in advanced and cellulosic biofuel production or allowing collocation, since any market share to be gained from the investment would come at the cost of conventional production. The agency has created a strong incentive for biofuel producers to protect their significant investments in and market share for conventional biofuel and forego (even discourage) investment in advanced biofuel.

Producers who focus exclusively on advanced biofuel production and have no incentive to protect conventional biofuel investments must also be discouraged by EPA's changed methodology. Added to the significant risk of investment in new advanced biofuel technologies is the uncertainty created by EPA's unnecessary move to create competition within the advanced biofuel category between biomass-based diesel producers and other advanced biofuel producers.<sup>10</sup> Developers of new advanced biofuel technologies must now compete for market space with more established biomass-based diesel producers.

Additionally, EPA has relieved obligated parties of any responsibility to invest in infrastructure for distribution of biofuels and has placed that responsibility squarely on the shoulders of biofuel producers, adding to the costs of developing and producing biofuels. The agency states, "[W]e do not believe the statute should be interpreted to require that refiners and importers change the fundamental nature of their businesses so as to comply with RFS requirements."<sup>11</sup> The fundamental nature of obligated parties' businesses is to sell petroleum. EPA clearly understands the costs of this shift, as it notes, "For the [biomass-based diesel] market to continue to expand, it will likely require greater investment per volume of biodiesel supplied, as the new biodiesel distribution facilities will generally have access to smaller markets than the existing facilities, or will face competition as they seek to expand into areas already supplied by existing distribution facilities."<sup>12</sup> Necessary

<sup>9</sup> 81 FR 34785, May 31, 2016.

<sup>10</sup> 81 FR 34810, May 31, 2016.

<sup>11</sup> EPA OIAQ, "Renewable Fuel Standards for 2014, 2015 and 2016, and the Biomass-Based Diesel Volume for 2017: Response to Comments." EPA-420-R-15-024, November 2015, 2.7.1, p.351.

<sup>12</sup> 81 FR 34793, May 31, 2016.



investments in distribution infrastructure by conventional biofuel and biodiesel producers are now competing with investments in additional advanced biofuel capacity and new technologies.

Further, EPA is basing biofuel production projections for coming years on past-year performance, rather than on production or distribution capacity under development. In setting 2017 advanced biofuel volumes, EPA openly assumes “that the supply of conventional and advanced biodiesel and renewable diesel volumes would be equal to those supplied in 2015.”<sup>13</sup> And again, the agency states, “Using historic data is appropriate to the extent that growth in the year or years leading up to 2016 reflects the rate at which biodiesel and renewable diesel constraints can reasonably be expected to be addressed and alleviated in the future.”<sup>14</sup> This method for making projections was proposed by the American Fuel & Petrochemical Manufacturers, who represent petroleum refiners that directly compete with biofuel producers. The methodology is designed to slow growth of advanced biofuel production by limiting market capacity each year. Limitation on market capacity directly depresses investment in production, as EPA has recognized.<sup>15</sup>

Lastly, EPA has created new uncertainty for advanced biofuel producers by triggering the reset waiver provision of the RFS under 211(o)(7)(F). Using its prior delays in rulemaking as justification, EPA has triggered authority to rewrite the statutory volume table for advanced biofuels contained in 211(o)(2)(B)(i)(II). At present, advanced biofuel producers and their investors have no certainty about the future market for advanced biofuels under the RFS program.

#### **Data Clearly Demonstrates a Predictable Shift in Biofuel Investment**

As the data in Figure 1 below demonstrate, investors reacted almost immediately and very strongly to EPA’s delays and changes to methodology since 2013. Investment in second-generation biofuel (commercial production as well as piloting and demonstration of advanced biofuel, excluding soy biodiesel) was increasing over time from the establishment of the RFS2 in 2007 through 2012. The type of investment in second-generation technologies was also beginning to shift from venture capital and private equity, which is characteristic of early stage

<sup>13</sup> 81 FR 34786, May 31, 2016.

<sup>14</sup> 81 FR 34795, May 31, 2016.

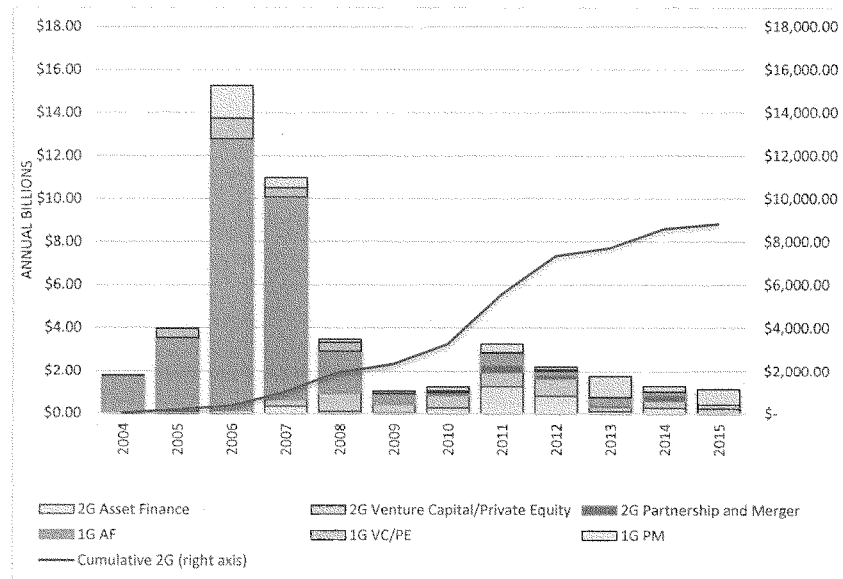
<sup>15</sup> See, e.g., EPA OTAQ, “Renewable Fuel Standards for 2014, 2015 and 2016, and the Biomass-Based Diesel Volume for 2017: Response to Comments.” EPA-420-R-15-024, November 2015, 2.3.1, p. 149. And 81 FR 34784. Tuesday May 31, 2016.



technologies, to partnerships, mergers and asset financing (or debt equity), which is more characteristic of a maturing industry. New commercial-scale cellulosic and advanced biofuel biorefineries began to start up operations in 2013 and prove production technologies and processes. Yet, no new commercial-scale production facilities have broken ground in their wake.

Instead, in 2013 there was a sharp drop in investment in advanced biofuel production and an increase in first-generation partnerships and mergers. While there was some renewed activity in 2014 – to roughly half the level occurring in 2012 – as long-planned facilities began construction, investment activity once again dropped off in 2015. There were no asset financing deals reported during 2015.

Figure 1: Annual Investment in First- and Second-Generation Biofuels By Type

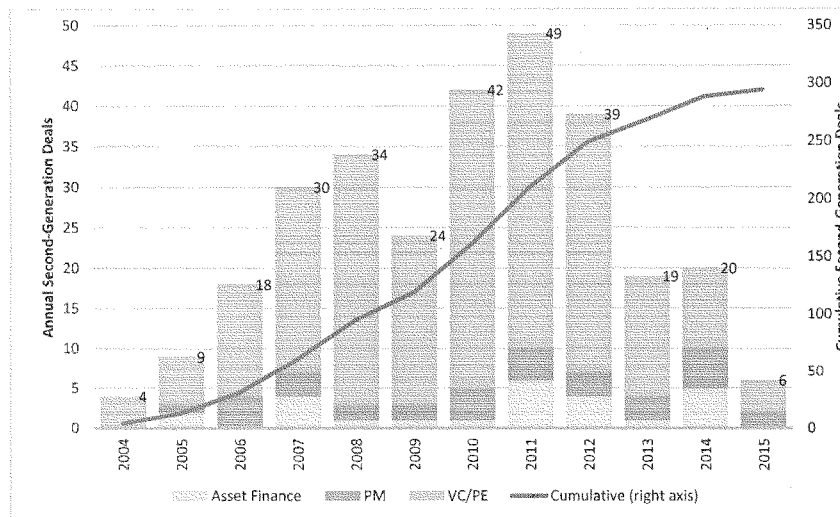


Data from Bloomberg New Energy Finance; Ocean Park Advisors; United Nations Environment Programme.



The data on the number of announced second generation production deals display the same pattern, with the number of deals climbing through 2012 but sharply dropping from 2013 through 2015, as shown in Figure 2 below. It is both EPA's delays in RFS rulemakings and its methodology that undercuts the high-value asset finance or partnering investments necessary to continue progress in building large-scale production facilities. In fact, the methodology has had a demonstrably larger impact. The number of deal announcements in 2014 was similar to the number in 2011 – even though the overall value of the deals was cut in half – while EPA delayed finalizing a rulemaking it had proposed in 2013. But the number of deals shrank considerably in 2015 as EPA first issued a proposal and then finalized a rule setting in stone a damaging methodology.

Figure 2: Annual and Cumulative Number of Second-Generation Biofuel Deals by Type



Data from Bloomberg New Energy Finance; Ocean Park Advisors; United Nations Environment Programme.

The pattern for advanced biofuels contrasts with investment patterns in first-generation (corn ethanol and soy biodiesel) biofuel production. Investments in first-generation biofuel production peaked in 2006 – as the RFS1 spurred a rapid



increase in renewable fuel production to meet increasing requirements – and primarily consisted of asset financing, characteristic of a more technologically mature industry. Importantly, additional investments – primarily through venture capital or partnerships – in new processes and in innovation to increase productivity and efficiency continued through 2014. The conventional biofuel industry reached the capacity to produce 15 billion gallons, enough to fill the market that Congress made available to them in setting the statutory volumes. EPA’s methodology change sparked new investment in 2015 in first-generation distribution infrastructure – directing it away from advanced biofuels. The largest single private equity deal in 2015 was an investment in a first-generation ethanol storage and distribution facility. Additionally, there were 10 acquisitions and mergers among conventional ethanol and biodiesel production facilities.<sup>16</sup>

#### **EPA’s Methodology Continues to Chill Needed Investment in Advanced Biofuel**

The chilling effect of EPA’s rulemaking delays and methodology has resulted in an estimated \$22.4 billion shortfall in needed investment for advanced biofuel production capacity.

The advanced biofuel industry has invested billions of dollars since 2009 to build first-of-a-kind biorefineries around the world, even during a global economic recession, as shown by data in Figure 1. Companies commercializing new advanced biofuel pathways have spent years building and operating pilot and demonstration facilities in order to assure investors – and satisfy requirements of the USDA and DOE biorefinery loan guarantee programs – of the viability of projects.<sup>17</sup>

Several cellulosic biofuel producers now have achieved commercial production, and additional companies continue efforts to commercialize new processes. The advanced biofuel industry has reached a commercial stage where additional biorefineries can be built and operated based on existing designs and optimized processes, which can rapidly lower capital costs for advanced biofuel. But many projects have been put on hold since 2013. The chill in investment has had the heaviest impact on the cellulosic biofuel industry.

<sup>16</sup> Bruce Comer, “2015: A strong year for biofuels M&A,” Biofuels International, Jan./Feb. 2016, p.33.

<sup>17</sup> See, e.g., USDA, *USDA BioRefinery Loan Guarantees – Application Guidance Overview* (Mar. 2011), available at [http://www.rd.usda.gov/files/BCP\\_Energy\\_LEAP\\_9003\\_ApplicationProcessing\\_Mar11.pdf](http://www.rd.usda.gov/files/BCP_Energy_LEAP_9003_ApplicationProcessing_Mar11.pdf).



In 2009, Bio Economic Research Associates ("bio-era"), in a report commissioned by BIO, modeled the investment needed to build an advanced biofuel industry from the ground up to meet the goals of the RFS.<sup>18</sup> Drawing on available pre-commercial biorefinery engineering and design studies, bio-era estimated that more than \$95 billion in cumulative capital investments would be needed between 2009 and 2022 for construction of nearly 400 advanced biofuel biorefineries with the capacity to produce 23 billion gallons of advanced biofuel. Figure 3 below shows bio-era's estimated annual and cumulative capital investments needed to maintain the production ramp up envisioned in the RFS.

Added to the annual investment for construction costs are the annual operating costs for that new capacity. Given the challenges of simultaneously constructing biorefineries and building supply chains for new energy crops, the actual capital requirements for many first-of-a-kind cellulosic and advanced biorefineries have been higher than originally projected. Investors have required that the advanced biofuel industry engage in a capital-intensive process of ramping up pilot and demonstration biorefineries before building commercial ones.<sup>19</sup>

To reach the 2016 RFS goal of producing 7.25 billion gallons of advanced biofuels, bio-era estimated the need for 153 operating plants requiring \$32.03 billion dollars in cumulative investment. As of June 2016, there are six commercial cellulosic biorefineries with a combined capacity of more than 75 million gallons registered and operating to meet the goals of the RFS, along with several pilot and demonstration plants that have contributed volumes. Additionally, there are 36 biorefineries generating cellulosic biogas and registered to participate in the program.<sup>20</sup> Taking into account additional renewable diesel or jet fuel producers deploying novel technologies, such as Altair, Fulcrum, and Joule/Red Rock, the advanced biofuel industry has reached roughly the level of investment that bio-era originally projected for 2013, as shown in Figure 1. Capacity, however, remains far below what is needed.

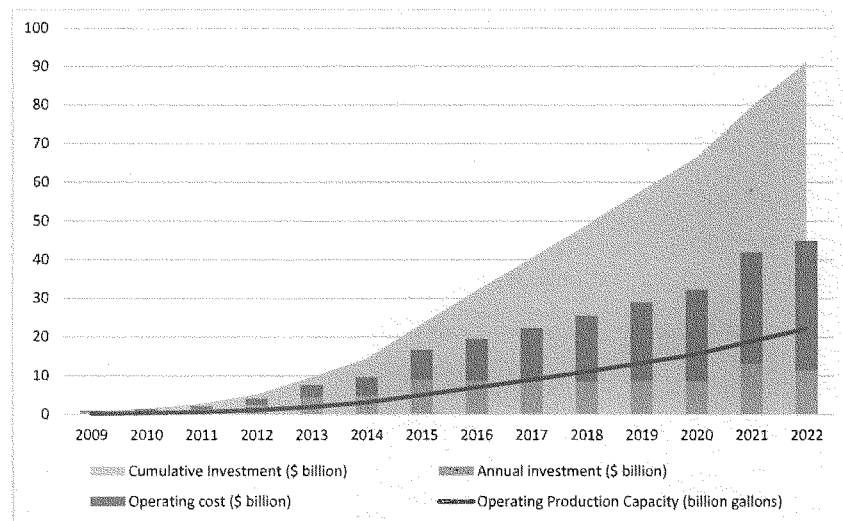
<sup>18</sup> Bio Economic Research Associates, U.S. Economic Impact of Advanced Biofuels Production: Perspectives to 2030 (Feb. 2009), *available at* <https://www.bio.org/sites/default/files/EconomicImpactAdvancedBiofuels.pdf>.

<sup>19</sup> John May, Financing Genomes: Turning Transformative Innovation into Market Success, Presentation at BIO International Convention (June 16, 2015).

<sup>20</sup> EPA, Part 80: EPA Fuels Programs Registered Company/Facility ID List, *available at* <https://www.epa.gov/fuels-registration-reporting-and-compliance-help/registered-companies-and-facilities-fuel-programs> (last visited June 15, 2016).



Figure 3: Projected Annual and Cumulative Investments Needed to Build Advanced Biofuel Capacity



The advanced biofuel industry's cumulative capacity-building delay corresponds to a shortfall in investment of more than \$22.4 billion since 2013. EPA's methodology and delays in rulemaking since 2013 have been the primary drivers of this shortfall in investment, due to their chilling effect on the industry and investors.

### Conclusion

EPA believes that its rules are "creating a sustained market signal to incentivize low greenhouse gas renewable fuels, especially for advanced biofuels."<sup>21</sup> Investment patterns clearly demonstrate that the agency's delays in issuing RFS rules and its unwarranted changes to the methodology of the program are sending the opposite signal. Investors are unwilling to risk hundreds of millions of dollars to produce advanced biofuels for which there is no room in the market or that, worse, will strand their existing investments in conventional biofuel. Without changes to EPA's methodology, the shortfall in necessary investment can only grow worse.

<sup>21</sup> 81 FR 34803, May 31, 2016.





EPA should not doubt “the ability of the standards to bring about market changes in the time available.”<sup>22</sup> Its rules and proposals have a nearly immediate impact on investment decisions. Because the proposed rule for 2017 contains the damaging methodology and will create uncertainty for the remainder of the year, 2016 is expected to be another year of chilled investment for the advanced biofuel industry. If EPA finalizes an improved rule by the end of the year, it could send a strong signal to the industry that revitalizes investments, especially in commercially proven and replicable biorefinery technologies.

Among the changes necessary in the final rule for 2017 will be to abandon the unwarranted use of the general waiver authority to create competition between advanced and conventional biofuel producers. EPA should create market space for all renewable fuels that can be produced, up to the volumes established in the statute. EPA must also abandon the methodology that limits future market space to past production performance, due to its chilling effect on new production. EPA has acknowledged that RINs can incentivize infrastructure for and consumer marketing of higher renewable fuel blends.<sup>23</sup> The agency should allow the RIN system to work, rather than place infrastructure and marketing costs entirely on renewable fuel producers.

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<sup>22</sup> 81 FR 34782, May 31, 2016.

<sup>23</sup> Dallas Burkholder, “A Preliminary Assessment of RIN Market Dynamics, RIN Prices, and Their Effects,” Office of Transportation and Air Quality, US EPA, May 14, 2015.

COMMANDER KIRK S. LIPPOLD, USN (RET)

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June 21, 2016

Congressman Pete Olson  
House Energy and Commerce Committee  
2125 Rayburn House Office Building  
Washington, DC 20515

Dear Congressman Olson,

As the Committee considers implementation issues associated with the Renewable Fuel Standard (RFS), it should carefully study the Environmental Protection Agency's (EPA) purported national security justification for the program. Although the EPA liberally uses national security as a rationalization for many aspects of the RFS program, on almost every front, the RFS program as it exists today fails in its core mission of creating energy security for the United States.

For decades the United States has maintained as national policy the elusive goal of energy independence. As the Commanding Officer of USS Cole when it was attacked by al Qaeda terrorists, and as a witness before this Committee, I know the true cost of energy security for our forward deployed forces. Since creation of the RFS in legislation passed by Congress in the Energy Policy Act of 2005, which was followed by an expansion and enhancement of the law with the Energy Independence and Security Act of 2007, the program requires oil companies to blend increasing volumes of renewable fuels with gasoline and diesel, culminating with a goal of 36 billion gallons in 2022. The national security construct to justify the continuing existence of the RFS no longer exists.

The pace and vigor of the American energy renaissance that is happening as a result of the maturation of hydraulic fracturing and horizontal drilling techniques, coupled with detection technology, has given the nation access to previously unavailable reserves and contributed substantially to a broader U.S. energy market that is the fundamental reason behind our decreasing reliance on foreign sources of oil and energy.

In fact, an unbiased analysis by NERA Economic Consulting found that the RFS has had the direct and unintended consequence of undermining our collective security by "forcing" additional volumes of biofuels into the market beyond those that would be "absorbed" under normal conditions – an adverse effect that results in "severe economic harm." While alleging the existence of national security benefits in the Proposed Rule, the EPA itself concedes that "there are a number of benefits that are difficult to quantify, such as ... national security benefits."

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COMMANDER KIRK S. LIPPOLD, USN (RET)

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There can be little doubt that the volatility created by implementation of the RFS, including its frequent delays and spikes in the Renewable Identification Number, or RIN, marketplace constrains the domestic refining base of the United States. Reducing the competitiveness of our refineries has the dangerous impact of undermining the capability of the U.S. military to project power in an increasingly hostile world.

Going forward in this debate, there are several relevant questions for Congress to consider:

1. Given the rote frequency of national security claims the EPA has made in support of alleged national security benefits attributable to the RFS, what specific and credible analyses has the Agency conducted to verify or confirm the current security case for the continued existence of the RFS?
2. Should the RFS increase fuel prices or diminish the domestic refining base, what analyses has the EPA performed to quantify and measure any national security degradations attributable to the program?
3. In 2022, the Congressionally mandated escalation of renewable volumes, which the EPA has never achieved under RFS, will be replaced by EPA management of the program, creating another undefined energy mandate. In light of the evolving national security landscape, how will the Agency consider substantive changes to the program's requirements and implementation in anticipation of that date?

In short, the RFS amounts to a substantial financial drain on the American taxpayer that imperils our nation's security, all for questionable environmental benefits. The United States stands to gain from consolidating and building upon our ongoing energy renaissance. We should not force an additional bureaucratic program using unproven fuels onto the already unstable and fragile energy markets.

Sincerely,



Kirk S. Lippold  
Commander, U.S. Navy (Ret)



**Advanced  
Biofuels  
Association**

June 22, 2016

The Honorable Ed Whitfield  
Chairman  
Subcommittee on Energy & Power  
U.S. House Committee on Energy &  
Commerce  
2125 Rayburn House Office Building  
Washington, D.C. 20515

The Honorable Bobby Rush  
Ranking Member  
Subcommittee on Energy & Power  
U.S. House Committee on Energy &  
Commerce  
2125 Rayburn House Office Building  
Washington, D.C. 20515

Dear Chairman Whitfield and Ranking Member Rush:

The Advanced Biofuels Association (ABFA) would like to thank you for holding this important hearing on the Renewable Fuel Standard (RFS). The ABFA represents over 30 producers and marketers of biofuels from around the world, commanding a total yearly production capacity of 9.6 billion gallons including over two billion gallons of biodiesel and renewable diesel. ABFA members are fueling trucks, boats, and planes with clean, low-carbon footprint, drop-in renewable fuels. The ABFA submits the following comments to contribute to the Committee's discussion regarding the status of the RFS.

The ABFA strongly supports reforming the RFS. We believe the current statutory construct of the program limits its effectiveness by hindering second and third generation biofuel companies' ability to finance the construction of new plants. We have detailed these limitations below for your consideration.

#### **Statutory Issues**

The first statutory issue with the RFS lies with the use of the EPA's overly liberal use of the waiver credit for cellulosic fuels. The waiver credit was intended to serve as a relief valve for obligated parties to prevent non-compliance due to cellulosic fuel shortage or overpricing of the fuels. However, the EPA's current statutory interpretation of the program leads to the EPA to issue the same amount of waiver credits as the cellulosic mandates. This creates a loophole for obligated parties, allowing them to buy credits in lieu of purchasing wet gallons of cellulosic fuel to meet their obligation, as was the intention of the authors of the legislation. We strongly urge this be reformed. The agency should only be allowed to issue waiver credits equal to the difference between the mandate and the gallons produced. The RFS must provide cost parity between purchasing the cellulosic fuels and other fuel options. If this parity is not achieved, the financial system will have no confidence that cellulosic plants will be able to compete in the market, creating uncertainty and making it unlikely that financial institutions will take the risk of financing future plants. Indeed, our members have been experiencing this frustration since the inception of this program.

Second, the RFS specifies the volume of fuels to be mandated for all four categories – renewable, advanced, biomass based diesel, and cellulosic – until 2022. Beyond that timeframe, it is clear that the program does not end and that the EPA will set the mandates moving forward. Given the EPA’s inconsistent record on administering the program to date, the 2022 timeframe creates fear and uncertainty as to what happens next for both the advanced biofuels industry and obligated parties.

Currently, banks refuse to give any value to RINs beyond 2022. Even the Department of Energy’s loan guarantee program will not give credit for the value of the RIN after 2022. This creates a limited repayment window at best of seven years. As advanced and cellulosic biofuels plants are capital intensive to build, this short timeframe makes the cost of financing a plant uncompetitive with first generation fuels that were built years ago. This disproportionately impacts advanced biofuels producers, especially as they compete with the incumbent oil and ethanol industry, which have benefited from tax incentives for decades.

As you know, prior to last year, the EPA failed to announce the program obligations on time for three years. These delays in market-driving Renewable Volume Obligations (RVOs), combined with record low crude and commodity prices, have dealt a crippling blow to the advanced biofuels industry. Many second and third generation companies were beginning to commercialize innovative technologies at the time, and were forced to turn away from the fuels sector, instead seeking revenue from chemicals, food, and other products. This left the first generation producers, most whom have already paid off their plants, as the overwhelming winners under the RFS2 program.

Therefore, ABFA believes that the future of a thriving advanced and cellulosic sector depends on a strong signal of support for the industry from the federal government well beyond the current 2022 timeframe. The advanced sector of the renewable fuels industry provides significant opportunity for the development of low-carbon footprint fuels in material volumes the world will need as the planet’s population grows. We urge Congress to reform the program to establish certainty beyond 2022 with sufficient runway for debt financing of new plants for years to come and return investor confidence in the industry.

#### **Administrative Changes**

In addition to these critical statutory issues, the complexity of the evolving industry has created a number of challenges with the way the EPA seeks to regulate and implement the current statute. Ironically, in a number of areas, it would be in EPA’s best interest if Congress would provide more guidance and direction on how to make some of these decisions. For some reason, only in America is what defines a waste debatable and difficult to ascertain, as it currently is defined by the EPA for RFS purposes.

Another significant concern lies in the barriers to entry created by the EPA’s reluctance to afford RINs for renewable fuels created using “intermediate feedstocks” to be “co-processed” by obligated parties. For example, fuels created using algae oils from synthetic biology are not given RINs due to the fear of double accounting, even though EPA has instituted a quality assurance program to guard against future fraud potential. Similarly, the EPA’s interpretation of

the statutory definitions of both feedstocks and pathways limit the opportunities for technologies to participate in the program.

Additionally, the EPA has struggled to perform its day-to-day statutory obligations in a timely manner. Obtaining a simple facility registration, increasing production volume, or getting approval for new feedstocks takes months at a minimum. These delays have put several of our members out of business and continue to make it almost impossible for others to garner the financing they need to move forward. Although the pathway registration has somewhat improved, it remains an arduous process, putting dozens of companies at risk and costing the industry time and money.

### **Success Story**

The biomass-based diesel pool stands out as a success story of the RFS program, as it has significantly outpaced the proposed statutory mandates. While the program originally called for one billion gallons of biomass-based diesel, the EPA is proposing a mandate of 2.1 billion gallons in its 2017 RVO. The actual gallons represent over 3 billion ethanol-equivalent gallons towards the proposed mandate of 4 billion proposed by the EPA for the advanced pool in 2017. Furthermore, we believe that number may actually be several hundred million gallons low considering the increase in the size of current facilities and the increased use of sustainable fuels flowing into our country from abroad. Since the enactment of the RFS2, we have developed drop-in gasoline and diesel, which are identical to fuels produced from a barrel of oil but with more than 50% greenhouse gas reductions. However, deployment has often been impeded by the financing issues discussed earlier. We have built several commercial-scale renewable diesel plants which produce low-carbon fuel that power heavy-duty vehicles, boats, and airplanes. In short, we have enabled more carbon reduction and more competition in the market, while driving more competitive fuel prices.

One of the primary reasons for this year's success has been the extension of the current biodiesel and renewable diesel blenders tax credit. We urge Congress to continue to support the industry by quickly reauthorizing all biofuels tax credits, including the biomass-based diesel and renewable diesel blenders credits. Our Association, in partnership with the National Association of Truck Stop Operators, the National Association of Convenience Stores, the Society of Independent Gasoline Marketers of America, the American Truckers Association and the Petroleum Marketers Association of America, supports the continued extension of the blenders credit moving forward. These organizations represent every gallon of diesel sold in the United States. For additional information please see the attached letter.

EIA will argue that biodiesel and renewable diesel, like ethanol, have blend wall issues at approximately five percent. We fundamentally disagree. By EIA's own admission, over 70 percent of the biodiesel blending occurs above or below the rack. Companies are constantly investing in blending technologies to provide various mixture levels with some blending as much as 15 percent. This has provided much higher use of these fuels and more RINs for obligated parties to meet their obligations.

Any mention of success of advanced biofuels without a salute to the leadership of the U.S. military would be remiss. Department of Defense leadership, particularly from the Navy, has

been significant for the advanced biofuels industry. Over the last few years, we have seen the Navy and the Air Force fly their most sophisticated fighter jets on blends as high as 50% advanced drop-in biofuels. Additionally, a number of flights utilizing drop-in fuels made from a wide range of feedstocks have been flown in the U.S. and around the world. As we move forward and have increased air traffic, these fuels are a particularly compelling contribution from the advanced biofuels sector to the future of our transportation industry.

#### **Points of Concern**

As of today, we continue to have a number of lawsuits filed in federal court challenging the RVOs that the EPA released last year. In the event any of these suits prevail against the EPA, they will once again send a loud signal of uncertainty around the entire program. This uncertainty will continue to have a disproportionate impact on the advanced biofuels sector, as advanced producers are still in the midst of financing new plants. Legislation and congressional direction could help to ease these challenges by providing, once and for all, clear intent of the Congress.

In addition, the EPA and Justice Department continue to find fraud in the RIN marketplace. Recently, they have obtained a number of new guilty pleas for RIN and tax fraud under the program. The number of affected gallons is unclear, but it is significant, and the current EPA program will require those replacement RINs to come out of the existing pool. This creates yet another uncertainty for the industry's ability to meet the existing RVO requirements with addition invalid RINs. The current EPA "Buyer Beware" program provides three different remedies for the same crime across three different time horizons. Indeed, this system leaves one scratching his head, as innocent parties wind up having to replace the affected RINs. Essentially, the fraudsters go to jail, and the tab gets sent to someone else. This is clearly not equitable, and Congress should review this aspect of the program in full.

#### **Conclusion**

On behalf of the members of the Advanced Biofuels Association, we thank the Committee for holding today's hearing. We appreciate the Committee's continued oversight and interest to ensure the RFS program is working on behalf of all Americans. We welcome the opportunity to answer any questions you may have. Thank you.

Cc: Chairman Fred Upton  
Ranking Member Frank Pallone  
Members of the House Committee on Energy & Commerce

06/09/2016



**Advanced  
Biofuels  
Association**



The Honorable Orrin Hatch  
Chairman  
Committee on Finance  
219 Dirksen SOB  
Washington, D.C. 20510

The Honorable Ron Wyden  
Ranking Member  
Committee on Finance  
219 Dirksen SOB  
Washington, D.C. 20510

Dear Chairman Hatch, Ranking Member Wyden, and Members of the Finance Committee:

The above organizations – representing the entire biodiesel supply chain, including consumers – write to reiterate the importance of the biodiesel blenders' tax credit in helping to displace traditional petroleum-based fuel with a cleaner-burning substitute. As the Finance Committee considers energy tax policy and comprehensive tax reform, we urge you to extend the biodiesel blenders' credit in its current form, and oppose any change to the existing tax credit's structure.

Since 2005, there has been a biodiesel and renewable diesel blenders' tax credit of \$1.00 for each gallon of biodiesel used in a qualified mixture. This tax credit, which expires at the end of 2016, has successfully stimulated production and driven consumer acceptance of biofuels by lowering the cost to consumers.



**For more than ten years, this tax credit has worked:** It creates a strong incentive for downstream fuel marketers to blend renewable fuel into the fuel supply all while lowering prices at the pump for consumers.

Allowing the credit to expire, or converting the biodiesel credit to a so-called *producer* credit, would increase the cost of biodiesel for consumers. Increasing the price of biofuels will reduce consumption of advanced biodiesel fuels resulting in higher amounts of harmful emissions from vehicles and higher heating oil prices. Converting the credit to a producer credit would primarily benefit a small number of large biodiesel producers and potentially violate trade agreements which could result in retaliatory sanctions against domestic industries.

Converting the credit to a producer credit is an extremely contentious issue that was specifically rejected in last year's final tax extenders package. No Committee in the House or the Senate has held a single hearing to examine this change. This proposed policy change potentially would (i) increase fuel prices for the millions of trucks that move two-thirds of the country's freight; (ii) raise the price of heating oil in the Northeast; and (iii) result in a trade violation. The proposal to amend the tax credit to shift the tax credit from consumers to refiners should be closely examined and rejected again.

We urge Congress to extend the current blenders' credit in its current form for an additional two years as Congress continues to consider comprehensive tax reform proposals. We urge you to reject any additional modification to this tax credit.

Respectfully,

**Advanced Biofuels Association  
NATSO, Representing America's Travel Plazas and Truckstops  
American Trucking Associations  
Society of Independent Gasoline Marketers of America  
National Association of Convenience Stores  
Petroleum Marketers Association of America**

CC:

**Members of the United States Senate Committee on Finance**



777 North Capitol Street, NE, Suite 805, Washington, D.C. 20002  
PHONE 202.545.4000 FAX 202.545.4001

GrowthEnergy.org

June 22, 2016

The Honorable Ed Whitfield  
Chairman  
Subcommittee on Energy and Power  
Energy and Commerce Committee  
United States House of Representatives  
Washington, DC 20515

The Honorable Bobby Rush  
Ranking Member  
Subcommittee on Energy and Power  
Energy and Commerce Committee  
United States House of Representatives  
Washington, DC 20515

Dear Chairman Whitfield and Ranking Member Rush:

Thank you for allowing me to provide comments for today's hearing examining the Renewable Fuel Standard (RFS). I appreciate the opportunity to submit this testimony for the official record of the hearing.

Growth Energy represents nearly 90 ethanol plants, 90 suppliers, and tens of thousands of ethanol supporters. Today, our industry produces over 14 billion gallons of renewable fuel and over 44 million tons of distiller grains, meeting our nation's need for fuel and food.

The RFS and the development of our nation's renewable fuel industry have been a resounding success, delivering clean, secure and affordable energy to every American. Corn ethanol is an earth-friendly biofuel that reduces greenhouse gas emissions by an average of 34 percent, while advanced biofuels can reduce emissions by 100 percent or more over gasoline. Ethanol displaces toxic chemicals in gasoline that are proven to cause cancer and smog. And, because it has the highest blending octane of available alternatives, ethanol allows for better performing engines that have greater fuel efficiency.

Every gallon of clean-burning ethanol decreases our dependence on foreign oil. One truckload of American ethanol displaces more than 60 barrels of imported oil. In fact, since the RFS was first enacted in 2005, we have cut our oil imports by more than half.

The RFS has also given consumers a choice at the pump – with fuels like ethanol saving consumers as much as \$1 per gallon. Today, higher ethanol blends such as E15 and E85 are already available at thousands of gas stations around the country. And, major retailers such as Sheetz, Kum and Go, and Thorntons, working with the USDA's Biofuels Infrastructure Partnership program, are installing ethanol blends at hundreds of high-volume fuel locations in places like North Carolina, Pennsylvania, Colorado, and Chicago – making these cost-competitive fuel blends available to more and more consumers.

The RFS has also been critical to our nation's agriculture and rural economy. Ethanol production has provided an essential market for our nation's grain farmers and has revitalized rural communities around the country while saving taxpayers billions of dollars in farm program payments. This policy supports nearly 400,000 U.S. jobs.

The EPA's 2017 proposal represents a step forward from last year's final volume obligations. But now is not the time to back away from the ambitious, yet achievable, goals of the RFS. If we want our nation to lead with the production of 21<sup>st</sup> century fuels for 21<sup>st</sup> century vehicles, we need the EPA to modify this rule before it is finalized. To fix this rule, EPA should:

- Fully commit to the 15 billion gallons of conventional biofuel that are called for in the statute. The proposed rulemaking falls 200 million gallons short, and a number of pathways exist to allow the statutory volumes to be met;
- Eliminate the faulty waiver authority that redefines supply as demand. Congress explicitly rejected the usage of retail refueling infrastructure during the debate on the RFS;
- Fully account for billions of RINs available to obligated parties for compliance, which further adds to reasons why they proposed rule should be increased;
- Fully account for the volumes that can be consumed through the expansion of availability of E15 and E85; and,
- Consider that ethanol producers, retailers and the current auto fleet are fully capable of utilizing higher blends such as E15, giving consumers a true choice at the pump.

It is imperative that the EPA honors its commitment to implement the law as Congress intended. Doing so will give both first and second generation biofuel producers the signal that the EPA is not backing away from our country's most successful climate and energy policy. Further, that certainty will drive continued innovation in next generation fuels.

Without moving the RFS forward, major oil companies who control the fueling infrastructure will continue to stonewall and protect their near monopoly on the motor fuels marketplace. Further, we would continue the status quo of our dangerous dependence on foreign oil and fossil fuels.

I also want to touch on a regulatory hurdle and market barrier to entry that impacts the E15 marketplace that is not being covered at today's hearing. Due to a 26-year old legislative oversight, even though E15 is a less expensive, higher performing fuel, it cannot be sold like E10 during the summer months. This is because of statutory Reid Vapor Pressure (RVP) restrictions. And legislation has been offered in the House of Representatives to fix this problem (H.R. 1736).

RVP is a measurement of evaporative emissions from motor vehicles. Under the Clean Air Act, RVP is capped at 9 pounds per square inch (psi). E10 comes in at around 10 psi, but given the fuel's favorable environmental profile it was issued a one pound waiver under the 1990 Clean Air Act Amendments. As the ethanol level in gasoline increases, the RVP decreases, resulting in a cleaner fuel. While the RVP of E15 is less than E10, measuring between 9 and 10 psi, it does not receive the same waiver as E10, making retailers comply with two separate RVP levels. Because of this, fuel retailers are not allowed to sell E15 in certain areas of the country during the summer months, even though it is a cleaner fuel than E10.

For retailers already selling E15, this causes confusion for their clientele who have become accustomed to using a less expensive and better performing fuel in E15. While they can purchase E15 the same way as E10 on May 31, from June 1 to September 15 they are advised that the exact same fuel they just purchased will not be available to them for several months. Most importantly, this acts as an illogical barrier to fuel retailers who are interested in offering E15, but shy away because of the implications of not being able to sell a fuel year-around. In all of this, it is the consumer who suffers. Americans should have the option to choose what kind of fuel they use, not be subjected to a "one size fits all" rule. By fixing this RVP issue, consumers will have the choice of using a cleaner, higher performing, less expensive fuel.

Today you may hear claims about how the RFS has failed and how it is incompatible with our nation's values. Let me be very clear on this: the RFS has been a resounding success. It is a beacon proving that we will not allow one industry to have a stranglehold on an entire nation's fuel supply. I'm not sure what could be more American than that.

Sincerely,



Emily Skor, CEO  
Growth Energy



**TESTIMONY OF ROGER JOHNSON  
PRESIDENT  
NATIONAL FARMERS UNION**

**SUBMITTED TO THE U.S. HOUSE OF REPRESENTATIVES COMMITTEE ON ENERGY AND COMMERCE  
SUBCOMMITTEE ON ENERGY AND POWER  
REGARDING THE RENEWABLE FUEL STANDARD- IMPLEMENTATION ISSUES  
JUNE 22, 2016  
WASHINGTON, DC**

**National Farmers Union  
20 F ST NW, Suite 300  
Washington, DC 20001**

Thank you for the opportunity to submit testimony to this subcommittee. National Farmers Union (NFU) represents about 200,000 family farmers. NFU was organized in Point, Texas in 1902 with the mission of improving the wellbeing and economic opportunity for family farmers, ranchers, and rural communities through grassroots-driven advocacy. That mission still drives NFU's work today. As a general farm organization, NFU represents agricultural producers across the country and in all segments of agriculture.

NFU, as directed by its member driven policy at its annual convention, advocates for climate resilience and energy independence for the U.S. In pursuit of these goals, the proper implementation of the Renewable Fuel Standard (RFS) as enhanced in the Energy Independence and Security Act (EISA) of 2007 is an important priority for family farmers and rural communities. The RFS carries tremendous potential to mitigate the negative consequences of climate change by offering consumers choices of transportation fuels that emit less climate changing greenhouse gasses (GHGs). It also builds economic stability in rural communities, which opens the door to other important farmer conversations policymakers will need to have about climate change mitigation and adaptation in the future.

NFU must express disappointment that this hearing is necessary. While we acknowledge that issuing a proposed and final rule on an annual schedule is no small task for a federal agency, we assert that EPA has made this work much more complicated than it should be. EPA is obligated by the EISA to evaluate the available supply of each category of biofuels. If sufficient supply exists to allow refiners to use the mandated volumes, EPA must set the annual targets at those levels. It is an administrative challenge to make these calculations every year, but it is a much smaller workload than when the agency considers issuing a waiver for which it does not have the legal authority.

The statutory language authorizing the RFS limits authority to invoke a general waiver, as EPA has proposed to use, to instances where the requirements in the statute would cause severe economic harm or where there is an inadequate domestic supply.<sup>1</sup> EPA asserts that there is an inadequate supply of biofuels, justifying a general waiver, but this is not the case. With the exception of cellulosic biofuels, ample supply exists. Unfortunately, EPA's actions have contributed to policy uncertainty that has undermined the investment needed for further cellulosic biofuel development. There is no indication that, as EPA proposes, the ability of branded transportation fuel retailers should factor into the assessment of supply. The law was passed with the intent to force fuel retailers to make the changes and investments necessary to offer consumers adequate amounts of sufficiently high biofuel blends to satisfy the volume targets listed in the law.

The use of waiver authority this year is even more egregious since branded transportation fuel companies were essentially granted an extension on the infrastructure adjustments the law forces with the volume targets for 2014, 2015 and 2016 finalized last year. NFU appreciates that powerful business interests are in strong opposition to the mandated volume targets. This does not change the fact that

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<sup>1</sup> 42 USC §7545(o)(7)(A)(i)-(ii)

these businesses have been on notice of what would be required of them since 2007, just as the farmers who are now enduring the consequences of detrimental reliance on the statutory language.

Proper implementation would have involved setting the statutory volumes, with some added time to consider the best course of action for cellulosic biofuels. EPA should take this course immediately for the final rule and all proposed volume targets for the duration of the program; it will realize the intended benefits of the RFS and make administration of the program much easier for the agency.

Thank you again for the opportunity to testify. NFU stands ready to provide any additional support that may be helpful to this committee in the pursuit of climate resilience and energy independence.

Sincerely,



Roger Johnson  
President



Statement of the  
**National Council of Chain Restaurants**

submitted to the  
**U.S. House Committee on  
Energy and Commerce, Subcommittee on Energy and Power**  
for its hearing on  
**“The Renewal Fuel Standard – Implementation Issues”**  
held on

June 22, 2016

**Robert J. Green**  
Executive Director

On behalf of:  
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National Council of Chain Restaurants  
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On behalf of the National Council of Chain Restaurants (NCCR), I submit this statement for the record for today's hearing, "The Renewable Fuel Standard – Implementation Issues." NCCR's interest in the RFS stems from the well-documented correlation between the statute's conventional biofuel mandate, which is met largely through corn-derived ethanol, and the associated increase in volatility of food commodity prices since the law's inception in 2005. We are pleased that the Subcommittee is holding its first hearing on this important subject in the 114<sup>th</sup> Congress. However, since the witness panel does not include stakeholders representing American's food chain, the following information is intended to provide helpful information about the RFS' dramatic impact on food commodity costs.

NCCR's member companies, which include the country's most well-known brands representing tens of thousands of individual small business franchisees, began observing consistently higher costs for beef, chicken, pork, dairy products and soy oil soon after the RFS was first implemented in 2006. The resulting higher prices posed a severe and sustained economic burden for chain restaurant franchisees - small business men and women across the U.S. who employ millions of Americans and who contribute to the economies and social fabric of their local communities.

NCCR commissioned a study from PricewaterhouseCoopers which examined whether the RFS contributes to higher prices across a range of food commodities and, if so, the magnitude of those higher prices. PwC found that the RFS's conventional biofuel mandate would raise commodity costs for the chain restaurant industry, which is but one segment of the overall restaurant sector, by \$3.2 billion per year, every year the RFS remains in effect. As you know, the statute includes a schedule of pre-established biofuel volumes, which the Environmental Protection Agency (EPA) is charged with implementing, subject to its discretion within narrow bounds, through the year 2022. After that year the EPA is authorized to administer the RFS program at its own discretion and without the direction of Congress and may continue to do so indefinitely.

For an individual chain restaurant franchisee, PwC concluded the RFS imposes an annual cost of approximately \$18,000, per restaurant location. So, for example, if a franchisee owns more than one restaurant location, as is sometimes the case, the RFS' cost in higher food commodity prices can multiply very quickly. Moreover, the PwC study's estimates were conservative in nature, and NCCR member companies have conducted their own analyses based on their own menus and purchasing patterns and have concluded the annual cost is typically much higher. Finally, the PwC estimates were prospective only, from 2015 onward, and did not factor in the cumulative higher costs that resulted between the years when the RFS was first implemented in 2006 and 2015. This nine-year span likely encompassed a cumulative \$30 billion in excess food commodity expenditures that would not have occurred in the absence of the RFS mandate.

NCCR collaborated with other food industry stakeholders, including dairy, poultry, and livestock producers, distributors and other interests in the food supply chain which also experience severe feed and food cost volatility from the RFS to form a coalition, RFS Off the Menu, which seeks legislative repeal or significant reform to this flawed statute.

Moreover, knowing that the negative consequences of the RFS extend well beyond food cost considerations and include concerns about the RFS' impact on the environment, land use, boat, car and motorcycle engines, economic competition and a host of other considerations, NCCR is part of a broad-based and diverse coalition of "strange bedfellows" representing all those who are harmed by this damaging mandate.

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At some point in the future, alternative forms of biofuel which are not derived from human and animal feedstocks might be produced on a commercially-viable scale. However, those days have not yet arrived. Until then, the extreme volatility and general upward trend in food commodity costs caused by the RFS will continue. The increased costs to the food chain will have to be paid as long as the policy remains in place.

In exchange for alleged benefits which the events of past decade have disproven, the RFS ethanol mandate effectively requires American consumers, and everyone who operates a business in the food supply chain, to pay a tax on the food they purchase. However laudable the mandate's intended goals, its downsides outweigh any possible benefits.

The chain restaurant industry isn't anti-ethanol. We simply believe it is time for the ethanol industry to stand on its own, as restaurant owners and operators do every day. In fact, we recognize that if the RFS were repealed tomorrow, there would still be a robust market for ethanol as an oxygenate and octane booster in gasoline fuel. But the existence of the mandate prevents the market from being able to adjust to supply and demand forces during supply shocks in the corn market, such as droughts, floods or other adverse weather events. Congress should pass legislation to repeal the misguided Renewable Fuel Standard corn ethanol mandate and allow the free market to allocate corn to its most highly valued use at all times. The RFS is a government-imposed mandate which distorts the free market and results in negative consequences for the food supply chain.

Chairman Bob Goodlatte (VA) is the primary sponsor of two bills which attempt to address the problems created by the RFS. H.R. 703 would repeal the RFS entirely and it is cosponsored by over 80 members of Congress. H.R. 704 would excise the RFS' most onerous and damaging provision, the conventional, corn ethanol mandate, while leaving in place the mandate for advanced biofuels which are not derived from edible feedstocks. The latter bill is cosponsored by a bipartisan list of over 50 members of Congress. The Committee should consider one or both of these bills in the coming weeks.

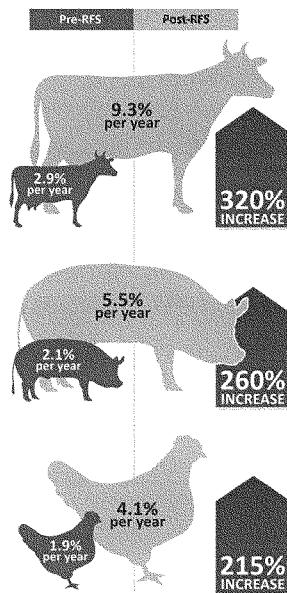
Attached are several documents which illustrate the RFS' impact on chain restaurant small business franchisees, the food supply chain broadly, and the diverse collection of stakeholders calling for legislative action on the RFS.

Thank you for this opportunity to submit this statement for the record.

nrf.com/nccr

## THE GOVERNMENT CORN ETHANOL MANDATE RAISES FOOD COSTS FOR SMALL BUSINESSES.

### ANNUAL WHOLESALE PRICE INCREASES FOR BEEF, PORK AND CHICKEN<sup>1</sup>



Because of the Federal Renewable Fuel Standard (RFS), the rate of wholesale food inflation in beef, pork and chicken has skyrocketed. Due to fierce competition, challenging economic conditions and consumer demand, small business chain restaurants are hesitant to pass on these higher wholesale costs to the retail consumer.

### HOWEVER, THE CORN ETHANOL MANDATE COSTS CHAIN RESTAURANTS

**\$3.2 BILLION EVERY YEAR<sup>2</sup>**

This means fewer restaurants, lost jobs and higher menu prices. Visit [RFSOfftheMenu.org](http://RFSOfftheMenu.org).

### TELL CONGRESS:

Repeal the RFS Corn Ethanol Mandate!  
Support H.R. 703, H.R. 704, S. 577 and S. 1584.

<sup>1</sup>U.S. Bureau of Labor Statistics Beef & Veal PPI, Pork Products, and Processed Poultry PPI (Dec-Dec not seasonally adjusted); 2001-2007; 2008-2014  
<sup>2</sup>PWC 2012 Federal Ethanol Policies and Chain Restaurant Food Costs

**NCCR** | NRF's CHAIN RESTAURANT DIVISION

## What Diverse Stakeholders Say About the RFS

### From ActionAid USA

- Food-based biofuel mandates undermine food security and increase hunger globally by contributing to increased food prices.
- Ensuring access to food means having the ability to pay for it. Since poor people in developing countries already spend a large amount of their income on food – in some places as high as 80 percent – even small changes in price can make a big difference in their ability to feed their families.
- Secure land tenure or ownership is critical to small family farmers' ability to feed themselves and their families. Demand for food-based biofuels also drives up demand for agricultural land, which leads to these farmers being kicked off their land.

### From the American Highway Users Alliance

- Many drivers are concerned about the damage to vehicle engines from fuels with ethanol blends higher than 10%. For some vehicles, higher blends could void warranties and require consumers to pay out of pocket for engine replacements.
- Exceeding the "blend wall" could sharply inflate the cost of Renewable Identification Numbers, which could lead to higher prices for both gasoline and diesel. Drivers should not have to pay for a RIN scheme that few understand and benefit speculators and the ethanol industry at the expense of the public.
- Ethanol reduces fuel efficiency. Drivers should not be forced to put fuel in their vehicles with higher ethanol content that will further reduce their vehicles' fuel economy -- forcing drivers to fill-up their tanks more frequently.

### From the American Motorcyclist Association

- The AMA opposes the further distribution of E15 in the marketplace, because it can damage motorcycle engines and fuel systems and may void manufacturers' warranties. In November, the U.S. Environmental Protection Agency issued Renewable Fuel Standard volume requirements that require more high-ethanol blended gasoline in the marketplace. That move increases the risk of inadvertent misfueling for motorcyclists and all-terrain-vehicle owners.
- The practical effect of the EPA's action is that more E15 and less E10 on the market. And, there will be a substantial reduction of E0, which is crucial to the safe operation of popular older and vintage motorcycles.

### From the American Sportfishing Association

- The American Sportfishing Association, which represents sportfishing manufacturers, retailers, wholesalers, and angler advocacy groups, urges Congress to reform the Renewable Fuel Standard (RFS) as soon as possible.
- About half of all anglers (~23 million people annually) use a boat while salt or freshwater fishing. Motorboats are essential equipment to anglers because they provide access to fishable waters that they would not have otherwise. At the same time, safety while operating a motorboat is of utmost importance, and the ethanol mandate in the RFS has compromised that protection for consumers.

- The RFS has catalyzed the expansion of ethanol in fuel to a dangerous level. Known as E15, this significant increase in ethanol is destroying marine engine durability, performance and emissions, voiding warranties and leaving anglers and boaters stranded on the water.

**From the Association of Kentucky Fried Chicken Franchisees**

- Since the RFS was implemented in 2005 and expanded in 2007, the restaurant industry has faced unprecedented food cost volatility and escalating inflation as more land has been diverted away from producing food to produce biofuels.
- Last fall the EPA was expected to provide businesses impacted by the RFS with some relief. However the EPA failed to act so now Congress must show leadership and put an end to subsidizing corn prices through the misguided RFS.
- These higher ingredient costs have led to substantial impacts to the restaurant operator as PWC estimates, quick serve restaurant operator costs have risen by \$18,000 per store annually due to the RFS.

**From the Competitive Enterprise Institute**

- The RFS is a textbook study in unintended consequences, as my colleagues from other organizations amply document. But even if it worked exactly as advertised, Congress should still repeal it. The RFS literally compels one industry to purchase, process, and create a market for another industry's products. That is not the American way.
- To see the anomaly, imagine the shoe were on the other foot. Suppose Congress proposed to enact WVOs (wheat volume obligations) requiring corn farmers to buy, blend, and sell annually increasing quantities of wheat, or IVOs (input volume obligations) requiring them to purchase annually increasing quantities of specific seeds, fertilizers, and farm machinery. The howls from RFS supporters would be loud and furious. And justifiably so.
- The implication is obvious. The RFS is a system of special privilege. It is an affront to our constitutional principle of equality under law.

**From the National Association of Egg Farmers**

- Ethanol costs 3.5 times as much as gasoline to produce, but contains only 65% as much energy per gallon as gasoline.
- Ethanol burns hotter than gasoline. It collects water and corrodes plastic, rubber and soft metal parts. Older engines and systems may not be able to handle E15 (15% ethanol) or even E12 (12% ethanol) which could also increase emissions and adversely affect engine, fuel pump and sensor durability.
- Corn growers will benefit from a higher ethanol use, however government mandates mean higher prices for corn. Thus, eggs, beef, pork, poultry farmers must pay more for corn-based feed; grocery manufacturers face higher prices for eggs, meat and corn syrup and overall grocery bills go up.

**From the National Chicken Council**

- Ethanol producers have a market guaranteed by law: the fuel companies are required to buy corn-based ethanol whether they want it or not, or whether motorists want it or not. Food producers have to compete for the corn that's left.

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- The RFS imposes biofuel blending requirements that greatly impact the chicken industry, as well as all poultry and livestock production. The impact of the food versus fuel pressure on feedstock has been severe. Since the RFS was enacted, chicken companies have faced \$53 billion in higher actual feed costs due to the RFS.
- During the RFS era, at least a dozen chicken companies have ceased operations – filing for bankruptcy or having been acquired by another company. Today, our industry remains only one drought or flood away from another economic crisis.

**From the National Council of Chain Restaurants**

- The RFS causes tremendous volatility in food commodity markets, resulting in periodic spikes in wholesale food costs for food retailers like small business chain restaurant franchisees.
- For example, between 2001 and 2007, before implementation of RFS2, the annual wholesale price inflation for beef, pork and chicken was 2.9%, 2.1% and 1.9%, respectively.
- Between 2008 and 2014, however, after full implementation of RFS2, annual wholesale price inflation for these food commodities skyrocketed to 9.3%, 5.5% and 4.1%. These dramatic increases put enormous strain on small business chain restaurant owners who, due to competitive pressures, can't always simply pass on the costs to their customers.

**From the National Marine Manufacturers Association**

- Introduction of E15 into the marketplace poses one of the greatest threats to recreational boating. E15 is proven to damage marine engines and pose serious human safety, environmental, and technology concerns.

**From the National Restaurant Association**

- Since its inception, the Renewable Fuel Standard (RFS) has caused food costs to rise, which has severely challenged our nation's restaurant operators and the millions of customers they serve each day. Food costs are a chief concern for the foodservice industry, representing about a third of every dollar in restaurant sales. Repealing this mandate would help to lower these costs throughout the supply chain benefiting small businesses, consumers, and the economy overall. The National Restaurant Association has joined with industry groups in urging Congress to repeal the RFS.
- The Renewable Fuel Standard (RFS) is broken and is failing to achieve its stated goals. By shifting more corn crops to ethanol production and away from food or livestock feed, the RFS is a major driver of increased food prices. Since its inception, food prices have risen dramatically, causing real financial harm to restaurants and foodservice operators across the nation. In fact, a PricewaterhouseCoopers study that examined the effects of the RFS on the chain restaurant industry concluded that the mandate increases costs for chain restaurants on a variety of food commodities by \$3.2 billion annually.
- The National Restaurant Association urges Congress to repeal the RFS to help protect consumers and businesses from food price volatility. We specifically urge members of Congress to support and pass legislation to repeal this harmful policy including H.R. 703, H.R. 704, S. 577, and S. 1584.

#### **From the National Taxpayers Union**

- The corn ethanol mandate is a hidden tax on consumers raising the cost of food and transportation, while at the same time harming their boats, motorcycles, and other personal property.
- The Renewable Fuel Standard's mandates distort energy markets, limit consumer choice, discourage innovation and are fundamentally at odds with free market principles.
- The Renewable Fuel Standard is a broken, unworkable policy founded on faulty assumptions about future technologies, consumer behavior, and the economy.
- Until a long-term legislative solution is found, the Environmental Protection Agency and elected officials should bring the ethanol mandate in line with consumer demand and avoid increasing ethanol content in the fuel supply.

#### **From Smithfield Foods**

- Smithfield Foods does not support the Renewable Fuel Standard (RFS) program, which requires corn to be processed into ethanol at ever-increasing volumes irrespective of market conditions.
- The RFS diverts grain from food into fuel, artificially driving demand and reducing supply. Over 40% of the corn crop is used to make ethanol – no other industry uses as much corn as ethanol producers.
- Corn is the most important crop for American food producers and consumers. It is the predominant grain in animal feed and constitutes roughly 70 percent of the cost of bringing a hog to market weight.
- An increased cost in corn prices translates to higher feed prices. These higher feed prices not only hurt our livestock farmers, but also the American people, who are paying more for their food as a result.

#### **From the Snack Food Association**

- The Snack Food Association supports efforts to reduce the impact biofuels have on food costs, including reforms to the Renewable Fuel Standard. SFA participates in several coalition efforts that push back against the negative impact of the RFS and supports legislation to reform biofuels policy.
- Commodity price increases are caused by an array of factors, from general inflation, to the international value of the U.S. dollar and export demand, to farm production issues related to the severe drought in the Corn Belt in 2012. The U.S. domestic biofuels policy has been another contributor to tight supplies and increased prices. Despite the increase in corn production since 2006, other uses for corn have declined as more corn has been diverted for use in ethanol production. An additional concern exists that because currently there is not enough cellulosic production to meet the advanced RFS mandate, biodiesel could be more heavily relied on to make up the difference.
- It has been more than five years since the RFS was last revised. In November 2014, the Environmental Protection Agency (EPA) proposed to slightly lower the ethanol volume mandate for 2014. This is the first time the agency has recommended decreasing the prescribed volume set by the RFS. While this action was an appreciated first step, additional reforms are needed to fully address the negative impacts the RFS has on the food industry.

Everyone Knows

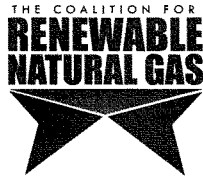
# The RFS is Broken.

It's time for Congress to ACT!



#RFSbroken





The Honorable Ed Whitfield  
Chairman  
Subcommittee on Energy and Power  
Energy and Commerce Committee  
U.S. House of Representatives  
Washington, D.C. 20515

The Honorable Bobby Rush  
Ranking Member  
Subcommittee on Energy and Power  
Energy and Commerce Committee  
U.S. House of Representatives  
Washington, D.C. 20515

**Re: Testimony for the Official Record of the Hearing entitled “The Renewable Fuel Standard – Implementation Issues” Held on June 22, 2016**

Dear Chairman Whitfield, Ranking Member Rush, and Subcommittee on Energy and Power:

The Renewable Natural Gas (RNG, biomethane or upgraded biogas) industry is leading in the delivery of cellulosic biofuel in the United States. Compressed natural gas (CNG) and liquefied natural gas (LNG) derived from renewable feedstocks, including agriculture wastes, municipal wastewater, and municipal solid waste in landfills, make up a heavy majority of our nation's cellulosic biofuel production and generation of D3 RINs under the Renewable Fuel Standard (RFS). Renewable CNG and renewable LNG made up 98% of cellulosic RIN generation under the RFS program in 2015.

We thank the Subcommittee on Energy and Power for the opportunity to comment on the June 22 hearing entitled: *The Renewable Fuel Standard – Implementation Issues*. Given the scope of our respective representation and given that other Advanced Biofuel (D5 RIN) industry representatives are providing testimony or comment to the hearing, we will limit our comments to issues impacting gaseous cellulosic biofuels.

**I. ABOUT US**

The Coalition for Renewable Natural Gas (RNG Coalition) is a not-for-profit association that provides public policy advocacy and education for the RNG industry in North America. Our members represent the full value chain of cellulosic waste feedstock conversion to transportation fuel as regulated under the RFS, including producers of 90% of all the RNG in North America. Together, we are dedicated to the advancement

and increased utilization of RNG as a clean, green, alternative and domestic energy and fuel resource.

## II. COMMENTS TO THE HEARING TO EXAMINE IMPLEMENTATION ISSUES OF THE RFS

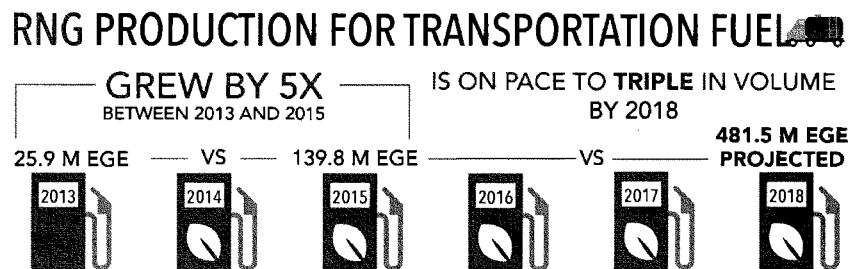
### The RFS is delivering on its purpose to stimulate growth and development of advanced and cellulosic biofuels.

Congress intended that the RFS create and grow cellulosic and advanced biofuels markets in the United States. The Energy Independence and Security Act of 2007 (EISA) tables of statutory “applicable volumes”<sup>1</sup> demonstrate the growth in demand they intended the RFS to drive in biofuels industries. The statutory table shows that in the long-term, the majority of growth was intended to come from cellulosic and other advanced biofuels.

Congress set volumes in the statutory tables using the best information available at the time, with limited ability to predict actual market implementation or account for environmental or market risks. Many factors, including, but not limited to the financial recession and lack of certainty of policy stability, delayed the commencement and rate of growth in the cellulosic biofuels industry.

**The commencement and rate of industry growth that Congress intended under the RFS is now occurring**, simply at a delayed interval compared to what Congress anticipated. The production and use of RNG as a cellulosic transportation fuel is now growing at an unprecedented rate (see Figure 1 and Figure 2). Since the pathway approval of renewable CNG and LNG as an eligible cellulosic biofuel under the RFS phase 2 amendments in 2014, the industry has responded.

Figure 1:



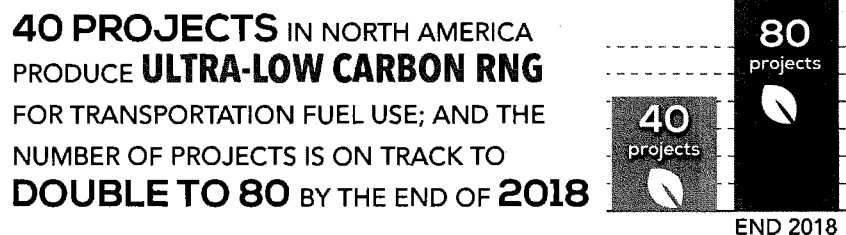
<sup>1</sup> Clean Air Act (CAA) 211(o)(2)(B)(i)(III).

In a partial year in 2014, EPA called for 33 million D3 RINs. Production increased over three-fold in 2015, with 140 million D3 RIN gallons produced under the program. RNG industry data that we have submitted to EPA as confidential business information indicates that the cellulosic biofuels industry is on track to meet the 230-million-gallon requirement set by EPA for 2016.

EPA proposes a 2017 cellulosic biofuel requirement of 312 million gallons. This number represents a 35% increase over the 2016 requirement, and is more than double the volume produced under the program in 2015. This progressive increase in the cellulosic biofuel requirement is both warranted by law and supported by comprehensive and sound data that demonstrates the considerable growth and progress of the cellulosic biofuel industries. In fact, since EPA released its 2017 RVO earlier this year, new projects have entered contracts for RNG deployment and have begun construction. As EPA considers this newly available data, we anticipate that a higher cellulosic biofuels RVO for 2017 will prove warranted.

As in years past, we anticipate that Renewable-CNG and Renewable-LNG will predominantly supply U.S. demand for cellulosic biofuel in 2017, as reflected in the renewable volume obligation (RVO) of the Proposed Rule.

Figure 2:



**We support the stated cellulosic biofuel provisions impacting Renewable Compressed and Renewable Liquefied Natural Gas in the RFS, and in the 2017 Renewable Fuel Volume Obligations (RVO).**

The RFS is driving growth in RNG and accomplishing what creators of the program aimed for – deployment of domestic, ultra-clean renewable fuel. As such, Congress should send strong signals to the market by instructing EPA to continue administering the gaseous cellulosic biofuel provisions within the existing RFS framework.

If Congress chooses to begin amending the RFS, the original intentions of the program would be best served through a firm commitment by Congress to continue the current program's cellulosic biofuel provisions.

Elimination of the cellulosic and advanced biofuel provisions in the RFS program would have unpredictable effects. It may endanger the survival of the cellulosic biofuels industries – the precise fuels category that Congress intended to grow long term by instituting the RFS. This would have significant environmental and economic consequences (see Figure 3).

On a “life-cycle” basis,<sup>2</sup> RNG has the lowest carbon intensity of all transportation fuels.<sup>3</sup> RNG has a near-zero carbon footprint and in some cases is carbon negative.<sup>4</sup> Geologic natural gas can reduce vehicle carbon dioxide emissions by 20 to 25 percent over diesel.<sup>5</sup> RNG reduces carbon dioxide emissions by 80 percent or more over diesel.<sup>6</sup> Finally, natural gas (geologic and renewable) can reduce toxic pollutants such as nitrous oxides and sulfur oxides by as much as 80% and 99% respectively as compared to diesel.<sup>7</sup>

Figure 3:



Cellulosic biofuels industry entrepreneurs, business owners, financiers, and marketers have invested over a billion dollars in response to Congress enacting the RFS program. RNG projects have not only helped decarbonize our nation's natural gas pipelines and transportation system, but also have created more jobs per project than any other renewable energy (120 direct and indirect jobs per project). We respectfully, but critically, request that members of the Committee and members of Congress regard the

<sup>2</sup> “Life-cycle” analysis takes into account the carbon intensity of production, distribution, and end-use, etc.

<sup>3</sup> *Energy Vision and U.S. Department of Energy Clean Cities Program, “Turning Waste Into Vehicle Fuel: Renewable Natural Gas (RNG): A Step-By-Step Guide For Communities; Page 6.*

<sup>4</sup> *U.S. Department of Energy, Clean Cities Program, “Turning Waste Into Vehicle Fuel: Renewable Natural Gas (RNG): A Step-By-Step Guide For Communities; Page 6.*

<sup>5</sup> *Id.*

<sup>6</sup> According to CA-GREET, version 1.8B and *Argonne National Laboratory, “Waste-to-Wheel Analysis of Anaerobic-Digestion-Based Renewable Natural Gas Pathways with the GREET Model,” September 2011.*

<sup>7</sup> “Natural Gas and the Environment.” *NaturalGas.org*. n.p., 20 Sept. 2013. Web. 13 Aug. 2015. <http://naturalgas.org/environment/naturalgas/>

economic and environmental advantages of keeping the cellulosic biofuel provisions of the RFS in place.

**Congress and EPA Must Work Together to Continue to Send Clear Market Signals to the Cellulosic Biofuel Industries.**

Financing is among the most significant challenges cellulosic biofuel producers face in their efforts to bring new biofuel to the U.S. market. Underwriting requires a degree of certainty that the RFS has not yet sufficiently provided. Cellulosic biofuel producers must be able to demonstrate to their financiers that there will be a sufficient market for the fuel they produce.

EPA took a significant and positive step in that direction last year with the release of three years of published RVOs. The reaction from the financing community has been positive. Cellulosic biofuel projects are more readily obtaining financing and receiving terms that reflect a more stable market. The continuation of the RVO process, on a regular schedule, and using consistent methodologies, will continue to send positive market signals.

Questions and rumor surrounding the future of the RFS post-2022 continue to limit financing and contract commitments. We will continue to provide education about RFS and reassure decision makers that the program does not sunset in 2022 – that new legislation would have to be passed by Congress and signed into law by the President for any changes to the program to take effect. We request that EPA assist us in this effort by making clear and regular statements about the future of the program post-2022.

Additionally, we request that Congress join EPA in making clear and regular statements about its intent not to strand available cellulosic biofuel produced in compliance with the RFS, especially where total biofuel available is well under the statutory limits.

**Implementation of the RFS is back on track, and Congress should allow EPA to continue on course.**

EPA's administration of the RFS is back on track. In early 2015, EPA published a joint draft rule for the 2014-2016 RVOs, and accepted comment on the draft. In November 2015, EPA placed the RFS on schedule by releasing the 2014-2016 Renewable Fuel Volumes Final Rule.

Administration of the program for 2016 remains on track, with EPA having issued the 2017 RVO Draft Rule on time in May 2016. All indicators point to EPA achieving publication of a final rule by the November 2016 target date.

Additionally, EPA has been responsive and cooperative in continuing to work with the RNG industry in its administration of the program. We commend EPA for their ongoing engagement with the RNG Coalition, specifically, and with the cellulosic biofuels industries generally, to ensure EPA's rulemakings continue to improve D3 RIN market liquidity.

As further example that EPA's administration of the RFS is working, we offer the following two points, which reflect content we also plan to submit in our comments to EPA's 2017 RVO Draft Rule. We will reserve our remaining comments concerning the 2017 RVO to the appropriate rulemaking.

**1. EPA is Correct to set the 2017 Cellulosic Biofuel Requirement at a Level Below Statutory Table Volumes.**

While Congress overestimated the commencement and rate of industry growth, they offered provision for EPA's alternative administration of the program. The Clean Air Act requires that the RVO for cellulosic biofuel be the lesser of volume specified in CAA 211(o)(2)(B)(i)(III),<sup>8</sup> or EPA's assessment of "projected volume available" during the calendar year in coordination with other federal agencies.<sup>9</sup>

We agree that EPA is correct in its determination that "projected volume available," and not the statutory tables, is appropriate for setting cellulosic biofuel obligations in 2017. While the renewable natural gas industry is experiencing unprecedented growth in transportation fuel production, total capabilities for production have not yet reached statutory table levels. Given market realities, we do not believe it is proper or prudent for EPA to set obligations at the statutory level. Doing so would destabilize the RFS, the RIN market, and the cellulosic biofuel industries since we would be unable to meet such high demand. The RVO process reflected in the proposed rule is preferred and proper.

**2. EPA's Processes Yield Fair Predictions of Cellulosic Biofuel Production**

Beyond statute, EPA is obligated to follow the court rulings that speak directly to the Agency's administration of the RFS. Most applicably, by court order, EPA must employ a "neutral methodology"<sup>10</sup> that is a "prediction of what will actually happen"<sup>11</sup> when setting future year RVOs.

---

<sup>8</sup> 5.5 billion gallons in 2017.

<sup>9</sup> CAA 211(o)(7)(D)(i).

<sup>10</sup> *American Petroleum Institute v. Environmental Protection Agency*; January 25, 2013, at 10.

<sup>11</sup> *Id.*

We agree that the proposed 2017 cellulosic biofuel volume requirement is based on a projection of production, as known to EPA at the date of publication, that reflects a neutral aim at accuracy.

As of March 2016, we anticipated that Renewable-CNG and Renewable-LNG production should yield 376 million gallons (EGE) qualified under the RFS in 2017. This number is based upon thorough data from RNG projects currently online and flowing renewable natural gas, from existing projects undergoing expansion, from existing projects coming off contract from alternative non-transportation fuel applications and transitioning to transportation fuel application, and from planned and advancing new construction RNG projects with scheduled online dates in 2017.

EPA has accepted and considered this information, including primary source data submitted as Confidential Business Information. In total, the data reflects 51 RNG projects, including 27 projects that were online in 2015, 10 projects that have (or will) come online in 2016, and 14 projects currently under development with scheduled online dates in 2017. The RNG projects are located in 23 different U.S. States and Canadian Provinces.

EPA uses a baseline of 384 million gallons, including 167 million gallons from new facilities. Given the information available to us and to EPA at the time, this number is reasonable.

As in prior years, EPA uses a projection methodology applying percentile multiples to categories of projects. For new Renewable-CNG and Renewable-LNG projects the projected volume is marked at the 50% percentile of a range of likely production, with 167 million gallons on the high end and zero on the low end, for a total projected volume of 84 million gallons. For Renewable-CNG and Renewable-LNG projects with a history of production the projected volume is marked at the 75% percentile of a range of likely production, with 217 million gallons on the high end and 148 million gallons on the low end, for a total projected volume of 200 million gallons.

It is certainly our intention to support cellulosic biofuel developers and enable them to become successful producers under the RFS. However, given the history of production from cellulosic biofuel sources, we agree that EPA's methodology does a reasonable job at projecting *production* with a neutral aim at accuracy.

As new production information becomes available in the interim period between the draft and final rule, it remains imperative that all new volume data be incorporated into the 2017 RVO numbers. EPA has demonstrated their willingness and ability to consider newly available data in the past. It is appropriate that they continue this practice into the future.

Additionally, we continue to urge EPA's incorporation not merely of fuel production

(which we agree they adequately capture within their current processes) but also of fuel available due to other factors like excess volumes from prior year production over the RVO, and excess volume available due to obligated parties' cellulosic waiver credit purchases.

#### IV. CONCLUSION

The Coalition for Renewable Natural Gas thanks the Subcommittee on Energy & Power for consideration of our comments. Also, on behalf of the renewable natural gas industry, we would like to thank EPA for their timely and successful administration of the RFS program. The gaseous cellulosic biofuel industries are growing stronger and gaining momentum, largely in part to the cellulosic biofuel provisions of the RFS.

We look forward to continuing to work with Congress and EPA to ensure sustained success and a cleaner, more diverse fuel supply for all Americans.

Sincerely,



Marcus Gillette  
Director of Public & Government Affairs  
Coalition for Renewable Natural Gas



David Cox  
General Counsel & Director of Operations  
Coalition for Renewable Natural Gas



## PREPARED STATEMENT OF HON. STEVE KING

I want to thank Chairman Whitfield and Ranking Member Rush for accepting my testimony today on the importance of maintaining the RFS program.

Energy is at the heart of the American economy. Energy powers our homes and businesses, and it is vital that America has access to the most affordable and most extensive sources of energy possible. Moreover, our national security is also tied to the energy sector. If we rely on sources of energy that come from abroad, then we expose our nation to the whims of tyrants and terrorist sponsoring states. The Renewable Fuel Standard (RFS) was created with these goals in mind: to promote the development of affordable, low pollution, domestically produced fuel sources. Not only have these goals been met thus far, but the RFS and the work and innovation of our biofuels industry over the last few decades has allowed the fields that have fed the world, to fuel it as well.

To examine further the benefits of the RFS, I want to highlight an academic work done by professors Dermot Hayes of economics and finance at Iowa State University, and Xiaodong Du of the Department of Agricultural and Applied Economics at the University of Wisconsin-Madison. Their analytical report entitled "The Impact of Ethanol Production on US and Regional Gasoline Markets: An Update to May 2009", showcases the breathtaking and positive effects that ethanol and the RFS have had for the American economy. Their work concluded that in 2010 alone the effect of ethanol being blended into the fuel market lowered the price of the average gallon of gasoline by \$0.89, saving Americans around \$120 billion per year at the pump. They also concluded that if ethanol were suddenly removed from the fuel market altogether, the resulting gasoline price spike would be between 41% and 92%, crippling the US economy and almost certainly plunging our fragile economy back into recession.

Beyond the substantial economic benefits for American families, a Congressional Research report from 2012 asserts that in the first six years after the implementation of the RFS oil imports declined by 33%. Furthermore, this report forecasts that over the next 20 years US oil imports will be less than a third of what they would have been expected to be prior to passage of the RFS. This dramatic decrease in imported oil helps to safeguard the national security interests of the United States by insulating our economy from the supply shocks and price volatility that is intrinsic to the world's petroleum market. Due to the irregularity of global production of crude and refined petroleum products, a reliance on these goods for energy exposes our nation to possible catastrophe. The oil crisis of the 1970s and the resulting stagflation serve as a warning and a reminder of the danger of relying on a 100% petroleum mandate. The oil crisis of the 1970s also reminds us of the damage that Iran, a known state sponsor of terrorism, can inflict on the US by manipulating their oil production. The RFS has tremendously reduced the amount of US dollars that have been sent to terrorist sponsoring nations, such as the Islamic Republic of Iran. There is no serious doubt that if we had the RFS and our present biofuels industry in the 1970s, it would have substantially mitigated the very serious damage to our economy while, at the same time, limited or even eliminated the Great Farm Crisis of the 1980s.

In my home of Iowa we all know the benefits of biofuels that I have outlined here, but unfortunately not everyone does. This is why I have championed the fight to maintain the original volumes of biofuels in the RFS. The biofuels industry has created countless American jobs and has spurred economic growth across our country. The biofuels sector has directly added \$5.6 billion of GDP and 62,000 jobs to the state of Iowa alone. In Iowa we produced about 30% of the nation's ethanol, saving Americans tens of billions of dollars at the pump each year. Furthermore, we can thank the ethanol industry for having reduced the annual carbon footprint of the United States by the equivalent of 27 million cars. It is thus imperative that the RFS not only continue to remain a policy of the United States, but one that is administered in accordance with established law.

Unfortunately, this Administration, in a blatant violation of Congress's Article I authority and in contravention of established US law, has begun to alter the RFS based on biased and arbitrary positions. Whether or not you agree with the plethora of hard science and academic work that illustrates the positive effects of the RFS, we must stand firm against the abuse of the program by this administration. It is with this in mind that I must stand in opposition to H.R. 5180, a bill that would reward this administration by enshrining into law the very abuse that this President has committed thus far. H.R. 5180 would grant legal cover to the EPA to continue its currently illegal policy of arbitrarily reducing the level of biofuels in America's fuel economy. The effect of this bill would be to undo the progress of the biofuels industry and the RFS thus far. The President's abuse of the program has

already stunted economic and job growth, leaving fuel prices high, and our nation more susceptible to foreign manipulation of the oil markets. H.R. 5180 would raise the petroleum mandate to 90.3%, weakening the United States and increasing the probability of another oil and economic crisis, similar to that of the 1970s. H.R. 5180 would only serve to aid this President in these endeavors, and to weaken our nation.

I urge Congress to preserve our Article I authority, and hold firm to established law. It's time to reaffirm our support of the RFS; a program that has improved the quality of life of every American, and strengthened our national security. The RFS has been great for Iowa and great for America. It is the only tool that provides market access to ethanol and other renewable fuels so they can be sold in competition with the petroleum industry, which has benefited from a century of Federal subsidies and support. It strengthens our national security, decreases our dependence on foreign sources of energy, gives consumers lower cost options at the pump, and creates jobs for Americans. To weaken, reduce, or eliminate the RFS, as HR 5180 does, moves the US in the direction of a 100% petroleum mandate.

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EPA'S PROPOSED 2014-2016 RENEWABLE FUEL STANDARD

## WOULD CONTINUE TO INCREASE U.S. GREENHOUSE GAS EMISSIONS

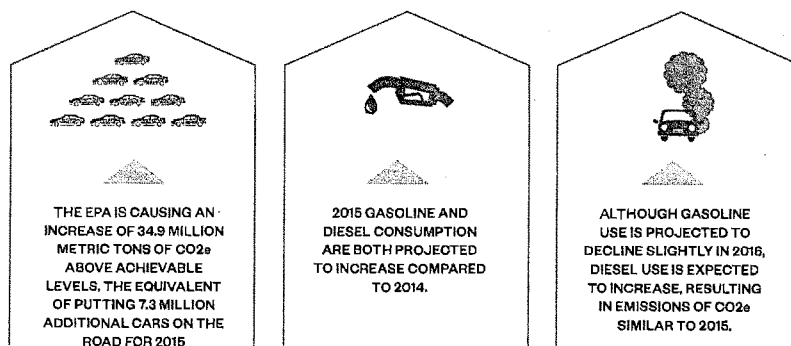
**The RFS is the only congressionally authorized program for reducing greenhouse gas emissions from the transportation sector.** EPA recognizes the global importance of "limiting GHGs from major emitting sectors, such as electricity production and transportation."<sup>1</sup> Yet EPA's failure to establish RFS volumes for 2014 resulted in a measurable increase in greenhouse gas emissions. Further, if the volumes EPA proposes for 2015 and 2016 are finalized, the United States will continue to increase greenhouse gas emissions from the transportation sector and to forego attainable reductions.

The RFS was designed to reduce U.S. greenhouse gas emissions by displacing fossil fuels with less carbon intensive biofuels. In its proposal, EPA acknowledges that Congress's intent in establishing the RFS "was not simply to increase production of renewable fuel, but rather to provide that certain volumes of renewable fuel be used by the ultimate consumer as a replacement for the use of fossil based transportation fuel. The very definition of

'renewable fuel' requires that the fuel be 'used to replace or reduce the quantity of fossil fuel present in a transportation fuel.'"<sup>2</sup> And again, "The purpose of the RFS program is to ensure that renewable fuels are increasingly used to replace or reduce the use of fossil-fuel based transportation fuel."<sup>3</sup> EPA's failure to set RFS volumes that guarantee an increasing displacement of fossil fuels over time subverts the intent of Congress and the design of the program.

The greenhouse gas intensity of petroleum fuels, measured in carbon dioxide equivalents (CO<sub>2</sub>e), has grown worse since 2007.<sup>4</sup> At the same time, the greenhouse gas intensity of biofuels has improved, as production has become more efficient.<sup>5</sup> EPA's proposal for 2014, 2015 and 2016 outs short the emission reduction potential of the RFS program by limiting market space for renewable fuels and guaranteeing more market space for petroleum fuels.

The use of more petroleum in 2014 compared to 2013 automatically increased



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greenhouse gas emissions from the U.S. transportation sector year to year.<sup>6</sup> As EPA concedes, EPA's delay in issuing a rule essentially resulted in a market that operated as if the RFS statute did not exist,<sup>7</sup> and caused an estimated year over year increase of 60.5 million metric tons of CO<sub>2</sub>e. If EPA had maintained the RFS at the statutory volumes, even waiving the cellulosic RVO to projected levels, the United States could have limited this significant increase in emissions. EPA's failure to establish 2014 RVOs at achievable

to 100 million gallons, as EPA proposes – the agency is causing an increase of 34.9 million metric tons of CO<sub>2</sub>e above achievable levels, the equivalent of putting 7.3 million additional cars on the road for 2015.

Although gasoline use is projected to decline slightly in 2016, diesel use is expected to increase, resulting in emissions of CO<sub>2</sub>e similar to 2015. EPA's failure to keep the RFS volumes on course, however, will result in an increase of 66.2 million tons of CO<sub>2</sub>e compared to achievable levels un-

**The U.S. Energy Information Administration ("EIA") projects an increase in gasoline use in 2015, before consumption declines through 2022. Diesel consumption rises slowly through 2022, from 57.2 billion gallons in 2014 to 60.7 billion gallons in 2022, according to EIA.**

statutory volumes resulted in an increase of 17.4 million metric tons of CO<sub>2</sub>e, which is the equivalent of putting an additional 3.6 million cars on the road during the year, as shown in Figure below.

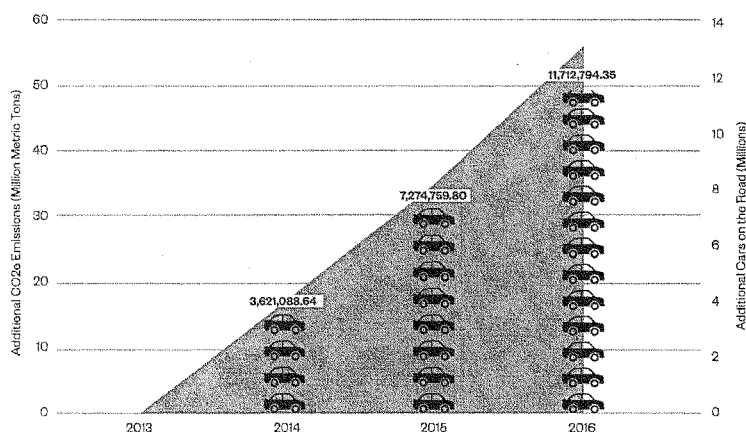
For 2015, gasoline and diesel consumption are both projected to increase compared to 2014, again automatically increasing greenhouse gas emissions. EPA's proposed volumes for 2015 would result in an automatic increase of 19.6 million tons of CO<sub>2</sub>e for the year compared with the achieved levels in 2014. By failing to maintain the statutory volumes for 2015 – even assuming the waiver of cellulosic volumes

under the statute. This is equivalent to putting an additional 11.7 million cars on the road in 2016, compared to 2015.

The emissions compound over time. The U.S. Energy Information Administration ("EIA") projects an increase in gasoline use in 2015, before consumption declines through 2022. Diesel consumption rises slowly through 2022, from 57.2 billion gallons in 2014 to 60.7 billion gallons in 2022, according to EIA. If EPA finalizes the 2014, 2015 and 2016 RVOs at the proposed volumes, undercutting investment in cellulosic and advanced biofuel and potentially triggering a rewrite of statu-

tory volumes for 2017 and afterward, the increases in diesel consumption will likely result in increased petroleum (above 2013 volumes) use through 2020. As a result, GHG emissions would spike in 2015 and 2016, likely returning to levels below 2013 only after 2020. By failing to maintain the statutory levels of renewable fuel use, EPA is unjustifiably forgoing an opportunity to further the statutory goals by ensuring that U.S. emissions from the transportation sector rapidly decline through 2022. EPA should set RVOs to include all renewable fuels that can be produced up to the statutory volumes, in order to secure the maximum benefit in greenhouse gas emission reductions.

FIGURE:  
ADDITIONAL CO<sub>2</sub>e EMISSIONS AND EQUIVALENT CARS ON THE ROAD UNDER EPA PROPOSAL 2014-2016



#### NOTES

- 1 EPA, Office of Atmospheric Programs, *Climate Change in the United States: Benefits of Global Action*, EPA 430-R-15-001, available at <http://www2.epa.gov/sites/production/files/2015-06/documents/cirareport.pdf>.
- 2 *Proposed Rule* 33113.
- 3 *Id.* at 33121.
- 4 Wang, M., J. Han, J. Dunn, H. Cai, and A. Elgowainy, 2012, "Well-to-Wheels Energy Use and Greenhouse Gas Emissions of Ethanol from Corn, Sugarcane and Cellulosic Biomass for US Use," *Environmental Research Letter*, 7 (2012) 045905 (13pp).
- 5 Energy Information Administration (EIA), *Corn ethanol yields continue to improve, Today in Energy* (May 13, 2015), available at <http://www.eia.gov/todayinenergy/detail.cfm?id=21212>.
- 6 See Erickson, B., Carr, M., Winters, P., "Estimating Greenhouse Gas Emissions from Proposed Changes to the Renewable Fuel Standard through 2022." *Ind. Biotech.* J., April 2014, 10(2) (doi:10.1089/ind.2014.1508). Estimates contained in these comments use Energy Information Administration May 2015 Short Term Energy Outlook data to update the previously published modeling. See also Biotechnology Industry Organization, *Estimated GHG Increase from Obama Administration Inaction on the 2014 RFS* (Sep. 23, 2014), available at <https://www.bio.org/advocacy/letters/estimated-ghg-increase-obama-administration-inaction-2014-rfs>.
- 7 See *Proposed Rule* 33131.

FRED UPTON, MICHIGAN  
CHAIRMAN

FRANK PALLONE, JR., NEW JERSEY  
RANKING MEMBER

ONE HUNDRED FOURTEENTH CONGRESS  
**Congress of the United States**  
**House of Representatives**  
COMMITTEE ON ENERGY AND COMMERCE  
2125 RAYBURN HOUSE OFFICE BUILDING  
WASHINGTON, DC 20515-6115  
Majority (202) 225-2927  
Minority (202) 225-3841

July 13, 2016

Ms. Janet McCabe  
Acting Assistant Administrator  
Office of Air and Radiation  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, N.W.  
Washington, DC 20460

Dear Ms. McCabe:

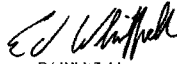
Thank you for appearing before the Subcommittee on Energy and Power on Wednesday, June 22, 2016, to testify at the hearing entitled "The Renewable Fuel Standard – Implementation Issues."

Pursuant to the Rules of the Committee on Energy and Commerce, the hearing record remains open for ten business days to permit Members to submit additional questions for the record, which are attached. The format of your responses to these questions should be as follows: (1) the name of the Member whose question you are addressing, (2) the complete text of the question you are addressing in bold, and (3) your answer to that question in plain text.

To facilitate the printing of the hearing record, please respond to these questions with a transmittal letter by the close of business on July 27, 2016. Your responses should be mailed to Will Batson, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, DC 20515 and e-mailed in Word format to [Will.Batson@mail.house.gov](mailto:Will.Batson@mail.house.gov).

Thank you again for your time and effort preparing and delivering testimony before the Subcommittee.

Sincerely,



Ed Whitfield  
Chairman  
Subcommittee on Energy and Power

cc: The Honorable Bobby Rush, Ranking Member, Subcommittee on Energy and Power

Attachment



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

AUG 18 2016

OFFICE OF CONGRESSIONAL  
AND INTERGOVERNMENTAL RELATIONS

The Honorable Ed Whitfield  
Chairman  
Subcommittee on Energy and Power  
Committee on Energy and Commerce  
U.S. House of Representatives  
Washington, D.C. 20515

Dear Chairman Whitfield:

Enclosed please find the U.S. Environmental Protection Agency's responses to the Subcommittee's questions for the record following the June 22, 2016, hearing titled "The Renewable Fuel Standard – Implementation Issues."

I hope this information is helpful to you and the members of the Subcommittee. If you have further questions, please contact me or your staff may contact Matthew Davis in the EPA's Office of Congressional and Intergovernmental Relations at [davis.matthew@epa.gov](mailto:davis.matthew@epa.gov) or at (202) 564-1267.

Sincerely,

  
Tristan Brown  
Deputy Associate Administrator

Enclosure

cc: The Honorable Bobby Rush  
Ranking Member, Subcommittee on Energy and Power

**Additional Questions for the Record****The Honorable Pete Olson**

1. The Energy Independence and Security Act of 2007 included labeling requirements for biodiesel (methyl ester)/petroleum diesel and biomass diesel (renewable diesel)/petroleum diesel at levels from 5% to 20% and separate labels for levels higher than 20%. While labeling of biodiesel (methyl ester) is appropriate for these percentages the labeling of biomass diesel constrains the commerce of this renewable fuel. With biomass based diesel as a direct substitute ("drop in") for petroleum diesel (ASTM D-975), there should be no labeling required for this fuel. It is my understanding removing the labeling requirement would then allow the biomass diesel to become fungible in the fuel distribution system and thereby allow more renewable fuel to enter into commerce. Are you aware of this constraint, and if so, are there plans to modify this labeling rule to accommodate the entry of more renewable diesel into commerce?

**Response:** The EPA is aware of the biomass-based diesel labeling provisions in the Energy Independence and Security Act of 2007 ("EISA"). Section 205 of EISA requires that the Federal Trade Commission implement the biomass-based diesel labeling provisions.

**The Honorable Mike Pompeo**

2. Do you believe the EPA would have, in 2023, the statutory authority to restructure the RFS to mirror the California Low Carbon Fuel Standard Program? Could you do that, would you have the authority to do that?

**Response:** Congress in section 211 (o) of the Clean Air Act specifies a number of requirements for the RFS program, including provisions applicable to post-2022 implementation. The law requires that the Administrator, when setting future volume requirements, take into account many analytical factors. Under the Clean Air Act, EPA has broad authority to regulate fuel and fuel additives that could endanger public health and welfare, subject to certain requirements. We have not yet begun the process of determining the volume requirements for 2023 and beyond. We therefore cannot speculate as to what shape future policies will take.