OVERVIEW OF THE RENEWABLE FUEL STANDARD: STAKEHOLDER PERSPECTIVES

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

JULY 23 & 24, 2013

Serial No. 113–73

Printed for the use of the Committee on Energy and Commerce
energycommerce.house.gov

OVERVIEW OF THE RENEWABLE FUEL STANDARD: STAKEHOLDER PERSPECTIVES

OVERVIEW OF THE RENEWABLE FUEL STANDARD: STAKEHOLDER PERSPECTIVES

HEARING

BEFORE THE

SUBCOMMITTEE ON ENERGY AND POWER

OF THE

COMMITTEE ON ENERGY AND COMMERCE

HOUSE OF REPRESENTATIVES

ONE HUNDRED THIRTEENTH CONGRESS

FIRST SESSION

JULY 23 & 24, 2013

Serial No. 113–73

Printed for the use of the Committee on Energy and Commerce

energycommerce.house.gov

U.S. GOVERNMENT PRINTING OFFICE

86–397 WASHINGTON : 2014

For sale by the Superintendent of Documents, U.S. Government Printing Office
Internet: bookstore.gpo.gov Phone: toll free (866) 512–1800; DC area (202) 512–1800
Fax: (202) 512–2104 Mail: Stop IDCC, Washington, DC 20402–0001

COMMITTEE ON ENERGY AND COMMERCE

FRED UPTON, Michigan
Chairman

RALPH M. HALL, Texas
JOE BARTON, Texas
Chairman Emeritus
ED WHITFIELD, Kentucky
JOHN SHIMKUS, Illinois
JOSEPH R. PITTS, Pennsylvania
GREG WALDEN, Oregon
LEE TERRY, Nebraska
MIKE ROGERS, Michigan
TIM MURPHY, Pennsylvania
MICHAEL C. BURGESS, Texas
MARSHA BLACKBURN, Tennessee
Vice Chairman
PHIL GINGREY, Georgia
STEVE SCALISE, Louisiana
ROBERT E. LATTA, Ohio
CATHY MCMORRIS RODGERS, Washington
GREGG HARPER, Mississippi
LEONARD LANCE, New Jersey
BILL CASSIDY, Louisiana
BRETT GUTHRIE, Kentucky
PETE OLSON, Texas
DAVID B. MCKINLEY, West Virginia
CORY GARDNER, Colorado
MIKE POMPEO, Kansas
ADAM KINZINGER, Illinois
H. MORGAN GRIFFITH, Virginia
GUS M. BILIRAKIS, Florida
BILL JOHNSON, Missouri
BILLY LONG, Missouri
RENEE L. ELLMERS, North Carolina

HENRY A. WAXMAN, California
Ranking Member
JOHN D. DINGELL, Michigan
Chairman Emeritus
FRANK PALLONE, JR., New Jersey
BOBBY L. RUSH, Illinois
ANNA G. ESHOO, California
ELIOT L. ENGEL, New York
GENE GREEN, Texas
DIANA DEGETTE, Colorado
LOIS CAPPS, California
MICHAEL F. DOYLE, Pennsylvania
JANICE D. SCHAKOWSKY, Illinois
JIM MATHESON, Utah
G.K. BUTTERFIELD, North Carolina
JOHN BARROW, Georgia
DORIS O. MATSUI, California
DONNA M. CHRISTENSEN, Virgin Islands
KATHY CASTOR, Florida
JOHN P. SARBANES, Maryland
JERRY MCNERNEY, California
BRUCE L. BRALEY, Iowa
PETER WELCH, Vermont
BEN RAY LUJAN, New Mexico
PAUL TONKO, New York

SUBCOMMITTEE ON ENERGY AND POWER

ED WHITFIELD, Kentucky
Chairman

STEVE SCALISE, Louisiana
Vice Chairman
RALPH M. HALL, Texas
JOHN SHIMKUS, Illinois
JOSEPH R. PITTS, Pennsylvania
LEE TERRY, Nebraska
MICHAEL C. BURGESS, Texas
ROBERT E. LATTA, Ohio
BILL CASSIDY, Louisiana
PETE OLSON, Texas
DAVID B. MCKINLEY, West Virginia
CORY GARDNER, Colorado
MIKE POMPEO, Kansas
ADAM KINZINGER, Illinois
H. MORGAN GRIFFITH, Virginia
JOE BARTON, Texas
FRED UPTON, Michigan (ex officio)

BOBBY L. RUSH, Illinois
Ranking Member
JERRY MCNERNEY, California
PAUL TONKO, New York
ELIOT L. ENGEL, New York
GENE GREEN, Texas
LOIS CAPPS, California
MICHAEL F. DOYLE, Pennsylvania
JOHN BARROW, Georgia
DORIS O. MATSUI, California
DONNA M. CHRISTENSEN, Virgin Islands
KATHY CASTOR, Florida
JOHN D. DINGELL, Michigan
HENRY A. WAXMAN, California (ex officio)

CONTENTS

JULY 23, 2013

WITNESSES

JULY 24, 2013

WITNESSES

SUBMITTED MATERIAL

OVERVIEW OF THE RENEWABLE FUEL STANDARD: STAKEHOLDER PERSPECTIVES, DAY 1

TUESDAY, JULY 23, 2013

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

The subcommittee met, pursuant to call, at 9:45 a.m., in room 2123, Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Present: Representatives Whitfield, Scalise, Hall, Shimkus, Pitts, Terry, Burgess, Latta, Cassidy, Olson, McKinley, Gardner, Pompeo, Kinzinger, Griffith, Barton, Upton (ex officio), Rush, McNerney, Tonko, Engel, Green, Capps, Barrow, Christensen, Castor, and Waxman (ex officio).

Staff Present: Nick Abraham, Legislative Clerk; Charlotte Baker, Press Secretary; Sean Bonyun, Communications Director; Matt, Bravo, Professional Staff Member; Allison Busbee, Policy Coordinator, Energy and Power; Tom Hassenboehler, Chief Counsel, Energy and Power; Ben Lieberman, Counsel, Energy and Power; Brandon Mooney, Professional Staff Member; Andrew Powaleny, Deputy Press Secretary; Chris Sarley, Policy Coordinator, Environment and Economy; Phil Barnett, Minority Staff Director; Patrick Donovan, Minority FCC Detailee; Kristina Friedman, Minority EPA Detailee; Bruce Ho, Minority Counsel; Ryan Skukowski, Minority Staff Assistant; and Alexandra Teitz, Minority Senior Counsel, Environment and Energy.

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

Mr. WHITFIELD. The hearing will come to order. I will recognize myself for a 5-minute opening statement.

Today we have our second hearing entitled, "Overview of the Renewable Fuel Standard: Stakeholder Perspectives," and we continue our assessment of the Renewable Fuel Standard. Over the course of this year, we have taken a comprehensive and deliberate approach working with both staffs on both sides of the aisle and members on both sides of the aisle to review the RFS, beginning with a series of bipartisan white papers that solicited input from interested stakeholders on major aspects of the program. The response has really been overwhelmingly helpful to the process, and

I certainly want to thank everyone for participating and helping us deal with this issue.

Our first hearing on the subject was on June 26. We focused at that time on the government agencies chiefly responsible for implementing the RFS. EPA, EIA, and USDA all agree that many things have changed since the RFS was last revised in 2007. For example, as you all know, we are using a lot less gasoline today than we did then, yet the RFS is still based on the assumptions of 2007 and not the realities of 2013. We know that the RIN prices are going up. We know that cellulosic ethanol production is simply not there at this time. And all three agencies at that hearing on the 26th of June agreed that there were RFS implementation issues that warranted attention, especially as we look to 2014. And we certainly need to pay attention to those issues.

Today and tomorrow, we take another important step in the review process by hearing from 16 stakeholder witnesses offering a wide range of perspectives on the RFS. Refiners, renewable fuel producers, environmentalists, automakers, small engine makers, fuel retailers, corn growers, poultry raisers, restaurant owners, consumers, and others will all explain where we are today with the RFS. And we expect that after the hearing today, everyone will be on the same page.

I am pleased to welcome as a part of our second panel today Todd Teske of Briggs & Stratton. That plant manufactures small engines, not only in my district in Kentucky but throughout the country.

Today's first panel is going to focus on the impact of the RFS on fuel production, while the second will focus on fuel sales and use. And then we are having another hearing tomorrow and that panel will address the impacts on the agricultural sector and the food supply.

Despite the differing points of views from which stakeholders come to this issue, it is my hope that with today's hearing, we can at least start the process of consensus building on a path forward for the RFS. This includes potential adjustments to the RFS that align the program with current energy realities. Many businesses and many jobs are at stake from corn farmer to refinery worker to gas station employee to lawnmower maker to ethanol plant worker. And just as important, the interests of consumers are directly impacted by the RFS. The end goal of this process is an RFS that works effectively and does not distort the market. And with that, at this time, I would like to recognize the gentleman from Illinois Mr. Rush for a 5-minute opening statement.

[The prepared statement of Mr. Whitfield follows:]

PREPARED STATEMENT OF HON. ED WHITFIELD

This morning's hearing is entitled "Overview of the Renewable Fuel Standard: Stakeholder Perspectives," and continues our committee's assessment of the RFS. Over the course of this year, we have taken a comprehensive and deliberate approach to reviewing the RFS, which began with a series of bipartisan white papers that solicited input from interested stakeholders on major aspects of the program. The response has been overwhelming and very helpful to the process, and I would like to thank everyone who participated.

We conducted our initial hearing on June 26, which focused on the government agencies chiefly responsible for implementing the RFS. The EPA, EIA, and USDA

all agreed that many things have changed since the RFS was last revised in 2007. For example, we are using considerably less gasoline today than we did then. Yet the RFS is still based on the assumptions of 2007 and not the realities of 2013.

And all three agencies agreed that there are RFS implementation issues that warrant serious attention, especially as we look to 2014. We need to pay attention to these warnings.

Today and tomorrow, we take another important step in the review process by hearing from 16 stakeholder witnesses offering a wide range of perspectives on the RFS. Refiners, renewable fuel producers, environmentalists, automakers, small engine makers, fuel retailers, corn growers, poultry raisers, restaurant owners, consumers, and others will all explain where we are today with the RFS and what the future may hold.

And I am pleased to welcome, as part of the second panel, Todd Teske of Briggs & Stratton which manufactures small engines back in my district.

Today's first panel will focus on the impact of the RFS on fuel production, while the second will focus on fuel sales and use. And tomorrow's panel will address the impact on the agricultural sector and the food supply.

Despite the differing points of view from which stakeholders come to this issue, it is my hope that with today's hearing we can start a process of consensus building on a path forward for the RFS. This includes potential adjustments to the RFS that align the program with current energy realities.

Many businesses and many jobs are at stake—from corn farmer to refinery worker to gas station employee to lawnmower maker to ethanol plant worker. And, just as important, the interests of consumers are directly impacted by the RFS. The end goal of this process is an RFS that works as best as possible for everyone.

# # #

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, for holding this timely and important hearing on the overview of the Renewable Fuel Standard, where we will have the opportunity to hear from various stakeholders representing many different sectors of the economy. Over the course of the past year, my office has attended dozens of meetings on this critical topic. And for stakeholders from my home State of Illinois, there are few energy issues as important as the matter of the RFS.

Mr. Chairman, I have always been very supportive of this policy because I believe since its inception, it has achieved many of the goals that it was first enacted to do, including helping to reduce U.S. dependency on foreign oil, enhancing energy security, bolstering the agriculture economy, and addressing the challenges of climate change by reducing greenhouse gas emissions from the transportation sector. Today I believe the RFS has been successful in meeting each of these standards while also helping to drive job creation and economic investment.

For instance, Mr. Chairman, the RFS has played a key role in helping America's ethanol industry support 400,000 jobs nationwide, including 64,000 jobs in Illinois alone. And it has also resulted in over $40 billion in economic activity. Additionally, as the summer driving season reaches its peak and gas prices skyrocket at the pump, Chicagoans are paying among the highest prices in the country, averaging $4.11 for regular gas last week, which is up from $3.84 just a week before that. So, one of the questions I would like to learn today more about, Mr. Chairman, is, how does diversifying the Nation's fuel sources, as the RFS does, impact gasoline prices for consumers? I also look forward to having the various

stakeholders discuss some of the 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 the members of this subcommittee may gain a better idea of what is, indeed, fact and what is just mere fiction in regards to this debate.

Mr. Chairman, in meeting after meeting, my office has received a host of competing and, in many instances, contrasting information on the RFS, especially in the areas of the gasoline ethanol blend wall, the rate of advanced biofuels development, issues associated with the renewable identification numbers, and the impact of the RFS on agriculture and food prices.

So I am pleased, Mr. Chairman, with the diversity of the panelists and the different industry sectors they represent because I believe this will help lead them to a robust and comprehensive debate. And hopefully, it will help members on both sides of the aisle come to a sensible resolution of this very, very important issue.

Mr. Chairman, I look forward to the public hearing today, the one tomorrow where we can lay out all of the facts, including both the opportunity and the challenges to implementing the RFS as currently drafted. And it is my hope that we can work to find bipartisan common ground on this issue as it moves forward. I want to thank you, and I yield back the balance of my time.

Mr. WHITFIELD. Thank you Mr. Rush.

At this time, I recognize the gentleman from Michigan, Mr. Upton, chairman of the full committee for a 5-minute opening statement.

OPENING STATEMENT OF HON. FRED UPTON, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. UPTON. Thank you, Mr. Chairman. As authorizers, it is our job to review the policies that we establish overseas. And it is a job that certainly I take very seriously as chairman of this committee, as do our members on both sides of the aisle. And since this is the committee where the RFS originated, we have the responsibility to assess how it is working and if it can be improved. And today's hearing continues our bipartisan review of the RFS. And I want to thank Ranking Member Waxman for his collaboration in this process.

Much has changed since the RFS was last revised in 2007, including the exciting new developments that have led to unexpected increases in domestic oil and natural gas production. And while I believe this committee should do all it can to facilitate the domestic gas and natural oil revolution, I also see a continued role for renewable fuels and other alternatives. Reviewing the RFS and how it fits into the changing energy mix is what we are doing today.

We began our assessment with a series of bipartisan white papers that explored key RFS topics, including the compatibility of fuels with the existing infrastructure and vehicle fleet and the impacts on the agriculture sector and the environment. The stakeholder response has been as extensive as it has been substantive. And the range of viewpoints expressed demonstrates the far-reaching effects of the RFS. On June 26, this subcommittee held its first RFS hearing and invited the Federal agencies most directly responsible for implementing the RFS. The Energy Information Adminis-

tration, the EPA, and the Department of Ag all made similar diagnoses, that there are real issues with RFS that may come to the surface in 2014. In other words, our review is very timely.

Today we invite stakeholders to continue that discussion. I welcome all of it. And of course, I am particularly interested in hearing from the automakers, knowing its importance to the Midwest and my State of Michigan. Fuels and vehicles operate as a system, and we need an RFS that works well within that system, given the changing dynamics of the current CAFE compliance obligations.

But let me cut to the chase. In my view, the current system cannot stand. I hope that we can start a discussion that considers a host of potential modification and updates to the RFS with the end goal being a system that works best for the American people. And to do that, we need everyone, everyone to come to the table with a commitment to listen and be constructive. I welcome every proposal, all proposals to improve this system and look forward to hearing those ideas from today's witnesses.

I am especially looking forward to hearing what each stakeholder is willing to bring to the table to fix and improve the current system. I am absolutely committed to ensuring that we deliver workable reforms.

I yield back to the chairman.

[The prepared statement of Mr. Upton follows:]

PREPARED STATEMENT OF HON. FRED UPTON

As authorizers, it is our job to review the policies we establish and oversee. It's a job I take very seriously as chairman of this committee, as do our members on both sides of the aisle. And since this is the committee where the Renewable Fuel Standard originated, we have the responsibility to assess how it is working and if it can be improved. Today's hearing continues our bipartisan review of the RFS, and I would like to thank ranking member Waxman for his collaboration in this process.

Much has changed since the RFS was last revised in 2007, including the exciting new developments that have led to unexpected increases in domestic oil and natural gas production. And while I believe this committee should do all it can to facilitate this domestic oil and natural gas revolution, I also see a continued role for renewable fuels and other alternatives. Reviewing the RFS and how it fits into the changing energy mix is what we are doing today.

We began our assessment with a series of bipartisan white papers that explored key RFS topics, including the compatibility of fuels with the existing infrastructure and vehicle fleet, and the impacts on the agricultural sector and the environment. The stakeholder response has been as extensive as it has been substantive. And the range of viewpoints expressed demonstrates the far-reaching effects of the RFS.

On June 26th, this subcommittee held its first RFS hearing, and invited the federal agencies most directly responsible for implementing the RFS. The Energy Information Administration, Environmental Protection Agency, and Department of Agriculture all made a similar diagnosis—that there are some real issues with the RFS that may come to the surface in 2014. In other words, our review is timely.

Today, we invite stakeholders to continue the discussion. I welcome all of them, and of course am particularly interested in hearing from the automakers. Fuels and vehicles operate as a system, and we need an RFS that works well within that system, given the changing dynamics of the current CAFE compliance obligations.

In my view, the current system cannot stand. I hope we can start a discussion that considers a host of potential modifications and updates to the RFS, with the end goal being a system that works best for the American people. To do that, we need everyone to come to the table with a commitment to listen and to be constructive. I welcome all proposals to improve the system and look forward to hearing ideas from today's witnesses. I am especially looking forward to hearing what each stakeholder is willing to bring to the table to fix the current system. I am absolutely committed to ensuring we deliver workable reforms.

# # #

Mr. WHITFIELD. The gentleman yields back.

At this time, I recognize the gentleman from California, Mr. Waxman, for a 5-minute opening statement.

OPENING STATEMENT OF HON. HENRY A. WAXMAN, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF CALIFORNIA

Mr. WAXMAN. Thank you, Mr. Chairman.

Last year, Americans consumed our lowest amount of oil since 1996.

This is good news for the climate and for families' pocketbooks. We are relying less on fossil fuels and are using those fuels more efficiently. Thanks to President Obama, we have vehicle standards that will continue to make our cars and trucks more efficient and less carbon polluting than ever before.

These standards are saving Americans money at the pump, enhancing our energy security, boosting our economy, and cutting carbon pollution.

Yet as long as our transportation system relies almost entirely on fossil fuels, we will continue to pollute and drive dangerous climate change. Transportation is the second largest source of carbon pollution in the U.S. Further improvements in fuel efficiency are critical but will not achieve the 80 percent reduction in climate pollution that we need by 2050 to avoid catastrophic climate change.

In my district, scientists at UCLA recently predicted that if we fail to reduce carbon pollution, southern California snow packs will fall 42 percent by mid century and by more than two-thirds by the end of the century. This is an impending crisis for the 18 million Californians who rely on the snow melt for drinking water, agriculture, and other economic activities. And with our interconnected economy, even these effects aren't limited to California. Reduced production on California farms introduces uncertainty into our food supply and means we will pay more for our fruits and vegetables.

In recent years, we have seen historic droughts, fires, floods, heat waves, and hurricanes. Climate change is hurting Americans across the country.

As President Obama recently emphasized, we must build a 21st century transportation system to address climate change. There are several ways that we can reduce carbon pollution in the transportation system. Fuel efficiency is one, but so are better land use planning and investments in public transportation options that lower costs and protect the environment. Hybrid vehicles and electric vehicles charged with electricity from renewable sources are also key parts of the solution.

In today's hearing, we will look at another: low carbon biofuel, which are being developed under the Renewable Fuel Standard, or RFS. For some transportation sectors, including aviation and shipping, low carbon liquid fuels may be the only option to reduce carbon pollution besides efficiency. However, as we will also explore today, not all biofuels are low carbon, and our biofuels policy must be implemented thoughtfully to achieve climate benefits.

Today's hearing is the subcommittee's second look at the RFS, which is one of the few laws adopted by Congress that explicitly and directly aims to reduce carbon pollution.

Last month, we heard from EIA, EPA, and the Department of Agriculture that the RFS has helped launch an entirely new advanced biofuels industry that has the potential to offer real climate benefits and grow our economy. But we also heard that development of this industry has taken longer than Congress had originally hoped and that other challenges have arisen, including the gasoline ethanol blend wall, which may be around the corner. And I look forward to hearing from our stakeholder witnesses today and tomorrow on these and other issues.

In addition to these hearings, over the last few months, Chairman Upton and I have released a series of bipartisan white papers discussing the RFS and soliciting public comments on the law. This process has been helpful, and I appreciate the majority's efforts to work with the Democrats so that we can all better understand these issues.

The RFS has serious issues, and I welcome the opportunity to take a careful look at this policy through the white papers and through these hearings.

And as we move forward, we should continue to evaluate how the RFS could better contribute to a low carbon transportation system that benefits both our environment and our economy. As we consider any changes to the policy, we should ensure that the law's climate benefits are preserved and strengthened.

Thank you, Mr. Chairman.

Mr. WHITFIELD. Thank you, Mr. Waxman.

And that concludes the opening statements for the day.

So, at this time, I would like to introduce our witnesses on the first panel. First of all, I want to tell you, we appreciate you getting your testimony to us. We read the testimony. We appreciate you taking the time to give us your expertise on this very important issue. And our witnesses are Mr. Jack Gerard, who is the president and CEO of the American Petroleum Institute. We have Mr. Bob Dinneen, who is the president and CEO of Renewable Fuels Association. We have Mr. Charles Drevna, who is the president of the American Fuel & Petrochemical Manufacturers. We have Mr. Michael McAdams, who is the president of the Advanced Biofuels Association. And we have Dr. Jeremy Martin, senior scientist at the Clean Vehicles Program at the Union of Concerned Scientists.

So thank you for being with us. Each one of you will be recognized for 5 minutes for an opening statement. And at the end of that time, then we will have questions for you.

STATEMENTS OF JACK N. GERARD, PRESIDENT AND CEO, AMERICAN PETROLEUM INSTITUTE; BOB DINNEEN, PRESIDENT AND CEO, RENEWABLE FUELS ASSOCIATION; CHARLES T. DREVNA, PRESIDENT, AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS; MICHAEL MCADAMS, PRESIDENT, ADVANCED BIOFUELS ASSOCIATION; AND JEREMY I. MARTIN, SENIOR SCIENTIST, CLEAN VEHICLES PROGRAM, UNION OF CONCERNED SCIENTISTS

Mr. WHITFIELD. So, Mr. Gerard, you are recognized for 5 minutes.

STATEMENT OF JACK N. GERARD

Mr. GERARD. Great.

Thank you, Chairman Whitfield and Ranking Member Rush and Chairman Upton and Ranking Member Waxman. We appreciate the opportunity as API to testify today to express our concerns with the renewable fuels standard. API represents all sector of America's oil and natural gas industry. We support 9.2 million American jobs, 7.7 percent of the U.S. economy. We deliver more than $86 million a day to the Federal Government. And we are responsible for delivering most of the energy that drives our economy, a responsibility that we take very seriously, which is why we are extremely concerned about the risk the RFS poses to our economy and to millions of consumers.

In 2007, when Congress created the RFS, the energy market and our Nation's energy landscape were very different than they are today. The RFS was designed to reduce greenhouse gas emissions, make our Nation more energy secure and provide a reliable domestic source of energy that would lessen energy imports from less stable regions around the world.

Today we are much closer to achieving these important goals. Unfortunately, it is not because of the RFS. It is because of the oil and natural gas industry's technological advancements and vastly expanded energy resources. The 21st century energy renaissance has driven our Nation's CO_2 emissions near a 20-year low, made us the number one producer of clean-burning natural gas, and put us on a track to become the world's largest oil producer in 7 short years. Put simply, the RFS, while well intentioned, is today completely untethered from reality and unless it is immediately halted will unnecessarily cost our economy and consumers billions of dollars.

In fact, the RFS and its requirements are already beginning to drive up energy production costs. The best example is the price volatility in the renewable identification number or RINs, which refiners must obtain when blending renewable fuels into gasoline and diesel. RINs are becoming increasingly scarce through the impending E10 blend wall, which is the point at which the RFS mandate exceeds the safe limit of ethanol in America's fuel supply. These higher ethanol volumes in America's fuel supply would void millions of car warranties.

Today, RIN prices are near an all-time high which, according to an editorial in Saturday's Wall Street Journal, translates into a 10 cent per gallon ethanol tax on consumers at a total cost of $14 billion to our economy. Other experts, such as the Energy Policy Re-

search Foundation, EPRINC, estimates the program could increase the price of gasoline from 20 cents per gallon to as much as $1 per gallon as early as next year. Further, according to a study conducted by NERA Economic Consulting, exceeding the blend wall could result in diesel fuel costs rising as much as 300 percent and a 30 percent increase in gasoline cost by 2015. In broad economic terms, the RFS could cause a $770 billion decrease in U.S. GDP by 2015 and would reduce take-home pay for American workers by $580 billion.

And in an "only in Washington" turn of events, the RFS also mandates the use of a fuel that simply doesn't exist. Currently, the amount of commercially available advanced cellulosic biofuels in the market doesn't come close to meeting the arbitrary requirements of the RFS. In other words, RFS mandates the use of phantom fuel that could cost American consumers millions.

All of which leads to the inescapable fact, the RFS isn't just a relic of America's bygone era of energy scarcity. It is a grave economic threat and in our view should be stopped immediately. The real tragedy is that this can all be prevented and can be prevented right now.

To that end, we again call on the administration to immediately waive down the volume requirements to below 10 percent for 2013 and 2014 and for Congress to finally repeal this fundamentally broken law. Because the stakes are simply too high for inaction, which could cost consumers millions of dollars, place at risk small engines and automobiles, and ultimately cause severe damage to our domestic economy. Thank you for your time and attention today. And I look forward to answering your questions.

Mr. WHITFIELD. Thank you, Mr. Gerard.

[The prepared statement of Mr. Gerard follows:]

U.S. House of Representatives

Committee on Energy and Commerce

Subcommittee on Energy and Power

Overview of the Renewable Fuel Standard

Testimony of Jack N. Gerard

President and CEO of the American Petroleum Institute

July 23, 2013

Good morning Chairman Whitfield, Ranking Member Rush, and members of the Subcommittee. Thank you for the opportunity to address API's concerns with the Renewable Fuel Standard.

API represents all sectors of America's oil and natural gas industry, supports 9.2 million American jobs; 7.7 percent of the U.S. economy, delivers more than $85 million a day in revenue to the federal government and is responsible for delivering most of the energy that drives our nation's economy; a responsibility that we take very seriously.

Which is why we are extremely concerned about the risk the RFS poses to our economy and to millions of consumers.

In 2007, when Congress created the RFS, the energy market and our nation's energy landscape were very different.

The RFS was designed to reduce greenhouse gas emissions; make our nation more energy secure and provide a reliable domestic source of energy that would lessen energy imports from less stable regions.

Today we are closer to achieving these important goals; unfortunately not because of the RFS;

but because of the oil and natural gas industry's technological advances and vastly expanded energy resources.

This 21st century energy renaissance has driven our nation's CO2 emissions near a twenty year low; made us the number one producer of natural gas and put us on track to become the world's largest producer of oil in just a few years.

Put simply, the RFS, while well-intentioned, is today completely untethered from reality, and unless it is immediately halted will unnecessarily cost our economy and consumers billions of dollars.

In fact, the RFS and its requirements are already beginning to drive up energy production costs. The best example is the price volatility in the Renewable Identification Numbers or RINs, which refiners must obtain when blending renewable fuels into gasoline and diesel.

RINs are becoming increasingly scarce due to the impending E10 blend wall, which is the point at which the RFS mandate exceeds the safe limit of ethanol in America's fuel supply. These higher ethanol volumes in America's fuel supply would void millions of car warranties.

Today, RIN prices are near an all-time high, which, according to an editorial in Saturday's Wall Street Journal, translates into a ten cent per gallon ethanol tax on consumers at a total cost to the economy of $ 14 billion.

Other experts, such as the Energy Policy Research Foundation Inc. (EPRINC) estimate the program could increase the price of gasoline from 20 cents per gallon to as much as $1.00 per gallon by next year.

Further, according to a study conducted by NERA Economic Consulting, exceeding the blend wall could result in diesel fuel costs rising by as much as 300 percent and a 30 percent increase

in gasoline costs by 2015. In broad economic terms, the RFS could cause a $770 billion decrease in U.S. GDP by 2015 and reduce take home pay for American workers by $580 billion.

And in an "only in Washington" turn of events, the RFS also mandates the use of a fuel that simply doesn't exist. Currently, the amount of commercially available advanced cellulosic biofuels in the market doesn't come close to meeting the arbitrary requirements of the RFS. In other words, RFS mandates the use of a phantom fuel that could cost American consumers millions.

All of which leads to the inescapable fact: The RFS isn't just a relic of America's bygone era of energy scarcity; it is a grave economic threat and must be stopped immediately.

The real tragedy is that this can all be prevented right now.

To that end, we again call on the administration to immediately waive down the volume requirements to below 10 percent for 2013 and 2014 and for Congress to finally repeal this fundamentally broken law.

Because the stakes are simply too high for inaction, which could cost consumers millions of dollars, place at risk small engines and automobiles, and ultimately harm our economy.

Thank you for your time and attention today.

Mr. WHITFIELD. Mr. Dinneen, you are now recognized for 5 minutes.

STATEMENT OF BOB DINNEEN

Mr. DINNEEN. Thank you, Mr. Chairman.

Thank you Chairman Upton, Ranking Member Rush and Ranking Member Waxman.

This is an important and timely hearing. And I want to thank you for having a balanced approach, not just with the hearing but with the white papers as well. This has been a process that has allowed all stakeholders an opportunity to get their views across, and we appreciate it.

By virtually any measure, the RFS has been an unmitigated success. It has reduced our dependence on imported petroleum, stimulated investment in new technologies, reduced consumer gasoline prices, created jobs and economic opportunity across rural America, saved taxpayers' dollars by lowering foreign program payments, and is the only program we have that lowers greenhouse gas emissions.

My written testimony and the RFA's responses to the committee's white papers describe many of the benefits of the RFS. Let me focus on one, the success of the RFS in enhancing energy security.

Slide one, please.

U.S. dependence on imported oil has fallen since the RFS was enacted, from 60 percent in 2005 to 40 percent today. But it is important to note that this measure includes net imports of both crude oil and all other petroleum products. If just crude oil is considered, import dependence was 57 percent in 2012, meaning that the most significant reduction has been in petroleum products that is finished gasoline. That is the RFS at work. That is ethanol.

Now Mr. Gerard suggests that our dependence on imported oil has fallen because of oil. And indeed, we are fracking more and producing more. But 62 percent of the new energy production since 2005 has been ethanol, 38 percent oil. It is ethanol that has driven that number down. Now my friends in the oil industry want you to repeal the RFS and have pointed to the blend wall as a major reason they can't meet the RFS obligation.

So let's take a look at the blend wall.

Slide two, please.

The green bar is the RFS requirement. The 13.8 billion gallons of corn ethanol that has to be blended this year. We will sell close to 13.4 billion gallons of ethanol into E10 markets, meeting the obligation for 133 billion gallons of fuel. We will also sell more than 150 million gallons of ethanol for E85 for flex-fuel vehicles, meaning that there is just 280 million gallons of gasoline above the blend wall. That is what the fuss is about.

The requirement above the blend wall this year represents less than 0.2 of 1 percent of the U.S. Gasoline market. The 3,000-plus E85 retail outlets in operation today would only need to sell an average of 15,000 gallons per month to scale the 2013 blend wall. With ethanol prices today about 60 cents less than gasoline, E85 sales are spiking. And some stations are reporting E85 sales close to 50,000 gallons a month. And with almost 16 million FFBs on the road today, there is enough potential E85 demand for 8 billion gal-

lons of E85. What blend wall? All we need is market access for E85, E15, and other blends, access that is being denied today by an incumbent industry intent upon holding onto its monopoly.

Well, they say ethanol, the RFS and RINs are driving up the price of gasoline. No.

Slide three.

Again, ethanol is less expensive than gasoline. The RFS is saving consumers at the pump. And there is absolutely no correlation between retail gas prices and ethanol RIN prices. RINs are free. Let me repeat. RINs are free. Ethanol producers are required to give RINs to refiners and gasoline marketers when they purchase a gallon of ethanol. Buy a gallon of ethanol, get a RIN for free. There is a rather thinly traded and opaque market for RINs as oil companies trade them amongst themselves. But if they don't like the price, they can always blend more ethanol and get more free RINs. They don't have to short the U.S. gasoline market. And if they do, shame on them.

There is no truth to the notion that ethanol and the RFS are driving up food prices.

Slide four.

In fact, food prices have actually fallen as the RFS has been implemented, with the lowest food price inflation in the past 50 years, 1 percent occurring in 2010. There is no correlation between food prices and growing ethanol production.

So what is driving food prices? It is the skyrocketing price of oil, of course.

Slide five.

Now there is a near perfect correlation. When oil prices spiked to $140 a barrel in 2008, so, too, did food prices. Energy drives the cost of all food items at the grocery store because of transportation, refrigeration, production, and marketing. That is why the RFS is so important. It is the only policy we have to moderate gasoline prices at the pump. Congress did an excellent job crafting the RFS, building in a great deal of administrative and market flexibility to deal with the issues as they arrive. As a result, there is nothing wrong with the RFS that can't be fixed with what is right with the RFS. And there is no need to legislate changes to a program that is working as designed, even if the incumbent industry bristles at losing market share. Thank you.

Mr. WHITFIELD. Thank you, Mr. Dinneen.

[The prepared statement of Mr. Dinneen follows:]

RFA RENEWABLE FUELS ASSOCIATION

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

July 23, 2013

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.

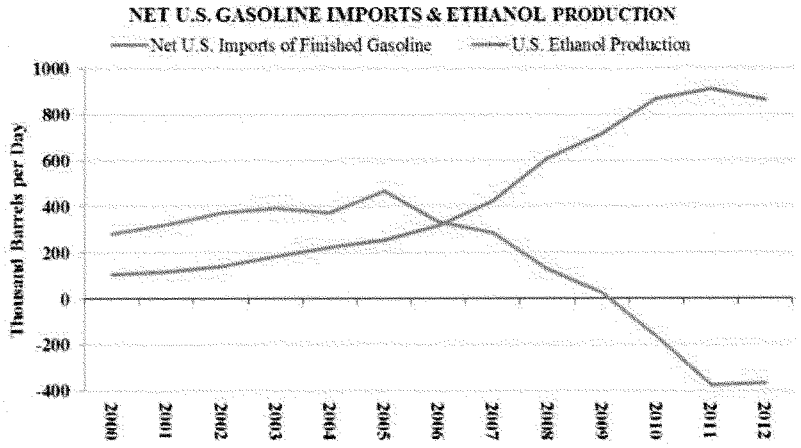
The RFA is the leading trade association for America's ethanol industry. Its mission is to advance the development, production, and use of fuel ethanol by strengthening America's ethanol industry and raising awareness about the benefits of renewable fuels. Founded in 1981, RFA's 300-plus producer and associate members are working to help America become cleaner, safer, energy independent and economically secure.

By virtually any measure, the Renewable Fuel Standard (RFS) has been an unmitigated success. It has reduced our dependence on imported petroleum, stimulated investment in new technologies, reduced consumer gasoline prices, created jobs and economic opportunity across rural America, saved taxpayer dollars by lowering farm program payments, and is the only program we have that lowers greenhouse gas emissions from transportation fuels. 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 next generation biofuels 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.

The RFS is Enhancing U.S. Energy Security and Diversity:

U.S. dependence on imported oil and petroleum products has fallen since the RFS was enacted. According to Energy Information Administration (EIA) data, the share of U.S. petroleum consumption represented by imports has fallen steadily from 60% in 2005 to 40% today. It is important to note that

this measure includes net imports of both crude oil *and* all other petroleum products. If just crude oil is considered, import dependence was 57% in 2012, meaning that the most significant reduction has been in petroleum products, i.e., finished gasoline. While several factors are responsible for the decrease in petroleum import dependence in recent years, the rapid emergence of ethanol production under the RFS stands out as a particularly important catalyst, largely eliminating the need for imported finished gasoline. Indeed, EIA cites "increased use of domestic biofuels (ethanol and biodiesel)" as a major driver behind the decrease in petroleum import dependence.[1] In fact, cumulative new ethanol production since 2005 has accounted for 62% of new domestically-produced liquid fuels, while cumulative new U.S. crude oil production has accounted for 38%.



While increased domestic oil production from fracking has also been a factor in reducing petroleum import dependence from 2005 levels, its role has been exaggerated by oil and gas proponents. Oil production from fracking is a relatively recent phenomenon, and U.S. oil production was actually declining steadily until 2009. Further, the scale of technically recoverable crude oil from U.S. shale resources needs to be placed in context. The 4.3 billion barrels of technically recoverable tight oil from the Bakken shale play (as estimated by the U.S. Geological Survey) is less than one year's worth of crude oil consumption by U.S. refineries (U.S. refiner input of crude oil was 5.5 billion barrels in 2012).

In any case, the recent boom in tight oil production from fracking doesn't change the fact that fossil fuels are finite and exhaustible. The fracking boom has simply delayed the inevitable. Referring to the recent developments in U.S. unconventional oil production, a recent paper published in *Energy Policy* concluded:

> However important these developments are, they do not change the central argument of Peak Oil…Rather than continuing to argue for or against the topic, Peak Oil should be acknowledged as part of a complex energy situation with the realization that cheap fuel is no longer available and we now face circumstances where prices will increase and high energy-

[1] http://www.eia.gov/energy_in_brief/article/foreign_oil_dependence.cfm

based growth will be limited. With this acceptance, and while there still is sufficient oil, *there should be investment in new energy sources* (emphasis added).[2]

One new energy source — ethanol — is already making a difference. Because of the RFS, ethanol already accounts for 10% of the nation's gasoline supply. Because of the RFS, ethanol displaced the need for the amount of gasoline refined from 462 million barrels of imported crude oil in 2012.[3] Because of the RFS, the biofuels industry stands ready to contribute substantially more to our nation's energy and economic security.

Ethanol and the RFS are Helping to Lower Consumer Gasoline Prices:

Several analyses in recent years have estimated the impacts of increased ethanol blending on wholesale and/or retail gasoline prices. While the published estimates of ethanol's impact on gasoline prices vary, they are directionally consistent and all of the studies indicate that using ethanol does in fact result in meaningful savings at the pump.

Du & Hayes of the Center for Agriculture and Rural Development (CARD) published a paper in Energy Policy in August 2009 that concluded, "...the growth in ethanol production has caused retail gasoline prices to be $0.29 to $0.40 per gallon lower than would otherwise have been the case." Du & Hayes updated their analysis in April 2011, finding that "...over the sample period from January 2000 to December 2010, the growth in ethanol production reduced wholesale gasoline prices by $0.25 per gallon on average. Based on the data of 2010 only, the marginal impacts on gasoline prices are found to be substantially higher given the much higher ethanol production and crude oil prices. The average effect increases to $0.89/gallon..."

In February 2012, Marzoughi & Kennedy of Louisiana State University presented a paper finding that "...every billion gallons of increase in ethanol production decreases gasoline price as much as $0.06 cents. Adding ethanol to gasoline has the same impact on gasoline as a positive shock to gasoline supply." They further concluded that, "Based on estimation results for the impact of ethanol production on gasoline price, [the amount of ethanol produced in 2011] can lower the gasoline price as much as $0.78 cents per gallon. ...This low price means around $107 billion in annual savings for U.S. drivers as a whole." Finally, Du & Hayes updated their analysis again in May 2012, finding that, "...over the period of January 2000 to December 2011, the growth in ethanol production reduced wholesale gasoline prices by $0.29 per gallon on average across all regions. Based on the data of 2011 only, the marginal impacts on gasoline prices are found to be substantially higher given the increasing ethanol production and higher crude oil prices. The average effect across all regions increases to $1.09/gallon..."

There are at least three important dynamics explaining ethanol's ability to reduce gasoline prices.

- **The effect of fuel supply extension on gasoline prices.** Cumulatively, more than 75 billion gallons of ethanol were added to the gasoline supply from 2005-2012 — an average of 9.4 billion gallons annually. Basic economic theory establishes that increasing the supply of substitutable-in-consumption goods will reduce the price for those goods, ceteris paribus. This effect can be understood by considering the analogous example of butter and margarine: prices for butter are forced downward when margarine (a cheaper substitute) is introduced to

[2] 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

[3] 2012 ethanol production totaled 317 million barrels. 214 million barrels of gasoline would be needed to replace the energy found in 317 million barrels of ethanol. 462 million barrels of crude oil are needed to refine 214 million barrels of gasoline.

the marketplace and overall supply of these two substitute goods is enlarged. In the case of ethanol, according to Hayes, "It is as if the US oil refining industry had found a way to extract 10% more gasoline from a barrel of oil." The magnitude of this effect will depend on the amount of the substitute good introduced to the market, the time period over which the good is introduced, the price elasticity of demand, and other factors.

- **The wholesale discount of ethanol to gasoline blendstock.** Ethanol has consistently sold at a discount to gasoline blendstock at the wholesale level since 2007. Since 2010, ethanol prices have averaged approximately 83% the price of RBOB, or $0.47/gallon less (at times, the "spread" has been $1/gallon or wider). This means E10 has been an average of about $0.05/gallon cheaper than unblended gasoline based strictly on straightforward blending economics. The wholesale spread between ethanol and gasoline during this period has served as a strong economic incentive for gasoline blenders and refines to maximize their use of ethanol. Ethanol opponents often suggest ethanol's discount to gasoline is offset by its lower energy content — this argument ignores the larger supply extension effects (discussed in the first bullet point above) and the actual role of ethanol in gasoline blends (discussed in the bullet point below).

- **The price differential between ethanol and other oxygenates and octane sources.** Ethanol is a high-octane fuel that is used ubiquitously by refiners and blenders to increase gasoline octane to the minimum levels required for sale (87 AKI in most states). Using ethanol in lieu of other octane enhancers has allowed refiners to reduce the use of energy-intensive alkylation and reforming units, significantly reducing gasoline production costs. Ethanol has consistently been priced far below other sources of octane over the past several years. In the absence of ethanol, refiners would be required to use much higher-priced octane sources (many of which, incidentally, are highly toxic in nature), which would necessarily increase gasoline prices at wholesale/retail. A recent analysis by the U.S. Department of Energy (DOE) found that even if ethanol prices were 110% the price of CBOB gasoline (compared to 80-85% today), it would still be more economical for refiners to use ethanol for octane enhancement rather than producing octane from other petroleum processes in the refinery.

Ethanol and the RFS are Revitalizing Rural America:

It is important to remember that a central objective in developing a vibrant and robust ethanol industry was to increase demand for agricultural products and enhance farm income. Girded by the RFS, ethanol has become the single most important value-added market for American grain farmers, stimulating investment in agricultural technology and enhancing economic opportunities for rural communities across the country. The emergence of the ethanol industry over the past decade has served as an incredibly important economic catalyst, transforming the grain sector from a stagnating, surplus-driven marketplace to one that is vibrant, high-tech, and demand-driven.

The expansion of the ethanol industry has catalyzed substantial growth in the agriculture sector's output, efficiency, and value. The role of the RFS has been to create a certain and stable market environment for renewable fuels producers and feedstock providers. In turn, this certainty has enabled investment in new agricultural technologies, such as more efficient farm machinery and higher-yielding corn seed. Agricultural gross domestic product (GDP), net farm income, livestock receipts, and crop receipts have all hit new record highs in recent years, indicating that the net impact of ethanol expansion on the agriculture sector has been resoundingly positive.

While the emergence of the ethanol industry has increased demand for corn, U.S. farmers have responded by growing significantly larger corn crops. U.S. corn production has increased

tremendously in the "ethanol era." The average annual U.S. corn crop averaged 7.2 billion bushels (bbu.) in the 1980s, 8.6 bbu. in the 1990s, 10.3 bbu. in 2000-2006, and 12.3 bbu. since 2007 (the year EISA was enacted). As a result of larger annual corn harvests and the growing production of animal feed co-products, increased ethanol production has not affected availability of corn for traditional users. Corn supplies available for non-ethanol uses (i.e., the amount of corn and co-products "left over" after net consumption of corn by the ethanol industry) have been larger, on average, since passage of the RFS2 in 2007 than at any other time in history. Corn and corn co-products available for non-ethanol uses averaged 314 million tons (equivalent to 11.2 bbu.) from 2007/08 through 2011/12. This compares to an average of 308 million tons (11.0 bbu.) available for non-ethanol use from 2002/03 through 2006/07 and an average of 300 million tons (10.7 bbu.) from 1997/98 through 2001/02. In other words, the emergence of ethanol as a major source of corn demand has *not* reduced the supply of corn available for other uses, including livestock feed. It is important to note that expanded corn production has come primarily through increased productivity per unit of land (i.e., yield per acre). In 1980, farmers averaged a yield of 91 bushels of corn per acre and produced a crop of 6.6 bbu. In 2009, just a generation later, farmers produced an average yield of 164.7 bushels per acre and harvested 13.1 bbu. *This doubling in size of the American corn crop was achieved by planting just 3% more corn acres in 2009 than were planted in 1980.*

Recent research shows that when farmers receive higher prices for corn, they re-invest more of their income in technologies that further enhance productivity.[4] Every 10% increase in corn prices translates to a 2.5% increase in average corn yields. For example, if corn prices increase from $5.50 to $6.60 per bushel (20%), yields would increase from 150 bushels per acre to 157.5 bushels per acre. This increase in output is driven entirely by the higher market price paid to the farmer.

Meanwhile, contrary to claims that the RFS has "diverted" grain away from livestock and poultry production, U.S. meat output has grown steadily since the original RFS was enacted in 2005. In fact, 2013 production of red meat and poultry is projected to be the second-highest on record (only behind 2008) and 7% higher than output in 2005.[5] Steady growth in production of red meat and poultry show the fallacy of the notion that ethanol expansion and the RFS have somehow eroded U.S. meat output.

Expansion of the ethanol industry over the past decade has created and/or supported tens of thousands of jobs across all sectors of the economy. According to an analysis conducted by Cardno-ENTRIX, the production of 13.3 billion gallons of ethanol in 2012 directly employed 87,292 Americans. An additional 295,969 Americans found work in positions indirectly affiliated with or induced by ethanol production. These 383,260 total jobs helped create $30.2 billion in household income and contributed $43.4 billion to the national Gross Domestic Product (GDP). In addition, more than 200 ethanol plants in 26 states paid $7.9 billion in federal, state and local taxes.

Continued implementation of the RFS, as envisioned by Congress, will further add to the biofuel sector's positive impacts on the U.S. economy. New jobs associated with advanced and cellulosic biofuel production will add to the vibrant work force already created by today's grain ethanol industry. A study by Bio Economic Research Associates found direct job creation from advanced biofuels production could reach 94,000 by 2016 and 190,000 by 2022.[6] Total job creation from advanced biofuels, accounting for economic multiplier effects, could reach 383,000 in 2016 and 807,000 by 2022. Direct economic output from the advanced biofuels industry, including capital investment,

---

[4] Goodwin et al. (2012). *Is Yield Endogenous to Price? An Empirical Evaluation of Inter- and Intra-Seasonal Corn Yield Response.* Paper presented at Agricultural and Applied Economics Association 2012 Annual Meeting, August 12-14, 2012, Seattle, Washington. Available at: http://ageconsearch.umn.edu/handle/124884

[5] USDA (April 2013). World Agricultural Supply and Demand Estimates.

[6] Bio Economic Research Associates (2009). *U.S. Economic Impact of Advanced Biofuels Production: Perspectives to 2030.*

research and development, technology royalties, processing operations, feedstock production and biofuels distribution, is estimated to rise to $17.4 billion in 2016 and $37 billion by 2022.

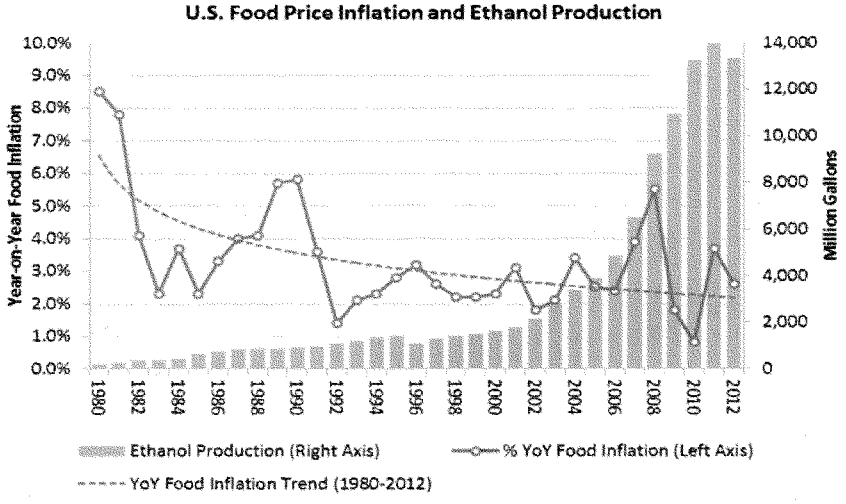
The RFS has NOT Contributed to Higher Food Prices:

There is no credible evidence whatsoever to support the notion that the RFS is adversely affecting consumer food prices. As explained above, the RFS itself has had little direct impact on agricultural commodity prices; and because the farm value of commodities represents such a small share of retail food prices, the impact of the RFS itself on food prices is indiscernible.

The International Center for Trade and Sustainable Development analysis found that retail prices for chicken *wouldn't have been any different at all* had the RFS not existed in the five years from 2005/06 to 2009/10. Similarly, retail beef and pork prices wouldn't have been any different at all without the RFS, with the exception of one year when prices for each would have been higher by $0.01 per pound. As explained by the author, "[t]he reason for such a small price impact is that feed prices make up a small share of retail prices and because the feed cost impacts from ethanol [policy] over this period are small."[7]

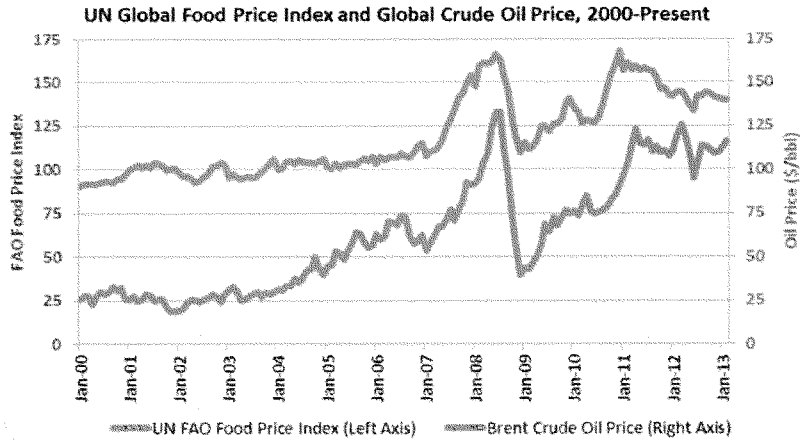
The negligible impact of the RFS on retail food prices is further underscored by recent economic modeling by FAPRI. The FAPRI work estimated that retail beef prices would be $5.30 per pound in 2012/13 *with or without* a full waiver of the RFS. Similarly, a waiver might result in retail pork prices being reduced by just $0.01 from $3.59 to $3.58 per pound, a 0.04 percent change.[8] Moreover, it is notable that annual food inflation rates have, on average, been *lower* since passage of the RFS than they were in the years preceding the program. Annual food inflation has averaged 2.90% since 2005, the year the original RFS was enacted. By comparison, annual food inflation rates averaged 3.02% in the 20 years prior to enactment of the RFS. Further, two of the lowest annual food inflation rates in the last 50 years have occurred since passage of RFS2 in 2007.

[7] Babcock, B., for ICTSD (June 2011).
[8] Thompson, W., et al. (Oct. 2012).



Source: Bureau of Labor Statistics, Energy Information Administration

What is driving food prices today? Well, petroleum demand and prices also have important effects on U.S. agricultural and food markets. Every step of the food supply chain is reliant on petroleum products — from the use of diesel fuel in farm machinery, to the use of natural gas in food processing plants, to the use of plastics in food packaging, to the use of gasoline and diesel fuel to transport food to the grocery store or restaurant. The correlation coefficient between global food prices and global oil prices since 2000 has been 0.92, which indicates a near-perfect relationship (1.0 is a perfect correlation). We understand that the economic effects of petroleum dependence are outside of the scope of the Committee's current initiative, but biofuels should not be considered in a vacuum.



Ethanol and the RFS are Reducing GHG Emissions

An important policy objective of the RFS2, as adopted by Congress as part of the Energy Independence and Security Act of 2007 (EISA), was to reduce greenhouse gas emissions (GHG) and displace petroleum imports with cleaner, renewable fuels. The RFS is unquestionably reducing GHG emissions today compared to baseline petroleum. As an initial matter, it is important to understand there is a fundamental difference between the carbon cycle of renewable fuels and the carbon cycle of fossil fuels. As highlighted in a recent paper in which scientists from Duke University, Oak Ridge National Laboratory, and the University of Minnesota compared the lifecycle environmental impacts of ethanol and gasoline:

> A critical temporal distinction exists when comparing ethanol and gasoline life-cycles. Oil deposits were established millions of years in the past. *The use of oil transfers into today's atmosphere GHGs that had been sequestered and secured for millennia and would have remained out of Earth's atmosphere if not for human intervention.* While the production and use of bioenergy also releases GHGs, there is an intrinsic difference between the two fuels, for GHG emissions associated with biofuels occur at temporal scales that would occur naturally, with or without human intervention. …Hence, a bioenergy cycle can be managed while maintaining atmospheric conditions similar to those that allowed humans to evolve and thrive on Earth. In contrast, *massive release of fossil fuel carbon alters this balance, and the resulting changes to atmospheric concentrations of GHGs will impact Earth's climate for eons.* [9] (emphasis added)

Indeed, one of the major benefits of using biofuels is that they essentially *recycle* atmospheric carbon. In the case of corn ethanol, for instance, the amount of CO_2 released when the fuel is combusted in an

[9] Parish et al. (2012). "Comparing Scales of Environmental Effects from Gasoline and Ethanol Production." *Environmental Management*, 50 (6): 979-1246.

engine has been previously removed from the atmosphere via photosynthesis during growth of corn plant. Although there may be temporary shifts between atmospheric and terrestrial stocks of carbon within the active carbon cycle, the carbon released into the atmosphere during this process is not "new" carbon being introduced into the earth's carbon cycle. Biogenic carbon emissions then are considered "carbon neutral" based on the feedstock's carbon uptake. For annual crops like corn, this carbon cycle occurs every year with each new harvest.

While CO_2 emissions from fuel ethanol combustion are carbon neutral, there are some GHG emissions associated with the production and distribution of the fuel. These supply chain emissions are the subject of "lifecycle analysis." A recent lifecycle analysis paper by Wang et al. published in the journal *Environmental Research Letters* found that corn ethanol produced in the 2008-2012 timeframe reduced GHG emissions by an average of 34% compared to baseline gasoline.[10] Importantly, that figure *includes hypothetical emissions from indirect land use change* (ILUC) for corn ethanol and uses a carbon intensity value for baseline gasoline that is nearly identical to the value used by the U.S. Environmental Protection Agency (EPA) for the RFS2. If ILUC emissions are excluded from the calculation (i.e., if an equitable comparison of only direct emissions is made), today's average corn ethanol reduces GHG emissions by 44% relative to gasoline, according to Wang et al.

The results from Wang et al. are consistent with several other independent lifecycle analyses of corn ethanol. For example, Liska et al. (2009) found modern corn ethanol reduces direct GHG emissions by 48-59% compared to gasoline.[11] Meanwhile, a report by O'Connor for the International Energy Agency found 2005-era corn ethanol reduced direct GHG emissions by 39% compared to gasoline, with reductions of up to 55% expected in the near future.[12] Further, the California Air Resources Board (CARB) has certified individual pathways for nearly 30 grain ethanol plants that serve the California market for the state's Low Carbon Fuels Standard (LCFS). The ethanol produced by these plants reduces direct GHGs by an average of 40-45% relative to baseline gasoline, according to CARB.[13] Incidentally, CARB recently reported that ethanol has provided 80% of the GHG emissions reductions required under the LCFS to date.[14]

---

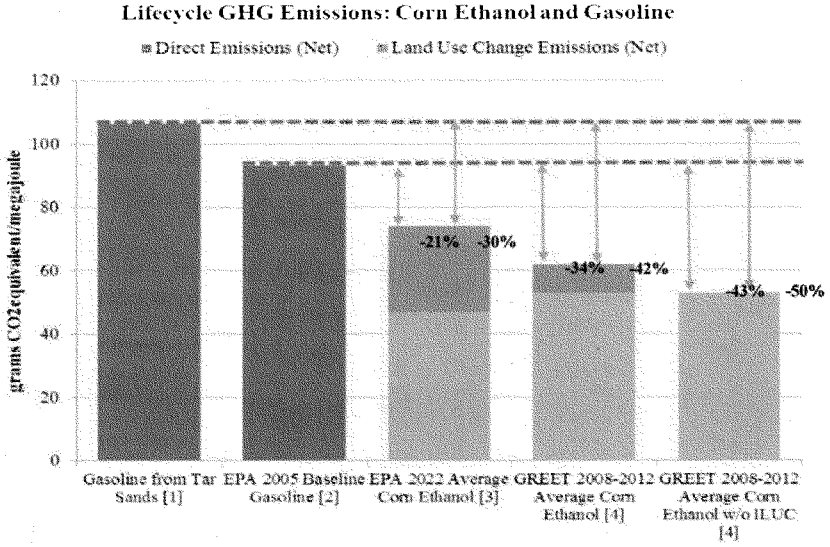
[10] Wang et al. (2012). "Well-to-wheels energy use and greenhouse gas emissions of ethanol from corn, sugarcane and cellulosic biomass for US use." *Environ. Res. Lett.*, 7 (2012) 045905 (13pp).

[11] Liska, A.J., H.S. Yang, V.R. Bremer, T.J. Klopfenstein, D.T. Walters, G.E. Erickson, and K.G. Cassman (2009). "Improvements in Life Cycle Energy Efficiency and Greenhouse Gas Emissions of Corn-Ethanol." *Journal of Industrial Ecology*. 13(1): 58-74.

[12] O'Connor, D., for International Energy Agency (2009). "An examination of the potential for improving carbon/energy balance of bioethanol." IEA Task 39 Report T39-TR1, 72 pp.

[13] See CARB (2013). "Method 2A-2B Carbon Intensity Applications." http://www.arb.ca.gov/fuels/lcfs/2a2b/2a-2b-apps.htm

[14] See CARB (2013). "LCFS 2012 Q4 Data Summary." http://www.arb.ca.gov/fuels/lcfs/20130329_q4datasummary.pdf



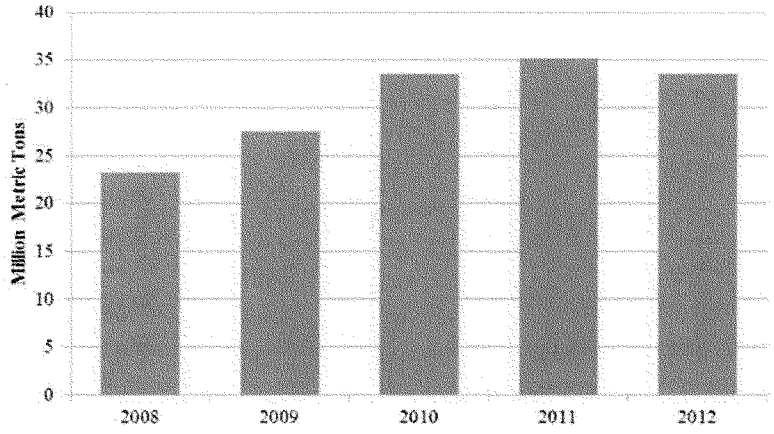
[1] NETL (2009), An Evaluation of the Extraction, Transport and Refining of Imported Crude Oils and the Impact of Life Cycle Greenhouse Gas Emissions, March 27, 2009, U.S. Department of Energy, DOE/NETL-2009/1362.
[2-3] EPA (2010). RFS2 Final Rule.
[4] Wang et al. (2012). "Well-to-wheels energy use and greenhouse gas emissions of ethanol from corn, sugarcane and cellulosic biomass for US use." *Environ. Res. Lett.*, 7 (2012) 045905 (13pp).

The latest results presented by Wang et al. were obtained from an updated and re-structured version of the DOE's "GREET" model.[15] Recent versions of the GREET model have incorporated updated data and assumptions from the 2008-2010 timeframe regarding emissions related to ethanol plant energy use, grain production, and land conversion. Unfortunately, these updates to the GREET model were conducted shortly after EPA finalized its RFS2 lifecycle analysis, meaning the versions of the GREET model used by the Agency were already obsolete by the time the RFS2 final rule was promulgated.

Based on the lifecycle emissions reported for ethanol and gasoline in the Wang et al. paper, substitution of corn ethanol for gasoline in the 2008-2012 time period has conservatively reduced GHG emissions from the transportation sector by 153 million metric tons of CO_2-equivalent (CO_2e), or an average of 30.6 million metric tons per year (Figure 2). The GHG emissions reduction associated with substituting ethanol for gasoline has been equivalent to removing an average of 6.4 million vehicles from America's roadways annually from 2008 to 2012.[16]

[15] **G**reenhouse Gases, **R**egulated **E**missions, and **E**nergy Use in **T**ransportation Model. See http://greet.es.anl.gov/
[16] Assumes annual average CO_2e. emissions of 4.8 metric tons per light duty vehicle (EPA). See www.epa.gov/cleanenergy/energy-resources/refs.html

GHG Emissions Reductions From Substituting Ethanol for Gasoline, 2008-2012



Source: Argonne GREET 1 2012 rev2. Corn ethanol emissions = 62 g/MJ (incl. 9 g/MJ ILUC); gasoline emissions = 93 g/MJ. Note ILUC emissions are average values (i.e., variable timing of emissions not considered)

A recent study of 2012-era ethanol and corn production practices by the University of Illinois-Chicago reveals additional improvements that would further reduce corn ethanol's lifecycle GHG emissions beyond the levels reported in Wang et al. and shown in Figure 1. The study shows thermal energy use at a typical dry mill ethanol plant has fallen another 9% since 2008, as the amount of ethanol produced per bushel of grain increased 1.4%. Additionally, the study showed increasing adoption of new practices and technologies in the feedstock production phase. Importantly, current energy use by the average ethanol plant is *already* below the levels assumed by EPA for an average plant in 2022.

While the renewable fuels used for RFS compliance today are clearly reducing GHG emissions relative to 2005 baseline petroleum, the comparison to a 2005 petroleum baseline understates the *actual* GHG savings associated with using renewable fuels. As corn ethanol's lifecycle GHG emissions have trended downward over the past decade, the lifecycle GHG emissions associated with petroleum have increased. A 2009 study by DOE's National Energy Technology Laboratory showed that gasoline from tar sands has lifecycle GHG emissions of 106.4 g CO_2e/megajoule (MJ).[17] This is 14% higher than the lifecycle GHG emissions assumption of 93.1 g/MJ for EPA's 2005 baseline gasoline. Because unconventional crude oil sources like tar sands and tight oil from fracking make up a much larger share of the U.S. crude oil slate today than in 2005, ethanol's true GHG benefits are significantly understated by EPA's analysis. When ethanol is compared directly to the unconventional petroleum sources it is displacing a the margin of today's fuel market, the actual GHG savings are much greater than when ethanol is compared to a static gasoline baseline from eight years ago.

[17] NETL (2009), An Evaluation of the Extraction, Transport and Refining of Imported Crude Oils and the Impact of Life Cycle Greenhouse Gas Emissions, March 27, 2009, U.S. Department of Energy, DOE/NETL-2009/1362.

Concern About the "Blend Wall" is no Reason to Dismantle the RFS

In creating a market for 36 billion gallons of renewable fuels, Members of Congress most certainly knew in 2007 that such a large volume of fuel could not be absorbed by the gasoline market expected in 2022 without changes to the vehicle fleet and fuel distribution infrastructure. While nobody anticipated that gasoline demand would fall as it has, largely in response to the skyrocketing oil and gasoline prices in 2008 that precipitated a world-wide recession, there was absolutely an expectation that renewable fuels would have to move beyond just being a blend component in gasoline. Indeed, that was the intent.

By early 2009, it was clear that the arrival of the so-called E10 blend wall may occur sooner than was expected in 2007. In fact, in the analysis that accompanied EPA's proposed rule for the RFS2, the Agency wrote, "...under the proposed RFS2 program, we are projected to hit the E10 'blend wall' of about 14-15 billion gallons by 2013."[18] EPA's final rule for the RFS2 underscored this point again, stating, "...the nation is expected to hit the blend wall in 2013 under our high-ethanol control case [and] in 2014 under our primary mid-ethanol control case.... Regardless, to meet today's RFS2 requirements using increased volumes of ethanol we are going to need to see growth in flexible fuel vehicles (FFVs) and E85 infrastructure and increases in FFV E85 refueling rates."[19] To suggest that the blend wall was not anticipated to occur in the 2013/14 timeframe is simply not truthful.

The RFS was intended to drive innovation in technology by fostering investment in cellulosic ethanol and other advanced biofuels. It has done that. While slower than hoped, commercialization of these new technologies is occurring today. The RFS was also intended to drive innovation in the marketplace, with E85 and other blends providing consumers choice at the pump. In fact, the auto companies responded to that policy objective by expanding their production of FFVs that can use up to 85% ethanol. Fifty-percent of the automobiles produced by domestic auto manufacturers are FFVs today, and there are now greater than 15 million FFVs on the road. If those vehicles had consistent access to E85 infrastructure, they could consume some 6-7 billion gallons of ethanol on an annual basis. The problem, of course, is that refiners and their downstream partners have fought the introduction of E85 at every turn, refusing to invest in E85 infrastructure, discouraging their franchisees from making such investments or offering non-branded products to consumers.

The bottom line is that Congress knew EISA would require the marketplace to adapt to the increasing demand for renewable fuels, far beyond ethanol's use as a blend component. The renewable fuels industry responded by increasing production and making investments in new technologies. The auto industry responded by dramatically increasing their production of FFVs. But the oil industry has thus far steadfastly refused to provide the market access necessary to meet the EISA volumes, coming to Congress now for relief from a problem they have created!

As long as the RFS stays in place and is allowed to work as intended, it will create the economic incentive for gasoline marketers to install the infrastructure necessary to blend E85, E15 or other higher blends. Today's market for Renewable Identification Numbers (RINs) will provide that incentive. In response to higher RIN prices, we have already seen increased E85 use, and renewed interest in E15. That is the genius of the RFS, the credit system not only provides flexibility, but it also provides the incentive to drive innovation in the marketplace.

The market-driving benefit of the RFS credit program was recently affirmed by BP Biofuels CEO Phil New, who stated:

---

[18] EPA. May 2009. "Draft Regulatory Impact Analysis: Changes to Renewable Fuel Standard Program." EPA-420-D-09-001
[19] EPA. February 2010. "Renewable Fuel Standard Program (RFS2) Regulatory Impact Analysis." EPA-420-R-10-006

> "[t]he conventional RIN markets are responding to the blend wall – exactly as could have been anticipated. The RIN markets are now starting to incentivize all members of the value chain to seek ways to resolve the blend wall. What had become a static, entrenched relationship is now starting to look much more fluid, as the incentives provided by the RIN markets provide a real prompt to innovation – not just on the supply side, but for the better demand side players as well."[20]

Similar comments have come from oil industry economist Phil Verleger, who said:

- "In short, no RIN problem exists. Instead, the trouble has been created by the stubborn resistance of some refining companies…to the RFS program."
- "…refiners have resorted to "export blackmail" rather than try other solutions. One of these would be sales of E85 (85:15 ethanol/gasoline), which would alleviate the problem."
- "…the obvious solution to the RIN price problem involves no EPA intervention and no regulatory action at this point. It simply calls for boosting E85 sales.
- "Refiners and marketers could meet their RFS requirements by boosting E85 sales."[21]

The message is clear. Let the RFS work and solutions to the blend wall will be found!

Viable options exist for breaking through the E10 "Blend Wall" and meeting RFS requirements with physical ethanol volumes instead of paper RIN credits. E15 and E85 blends are legally approved and offer a workable pathway for meeting increased RFS volumetric requirements. Only slight increases in E15 consumption would be needed in 2013 to satisfy this year's RFS obligations with physical gallons rather than banked RINs. If E15 accounted for **just 1%** of total gasoline sales in 2013, the RFS requirement for renewable fuel could be met strictly with physical gallons of ethanol.[22]

The Regulatory Impact Analysis that accompanied the RFS2 final rule includes a detailed assessment of the costs to modernize fuel distribution infrastructure to accommodate higher-level ethanol blends under the RFS. Notably, the analysis is based on input from petroleum terminal operators, the rail industry, the marine transport sector, the trucking industry, retail gas station owners, manufacturers of fuel storage and dispensing equipment, and other industry sources.

One scenario in the analysis examined the cost of upgrading the fuel distribution system from handling a baseline of 13.2 billion gallons of ethanol annually to accommodating 33.2 billion gallons of ethanol — a 20-billion-gallon increase. The results of this scenario indicated a total capital investment of $9.9 billion would be necessary to modernize the terminal, fuel transportation and retail infrastructure. According to the analysis, ***that works out to just 6 cents of capital investment per gallon of additional ethanol use over the baseline.*** When amortized over total gasoline sales, the infrastructure costs would be ***fractions of a cent per gallon***. These costs include construction of new rail cars, new tank barges, new tank trucks, new and retrofitted storage tanks and blending equipment at petroleum terminals, unit train receiving infrastructure, manifest rail receipt facilities, and marine terminal infrastructure. Additionally, the estimate includes the costs to outfit retail stations for higher-level

[20] 8th Annual World Biofuels Markets, Beurs World Trade Center, Rotterdam, Netherlands, March 13, 2013, Biofuels Digest.
[21] Philip K. Verleger, Jr., President, PKVerleger LLC. "The Price of RINs: How High! How Stupid!" March 2013.
[22] Assumes gasoline demand of 133.8 billion gallons, 13.38 billion gallons of ethanol use at E10, and 200 million gallons of ethanol use at E85. Thus, 220 million gallons of ethanol would need to be consumed as E15 to meet the 13.8 billion gallon RFS requirement for "renewable fuel." This means 1.47 billion gallons of E15 would need to be consumed, which equates to 1.09% of projected gasoline demand. Does not account for impact of sugarcane ethanol imports that may be used to meet advanced biofuel standard.

blends, including installation of new dispensers, hanging hardware, refueling island hardware, automatic tank gauging equipment, canopy installation, underground storage tanks, and other retail infrastructure.

All of this means the higher-ethanol blend infrastructure necessary to bridge the gap between the infamous E10 "blend wall" (approximately 13.3 billion gallons) and the 2013 RFS requirement of 13.8 billion gallons would cost about $30 million—or $0.00023 per gallon of expected 2013 gasoline sales.

The Flexibility of the RFS Obviates the Need for Legislation

The Clean Air Act's RFS includes numerous provisions providing flexibility to both obligated parties and the EPA that would mitigate any potential negative impacts on consumers. These provisions include:

- RIN Banking and Trading
- RIN Roll-Over Allowances
- Deficit Carry Forward Provisions
- Small Refiner Exemptions
- RIN Interchangeability
- Annual Renewable Volume Obligation (RVO) Adjustment
- Cellulosic Biofuel Waiver Provisions
- Advanced Biofuel Standard Adjustment
- Total RFS Adjustment
- Future Modification of Applicable RFS Volumes

In short, these measures are intended to 1) afford EPA the ability to administratively adjust RFS requirements on an annual basis in light of prevailing fuel market and economic conditions, and 2) provide obligated parties the ability to comply with annual RFS requirements in the event of a shortage of renewable fuel or other market anomaly. Experience to date has clearly demonstrated that both EPA and obligated parties exercise these provisions when necessary. The EPA, for example, has dramatically reduced the cellulosic requirement each year to date in recognition of the slow pace of commercialization. And obligated parties have made effective use of RIN banking and trading, and RIN roll-over allowances since the program's inception. We believe strongly these flexible provisions are all that are needed to effectively implement the RFS.

Conclusion

The RFA looks forward to working with you to further develop and implement sound policies that provide the proper incentives to grow the U.S. ethanol industry.

Thank you.

Mr. WHITFIELD. And Mr. Drevna, you are now recognized for a 5 minutes opening statement.

STATEMENT OF CHARLES T. DREVNA

Mr. DREVNA. Thank you Chairman Whitfield, Ranking Member Rush, Chairman Upton, and Ranking Member Waxman of the full committee.

In 2007, Congress enacted energy legislation which in essence delivered a contract with the American people that promised significant steps toward energy independence and national security and added environmental protections. A major component of that contract known as the RFS called for massive amounts of renewable fuels to be blended into the Nation's transportation fuel supply.

In 2013, we now know that the RFS is a program based upon erroneous market assumptions, obstacles that prevent the safe consumption of ethanol at increasing mandated levels, and many other unintended negative consequences. These critical flaws in combination with the resurgence of domestic energy production have led us to one unquestionable conclusion. It is now abundantly clear that the RFS has systemic problems that Congress must address immediately and decisively to avoid severe economic harm to individual consumers and to our Nation's economy. Ironically in a free market, as opposed to a mandated market, which somehow we have a monopoly on, consumer choice and economics would drive the safe and efficient introduction of biofuels.

However, mandates are not the free market, and the reality is the RFS will raise prices for virtually all consumer goods, possibly leading to a consumer backlash against renewables generally, just not the mandate. We believe this is not the result Congress wants to achieve. So, in short, Congress should declare the contract with the American people vis-a-vis the RFS null and void and repeal the RFS. The flaws of the RFS are numerous, and they are here now.

First, perhaps the most pressing issue this year is the onset of the E10 blend wall. As opposed to previous statements, the E10 blend wall represents the maximum amount of ethanol that can be blended safely into existing infrastructure without damaging both vehicle and other engines. U.S. consumers are projected to use about 133 billion gallons of gasoline this year, meaning the E10 blend wall is at 13.3 billion gallons. The RFS requires 13.8 billion gallons of corn ethanol alone. As outlined in detail in my written statement, E15 and E85, in spite of dramatic protestations, are not viable due to vehicle infrastructure incompatibility and more importantly or just as importantly the lack of consumer acceptance.

Complicating matters further, refiners are not the entities actually blending the ethanol into the fuel, meaning the refiner must go into the open market to purchase a compliance credit, known as a RIN, so when you purchase something, it is not free. When the fuel supply contains a maximum amount of fuel it can handle, no more RINs can be generated for the refiners to achieve compliance. When refiners are unable to purchase sufficient RINs for compliance, they are left with only bad options, which force them to reduce the fuel supply to the U.S. market.

Likewise, importers of gasoline also look elsewhere to market their products. These economic consequences, also detailed in my written testimony, could be staggering. Meanwhile, the harmful impacts of the approaching blend wall have already begun. One example is the dramatic increase in the market price of ethanol RINs. Prior to the onset of the blend wall, RINs traded at 4 to 7 cents. However, as the market anticipates the scarcity, RIN prices rose to as much as $1.48 just last week. A refiner that purchases all of its RINs now faces an implied 15 cent per gallon premium to sell fuel in the United States.

Trade press is already reporting that importers are turning to gasoline imports to other countries to avoid this RIN tax. Much of my time has been spent talking about the impact of the blend wall. By doing so, I do not want to underemphasize the other negative impacts, including that on food and feed supply. And as we also know, from EPA's own data, the RFS is actually undermining its environmental goals. There are many additional problems created by the RFS, which are detailed in my written statement. Before concluding, however, let me be clear, AFPM is not anti-ethanol or anti-biofuels. Both can and will play a significant role in the fuel mix. But they must be safely integrated into the fuel supply and accepted by consumers. AFPM does oppose mandates and subsidies because they limit consumer choice, stifle innovation, and in the case of the RFS, are ultimately harmful to the consumer. In short, this unworkable law should be repealed. Thank you for your attention, and I look forward to fielding any questions you may have.

Mr. WHITFIELD. Thank you, Mr. Drevna.

[The prepared statement of Mr. Drevna follows:]

American Fuel & Petrochemical Manufacturers
Energy & Commerce Testimony Summary- July 23, 2013

- AFPM represents approximately 98 percent of the nation's refining capacity and our members are the obligated parties under the Renewable Fuel Standard (RFS).
- The RFS has created numerous unintended consequences and is failing to achieve its goals, due in large part to the fact that most of its foundational assumptions have proven to be false.
- In particular, the U.S. has undergone an unanticipated oil and gas revolution, EPA and NAS data has shown conventional biofuels are less environmentally friendly than gasoline, and cellulosic biofuels have not materialized.
- Most importantly in the short term, fuel demand is 12 percent lower in 2013 than projected in 2007, and the projections for 2022 show fuel demand will be 27 percent lower than the 2007 projections.
- Decreased gasoline demand coupled with increasing biofuel mandates have let to the onset of the E10 blendwall (10% ethanol)- the point at which existing delivery infrastructure and the consumer vehicle fleet are not capable of handling higher concentrations of ethanol.
- The market is already anticipating the onset of the blendwall and a shortage of compliance credits (RINs), as the price for RINs rose from less than $0.04 in 2012 to $1.46 the week of July 15. RINs are primarily generated at the terminals, which are often controlled by 3rd party company. Refiners usually buy the credits from these entities unless contracts provides otherwise.
- Limited vehicle (5% of LDVs are FFV) and retail infrastructure (1.5% of pumps carry E85) coupled with low consumer demand means E85 will not solve blendwall. Likewise, a lack of engine compatibility (automakers won't warranty most model year 2001+ vehicles), lack of compatible infrastructure, and misfueling concerns are major barriers to E15.
- Refiners own less than 5% of retail stations, which are primarily owned by small businessmen.
- Refiners are left with few options to comply. After maximizing E10 and biodiesel, the only option is to reduce compliance by cutting back production or exporting. NERA projects that in 2015 the combination of blendwall options will increase cost to produce gasoline by 30% and cost to produce diesel by 300%.
- Ironically, for a law with "energy independence" in its title, EPA projects that approximately 80 percent of the other advanced biofuels mandated will be met by imported sugarcane ethanol (primarily from Brazil). The prevalence of imports and failure of the RFS to develop domestic second and third generation biofuels ensures that RFS will continue to rely heavily on corn-based ethanol production to satisfy its volumes.
- Other challenges include requirements to purchase credits for non-existent cellulosic biofuels and ongoing fraud in the biodiesel RIN market.
- AFPM urges Congress to repeal the RFS.

WRITTEN STATEMENT OF

AMERICAN FUEL & PETROCHEMICAL MANUFACTURERS

AS SUBMITTED TO THE

SUBCOMMITTEE ON ENERGY AND POWER

Committee on Energy and Commerce
United States House of Representatives

on

"Overview of the Renewable Fuel Standard: Stakeholder Perspectives"

July 23, 2013

AFPM, the American Fuel & Petrochemical Manufacturers, appreciates the opportunity to share its views on the Renewable Fuel Standard (RFS). AFPM is a trade association representing high-tech American manufacturers of virtually the entire U.S. supply of gasoline, diesel, jet fuel, other fuels and home heating oil, as well as the petrochemicals used as building blocks for thousands of products vital to everyday life. AFPM members operate 122 U.S. refineries comprising approximately 98 percent of U.S. refining capacity. As refiners and importers of gasoline and diesel, AFPM's members are the obligated parties under the RFS.

This hearing comes at a critical time for the refining industry and American consumers. The energy landscape in the United States is markedly different than it was during the debate over creating the RFS, as the U.S. is experiencing an oil and gas revolution that is redefining energy security as we know it. It is also now clear that the RFS is not only failing to achieve many of its original purposes, but in many cases undermines its own goals.

I. Background

The RFS was established with the goals of enhancing both energy security and environmental protection, while providing development opportunities to rural America. Many also believed advanced biofuels would be developed that could work in existing infrastructure and be produced from non-food feed stocks. In practice, however, the RFS has operated contrary to these goals and most of its foundational assumptions turned out to be false. Refiners are now forced to comply with an unworkable law that places consumers at risk of high food and fuel costs, engine damage, and environmental harm.

This hearing takes place against a backdrop of greatly increased domestic oil and gas production that promises to create energy security for the U.S., without mandates or subsidies. Meanwhile, second generation renewable fuels have not materialized as the reality becomes clear that policymakers cannot mandate innovation or favorable economics. Perhaps most critically in 2013, fuel demand,

which was projected to steadily increase when RFS2 was established in 2007, has declined and is expected to decline further. The annually increasing amounts of biofuel required to be blended into a declining fuel supply mean the federal biofuel mandate threatens to create fuel supply shortfalls and risk damaging consumer engines. The combination of these factors demonstrates that the RFS is unnecessary, unworkable, and should be repealed.

A. Changes since RFS2 was adopted

Energy supply landscape. In 2007 the energy discussion in the United States was one of scarcity, not abundance. Since that time, the U.S. began to unlock its true energy potential – without the use of mandates or subsidies. Just last week, the Energy Information Administration (EIA) testified before the Senate Energy and Natural Resources Committee that between 2007 and 2012, domestic oil production increased by 1.5 million barrels per day, or 30 percent, with most of the growth occurring over the past three years.[1] Onshore oil production in the lower 48 states rose 64 percent between February 2010 and February 2013 alone.[2] During that time, U.S. petroleum imports declined from 61 percent of consumption to 41 percent in 2012. The United States' newfound energy abundance is not a short-term phenomenon. Indeed, comparing its 2007 and 2012 estimates for 2022, EIA projects a 23-percent increase in oil production and a 62-percent increase in natural gas production. The International Energy Agency reported in November that the U.S. is on pace to surpass Saudi Arabia as the world's largest oil producer in 2020, and can become a net oil producer by 2025. EIA testified in this Committee on June 26th that ethanol was only a minor factor in the drop in petroleum imports. Ironically, and as detailed below, by placing refining infrastructure at risk, the RFS will also undermine this important economic and security American advantage.

Failure of cellulosic and other advanced biofuels and increased imports. At the same time that the U.S. has been increasing oil and gas production, development of many advanced biofuels hoped for in

[1] Testimony of EIA Administrator Adam Sieminski before the Senate Committee on Energy and Natural Resources (July 16, 2013).
[2] *Id.*

the RFS has not occurred. Given this reality, the RFS essentially mandates fuels that do not exist. The law requires specific advanced biofuels to be blended into the fuel supply, including biomass-based diesel, cellulosic biofuels, and other advanced biofuels. When the RFS was written into law, policy makers envisioned 1 billion gallons of cellulosic biofuel would be consumed in 2013, increasing to 16 billion gallons by 2022. In reality, zero gallons of cellulosic biofuel were produced in 2010 and 2011, and only 21,093 gallons were produced in 2012 (20,069 of which were exported and unavailable for compliance). The rate of production in 2013 has been slower than 2012, with only 4,900 gallons produced between January and May. EIA now projects that only 0.5 of the 16-billion-gallon-cellulosic mandate will be produced in 2022. In addition, EIA projects that drop-in biofuels[3] will only grow to approximately 341 million gallons by 2022—enough to satisfy .07 percent of gasoline demand.[4]

Ironically, for a law with "energy independence" in its title, EPA projects that approximately 80 percent of the other advanced biofuels mandated will be met by imported sugarcane ethanol (primarily from Brazil). The prevalence of imports and failure of the RFS to develop domestic second and third generation biofuels ensures that RFS will continue to rely heavily on corn-based ethanol production to satisfy its volumes. This situation undermines the argument that the law is enhancing energy independence and, as explained later, ensures the required use of biofuels generating more emissions and other environmental issues than arise from using gasoline.

Fuel Demand. While the energy supply picture has been changing, so has fuel demand. Largely due to the recession, a stagnant economy, and recent fuel economy/automobile GHG standards, projections for gasoline[5] use have shifted significantly between 2007 and 2012. The 2007 EIA Annual Energy Outlook projected a 12 percent higher demand for gasoline in 2013 than is actually occurring. The 2013 Annual Energy Outlook (AEO) now projects 2022 gasoline demand will be 27 percent lower than the 2007 AEO projection for 2022. Importantly, and as described below, the combination of decreased gasoline demand and rising biofuels mandates has exacerbated the onset of the E10

[3] Drop-in biofuels can move in pipelines, trucks, and barges without equipment modification; are usable in existing fueling stations without modification, and are usable by existing vehicle fleet without modification
[4] EIA, *Drop-In Biofuels in the AEO*, EIA Biofuels Workshop, March 20, 2013.
[5] Gasoline includes blends of up to 10 percent ethanol

blendwall—the point after which blenders are unable to safely add additional ethanol to the fuel mix. We are now at the point where existing delivery infrastructure and the consumer vehicle fleet are not capable of safely handling increased use of fuel containing higher concentrations of ethanol.

B. Flawed implementation concept

The RFS is implemented in a way that makes fuel manufacturers responsible for consumer fuel demand. The mandate establishes how much biofuel volume must be consumed, but quixotically places the obligation for such consumption on upstream fuel manufacturers, who do not have the ability to control downstream ethanol blending or retail operations. Refiners and importers must demonstrate that for every gallon of gasoline and diesel fuel they sell into the U.S. market, a certain amount of renewable fuel was consumed. This requirement holds despite the fact that refiners have no control over either consumer purchasing habits or (in the majority of cases) retail decisions on what fuels to sell to the public or whether to replace dispensers and other refueling infrastructure to accommodate corrosive ethanol blends. Additionally, the structure of the mandate allows compliance credits, called Renewable Identification Numbers (RINs), to be held by non-obligated parties, boosting compliance costs for obligated parties.

Penetration of new fuels requires that consumers see a benefit to buying the fuel and that retailers see adequate incentives to install equipment or make other changes necessary to offer the fuel. A common misconception is that refiners or importers own/control retail operations. Refiners own less than 5 percent of the retail stations in the U.S. In June 2011, GAO reported that the major integrated companies own only 1 percent of the stations and only half of stations are "branded" franchises. The remaining retailers are unbranded independent businesses, and 56 percent of all stations are single-station operators. In the case of franchised gasoline stations, station owners are responsible for the equipment and infrastructure—the branding is often just a fuel supply agreement whereby the franchisee has certainty in its supply rather than relying on the spot market.

Retailers must see the financial benefit in offering a new fuel, including an affordable cost and consumer acceptance. Penetration was not quick in many areas, even in cases where much of the infrastructure was in place. One alternative fuel currently available on the market is E85, which contains up to 85 percent ethanol and 15 percent gasoline. It can only be used in flex fuel vehicles (FFVs), which consist of less than five percent of the total consumer vehicle fleet. The infrastructure and vehicles are not in place for the widespread adoption of E85, and acceptance of this fuel has moved much more slowly than E10, with sales in key states that promote E85 actually declining last year. These realities place a functional cap on the amount of biofuel that can be blended into the fuel supply at E10. This creates significant barriers to implementing the RFS, which will be discussed later in more detail.

In addition to the market acceptance and penetration issues, a perverse compliance mechanism exacerbates the adverse implications of the RFS. Obligated parties (mainly refiners and importers) must obtain an appropriate number of RINs to turn into EPA to demonstrate compliance. A RIN is generated when a gallon of renewable fuel is produced. It stays with this gallon until it can be separated when an obligated party purchases the gallon of biofuel or when that gallon is blended into the fuel supply. Refiners do not often own the terminals where the biofuel is blended, or do not own enough terminal capacity to satisfy their full obligation in any given year and must therefore rely upon unrelated third parties to blend ethanol and make the separated RINs available to the marketplace. Many refiners and importers simply sell gasoline blendstocks into the wholesale market, where a third party terminal or marketing company purchases them and blends in ethanol to produce finished fuel. Unless an obligated party owns the terminals or other marketing assets that can cover its full obligation, or has a contractual agreement with the owner of those assets, the obligated party must buy RINs from marketers or off the open market. As a result, a company purchasing its RINs on the open market at $1.00 each incurs an implied $0.10 per gallon increase in cost to produce a gallon of gasoline. To further illustrate why RINs are not "free", as some claim, one need look no further than the first quarter financial statements of terminal companies such as Kinder Morgan and Murphy Oil. Although they are not obligated parties, these companies and others like them actually blend the fuel

and sell RINs to the obligated parties for compliance. Both companies reported significant new revenue from RIN trading during the recent run-up in prices. To be clear, AFPM does not believe these companies are unduly benefiting or doing anything wrong—this is just illustrative of how the RFS works and more evidence of its true cost .

After understanding changing market dynamics since the inception of the RFS and the intricacies of its implementation, it is important to focus on the serious short-term problem of the blendwall and highlight the long-term issues of the RFS. However, AFPM would like to reiterate that it is neither anti-biofuels nor anti-ethanol. Two of AFPM's members are among the top five ethanol producers, and at least one makes more ethanol than 97 percent of the Renewable Fuels Association's membership. Biofuels can and do play an important role in the fuel mix, provided they are safely integrated into the fuel supply and consumers demand them. In testimony before this Committee on June 26th, 2013, both EIA and USDA indicated that as long as ethanol is economical to use, refiners and blenders would likely continue to use it- even in the absence of a mandate. However, AFPM opposes mandates and subsidies, including the RFS, because they limit consumer choices and stifle innovation. Moreover, and as this testimony demonstrates, the law is unworkable at its core, threatening to significantly raise consumer costs. For these reasons, Congress should repeal the RFS.

II. Serious Short-Term Issue: the Blendwall

The U.S. currently faces the onset of the E10 "blendwall", which will fundamentally compromise the fuel industry's ability to simultaneously meet the requirements of the RFS and to meet U.S. transportation fuel demand. The E10 blendwall refers to the point where nearly all the gasoline supplied domestically contains 10 percent ethanol, which is the is the effective, practical limit on the amount of ethanol that can safely be blended into the fuel supply without risking engine or infrastructure damage.

A. RFS volumes create blendwall challenges in 2013 and 2014

As referenced above, gasoline demand is falling in the United States. EIA's current projection of gasoline demand for 2013 is 132.9 billion gallons, and is expected to fall an additional 200 million gallons to132.7 billion gallons in 2014.[6] At these levels of demand, the 10 percent (E10) saturation point is approximately 13.2 billion gallons. This year, the RFS requires obligated parties to obtain and submit 13.8 billion conventional biofuel renewable identification numbers (RINs) to demonstrate that the requisite gallons of renewable fuel were blended into the fuel supply. The conventional biofuel mandate is primarily filled by corn-based ethanol. In addition to conventional biofuels, the RFS requires volumes of cellulosic biofuel, other advanced biofuel (included sugar-cane-based ethanol), and biomass-based biodiesel. These RFS volumes are "nested" mandates as depicted in figure 1. When you add the requirements for each of these biofuel types together, EPA has proposed a renewable fuel obligation totaling 16.55 billion gallons in 2013 (14.63 billion gallons, or 88 percent, of which is projected to be ethanol from both conventional and advanced fuel mandated categories). Therefore, the proposed EPA RFS obligation for 2013 is already requiring much more ethanol than the E10 system can safely handle. In 2014, as obligated parties run out of banked credits from over-complying in previous years[7], and as gasoline demand declines further while facing an implicit ethanol mandate of 14.4 billion gallons, the math becomes even more problematic.

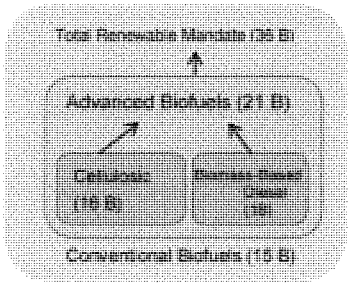


Figure 1 RFS Nested Mandates

[6] EIA Short Term Energy Outlook (July 9, 2013)
[7] Obligated parties have the ability to carry over 20 percent of RINs for one year. In previous years, blenders used more ethanol than mandated, creating a "RIN bank" that will likely be drawn down by 2014 as obligated parties use RINs for compliance.

B. Market already showing blendwall effects through RIN prices

Although not every company or every region reaches the blendwall at the same time, due to differences in companies' business models, the market is currently anticipating that the combination of higher mandates and declining gasoline consumption will force the blendwall in 2013, with the full effects starting to be felt in 2014. This is most apparent in the RIN market, which reflects the expectation of how much ethanol can be blended into gasoline. This RIN supply/demand tightening is not due to ethanol shortages, but to the inability to push more ethanol into the fuel supply and generate more RINs. As the mandates increase, the demand for RINs increases, but the RIN supply is tighter because the mandate is higher, meaning fewer companies have excess RINs to sell. Prior to the onset of the blendwall, conventional biofuel RINs (D6 category) typically traded at $0.02-0.04 until late 2012. Since that time, however, D6 RIN prices increased to as much of $1.45 the week of July 15th as the market anticipates a RIN shortage (see figure 2). At $1.45 per RIN, an obligated party selling to the wholesale or spot market, without controlling the blending facility or retail, faces an added $0.145 per gallon to produce gasoline.

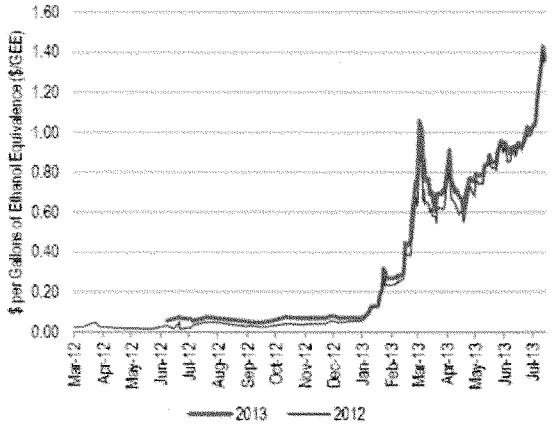


Figure 2 Corn Ethanol RIN Prices (Source: Credit Suisse/Bloomberg)

Finally, the RFS requires companies to buy RINs for biofuel that may need to be blended into products they do not even make. For instance, hypothetically, if the year's renewable fuel obligation is 10 percent, a company that produces 100,000 gallons of gasoline and diesel incurs an obligation to produce 10,000 RINs divided among the nested RFS categories- regardless of their ratio of fuels produced. Thus, a company that produces very little diesel still incurs an obligation to purchase biomass-based diesel RINs at more than $1.00 each.

This leads to the question of what options are available to obligated parties. Obligated parties have limited options to remain in compliance with the requirements of the RFS as the blendwall hits. First, obligated parties will maximize the amount of E10 sold and for a short period of time, some may be able to rely on RINs generated from over compliance in previous years. EIA reported in June that the small amount of RINs that are allowed to be carried over from last year, which exist from companies that may have over-complied with the mandate last year, are expected to fall to zero in 2014.[8] While some claim E15 and E85 provide answers to this problem, as described below, incompatible infrastructure, vehicles and consumer demand place insurmountable restraints on the ability of these fuels to meet challenges of the blendwall- and particularly the short-term challenges obligated parties face.

C. E85 will not solve the blendwall

E85[9] will not (and cannot) generate sufficient RINs to alleviate the effects of the blendwall—particularly in the short term. Due to limited infrastructure, the limited number of flex-fuel vehicles (FFVs) in commerce, and lack of interest in the fuel from FFV owners with access to the fuel, E85 will not solve the blendwall problem. In particular, the Department of Energy estimates that approximately 2,347 retail stations (less than 1.5 percent of stations nationwide) carry E85.[10] There are only approximately 11.5 million FFVs in use today (equal to about 5.1 percent of the overall light duty vehicle fleet).

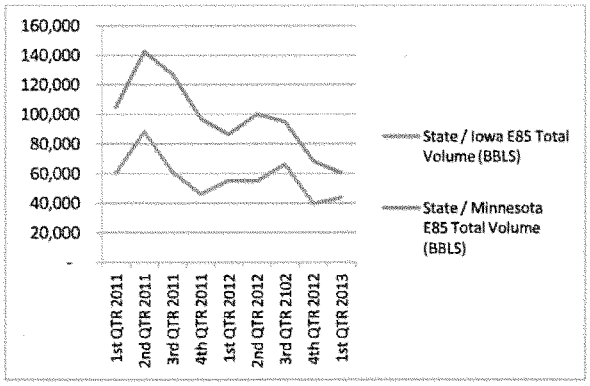
[8] http://www.eia.gov/todayinenergy/detail.cfm?id=11551
[9] E85 contains 51-83 percent ethanol
[10] EIA Biofuels Issues and Trends at 29 (Oct. 2012), citing http://www.afdc.energy.gov/fuels/ethanol_locations.html

However, even when consumers with a FFV have reasonable access to E85, EPA estimates they only refuel with E85 approximately 4 percent of the time.

According to EIA, based on observations of Brazil's experience, consumers buy fuels based on energy adjusted price. A gallon of gasoline has 50 percent more energy than a gallon of ethanol, meaning that the average E85 blend has 76-percent of the energy content of gasoline and consumers lose 24-percent of the fuel mileage.[11] E85 has not been price competitive with regular gasoline at any point since the inception of the RFS, a major reason for stagnant consumer interest. For example, the AAA Fuel Gauge Report, which displays energy-adjusted prices for E85 and other fuels, regularly shows that E85 is more expense than regular gasoline.[12] In fact, E85's lackluster sales extend to the heart of the corn belt. Sales of E85 in Minnesota, which has the nation's most developed E85 infrastructure, decreased from a peak of 22 million gallons in 2008 to 15 million in 2012 even as the number of FFVs in the Minnesota marketplace increased (see figure 3).[13] As mentioned in the previous section, the overwhelming majority of gas stations are owned and operated by small businesses, not by obligated parties. Installing a pump can cost up to $200,000 per station- depending on how extensive of an overhaul is required. In order for a small business to make such an investment, it needs certainty that the product will sell—certainty that does not exist in the case of E85. In June, a National Association of Convenience Stores (NACS) survey found that 75 percent of retailers do not believe there is sufficient demand for E85 to justify installing an E85 pump.

[11] EIA, *Biofuels Issues and Trends*, at 29 (Oct. 2012).
[12] AAA Fuel Gauge Report available at http://fuelgaugereport.aaa.com/?redirectto=http://fuelgaugereport.opisnet.com/index.asp
[13] http://mn.gov/commerce/energy/images/E-85-Fuel-Use-Data.pdf

Figure 3 E85 Sales in MN and IA (Sources: IA Dept of Review; MN Dept of Commerce)



The future is not much brighter for E85. The 2011 CAFE standards began to phase out credits for FFV production, creating a disincentive for automakers to continue producing FFVs. Even assuming significant increases in the installation rate of flex-fuel pumps (which will still not help obligated parties alleviate the blendwall in 2013 and 2014), E85 is also unlikely to break through in the long term. In its 2010 regulatory impact analysis, EPA estimated that to meet the volumes envision by the RFS, 70 percent of the nation would need access to E85 at one in every four pumps they pass, and FFV owners would need to fill up with E85 74 percent of the time in 2022—a far cry from the market realities nationwide and the Minnesota experience.[14]

In the short term, EIA projects that E85 sales will reach only 130 million gallons in 2013—barely moving the needle in the 133 billion gallon gasoline market. Moreover, EIA lowered its long term projections for E85 sales between 2012 and 2013, and now projects that E85 demand will remain flat at approximately 0.5 percent of transportation fuel demand through 2040.

D. E15 will not solve or delay the blendwall

[14] EPA RFS 2 Regulatory Impact Analysis at 291.

In 2011, EPA approved a 50-percent increase in the amount of ethanol (from 10 percent to 15 percent, or E15) that may be used in model year 2001 and new automobiles. However, E15 creates significant market and legal concerns among fuel manufacturers, distributors, and retailers as well as small engine manufacturers and automakers. E15 provides a limited and problematic path to RFS compliance, but ultimately does not solve the blendwall even as it creates an entirely new set of problems for consumers.

Engine Compatibility. Critically, despite EPA assertion that E15 is safe to use in model year 2001 and newer cars, no automaker will warranty those cars. Only two automakers—General Motors and Ford—recently announced they'd start to warranty 2012 and 2013 models. The disconnect between EPA's assertion about E15's safety and the automakers concerns stems from the depth and breadth of testing that EPA and DOE undertook. In particular, in evaluating E15 for use in 2001 and newer vehicles, EPA only tested the emissions control devices (e.g. catalytic converters) of the automobiles, but overlooked other critical engine components, such as fuel pumps. Subsequent testing undertaken by the Coordinating Research Council (CRC) demonstrates the inadequacy of EPA's approval process. In two studies conducted on engine durability and fuel pumps, CRC found that a substantial number of the 29 million 2001-2007 light duty vehicles (LDVs) on the road today are susceptible to system failure and other mechanical damage from E15—notwithstanding EPA's approval. It is important to note that EPA and DOE were both participants in the CRC testing. There are no other non-road or off-road engines (motorcycles, lawnmowers, boats, etc) approved to use E15. Historically, nonroad, heavy duty gasoline vehicles, and motorcycles consumed about 8 percent of gasoline in the U.S.[15] However, the hap-hazard way EPA has allowed for the introduction of E15 into the marketplace could lead to significant consumer misfueling of these non- or off-road engines. The fact that E15 is not backward compatible with existing gasoline engines creates a significant potential liability throughout the fuel supply chain and represents one of the most significant hurdles to the provision of E15 in the marketplace.

[15] EPA RFS2 Regulatory Impact Analysis at 288.

Infrastructure compatibility. The lack of engine compatibility is exacerbated by the lack of infrastructure compatibility. A 2010 study by the National Renewable Energy Laboratory (NREL) found that using E15 in fuel dispensers already approved for E10 resulted in reduced levels of safety and performance. Similarly, in a 2011 review of challenges with mid-level ethanol blends, the Government Accountability Office (GAO) identified several challenges with E15 retail[16]:

> First, federal and state regulations governing health and environmental concerns must be met before these blends are allowed into commerce, and fuel-testing requirements to meet these regulations may take 1 year or more to complete. Second, according to knowledgeable federal officials and UL representatives, federal safety standards do not allow ethanol blends over E10 to be dispensed at most retail fueling locations, and federally sponsored research has indicated potential problems with the compatibility of intermediate ethanol blends with existing dispensing equipment. Third, according to EPA and several industry representatives, the compatibility of many UST systems with these fuels is uncertain, and retailers will need to replace any components that are not compatible if they choose to store intermediate blends. Fourth, industry associations representing various groups, such as fuel retailers and refiners, are concerned that, in selling intermediate ethanol blends, fuel retailers may face significant costs and risks, such as upgrading or replacing equipment.

All equipment used to store and dispense flammable and combustible liquids must be certified by a nationally recognized laboratory, such as Underwriters Laboratories (UL). Significantly, UL will not

[16] Government Accountability Office, *Biofuels: Challenges to the Transportation, Sale, and Use of Intermediate Ethanol Blends*, June 2011, available at http://www.gao.gov/assets/320/319297.pdf.

retroactively certify existing infrastructure to handle E15 and has not approved significant numbers of pump configurations. Moreover, underground storage tanks (USTs) must likewise be certified for higher ethanol blends. EPA reports that because USTs have a life-span approaching 30 years, many USTs in commerce are not able to handle E15. As a result, and much like E85, large investments must be made by small businesses in order to sell E15.

Misfueling and Consumer Awareness. A new fuel, like E15, introduced into commerce without sufficient misfueling mitigation will likely lead to misfueling and damage consumers' engines. Unfortunately for consumers, EPA's only misfueling mitigation requirement is a small 4x4 label calling "attention" to E15's appropriate uses, but does not include requirements for a physical barrier to misfueling like those that were present during the switchover from leaded to unleaded gasoline. Exacerbating the problem is a general lack of consumer awareness about E15. In December, AAA conducted a survey and found that 95 percent of consumers had not even heard about E15. Based on the results of the survey and the fact that less than 5 percent of cars on the road are designed and built to handle E15, AAA recommended against E15's sale and use. In June, NACS found that when consumers learned about E15, only 56 percent said they'd be willing to buy it if it were the same price as gasoline.

The combination of engine and retail compatibility issues, inadequate misfueling protection and a lack of consumer awareness creates a major disincentive for fuel manufacturers and retailers to sell E15. Nearly half of the retailers surveyed by NACS identified potential liability as a concern in selling E15—about the same percent that identified cost as a concern.

Other issues. Finally, E15 does not qualify for the one-pound Reid Vapor Pressure (RVP) waiver legislated for E10. EPA regulates RVP, a measure of gasoline's volatility, to control evaporative emissions. According to EIA, E15 would not be an environmentally complaint fuel in summer months using most current gasoline blendstocks. This is a simple, but major, disincentive for fuel manufacturers and blenders to produce E15. In some cases terminals would not be able to stock

another distinct blendstock. DOE has also noted that 90 state laws and regulations limit the sale of E15 and it is not known when they will be revised. Other states, such as California, do not currently allow the sale of E15.

Finally, it is worth noting that if none of the market, technical or legal barriers existed, nationwide use of E15 would only permit approximately 19 billion gallons of ethanol in the fuel supply—15 billion gallons short of EPA's estimate of the ethanol needed to fulfill the full RFS, which is nearly equal to the entire cellulosic biofuel mandate. In terms of how it operates in engines and infrastructure, ethanol is ethanol regardless of feedstock. For those interested in second generation ethanol, however, these numbers should cast serious doubts about the RFS' ability to achieve those goals.

E. Biomass-based diesel will not solve the problem

Another pathway for generating additional RINs for RFS compliance is to use more biodiesel, which generates 1.5 RINs for each gallon use and which is not currently facing the biodiesel blendwall (commonly understood to be a maximum of 5 percent biodiesel that can be blended into petroleum diesel). Biodiesel comprises approximately 2 percent of the diesel consumption, but the real challenge facing biodiesel is its feedstock supply. EIA projects that only 1.28 and 1.49 billion gallons of biodiesel will be produced in 2013 and 2014, respectively, far short of the required volumes for the RFS and wholly inadequate to fulfill the RFS obligations triggered from the sale of diesel fuel. A major impediment for biodiesel is cost, as biodiesel typically costs at least $1.00 or more, on average, to produce than petroleum diesel. Coupled with the $1.00 per gallon biodiesel tax credit, consumers are paying $2.00 or more (through higher cost fuel and their tax bills) per gallon of biodiesel consumed than a petroleum diesel alternative. Finally, and as explored more fully in section III(D), in 2011 and 2012 the biodiesel industry faced serious instances of RIN fraud (a situation not yet resolved). EPA's treatment of obligated parties that purchased fraudulent RINs froze the biodiesel market and hurt the growth of the biodiesel industry.

A related, unanticipated, effect of the RFS is its treatment of diesel. Due to a combination of the RFS structure, a modest biomass-diesel supply, and the practical cap on biodiesel that can be blended into diesel fuel, for each gallon of diesel a refiner produces, it incurs a "diesel deficit" that requires additional ethanol RINs for compliance. Put another way, a refiner's obligation is determined by the total volume of gasoline and diesel produced or imported for domestic consumption. For each gallon of diesel fuel added to the fuel supply, an obligated party must produce RINs for each of the nested mandates. Because biodiesel can only make up a limited portion of the fuel supply (currently less than 3 percent), and petroleum diesel is only able to use biodiesel as an additive, there is a significant shortfall in RINs that must be filled by additional ethanol RINs. In 2013, each gallon of diesel produces a 6.63 percent RIN deficit. While in prior years, surplus conventional ethanol RINs were available to make up this difference, the blendwall and associated impact on RIN costs make the diesel deficit more costly and increasingly unworkable. In recent weeks, biodiesel and ethanol RINs have been trading at roughly the same price.

F. Other Options for Obligated Parties and Resultant Impacts

After understanding how E15, E85 or greater biodiesel use are not viable pathways for addressing the blendwall, it becomes apparent that refiners are left with few options for compliance. If obligated parties are unable to purchase RINs in the open market at an affordable price, the remaining RFS compliance options are reducing gasoline and diesel supplied to the U.S. through a combination of reduced refinery runs, reduced imports, and increased exports. For instance, a 10 percent RVO on a 100,000 gallon refinery means the company needs to turn in 10,000 RINs if the fuel is sold in the U.S. If that company cuts back production and exports so that its total domestic supply is only 70,000, the company reduced its obligation by 3,000 RINS to 7,000. Due to the respective blendwalls of ethanol and biodiesel, coupled with the RIN equivalence values, a refiner has incentive to cut back on diesel production first. This is most simply explained as follows: 100 gallons of diesel blended as B3 (i.e., 97% diesel and 3% biomass-based diesel) will generate 4.5 RINS (since a gallon of biomass based diesel is given 1.5 RINs). However, 100 gallons of E10 (90% petroleum blendsotck and 10% ethanol)

will produce 10 RINs. Adding to the diesel hurdle, production of biodiesel in 2013 is unlikely to meet 5% of the U.S. diesel fuel market, further depressing diesel fuel's ability to contribute to the RFS obligations. Therefore a company facing a RIN shortfall will reduce its obligation by cutting back first on diesel sold in the U.S. The RIN essentially now acts as a permit to sell gasoline and diesel to the U.S. market.

The macro economic implications of this situation are significant. Diesel is the primary fuel used to transport a wide variety of goods through truck and rail, as well as a major input into agricultural production. In 2011, for example, U.S. farms consumed approximately 2.9 billion gallons of diesel. NERA Consulting recently modeled the implications of the blendwall and found that by 2015 the blendwall will cause a $770 billion decline in GDP, a reduction of $2700 in household consumption, a 30 percent increase in the cost of producing gasoline, and a 300 percent increase in the cost of producing diesel.

While NERA's numbers are staggering, real world examples from this year already demonstrate the arrival and impact of the blendwall.

1. In March, the Oil Price Information Service (OPIS) reported that a Florida gasoline importer was turning a planned shipment to an offshore buyer in order to avoid incurring a RIN obligation.

2. Monroe Energy, which saved a Philadelphia area refinery in 2012, will spend substantially more on RINs this year than it purchased the refinery for last year.

3. PBF Energy, a large supplier to the east coast market, will increase its ethanol blending in 2013, but will still need to purchase approximately half of its RINs. PBF estimate it will spend at least $180 million on RINs in 2013.

4. Last week, the Chairman and CEO of Valero Energy testified before the Senate Energy and Natural Resources Committee that it expects to spend $500-750 million in increased costs due to RIN volatility in 2013. Valero is also the third largest ethanol producer in the U.S.

The blendwall is the most immediate and significant concern with the RFS, although it is not the only issue.

III. Long-term RFS issues beyond the blendwall

Two of the major objectives of the RFS were to move towards energy independence with increased domestic fuel supply and improve the environment through reduced greenhouse gas emissions. The RFS is doing little towards meeting these goals. We are meeting the energy independence through the surprising increase in U.S. and Canadian production of crude oil and natural gas, not anticipated in 2007, the development of technologies for economic production of more environmentally friendly second generation fuels has not occurred, and the promised environmental benefits of conventional biofuels have been called into question. We must rethink the nation's energy policies in light of these new realities.

A. Environmental Impacts.

In light of biofuels' purported environmental benefits as a central rationale for the RFS, it is important to recognize the actual impacts biofuels are having on the environment. It is now clear that, using EPA data and peer-reviewed data from the National Academy of Sciences, the RFS is not only failing to achieve its promised environmental benefits, but that it is undermining progress compared to a gasoline-only baseline. In particular, EPA's own data shows that the overwhelming majority of ethanol produced this year will actually raise greenhouse gas (GHG) emissions compared to gasoline. For the

typical natural gas fired dry mill plants[17], GHG emissions are increasing by 33 percent over gasoline.

Moreover, a comprehensive 2011 study by the NAS found that lifecycle emissions of major air pollutants (CO, NOx, PM2.5, SOx, and NH3) are higher for corn and cellulosic ethanol than for gasoline. NAS states, in part, "overall production and use of ethanol was projected to result in increases in pollutant concentration for ozone and particulate matter than gasoline on a national average, but the local effects could be variable. Those projected air-quality effects from ethanol fuel would be more damaging to human health than gasoline use." Similarly, EPA reports that biodiesel production and use is increasing levels of NOx, PM (10 and 2.5), SO2, and NH3 compared to petroleum diesel.

According to EPA's 2010 Regulatory Impact Analysis, RFS2 will raise ozone levels 0.46 ppb over the RFS1 baseline, placing dozens of counties in danger of falling into non-attainment. Appendix A includes a map of EPA's RIA, as well as a district by district breakdown of impacts on this Subcommittee. In addition to the air quality and GHG impacts, ethanol requires an enormous amount of water to produce. NAS estimates that a gallon of gasoline requires between 1.4-6.6 gallons of water to produce. By comparison, corn ethanol requires 15-2400 gallons and switchgrass cellulosic ethanol requires 2.9-1307 gallons. It is clear that the RFS is not only failing to achieve its environmental goals, but is actively undermining them.

B. Inadequate process for dealing with he failed cellulosic biofuel mandate

> "Do a good job cellulosic producers. If you fail, we'll fine your consumers."
> - U.S. Court of Appeals for the DC Circuit, opining on EPA's management of the cellulosic mandate. *API v. EPA*, 706 F.3d 474, 480 (D.C. Cir. 2013).

Cellulosic biofuels—produced from feedstocks such as corn stover, switchgrass and woodchips—are a subcategory of the advanced biofuels mandate. The RFS calls for 16 billion gallons of cellulosic biofuels in addition to the 4 billion gallon of non-cellulosic advanced biofuels in 2022. Putting aside the

[17] EPA estimates about 80 percent of corn ethanol plants are natural gas fired, and 88 percent are drymill facilities.

fact that there is no room left in the fuel mix for more ethanol, Congress was overly optimistic about the cellulosic industry's ability to meet these mandates.

Each year, EIA is required to send a letter to EPA detailing its estimates on cellulosic production for the following calendar year. EPA is required to take those estimates and to base its final proposal based on EIA's estimate. In 2010 and 2011, the RFS called for a combined 350 million gallons of cellulosic biofuel. Recognizing that the industry would not produce that much, EIA projected a combined total of 10.28 million gallons. EPA, in an attempt to provide a greater market for the still non-existent fuel, set the final mandates at 12.5 million gallons. Precisely zero gallons were produced. In 2012, the cycle repeated itself, as EIA projected 6.9 million gallons and EPA increased the mandate to 10.45 million gallons. In 2012, the U.S. produced a total of 21,093 gallons- of which 20,069 were a demonstration batch shipped to the Rio+20 climate conference and thus unavailable for compliance. The company that produced those gallons recently declared bankruptcy.

Therefore, in order to stay in compliance with the RFS, obligated parties were forced to purchase "waiver credits" from EPA. A January 2013 court decision rescinded the requirement in 2012, but in 2010 and 2011, credits totaling more than $14.9 million dollars were purchased. Unfortunately, EPA also denied retroactive petitions from the industry asking for a waiver recognizing that the fuel was not produced.

Recognizing the absurdity of the situation, in January 2013 the U.S. Court of Appeals for the D.C. Circuit vacated the 2012 cellulosic mandate and admonished EPA to base the mandates using more realistic projections. Yet less than a week after the Court's decision, EPA doubled down and once again proposed raising the mandate, this time to 14 million gallons. Through the first 5 months of the year, a total of 4,901 gallons of cellulosic biofuels were produced (and only during the month of March).

EIA projects that cellulosic biofuel production will fall significantly below volumes envisioned by the

RFS—reaching only 0.5 billion gallons by 2022. If the RFS remains in place, however, and if breakthroughs in technology and economics of cellulosic *ethanol* make it commercially feasible, requirements for these advanced biofuels will only exacerbate the ethanol blendwall problem.

C. Unintended consequence of increasing imports and emissions

As described previously, the mandate for other advanced fuels can only be met with by importing sugar-cane based ethanol, mainly from Brazil. At the same time, the U.S. is exporting corn ethanol to Brazil. This "fuel shuffling" between countries increases total GHG emissions due to unnecessary transportation that would not occur absent the RFS. In early July 2013, Thompson-Reuters released an analysis of U.S.-Brazil ethanol shipments and found that since 2011, one billion gallons of ethanol was exchanged between the two countries, producing more than 312,000 tonnes of CO_2.[18] According to the EPA, 8 million tree seedlings would need to be grown over the next decade to offset these emissions.

D. Another implementation consequence: biodiesel fraud

In November 2011 and February 2012, EPA issued Notices of Violation (NOVs) to obligated parties that unknowingly purchased and used invalid RINS sold by EPA registered biodiesel producers. The fraud was perpetuated by three companies, which (in total) sold 140 million RINs to unsuspecting obligated parties. For context, 140 million RINs equaled approximately 5-12 percent of the biodiesel market during 2010 and 2011. These companies were registered by EPA, which required registration paperwork such as third-party engineering reports. In addition to fining the victims of the fraud (obligated parties), EPA forced those parties to go into the market and purchase replacement RINs—which cost more than $1.00 each and without obligated parties knowing whether they were valid. AFPM estimates that the fines and replacement RINs cost the industry nearly $200 million in 2012.

[18] Ali Morrow and Alex Plough, *Ethanol Trade Undermines U.S. Biofuels Policy*, Thompson Reuters Foundation (July 3, 2013), available at: http://www.trust.org/item/20130703091935-47h65/

Although EPA worked with obligated parties, biofuel interests, and others to design a "quality assurance program" aimed at preventing future fraud, EPA's proposal is overly complex and expensive—increasing the likelihood that smaller renewable fuel producers will not take advantage of the voluntary certification. EPA took comments on the proposed rule, which closed on April 18, 2013, but has yet to finalize the QAP program. In the meantime, obligated parties and biodiesel producers alike face legal and regulatory uncertainty.

IV. Conclusion

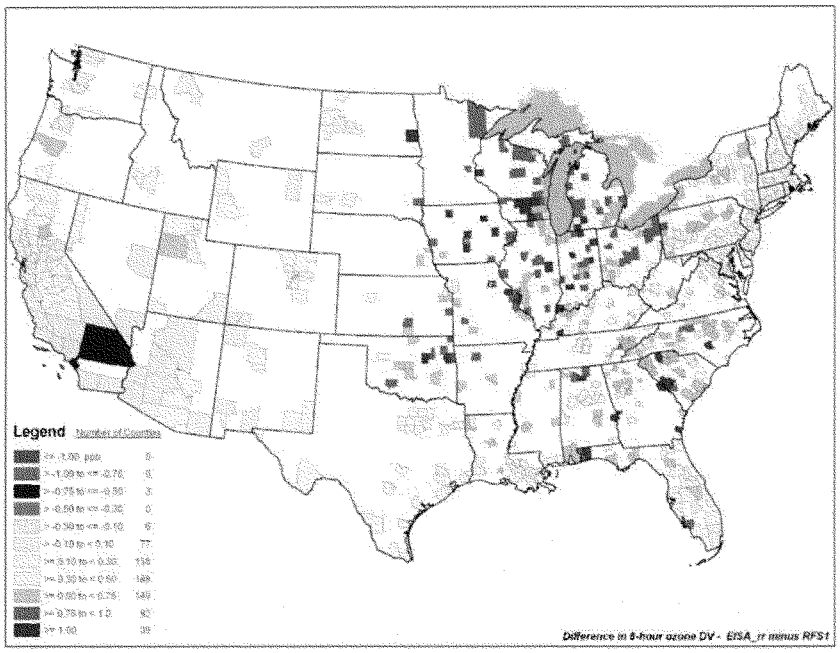
Laws, while often passed with the best of intentions, should be consistently re-examined to ensure they are having their intended impacts. The RFS is no different. In 2007, the energy landscape was markedly different than it is today and policy makers did not have the wealth of information now available demonstrating the unintended consequences of biofuel mandates. Just as the European Union recently decided to roll back its biofuel mandates in response to concerns about the environmental and agricultural impacts, the U.S. Congress should look at the facts and take action to stem the consequences of this law before they grow worse. In addition to the technological innovations in oil and gas production leading to an energy renaissance in the U.S., we now know that the RFS is raising food and fuel costs, increasing GHG emissions, reversing advancements in air and water quality, and increasing the likelihood of engine damage. While the law is flawed at its core, its implementation has demonstrated the extent of the mandate's unworkability.

AFPM believes a two-step process is needed to alleviate the problems. First, EPA should waive the 2013 and 2014 mandates using its discretionary waiver authority. This authority is merely a band-aid, however, as EPA's authority extends only a year at a time. This will provide some time to establish the long term certainty that the market requires. Congress needs to take action to repeal this unworkable and anti-consumer mandate—and soon.

Thank you again for holding this critical hearing. AFPM appreciates the opportunity to share its views.

Appendix A: Impacts of the Renewable Fuel Standard on Ozone Levels

Source: Environmental Protection Agency, Renewable Fuels Program (RFS2) Regulatory Impact Analysis (Feb. 2010) at 599.



Subcommittee on Energy and Power

Member	Counties (* = partial county)	Ozone Increases (in ppb) (projected change between RFS2 Control Scenario and RFS1 Reference Case)
Whitfield	McCracken	>=.3 to <.5
	Trigg	>= 1.0
	Livingston	>=.5 to <.75
	Christian	>=.3 to <.5
	Henderson	>=.5 to <.75
	McLean	>=.5 to <.75
	Simpson	>=.5 to <.75

Rush	Cook	>=.3 to <.5
	Will*	>=.5 to <.75
Scalise	Jefferson Parish	>=.3 to <.5
	Lafourche Parish*	>=.1 to <.3
Hall	Hunt	>=.3 to <.5
	Rockwall	>=.3 to <.5
	Collin	>=.3 to <.5
Shimkus	N/A	
Pitts	Chester*	>=.3 to <.5
	Lancaster	>=.3 to <.5
	Berks*	>=.3 to <.5
Terry	Douglas	>=.5 to <.75
Burgess	Denton*	>=.3 to <.5
	Tarrant*	>=.3 to <.5
	Dallas*	>=.3 to <.5
Latta	Lucas	>-.1 to <.1
	Wood	>=.75 to < 1.0
Cassidy	Pointe Coupee Parish	>=.3 to <.5
	West Baton Rouge Parish	>=.3 to <.5
	East Baton Rouge Parish	>=.3 to <.5
	Ascension Parish	>=.3 to <.5
	St. John the Baptist Parish	>=.3 to <.5
	St. Charles Parish	>=.3 to <.5
	Iberville Parish	>=.1 to <.3
	Lafourche Parish*	>=.1 to <.3
	Livingston Parish	>=.1 to <.3
Olson	Brazoria	>=.1 to <.3
	Harris	>=.1 to <.3
McKinley	Monongalia	>=.5 to <.75
	Wood	>=.3 to <.5
Gardner	Weld	>=.1 to <.3
	Adams	>-.1 to <.1

	Arapahoe	>=.1 to <.3
	Boulder	>=.1 to <.3
	Douglas	>-.1 to <.1
Pompeo	Sedgwick	>=.75 to < 1.0
	Sumner	>=.5 to <.75
Kinzinger	Will*	>=.5 to <.75
	Winnebago	>=.75 to < 1.0
Griffith	Wythe	>=.3 to <.5
	Roanoke*	>=.3 to <.5
Barton	Ellis	>=.3 to <.5
	Tarrant*	>=.3 to <.5
Upton	Allegan	>=.75 to < 1.0
	Berrien	>=.5 to <.75
	Cass	>=1.0
	Kalamazoo	>=1.0
McNerney	San Joaquin*	>=.1 to <.3
	Contra Costa*	>-.1 to <.1
	Sacramento*	>-.1 to <.1
Tonko	Albany County	>=.3 to <.5
	Rensselaer County	>=.3 to <.5
	Saratoga County	>=.3 to <.5
	Schenectady County	>=.3 to <.5
Engel	Westchester	>-.1 to <.1
Green	Harris*	>=.1 to <.3
Capps	San Luis Obispo	>-.1 to <.1
	Santa Barbara	>-.1 to <.1
	Ventura*	>-.1 to <.1
Doyle	Allegheny	>=.3 to <.5
	Westmoreland	>=.3 to <.5

Barrow	Richmond	>=1.0
Matsui	Sacramento*	>-.1 to <.1
	Yolo	>-.1 to <.1
Christensen	N/A	
Castor	Hillsborough County	>=.1 to <.3
	Pinellas County	>=.3 to <.5
Dingell	Washtenaw	>=.5 to <.75
	Wayne	>=.5 to <.75
Waxman	Los Angeles	>-.3 to <=-.1

Mr. WHITFIELD. And Mr. McAdams you are recognized for 5 minutes.

STATEMENT OF MICHAEL MCADAMS

Mr. MCADAMS. Thank you, Mr. Chairman, Chairman Upton, Ranking Minority Rush, Ranking Minority Member Waxman, and members of the committee. It is an honor to be with you today on behalf of the Advanced Biofuels Association.

The Advanced Biofuels Association represents more than 40 of the leading technology innovators in the advanced and cellulosic biofuels space as well as a number of the agriculture biomass to energy feedstock producers. In the past 3 months, the Advanced Biofuels Association has responded to four of your white papers and is currently preparing a fifth. We congratulate the committee and your staff for this bipartisan, thoughtful, and substantive approach. Given that ABFA has provided the committee detailed answers on the RFS, I would like to take a step back this morning and try to accomplish three things.

First, I would like to set a context around the RFS. Second, I would like to call the impacts of the debate into focus. And lastly, I would like to offer a solution set for your consideration. Congress expanded the RFS to stimulate an advance in cellulosic biofuels industry to encourage larger greenhouse gas reductions and to develop more energy dense drop-in fuels. Many of these new advanced biofuels are hydrocarbons, and they are compatible with the existing pipelines, refineries, planes, trains, and automobiles. ABF members are delivering on that vision today. Today's hearing is largely about concerns surrounding the blend wall. Simply stated, it is the mismatch between the number of gallons of gasoline the U.S. market is demanding and the number of gallons of ethanol the RFS calls to be mixed into that gasoline.

With a 10 percent limit on the ethanol to gasoline ratio, there is a mismatch this year of roughly 500 million gallons. However, the RIN bank carryover provisions in the law allow the RINs from 2012 to meet the proposed targets in 2013. And they are enough this year to easily achieve the proposed mandate. The RIN market makers, however, they question whether this will be the case in 2014 and 2015. This year, the United States of America will use 213 billion gallons of fuel. And of that, about 15 billion gallons will be renewable fuel. The 500 million gallon mismatch represents 1/30th or 3.3 percent of the entire production of renewable fuels in the United States and 0.2 percent of 1 percent of the amount of fuel we use in America.

Additionally, much has been made about the shortfall of the cellulosic gallons. I would argue that the recent court case that my colleagues on the panel here were victorious in has adequately addressed the phantom fuel issue. And this year, we will see significant gallons in the cellulosic pool, which began to be placed on the EMTS system last month. Calling for the full repeal of the RFS over a short-term issue impacting less than 1 percent of all the fuels we use in America doesn't make a lot of sense as a public policy solution.

For ABFA's members, the debate over repealing the RFS is having a chilling impact on the investment community and is restrain-

ing the growth and ability of our members to move forward. Despite this, many of them are making real gallons of cellulosic gasoline and diesel today as well as renewable diesel and other RFS approved fuels. In the last 6 years, U.S. businesses in the private sector have spent $14.72 billion in pursuit of the policy goal you collectively laid down in this committee. According to Bloomberg New Energy Finance, $33 billion has been invested worldwide in this sector. That means we are almost half of the world's investment.

These numbers represent people and jobs all over America, jobs in rural America planting and cultivating the best new energy crops, jobs building and operating biorefineries, technology and engineering jobs and laboratory jobs researching new feedstocks and enzymes and many more. To repeal the RFS would pull the rug right out from under them and change the rules in the first half of the game. This confusing policy signal is a benefit to the incumbent players in the fuels market and is a significant disadvantage to those trying to finance and build new innovative technologies.

A potential short-term solution can be found in EPA. When Congress passed the RFS II in 2007, it provided EPA with significant flexibility and authority to address issues which could arise from hurricanes, droughts, and unforeseen economic factors. Much of what is difficult about the RFS today is the uncertainty surrounding the obligations on a yearly basis. ABFA and others on this panel and panels after this one have called for EPA to release the renewable volumes obligations for 2013 and 2014 as quickly as possible. Providing an additional year of clarity with a framework for the 2015 RDOs would help rapidly diffuse much of the economic pressure those of us on this side of the table are feeling.

The committee should encourage EPA to explore a combined 2014–2015 framework. A clear signal from EPA given to the stakeholders in advance would be a huge step forward in adjusting EPA's procedure to help all the markets work more smoothly. Thank you for the opportunity to testify with you today. And I look forward to your questions.

Mr. WHITFIELD. Thank you, Mr. McAdams.

[The prepared statement of Mr. McAdams follows:]

STATEMENT OF MICHAEL MCADAMS
PRESIDENT
ADVANCED BIOFUELS ASSOCIATION

before the
SUBCOMMITTEE ON ENERGY AND POWER COMMITTEE ON ENERGY AND COMMERCE

U. S. HOUSE OF REPRESENTATIVES

JULY 23, 2013

SUMMARY

ABFA represents more than 40 of the leading technology innovators in advanced and cellulosic biofuels, as well as a number of agriculture biomass-to-energy feedstock providers. The 500 million gallons mismatch of ethanol use in the gasoline pool that is the blend wall issue represents 1/30th or 3.3% of the entire US renewable fuels industry and less than 0.2% of the US fuel market. Calling for the full repeal of the RFS over a short term issue impacting less than 1% of all the fuels we use doesn't make a lot of sense as a public policy issue. For ABFA's members, the debate over repealing the RFS is having a chilling effect on the investment community and is restraining the growth and ability of our member companies to move forward. Despite this, many of them are making real gallons of cellulosic gasoline and diesel, as well as renewable diesel and other RFS approved fuels - today. Providing an additional year of clarity with a combined 2014 and 2015 RVO rule would help rapidly defuse much of the economic pressure. The Committee should encourage EPA to explore a combined 2014 and 2015 rule.

TESTIMONY

Chairman Whitfield, Ranking Member Rush, and Members of the Committee: it is an honor to be here today on behalf of the Advanced Biofuels Association. ABFA represents more than 40 of the leading technology innovators in advanced and cellulosic biofuels, as well as a number of agriculture biomass-to-energy feedstock providers.

In the past three months, ABFA has responded to four of your white papers and is currently preparing a fifth response. The white papers have been comprehensive and extremely detailed, which reflects the depth and serious nature of your inquiry. We congratulate the Committee and your staff for this bipartisan, thoughtful and substantive approach.

Given that ABFA has provided the Committee detailed answers on the RFS, I would like to step back this morning to accomplish three things. The first is to set some context around the RFS debate. The second is to call the impacts of this debate into focus. Finally, the third is to offer a near term solution to some of the issues being raised.

Congress expanded the RFS to stimulate an advanced and cellulosic biofuels industry to encourage larger greenhouse gas reductions and develop more energy dense "drop-in" fuels. Many of these new advanced biofuels are hydrocarbons that are compatible with our existing pipelines, refineries, planes, trains, ships and automobiles. ABFA member companies are delivering on that vision today.

Advanced biofuels draw on a wide range of feedstocks and their molecules can be of high energy density, so consumers will travel farther on their gallon. Additionally, they receive higher RIN value under the RFS2, making it easier to meet the targets of the RFS.

Today's hearing is largely about concerns surrounding the "blend wall". Simply stated it is the mismatch between the numbers of gallons of gasoline the US market is demanding and the number of gallons of ethanol the RFS calls to be mixed into that gasoline. With a 10% limit on the ethanol-to-gasoline ratio, there is a mismatch of roughly 500 million gallons in 2013.

However, the RIN bank carry over provisions in the law allow RINS from 2012 to meet the proposed targets in 2013 and enough exist to easily achieve the mandate. RIN market makers question whether that will be the case in 2014 and 2015.

This year, the United States of America will use around 213 billion gallons of fuel, of that around 15 billion gallons will be renewable fuel. The 500 million gallons mismatch of ethanol use in the gasoline pool represents 1/30th or 3.3% of the entire US renewable fuels industry and less than 0.2% of the US fuel market.

Calling for the full repeal of the RFS over a short term issue impacting less than 1% of all the fuels we use doesn't make a lot of sense as a public policy issue.

For ABFA's members, the debate over repealing the RFS is having a chilling effect on the investment community and is restraining the growth and ability of our member companies to

move forward. Despite this, many of them are making real gallons of cellulosic gasoline and diesel, as well as renewable diesel and other RFS approved fuels - today.

In 1990, this Committee saw in the Clean Air Act an opportunity for biofuels to contribute to meeting national energy and environmental goals by creating a 2% oxygen mandate for gasoline. It was a control measure at the time to reduce air pollution in both the winter and the fall in certain locations. In 2005 you created the RFS and called for a mandate of 7.5 billion gallons by 2012, and then in 2007 amended it with a focus to develop an innovative advanced and cellulosic industry and called for 36 billion gallons by 2022.

In the last six years, US businesses have spent $14.72 billion dollars in pursuit of the policy goal you collectively laid down for this country. According to Bloomberg, $33 billion has been invested world-wide in this sector over the last four years. These numbers represent people and jobs all over America: jobs in rural America planting and cultivating the best new energy crops, jobs building and operating biorefineries, technology and engineering jobs, and laboratory jobs researching new feedstocks and enzymes and many more.

To repeal the RFS would pull the rug right out from under them and change the rules in the first half of the game. This confusing policy signal is a benefit to incumbent players in the fuels market and a significant disadvantage to those trying to finance and build new innovative technologies.

A potential short term solution can be found at EPA. When Congress passed the RFS2 in 2007 it provided EPA with significant flexibility and authority to address issues which could arise from hurricanes, droughts, and unforeseen economic factors. As a result of this inherent flexibility, everyone at this table understands that, between the gallons produced in all categories of the RFS and the extra RINs brought forward from 2012, there are sufficient RINs and gallons to meet the proposed targets of the RFS for 2013.

The challenge is whether that will still be true in 2014 and 2015.

Before coming to the suggested solution, it is worth noting the Federal District Court case won by API and AFPM. This decision resolved concerns about EPA putting its thumb on the scale to call for gallons of cellulosic fuels that were not likely to be produced. In the end, the Court vacated the mandates for 2011 and 2012 and returned the money to the refining industry. The 2013 RVO numbers will likely show that EPA has taken this decision into account and is acting in line with the courts direction. Candidly, this does not help drive the funding and development of the cellulosic industry. It creates a standard that lags behind the actual gallons being made instead of creating a target goal to achieve.

Much of what is difficult about the RFS today is the uncertainty of the annual obligations. ABFA and others have called on EPA to release the Renewable Volume Obligations (RVOs) for 2013 and 2014 as quickly as possible. Providing an additional year of clarity with the 2015 RVOs would help rapidly defuse much of the economic pressure those of us on this side of the table are feeling. This Committee should encourage EPA to explore a combined 2014 and 2015 rule.

A clear signal from EPA, given to stakeholders in advance, with targets for 2014 and 2015, would be a huge step forward in adjusting EPA's procedures to help all of our markets work more smoothly.

ABFA stands ready to constructively engage with this Committee and the other stakeholders in this debate.

Thank you for the opportunity to testify today.

Mr. WHITFIELD. And Dr. Martin, you are recognized for 5 minutes.

STATEMENT OF JEREMY I. MARTIN

Mr. MARTIN. Thank you very much, Chairman Whitfield, Ranking Member Rush, Chairman Upton, Ranking Member Waxman, and members of the subcommittee.

Thank you for the opportunity to testify about the Renewable Fuel Standard. My name is Jeremy Martin. I am a senior scientist working on biofuels policy at the Union of Concerned Scientists. USC is the Nation's leading science-based nonprofit, putting rigorous independent science to work to solve our most pressing problems. I have been asked to address the environmental impacts of the RFS. But we need to start with the challenge the RFS was designed to address, cutting U.S. oil use.

Despite increased domestic production and new unconventional oil resources, the problems caused by our oil use continues to mount. Oil prices remain high and unstable. Oil-producing regions remain critical security threats. Oil spills continue, as do extreme weather events made more damaging by climate change. The need to reduce oil use remains just as important today as it was 5 years ago. The RFS is an oil saving policy based on smart goals, not just more biofuels but better biofuels and biofuels that go beyond food. The RFS supports increased domestic production of clean, low carbon biofuels.

Together with improved efficiency, electric vehicles, and other innovative technologies, biofuels can cut our projected oil use in half over the next 20 years and reduce the problems oil use causes to our economy, to our security, and to our climate. But despite having smart goals, neither the RFS nor its implementation to date have been perfect, and there are significant challenges that need to be addressed.

The rapid expansion of food-based biofuels over the last few years is unsustainable. It is putting pressure on other users of corn, affecting global food markets, increasing water pollution caused by corn farming, and accelerating deforestation.

In contrast to the problems of the food-based fuels, the opportunities to expand production of cellulosic biofuels are substantial. Based on our analysis, the $16 billion target for cellulosic biofuels in the RFS is definitely achievable. And because cellulosic biofuels have low fossil fuel inputs and low lifecycle emissions, the potential greenhouse gas mitigation is large. But while the resources to make cellulosic biofuels are substantial, converting them into clean fuel requires a massive scale-up of biorefineries. The first commercial scale cellulosic biorefineries are starting up now in Florida and Mississippi. Several more are under construction in Iowa and Kansas. And this is a major milestone. And it wouldn't happen without the RFS.

But clearly, it is behind the schedule laid out in 2007. It will take time to scale up a new fuel industry, as it did for both the oil and corn ethanol industries. However, the mismatch between the schedule laid out in 2007 and the actual scale up creates some ambiguity about the road ahead which needs to be thoughtfully resolved. Fortunately, the RFS was designed with a great deal of

flexibility, especially with regard to the second phase of the policy that shifts from food-based fuels to nonfood-based cellulosic biofuels. Many critical analyses of the RFS are based on an assumption that the EPA will ignore this flexibility, ignore the flexibility that Congress provided them and will expand mandates from just over 15 billion gallons in 2012 to 20 in 2015 and 36 in 2022.

But this assumption defies common sense. EPA has a clear authority to cut the rate of mandate growth in half between now and 2015 and to reduce the 2022 target from 20 billion gallons to what—from 36 billion gallons to 20 billion, plus whatever quantity cellulosic biofuels produce. Adopting a more gradual approach will substantially reduce the challenges facing RFS implementation in coming years. I have provided more detail on our advice in this regard in comments to the EPA and in my written testimony. EPA needs to seize this opportunity and reset expectations for the next phase of the policy from now until 2022 and develop a roadmap that delivers on the important goals of the RFS but is realistic about the competing uses of agricultural commodities and the rate at which cellulosic production can scale up and the constraints in our vehicle and fueling infrastructure. But making legislative changes to the Renewable Fuel Standard at this time would not reverse the problems caused by the rapid scale up of corn ethanol over the last 10 years. Instead, it would lock in place the status quo of 90 percent gasoline and 10 percent corn ethanol and chill investments in cellulosic biofuels, just as the first commercial facilities are starting up.

For this reason, we do not support legislative changes and suggest that making course corrections through an administrative process will do more to realize the oil savings and refinement goals of the RFS.

We are not moving forward as fast as we hoped to be in 2007. But the RFS is still pointing us in the right direction. To keep moving forward, we need to provide the regulatory stability that will protect early investments in the advanced biofuels industry and support further investment to bring the technology to larger scale.

Thank you again for the opportunity to be here today. I would like to request that the USC reports that I alluded to on biomass resources and the comments we submitted to EPA on the 2013 rulemaking be submitted for the record. And I look forward to any questions that you may have.

Mr. WHITFIELD. Without objection, they will be entered into the record. *

Mr. MARTIN. Thank you.

[The prepared statement of Mr. Martin follows:]

---

*The information has been retained in committee files and is also available at *http://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=101184.*

Written Testimony of Dr. Jeremy Martin

Senior Scientist, Clean Vehicles Program

Union of Concerned Scientists

Before the Subcommittee on Energy and Power,

Committee on Energy and Commerce, United States House of Representatives

July 23, 2013

To understand the Renewable Fuels Standard (RFS) and its impacts, we must start with the problem it was developed to solve. The motivation behind the Energy Independence and Security Act (EISA) of 2007, which included today's RFS, was to cut U.S. oil use. Cutting oil use remains as urgent a priority now as it was then. The Union of Concerned Scientists has developed a plan to cut projected U.S. oil use in half over the next twenty years by moving forward aggressively on oil saving technologies including efficiency and innovative technologies such as better biofuels. The Renewable Fuel Standard is a key existing policy to cut oil use and reduce greenhouse gas (GHG) emissions based on smart goals of (1) producing more biofuels; (2) improving biofuels; and (3) moving beyond food as a resource to produce biofuels. Significant environmental problems caused by the expansion of food based fuels limit their potential as an oil saving and climate mitigation solution, and realizing the goals in the RFS requires the large scale commercialization of cellulosic biofuels. This commercialization is proceeding at a slower rate than anticipated when the RFS was developed, so the U.S. Environmental Protection Agency (EPA) will need to be flexible, and adapt their administration of the policy in light of changing circumstances. However, Congress provided EPA with the necessary flexibility, so legislative changes are not needed. In fact legislative changes would be counterproductive, as they would undermine, or at the very least, delay, the commercial scale-up of cellulosic biofuels which are required to realize the goals of the RFS.

Thank you for the opportunity to testify about the important challenges facing biofuels policy today. My name is Jeremy Martin. I am a senior scientist working on biofuels policy at the Union of Concerned Scientists (UCS). UCS is the nation's leading science-based nonprofit putting rigorous, independent science to work to solve our planet's most pressing problems.

I have been asked to address the environmental impacts of the Renewable Fuel Standard (RFS). But we can't look at the RFS in a vacuum; we need to understand what challenge the RFS was developed to solve.

The motivation behind the Energy Independence and Security Act (EISA) of 2007, which included today's RFS, was to cut U.S. oil use. Cutting oil use remains as urgent a priority now as it was then. Despite increased domestic production and new unconventional oil resources, the economic, environmental, security and climate problems caused by our oil use have not decreased during the 5 years since the passage of the RFS. Indeed oil prices remain high and unstable, oil producing regions remain critical security concerns, oil spills continue, and the costs of extreme weather events made more damaging by climate change continue to mount. So the need to move forward on strategies to reduce oil use remains critically important.

The Union of Concerned Scientists has developed a plan to cut projected U.S. oil use in half over the next twenty years by moving forward aggressively on oil saving technologies in all oil using sectors[1]. Our plan starts with efficiency, but reaching our goal also requires innovation on better biofuels, electric vehicles, and smarter ways of doing business. No single technology or policy is adequate to make the progress we need, but by moving forward on all these areas we can make real progress on a challenge that is as urgent today as it was 5 years ago.

The Renewable Fuel Standard is a key existing policy to cut oil use by expanding the use of biofuels. Because of the RFS and other policies, the gasoline we use in the country today already has almost 10%

[1] See the UCS Half the Oil plan, at halftheoil.org.

ethanol, primarily from corn. But neither gasoline nor corn ethanol is the fuel of the future. Cellulosic biofuels (made from waste products and environmentally friendly perennial grasses) will allow us to continue to expand the use of biofuels as an oil savings solution, without putting added pressure on food, water, or the climate. Smart implementation of the RFS, together with additional policies aimed at accelerating the commercialization of cellulosic biofuels, is key to the success of these efforts.

The goals of the RFS are smart goals

The RFS is based on 3 important and well-crafted goals:

- **More Biofuels**: Expanded production of clean biofuels, together with efficiency and other innovative technologies, can cut our consumption of oil, reducing the problems our oil use causes our economy, our security and our climate.
- **Better Biofuels**: The RFS is not static; rather, it requires the biofuels industry to get cleaner over time, so that the biofuels called for in the RFS in future years are different, and cleaner, than those of today. Moreover, the RFS is based on full lifecycle impact of biofuel production, including the impacts that large-scale biofuel use has on agriculture and land use change in the United States and around the world.
- **Beyond Food**: The RFS recognizes the limited potential to use food as fuel. For this reason the big targets - the 36 billion gallon by 2022 headline number - relies on cellulosic biofuel, made from non-food biomass, more than it relies on corn based ethanol.

The challenges caused by today's biofuels

Despite having smart goals, it is important to acknowledge that neither the RFS, nor its implementation to date, have been perfect. The rapid expansion of corn ethanol over the last decade, under a variety of policies culminating in the EISA 2007 adjustments to the RFS, along with the expansion of vegetable oil-based biodiesel, primarily in the European Union, has profoundly altered global agricultural markets.

These changes are contributing to higher food prices in the U.S. and the developing world, accelerating deforestation, and exacerbating other problems like water pollution caused by corn farming.

The implementation of the RFS to date has had at best a limited positive impact on greenhouse gas (GHG) emissions for two reasons. First, the conventional biofuels the RFS has brought to market at higher volumes have primarily been food-based biofuels such as corn ethanol and biodiesel made from soybean oil. These offer limited direct GHG benefits, and when their indirect impact on the U.S. and global agricultural system is considered, the benefits are further reduced. Second, because the availability of corn and vegetable oil to make these fuels is limited, the opportunity to expand the use of these resources to a much larger scale is also limited. Moreover, diverting an ever larger share of agricultural output to energy markets would have serious negative impacts on both food markets, and on agricultural expansion and deforestation, and this limits the GHG benefits we can obtain from these fuels.

The completeness and accuracy of lifecycle analysis is essential to ensuring the RFS delivers on its climate mitigation potential. And because biofuels have such a profound impact on agricultural markets, including indirect land use change in the lifecycle is necessary to getting an accurate assessment. This is by its nature a complex analysis, and we have offered EPA numerous technical suggestions over the last several years, but on balance EPA has done much to advance the state of the art in this field. One area that merits special attention going forward is the market mediated impacts of volume targets. In short, the impact of using 5 billion bushels of corn to make fuel is materially different than using 7, even if the feedstock remain the same. Relying on the same lifecycle assessment will miss this important distinction. Using the tools EPA has developed for individual pathways will provide an analytical basis for deciding when expanded mandates will meet the GHG thresholds and further the goals of the RFS, and when they will instead lead to counterproductive fuel shuffling, for example promoting circular trade in ethanol with Brazil. We address this in more detail in Appendix B.

The last five years have brought into much clearer focus the implications of biofuels policy for food markets in the U.S. and worldwide. Policy-driven demand for biofuels is now a top-line concern in global agricultural markets, rather than a footnote. The recent Agricultural Outlook from the Organization for Economic Co-operation and Development (OECD) and Food and Agriculture Organization of the United Nations (FAO) highlights that decisions EPA has to make on seemingly obscure RFS implementation details will be major drivers for some of the world's largest commodities (corn, sugar, vegetable oil)[2]. Making sure these decisions are based on a sound analysis of these implications is the focus of our recent comments to EPA on the 2013 volume rule[3], and we anticipate continued engagement along these lines going forward.

While the impact of the RFS on corn prices has been a primary focus in recent years, as we look forward the impact on vegetable oil markets is also becoming increasingly relevant. Demand for biodiesel feedstocks like vegetable oils and animal fats moves through the global markets in complex ways, because the oils and fats themselves are not the most valuable product driving either soybean farming or meat production. But when you look at the trade flows on a global scale, it is clear that the source of extra oils on the world markets is palm oil. This means that, at the end of the day, excessive expansion of fuels made from oils and fats is accelerating the devastation caused by the expansion of palm oil plantations onto peat forests in Southeast Asia. These issues are discussed further in our report on vegetable oils and deforestation[4], and in our recent comments to the EPA.

Finally, it is worth noting the impact of the expansion of corn ethanol has had on water pollution. As demand for ethanol has increased we have seen larger and larger plantings of corn, intensifying the

---

[2] Organization for Economic Co-operation and Development (OECD) and Food and Agriculture Organization of the United Nations (FAO) Agricultural Outlook 2012-2021. 2012a. Increased productivity and a more sustainable food system will improve global food security. Online at http://www.oecd.org/site/oecd-faoagriculturaloutlook/.

[3] Union of Concerned Scientists. 2013. Comments to EPA's Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards. Online at http://www.ucsusa.org/assets/documents/clean_vehicles/UCS-Comments-on-RFS-2013-Volumes.pdf

[4] Union of Concerned Scientists. 2012. Recipes for success: solutions for deforestation-free vegetable oils. Online at http://www.ucsusa.org/assets/documents/global_warming/Recipes-for-Success.pdf

pollution of surface and ground water across the corn belt, and down the Mississippi into the Gulf of Mexico and in the Chesapeake Bay. These issues are discussed in our report "The Energy-Water Collision: Corn Ethanol's Threat to Water Resources[5]".

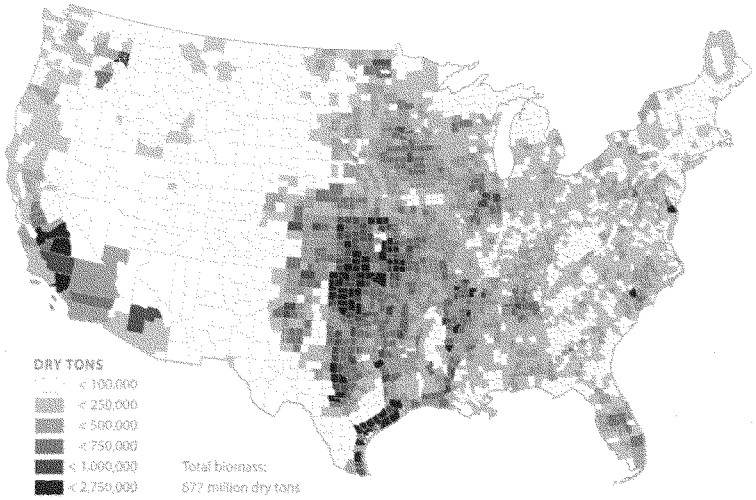
For all these reasons, the path forward on the RFS has to be different than the path we have been on. Further expansion of corn ethanol, or a large shift toward biodiesel, is not a viable path forward. But that doesn't mean we should abandon the goals of the RFS and lock in a future of 90% gasoline and 10% corn ethanol.

The promise of biomass based fuels

In contrast to the challenges of food based fuels, the opportunities to expand non-food cellulosic biofuels are substantial. According to our recent analysis[6], the domestic resources to produce biomass are far in excess of what is required to meet the 16 billion gallon target for cellulosic biofuels in 2022.

[5] Union of Concerned Scientists. 2011. The Energy-Water Collision: Corn Ethanol's Threat to Water Resources. Online at http://www.ucsusa.org/assets/documents/clean_energy/ew3/corn-ethanol-and-water-quality.pdf

[6] Union of Concerned Scientists (UCS). 2012. The promise of biomass: clean power and fuel – if handled right. Online at *http://www.ucsusa.org/assets/documents/clean_vehicles/Biomass-Resource-Assessment.pdf*.



Cellulosic biofuel technology can turn waste materials diverted from landfills, or agricultural residues like corn stalks, into valuable fuel that will displace gasoline without increasing the use of corn, vegetable oil or other food-based feedstocks. Beyond these waste resources, environmentally friendly perennial grasses can also provide large quantities of biofuel, and in so doing can expand the opportunities for farmers to produce biofuels feedstocks beyond the corn belt to many more states. Moreover, expanding the role of perennial grasses in our agricultural system can offer important environmental benefits. Perennial grasses reduce erosion and pollution from fertilizer and enhance fertility by sequestering carbon in the soil. The expansion of corn ethanol has expanded and intensified corn production, which is harming water quality in the Midwest, the Gulf of Mexico and the Chesapeake Bay, but producing the same fuel with perennial grass feedstocks can improve water quality and turn biofuels from a problem into a solution. Our agricultural system would benefit from a larger role for perennial grasses and smaller role for corn and soybeans, and shifting our biofuels policies away from food based fuels and toward biomass based fuels can support a transition that is good for our agricultural system, good for our transportation system and good for our climate.

The first commercial scale cellulosic biofuel facilities are starting up now in Florida and Mississippi, and several more are under construction in Iowa and Kansas. This is a major milestone, and it would not have happened without the RFS. Each new cellulosic facility creates jobs in local communities as well as clean fuel and valuable coproducts like renewable electricity. When the cellulosic biofuel industry is at the scale targeted by the RFS, there will be more than one hundred new facilities in communities around the country.

Cellulosic biofuel feedstocks require fewer inputs than corn to produce, and the process to convert them into fuel can also run with very low fossil fuel inputs or GHG emissions. The net result is very low lifecycle GHG emissions. But the real reason cellulosic biofuels hold so much promise is that the scale of the resources we have to produce them is also very large, which is why it makes sense that the majority of the growth of the RFS between 2013 and 2022 targets cellulosic biofuels. Recovering waste oils for use as biodiesel can also produce a very low GHG lifecycle, but the scale of the waste oil resources is limited, so the total GHG mitigation opportunity is also relatively small. To realize the full GHG mitigation potential of the RFS requires commercial scale cellulosic biofuel production.

While the opportunities and the progress on cellulosic biofuels are encouraging, the commercial scale-up is delayed compared to the schedule described in the RFS. It will take time to scale up a new fuel industry, as it did for both the oil and corn ethanol industries. And the economic headwinds of the last few years didn't help. But regardless of the reason, the gap between the schedule laid out in 2007 and the actual scale-up means EPA needs to adapt their administration of the RFS going forward to the circumstances we face today.

Whether to repeal, reform or preserve the RFS

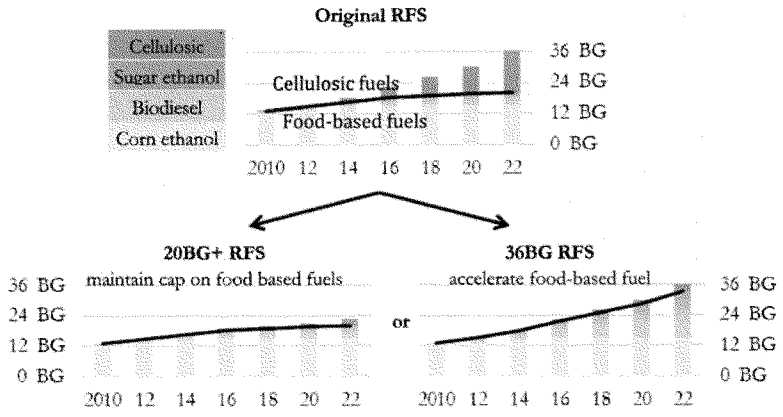
The question of whether to repeal, reform or protect the RFS is central to the current debate, and for the reasons I have already articulated we believe the RFS is an important policy tool and should remain in place. With regard to reform, the question is more subtle, but ultimately we are not in favor of any

legislative changes to the RFS at this time. There are three main reasons we come to this conclusion: first, rolling back the corn ethanol mandates in the RFS will not solve the problems the RFS and other policies have caused, second, revising the RFS will chill investment in cellulosic biofuels right as the first facilities are coming on line, and third, the RFS has the built-in flexibility needed for EPA to address the real challenges facing implementation through an administrative process, while preserving the framework that will keep the biofuels industry moving toward necessary oil savings and climate solutions.

- **Reversing the RFS will not solve the problem**: Policies – including not just the RFS, but tax policy, trade policy, agricultural policy, and policy on fuel additives - certainly played a major role in creating theproblems associated with the rapid scaleup of corn ethanol in the last decade. However, reversing course on the RFS will not solve these problems. By most independent analyses, 10% ethanol blends are here to stay, with or without the RFS. So failing to deliver on the full vision of the RFS means we stay where we are, with corn ethanol and gasoline, but with no prospect of moving to cleaner biofuels going forward. Rather than locking in the status quo, the smart choice is to keep moving forward on the longer-term goals of the RFS, the goals of better biofuels that go beyond food.
- **Amending the RFS:** Amending the RFS might seem to offer the opportunity to keep what works and fix what is broken, but the truth is more complicated. First of all, the nested structure of the RFS, and the flexibility obligated parties have to comply using different fuels, links together different categories such that changing or eliminating parts of the policy governing conventional biofuels will also have a major impact on investment in advanced and cellulosic biofuel production. For example removing the conventional mandate while keeping in place the advanced mandate will be more likely to encourage a counterproductive circular trade with Brazil than it will to support development of new advanced biofuels production in the U.S.. And even a well-crafted revision will put a hold on investments in advanced and cellulosic biofuels as the

legislative and regulatory process is underway, which is especially ill-timed given the critical phase the cellulosic biofuel industry is in today as it begins commercial scale production.

- **The RFS has the flexibility needed to tackle today's challenges:** The RFS was designed with a great deal of flexibility, especially with regard to the second phase of the policy that shifts from expansion of existing biofuels (corn ethanol, biodiesel and sugarcane ethanol) to non-food based cellulosic biofuels. Many critical analyses of the RFS are based on the assumption that EPA will ignore the flexibility Congress provided, and will expand mandates from just over 15 billion gallons (BG) in 2012 to more than 20 in 2015 and 36 in 2022. EPA has the clear authority to reduce the rate of growth between now and 2015 by more than half, and to reduce the 2022 target from 36 billion gallons to 20 billion gallons plus whatever quantity of cellulosic biofuel is in production (20BG+ RFS in figure below). The challenges of implementation will be substantially reduced if EPA adopts this more gradual approach, which we have shown schematically below, and describe in more detail in Appendix A below.



Clearly the EPA needs to be more aggressive than it has been in using the flexibility it has under the law to address the delay in commercial scale-up of cellulosic biofuels. EPA should also take a more flexible approach in other areas. We argued last year that the drought was an instance that

merited a more flexible approach (see Appendix C for details) and other challenges including the blend wall may also require a flexibility that keeps the policy moving in the right direction, but adapts to reflect the current constraints in agricultural markets, the vehicle fleet, and the fueling infrastructure.

A Smart Path Forward

I started my testimony highlighting the role of biofuels as part of comprehensive strategy to cut projected oil use in half over the next twenty years, and despite the challenges facing the implementation of the policy in the few years, the scale-up of cellulosic biofuels and the success of the RFS remain vital to making progress on these important goals.

The next step toward delivering on the potential of the RFS is for EPA to start using the flexibility Congress gave them in the administration of the RFS. The magnitude of the cellulosic shortfall was small in the last few years, but it grows rapidly from 2013 forward. In light of tight markets for agricultural commodities – not just corn but sugar and vegetable oil as well – and the infrastructure issues like the blend wall, there are major challenges coming by 2015 that will require EPA to show more flexibility than they have to date.

We are urging EPA to seize the opportunity, and to do a significant rulemaking, looking not just at annual volume levels, but at resetting expectations for the next phase of the policy, from 2016 to 2022. Working with stakeholders, and in concert with the Department of Energy (DOE) and the United States Department of Agriculture (USDA), EPA should develop a roadmap that delivers on the important goals of the RFS, but is realistic about the competing uses of agricultural commodities, the rate at which cellulosic production capacity can scale up, and constraints in our vehicle and fueling infrastructure.

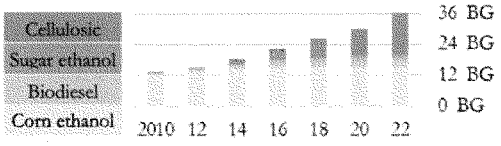
Additional policies can certainly help us move forward with the solutions we need to meet the goals of the RFS and the broader goal of cutting oil use. In the context of biofuels, it is clear that policies supporting investment in cellulosic biofuel production capacity will speed the realization of these goals. Other

policies that support the development of biomass feedstocks, and support innovation in new fuels and technologies can also help.

We are not moving forward as fast as we hoped to be in 2007, but the RFS is still pointing us in the right direction. To keep moving forward we need to provide the regulatory stability that will protect the early investments in the advanced biofuels industry, and support further investment to bring the technology to larger scale.

Appendix A: A flexible path forward for RFS Implementation

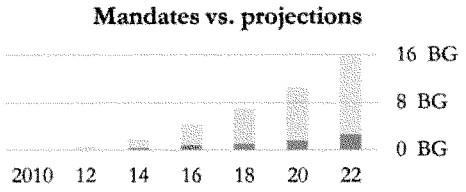
The RFS is a more flexible policy than many people appreciate, and Congress was smart to give EPA the authority to adapt the second phase of the policy to changing circumstances, and move us forward in a pragmatic way. Now EPA must use that flexibility and provide more clarity on the path ahead. To start with, EPA should acknowledge that 36 billion gallons (BG) is no longer a realistic target for 2022.



In fact, a careful reading of the RFS reveals that it not really a 36 billion mandate for 2022 at all. It is more accurately described as a mandate for 20 billion gallons, plus whatever level of cellulosic biofuel production is actually achieved, up to a maximum of 16 billion gallons (call it a 20BG+ RFS for short). Of this, 15 billion gallons comes from conventional biofuels like corn ethanol, which is already built out and for the most part locked into fuel markets. There is also a mandate for non-cellulosic advanced biofuels, fuels like biodiesel, sugarcane ethanol, and some newcomers like ethanol from grain sorghum. This mandate grows steadily to 5 billion gallons in 2022, which may sound modest compared to 15 billion gallons of corn ethanol, but is actually a very rapid expansion from where these fuels are now. So that adds up to 20 billion gallons. But the largest part of future mandate growth was supposed to come from cellulosic biofuels.

However, the scale-up of cellulosic biofuels is not happening at the rate anticipated in the original RFS schedule. Even with robust investment and steady growth, cellulosic biofuel production capacity in 2022

will probably be closer to 2 billion gallons than 16 BG (projection data in the figure below is from the Energy Information Administration's 2012 Annual Energy Outlook[7]).



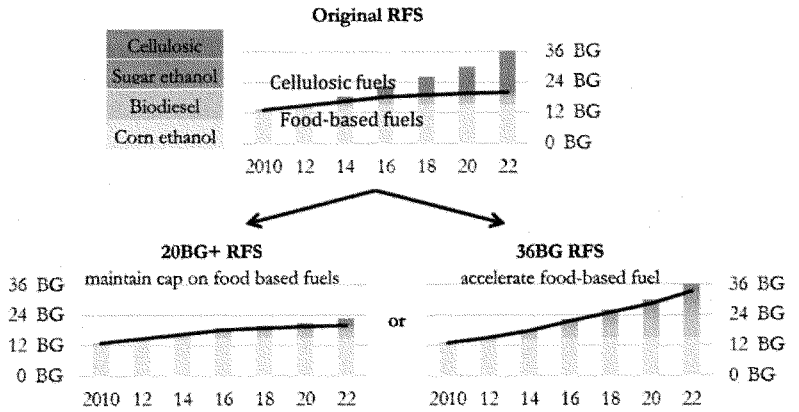
The RFS anticipated this possibility, and requires the EPA to adjust the mandates annually in line with projected capacity, a requirement reaffirmed in the recent court ruling[8]. So in total the real minimum mandate for 2022 is likely to be closer to 22 billion gallons than 36, and it will be 2030 before we are likely to see a full 36 billion gallon mandate reached.

EPA has an important decision to make

EPA has the authority to backfill this cellulosic shortfall in part or in full, by expanding the mandates for biodiesel, sugarcane ethanol and other non-cellulosic advanced biofuels. This is described schematically in the figure below. On the left is the path forward if EPA adjusts the advanced and conventional mandates by the same amount as the cellulosic mandate. This maintains the same growth rate for non-cellulosic advanced biofuels, and the same impact on food markets, as in the original RFS schedule. But without 16 billion gallons of cellulosic biofuel, the 20BG+ RFS totals in 2022 will be closer to 22 billion gallons than 36. To reach 36 billion gallons will likely take at least until 2030. On the right is the trajectory if EPA does not adjust the advanced mandate with the cellulosic mandate, and tries to stay on track for 36 billion in 2022 (the 36BG RFS). To accomplish this requires the food based advanced

[7] Energy Information Administration. 2012. Annual Energy Outlook 2012.
[8] American Petroleum Institute v. U.S. Environmental Protection Agency, 12-1139, U.S. Court of Appeals for the District of Columbia Circuit (Washington).

biofuels like sugar ethanol and vegetable oil based biodiesel to grow to more than 18 billion gallons, instead of the 5 billion gallons in the original schedule.



Doing this might seem to keep us closer to the original schedule, but it comes at the expense of dramatically expanding the use of food based fuels. Our analysis[9], and that of agricultural economists from Illinois[10] to the OECD[11], demonstrates that the actual consequences of trying to make up for the missing cellulosic biofuels with biodiesel or sugarcane ethanol will lead to unintended and counterproductive outcomes. These include a massive circular ethanol trade with Brazil, exchanging billions of gallons of our corn ethanol for Brazilian sugar ethanol, and mandates for biodiesel that exceed available resources in the U.S., and, indirectly, cause increases in production of palm oil in Southeast Asia that would accelerate deforestation with emissions that undermine the goals of the RFS. Trying to stay on the original schedule without the needed cellulosic biofuel production capacity also creates major problems for our vehicle and fueling infrastructure.

---

[9] For more details, see our comments on U.S. Environmental Protection Agency's "Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards" 78 Fed. Reg. 9282 (February 21, 2013) [EPA-HQ-OAR-2012-0546]

[10] Department of Agricultural and Consumer Economics, University of Illinois Urbana-Champaign. 2013. Domestic Biodiesel versus Brazilian Ethanol Revisited. Online at *http://farmdocdaily.illinois.edu/2013/01/domestic-biodiesel-versus-brazilian.html*.

[11] OECD/FAO Op. cit.

Appendix B: Lifecycle Analysis

The EPA has done a great deal to advance the state of the art in this field. There were a number of specific areas in which my own expert judgment differed from EPA's, on which we submitted comments during the relevant rulemaking processes. But on balance it is a great strength of the RFS that eligibility is based on a rigorous assessment of the full lifecycle, including significant indirect sources of emissions caused by land use change.

In terms of future analysis, EPA needs to apply the same rigorous lifecycle thinking to the impact of setting volume targets that it has to individual fuel pathways. Our analysis suggests that expanding the mandate for non-cellulosic advanced biofuel would not deliver the 50% GHG reductions required for the advanced mandate because of market mediated effects. Specifically, under present market conditions increased near term use of Brazilian ethanol in the U.S. will likely come at the cost of decreased use of sugarcane ethanol in Brazil, as Brazilian consumers switch to U.S. corn ethanol or gasoline. Likewise, increased U.S. use of vegetable oil based biodiesel is likely to have more impact on palm oil production in Southeast Asia than it does on soybean production in the U.S., as vegetable oil consumers around the world adjust to changing prices and availability. In either case the 50% GHG threshold required for advanced biofuels is not likely to be met if the mandates are expanded dramatically. EPA should take these factors into consideration when making decisions about how aggressively to expand the mandates, and only move forward when the required thresholds for GHG reductions are met[12].

Because the lifecycle analysis process is time consuming and requires extensive input from stakeholders and experts, we suggest EPA conduct a thorough analysis and rulemaking in 2013 and 2014, and use that analysis as the basis for setting concrete criteria that would be used to decide on subsequent annual volume determinations in the 2016 to 2022 timeframe. Proving this type of forward looking guidance

[12] See Union of Concerned Scientists. 2013. Comments to EPA's Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards. Online at, http://www.ucsusa.org/assets/documents/clean_vehicles/UCS-Comments-on-RFS-2013-Volumes.pdf

tied to measurable market factors (in agriculture, trade, fuel production and infrastructure) would provide all the stakeholders affected by the RFS more visibility to make their own plans.

Appendix C: 2012 corn ethanol waiver request

UCS submitted comments urging EPA to adjust the mandate for 2013 in light of the drought, and we disagreed with their decision not to grant any waiver[13]. The economic analysis EPA relied on for their decision found that at blending levels up to 10% ethanol (E10), changes in the mandate would not substantially change the actual amount of ethanol production, and therefore would not have resulted in significant relief for other users of corn. By and large we agree with this analysis, and several independent analysts came to similar conclusions. However, while the opportunity to provide relief was limited, the analysis suggested it was not insignificant. In light of this we encouraged EPA to make a modest 15% adjustment to the 2013 mandate. We argued that such an adjustment would have reduced the risk that the mandate hinders the market-based rationing of the diminished corn crop in 2013. However, we argued against a larger waiver, since larger adjustments wouldn't have provided additional relief, and would destabilize the RFS.

The analysis that EPA used to reach their decision to reject the 2012 waiver requests was particular to the circumstance in the ethanol market that year. Two key factors, the incentive of blenders to blend up to E10, even in the absence of a binding mandate, and the presence of a large stock of carry-forward RINs from over compliance in previous years provided compelling reason to doubt that a waiver would provide relief. Perhaps the most compelling evidence came in the form of the very low RIN prices for conventional ethanol that prevailed at that time, suggesting that even at those low prices obligated parties were not interested in avoiding their compliance obligation.

[13] See our comments to US Environmental Protection Agency's "Request for Comment on Letters Seeking a Waiver of the Renewable Fuel Standard" 77 Fed. Reg. 52715 (August 30, 2012) [EPA-HQOAR-2012-0632; FRL-9721-7]

The circumstances upon which EPA based its analysis in the 2012 waiver decision are unlikely to be repeated. The low RIN prices which prevailed at the time of the decision have given way to higher prices, which suggest that obligated parties would reduce ethanol use in the event of a waiver. This is to say that market conditions beyond E10 are different in important ways than they are with mandates below E10. The current RIN prices suggest that the RFS is starting to work as designed, to support the use of biofuel in excess of what would have occurred without the policy. This is a feature of the RFS design, rather than a bug. An implication of this feature is that under these circumstances EPA waivers will be expected to significantly alter fuel markets, which will give EPA the opportunity to provide relief in future crisis that their analysis suggested they lacked last year.

Because of the importance of biofuel policy to agricultural markets, it is imperative for EPA to be flexible in their implementation of the RFS, and to take into consideration of the impact of fuels policy to these markets. While last year's drought was a significant event, the decisions EPA has to make about the future course of the RFS are even more important. It is illustrative of the profound impact of EPA decisions on U.S. and the world agricultural markets that the OEC and FAO devoted an entire chapter of their global long-term agricultural outlook to biofuels, and about half of that to evaluating the future of the RFS[14].

[14] OECD/FAO Op. cit.

Mr. WHITFIELD. I thank you all very much for your testimony. At this time, I recognize myself for 5 minutes.

As I am sure all of you know, the American Petroleum Institute filed a lawsuit in Federal court against the EPA on the 2012 cellulosic number mandate.

And, Mr. Gerard, you all won that lawsuit. Is there anyone on the panel that would disagree with the principle that if EPA sets a mandated number for, like, cellulosic ethanol, and it cannot be produced, that refiners should be forced to buy the RINs anyway? Do any of you disagree with what the API did in that situation? In following the lawsuit.

Mr. MCADAMS. Mr. Chairman, I would say that the lawsuit was very specific in the way the opinion was written. What the lawsuit specifically said, which Mr. Gerard and Mr. Drevna should have enjoyed hearing, was specifically EPA could no longer put its thumb on the scale. And so to the extent anyone could make the assertion previously that what EPA was trying to do was stimulate our industry, by driving a number that was unrealistic, that lawsuit makes it directly clear that they can no longer do that. In terms of talking to the folks that run the program at EPA last night, I am confident that what we will see is a revision in the 2013 cellulosic number which takes into account the court direction to more closely align what the actual number is with the actual gallons that would be made.

Mr. WHITFIELD. And all of you would certainly agree with that principle, I am assuming.

Mr. Drevna?

Mr. DREVNA. Chairman Whitfield, we absolutely agree. However, we have to look at what the reality is as compared to the rhetoric. EIA projects by 2022, that there will be 0.5 billion gallons of cellulosic. Mr. Chairman, with all due respect, I have been sitting in these hearings on both sides of the of Congress since February of 2008, short 2 months after this bill was passed. And I have been hearing for 7 years now that cellulosic ethanol is just around the corner and all we need is another mandate and people will invest. Well, people will invest. But you know if the technology doesn't work, it doesn't work.

Mr. GERARD. Mr. Chairman, I would just add, part of the dysfunction of this particular statute is that within a week or 10 days after we prevailed in that lawsuit, the EPA came out with their renewable volume requirement for 2013 and added back a number higher than the one they had the previous year that we prevailed on in the lawsuit. Now if you are concerned about what the market is seeing out there, again, the judge said, You can't put your hand on the scale, as Mr. McAdams said. But the EPA immediately turned around and raised it from 8 million to over 11 million. And once again, there is not that in the market. Our expectation, our understanding to date is we have got about 5,000 gallons so far this year. We are halfway through the year. And the mandate in the statute is a billion. They narrowed that down to about 11 to 14, depending upon how you interpret that. But once again, the market sees this as no action being taken. That is why this is so important on the part of this committee and the EPA. They send a signal to the market, you are going to correct this problem.

Mr. DINNEEN. Mr. Chairman, if I could, two quick points. One, this actually demonstrates that there is incredible flexibility within the program, within the statute for EPA to do the right thing. They have reduced the cellulosic number more than 98 percent in each of the 3 years that the RFS has been in place with the cellulosic requirement. That is because of the flexibility that this Congress, this committee gave to the agency to do the right thing.

Now the court said, You can't be aspirational. And we all agree with that. They all ought not have their thumb on the scale. But they do need to be accurate with how much cellulosic and other advanced biofuels are going to be produced.

And that is my second point. The fact of the matter is cellulose and advanced biofuels are here today. If you wouldn't mind, I would like to introduce into the record a pamphlet that was put together by the Advanced Ethanol Council that demonstrates exactly where cellulosic investments are being made today.

Mr. WHITFIELD. Without objection.*

Mr. DINNEEN. And you do have commercial sized facilities being built in Kansas in Florida, in California, all across the country. And if we pull the rug out from under these facilities today, none of that investment moves forward. And my friends on either side of me get what they want, and that is a continued stranglehold on the U.S. gasoline marketplace.

Mr. WHITFIELD. Dr. Martin, do you all have any figure in mind for cellulosic production in the future? Right now, total gasoline is about 213 billion. I mean, do you all have a number you are looking at?

Mr. MARTIN. Well, certainly in terms of—I mean, we have been looking at the impacts of the different choices more broadly. And I would say what we have learned over the last few years is that impacts on the underlying feedstocks, on whether it is corn or vegetable oil or biomass, it is important. And there is plenty of biomass to meet the 16 billion gallon target. I think it is clear that that is not going to happen in 2022. And it is likely to take us closer to 2030. The date that that happens is not an external factor. It depends a great deal on the policies that are set here, which will determine how quickly people make investments and what that date is finally.

Mr. WHITFIELD. Thank you very much.

Mr. Rush you are recognized for 5 minutes.

Mr. RUSH. Thank you, Mr. Chairman.

I have a question that I would like to have all of the panelists respond to. I would like you to be brief in your response. I only have 5 minutes. I need some initial questions to be answered.

The U.S. has globally compared electricity prices in large part because we have diverse fuel choices—nuclear, coal, gas, wind, solar, hydro, geothermal, and biomass all used to generate power. However, in the area of transportation, we are almost entirely reliant on petroleum. What more diversity in the transportation fuel sources such as renewable fuels also provide consumers and the economy more protection from price shocks?

---

*The information has been retained in committee files and is also available at *http://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=101184.*

I will start with you, Mr. Gerard. Please be brief.

Mr. GERARD. OK. I will. Thank you very much for the question.

In the broader context, diversity is good. We see that natural gas has become a major player in electricity generation, as you know, in helping drive down the carbon emissions in this country. The important thing to remember though and the thing we will emphasize here is you have to look at the costs related to consumers. We have been using gasoline for many years in this country. It is affordable, reliable in the context competing other fuels. So diversity is good. But always look at it in the context of what it actually costs the consumer.

Mr. RUSH. Mr. Dinneen.

Mr. DINNEEN. I absolutely agree with the premise. I think diversity is critical to driving down cost. I would suggest that my friends in the oil industry believe diversity means we get oil both from the Gulf of Mexico and the Baakens. But that is not diversity. And that is not going to help consumer gasoline costs. In fact, if gasoline or oil were to fall below $90 a barrel, none of those investments in the Baakens make any sense economically. So the only way you are going to help consumers and drive down the cost of gasoline is with domestic renewable alternatives and renewables.

Mr. RUSH. Mr. Drevna.

Mr. DREVNA. I will agree that we can have a diversified fuel supply, but a couple items, Mr. Ranking Member.

One, the oil and refining industry does not control the transportation infrastructure to get the product to the consumer; 95 percent of those service stations are owned by private individuals.

Number two, the idea that we—that the refiners and those relying—you know, producing a product that is efficient, reliable and abundant to the American consumer is somehow detrimental to the economy boggles my mind.

Number three, when the cable industry looked around and saw there were only three options for television viewers, they bellied up to the bar, they invested lots of money, and right now, over 60 percent of the households in this country have cable TV.

I ask my colleagues to the left and right of me, if it is so good, invest. You don't need a mandate.

Mr. RUSH. Thank you.

Mr. McAdams.

Mr. MCADAMS. I agree with your assertion, Congressman.

Mr. RUSH. All right.

Mr. MARTIN. I think the best way to protect the consumers from the price of oil and gasoline is to use less, and biofuels are a part of the diverse set of strategies to accomplish that, and, of course, there is a great diversity of biofuels that contribute to that.

Mr. RUSH. Thank you, Dr. Martin.

And you get an A for the diverseness of your answer, and because you were so great, I want to give you another question.

Mr. MARTIN. Wonderful.

Mr. RUSH. In your testimony, you acknowledged the RFS is not perfect. Is it your opinion that EPA has the tools and the authority to deal with challenges as they arise, or does the Congress need to actually modify the law?

Mr. MARTIN. After having studied this at some length, it is my belief that the EPA has the tools it needs in the statute as it is written to address the immediate challenges and to set a long-term path. I think it is important that EPA be aggressive about demonstrating its intention to use that flexibility and in convening a stakeholder process. And I agree with Mr. McAdams that not just doing one year at a time, but really looking further down the road and laying out how these decisions will be made over a multi-year time frame will provide all the players the support, the certainty and the anticipation they need to make smart investments.

Mr. RUSH. Well, I thank you, Mr. Chairman. I have 10 seconds left, and I want to reserve my 10 seconds.

Mr. WHITFIELD. The gentleman reserves his 10 seconds.

At this time, I recognize the gentleman from Louisiana, Mr. Scalise, for 5 minutes.

Mr. SCALISE. Thank you, Mr. Chairman.

I appreciate you having this important hearing and all of our panelists, both the first and second panel that are going to be testifying, because there are a lot of important components of the RFS that need to be brought to light, and consumers are starting to have a lot of serious questions, as they should. I think when you look at the assumptions that were made back in 2007, many of those predictions didn't come true and we are starting to see the problems that that creates.

One of the reasons that I support full repeal of the RFS is because, number one, it is not workable. And we have had many hearings, including people within the Obama administration, EPA, EIA, USDA and others that talk about all of the problems that are coming both near term and long-term, and so when you look at these problems, they are very real problems, you can't just gloss over it, but when you look at the fuel projections alone, the usage is down and the revolution that some of you have talked about that has brought so many more forms of American energy to market to bear have not been recognized.

And so I want to start off, if I may, when you look at Mr. Gerard and Mr. Dinneen and Mr. Drevna on the panel and hearing each of you, very, very conflicting testimonies that have been given, so I want to give you an opportunity to expand a little further on some of the things that you have all said.

I will start with you, Mr. Dinneen. You said RINs are free. And anytime somebody's talking about something from the government being free, you usually check your pocket book first and start getting real concerned. When you talk to people about the RINs and the dramatic fluctuations in the price, this was something that was sold as a stability force. And the RINs are in fact not free. They started off at a very low price and have gone dramatically higher. Can you address the fluctuations in the price of RINs, which are not free, but in fact are much more expensive today than when this legislation was passed in 2007?

Mr. DINNEEN. Sure, Congressman, but understand my point is the ethanol industry, when we produce a gallon of gasoline, we by statute and by regulation have to give that credit to the oil companies. They get them from us for free, without any question. Now, there is a—as I said——

Mr. SCALISE. But is it just them that are getting them? Because one of the questions is, do you have some of these Enron-type players that are getting into the marketplace buying up RINs to help jack up the price to help make it an Enron trading commodity instead of something that was established to bring stability to fuel?

Mr. DINNEEN. The oil companies wanted the RIN system, wanted a credit trading program to bring flexibility to the RFS, which I believe it has done, but as they raised——

Mr. SCALISE. Is it just the oil companies that have these RINs?

Mr. DINNEEN. I am sorry?

Mr. SCALISE. Is it just the oil companies that have these RINs?

Mr. DINNEEN. No. They——

Mr. SCALISE. They have some——

Mr. DINNEEN [continuing]. Marketers.

Mr. SCALISE. And I apologize. My time is very limited. Mr. Gerard, if you could touch on this as well.

Mr. GERARD. Yes, as refiners, we are the obligated parties, so we are the ones that have to produce the RINs. We don't get all the RINs, and we certainly don't get them for free, because in many instances whoever is blending that fuel and gets that RIN, we have got to go buy that RIN to meet our obligation, because we are the obligated party.

The more fundamental issue here, as you know, Congressman, is the E10 blend wall. The market sees it coming, it sees it head-on, there is pressure out there from those of the obligated parties to make sure they have got enough to meet their requirements under the RFS. That is what is driving that cost, that is what the experts say the problem is. That is that we have got to deal with that blend law.

Mr. SCALISE. And you mentioned on the—I know Mr. Dinneen talked about the EPA having flexibility in the law to address the numbers. I agree EPA has the flexibility. They have not exercised it. We sure haven't seen them doing the things they ought to be doing in the short term. In the long term, I agree, though, that Congress does have to address it for the long term.

Mr. Drevna, you had something?

Mr. DREVNA. The essence of the problems with the RINs emanated with the EPA, when the first EPAct 2005 was written, and it was only seven and a half billion gallons by then. Of course, before the ink was dry, it went up to 36 billion in years.

We suggested to EPA that we should be able to trade freely with the credits. They said, No, we want a free market. Our response was, it is a mandate, folks, so there is no free market. They didn't buy that.

Then they said, OK. Refiners and importers, you are the obligated party. And we said, Wait a minute, if we can't trade the RINs among ourselves, how are you going to—how are you going to have this market work? And we said, It wouldn't work.

And right now, not only are there RINs that are expensive and not free, there are 140 million fraudulent RINs out there that we still have to deal with, and who knows how many more, because—and I understand the FBI is still investigating some of the biodiesel folks.

Mr. SCALISE. Absolutely. And I know I am out of time, and I have more questions I will reserve for the second panel, but I appreciate that, Mr. Chairman. I will be happy to yield back.

Mr. DINNEEN. If I could just—one quick point, because I think you are going to like it, because I will acknowledge that there is an issue here, and that is we need to have more transparency with the RIN market. And I do think EPA could help this situation by letting us know who is making the trades, how many trades, what the price is. Right now, there is no transparency whatsoever.

Mr. SCALISE. All right. And unfortunately, they have not been willing to do that either. Thank you. I appreciate it.

Mr. WHITFIELD. At this time, I recognize the gentleman from California, Mr. McNerney, for 5 minutes.

Mr. MCNERNEY. Well, I thank the chairman. Wow, what a diverse set of testimony, and I want to thank you all for your passion on this issue. It is an important issue, and it is a—it should be a bipartisan issue. So, again, thank you for testifying.

Dr. Martin, you suggested that the EPA should produce a realistic roadmap for introducing biofuels into the market—I see Mr. McAdams was shaking his head yes—using the flexibility that is built into the statute. What do you think are the chances that the EPA will do that? I mean, how likely is it that they are going to come through with something like that?

Mr. MARTIN. Oh, well, I am quite optimistic about that. I mean, it is a challenging process to—especially to do a multiyear process, and I think they have been going through one year at a time, and it has been quite a lot of work, but I think all the parties would be better served by providing at least a framework for multiple years.

Mr. MCNERNEY. Well, they have the flexibility to do that, but last year's drought caused real problems, there were 150 Members of Congress and Governors that asked them to waive the ethanol mandates, and they didn't. How do you feel that that came about and what is your response?

Mr. MARTIN. Sure. Well, we supported making adjustments last year to the mandate in light of the drought, but I would say that the kind of flexibility in the second phase of the policy, and in particular how quickly we get to 36 billion gallons, this isn't the same waiver process with a real relatively high bar. It is an entirely different process, and really, it is—it is just a discretionary matter. So, in some respects, I think it actually makes more sense to describe the 2022 target as 20 billion plus, sort of 20 billion gallons plus however much cellulosic gets produced, and EPA has discretion to go higher, but they have no obligation to go higher, and so I think, in some respects, analyses which are based on the assumption that we get to 36 billion in 9 years are flawed, because that assumption is just not a realistic assumption anymore.

Mr. MCNERNEY. OK. So you think they are showing flexibility in some ways and not in others?

Mr. MARTIN. Well, they haven't shown flexibility up to now. And so, as I said, we encouraged them to do that last year. Last year, the circumstances were very different, as has been alluded to several times. I mean, when there were petitioned last year, RIN prices were very low, and that, you know, without any fancy eco-

nomics is a demonstration that obligated parties were not trying to buy their way out of complying with the standard. And so EPA's analysis said, look, if we reduce the standard, not much is going to happen. And I think you have other panelists later who will address this in more detail. Obviously, with RIN prices where they now, the circumstances are quite different, and so what I understood from EPA is that they don't view those past decisions as providing the framework for future decisions, and they recognize the need to be flexible.

Mr. MCNERNEY. Well, thank you. You also mentioned in your testimony that the—or you acknowledged anyway the cellulosic biofuels have not lived up to their potential. Do you see that happening? I mean, how do you see that happening, or what has been the roadblock so far?

Mr. MARTIN. Well, certainly the law was passed at the end of 2007 and based on some presumptions about how quickly capital could be raised. And 2008 and 2009 were tough years for raising capital in all industries, and that was certainly a setback.

I think a case can be made that the numbers were always optimistic. And, frankly, the structure of the law, which essentially says that this is the maximum, not the minimum level for the standard, reflected an understanding that this wasn't something that could be counted on, but was an aspirational——

Mr. MCNERNEY. So, with the current trajectory, you believe that we can meet—what I think you said, we can cut our oil by 50 percent in 20 years. Do you think that is realistic, then?

Mr. MARTIN. Yes. Not solely on the basis of biofuels. I mean, if we look at cutting our oil use, efficiency has a big role, electrification, we need to do all of these things to make those kind of deep reductions, but biofuels definitely have a key role in a kind of comprehensive strategy like that.

Mr. MCNERNEY. Thanks.

Mr. Dinneen, you had some pretty striking data that you showed on your graphics, and I think—and I didn't—I am not sure I got the numbers exactly right, but 60 percent of new oil—or new fuel production is from ethanol and only 38 percent is from oil? Were those the numbers?

Mr. DINNEEN. 62,005, correct, 62 percent of 38 percent, because you got to remember through 2005, 2006, 2007 and 2008, oil production in this country, it continued to fall. It wasn't until 2009 that oil production had begun to increase, which is a good thing, and we are happy about that. I am just pointing out that you can't say that the reduction in energy dependence that has occurred since 2005 is because of oil. It is not—68 percent of it—I am sorry. Sixty-two percent of it is because of a growing ethanol market.

Mr. MCNERNEY. Well, I have run out of time, Mr. Chairman.

Mr. GERARD. Mr. McNerney, if I could just comment. We would strongly——

Mr. MCNERNEY. If the chairman will allow it.

Mr. WHITFIELD. The gentleman's time has expired, but I will let you all briefly respond; not very long, so——

Mr. GERARD. I will be very brief. Thank you. We would say that clearly our import reliance has gone down considerably because we increased oil production. We have increased over 2 million barrels

a day in our production the last 4 years at the same time ethanol production has increased about 250,000 gallons per year, so there is a big disparity. It is a very different equation.

Mr. WHITFIELD. Mr. Dverna, did you want to make one comment?

Mr. DREVNA. It is not the oil industry saying it, it is the Energy Information Administration saying in testimony before the Senate last week that the impact of ethanol production on oil imports is minimal.

Mr. WHITFIELD. OK. Mr. Barton is recognized for 5 minutes.

Mr. BARTON. Thank you, Mr. Chairman.

You know, it is too bad you couldn't get a few more witnesses for this hearing. We are certainly going to have the most comprehensive hearing record.

Mr. WHITFIELD. If anybody in the audience wants to testify.

Mr. BARTON. Yes. I have been on both sides of this issue. Obviously, in 2005, the original mandate was in the Energy Policy Act, which I was one of the chief authors of. I voted against the 2007 act, which took what we did in 2005 and basically increased it by order of magnitude five times.

We are in a situation now where what appeared to be a good political compromise and maybe even a market compromise, you know, 8, 9 years ago, doesn't appear to be working, not because of its good intentions, but because the marketplace has changed. We thought that gasoline consumption in the United States was going to continue to go up. Well, it has not. It has gone down considerably. And while I don't have the exact number, I believe this year the difference between the projection and what we think is going to be reality is 30 to 40 billion gallons of gasoline. That is a significant discrepancy.

So the question before the committee is, what do we do? And you have got three options: One is do nothing, which Congress is very good at. Just let the mess keep going. The second option is to repeal the renewable fuel standards, and that is where I am. I think with all the good intentions in the past, basic principle is when all else fails, go back to basic principles, which is let the market operate. And then the third option be to modify the renewable fuel standards. And my guess is a majority of the committee is probably at that option, modification, take the middle road, but I am for full repeal.

So my first question would be to my friend from the renewable fuels association, who has I think done a fairly eloquent job of putting the best face on this, what would happen if we repealed the renewable fuel standard to the ethanol industry? Would it go away, would it continue to flourish, or would it be somewhere in between?

Mr. DINNEEN. Thank you, Congressman.

First of all, let me compliment you again on crafting the 2005 RFS, because you really did craft a good piece of legislation with lots of flexibility for EPA to address the situations, and it has.

If the RFS were repealed, though, Congressman, I think that you would first of all devastate investments that are being made in next generation biofuels. All of the progress that is being made today would go away, and I think that would be a terrible thing.

Mr. BARTON. It would—the harm would be to Mr. McAdams' group, not necessarily to the pure corn-based ethanol.

Mr. DINNEEN. Actually, that would be the first impact. There absolutely would be an impact to the existing industry as well, however. Back in 2007, when we were holding hearings on the RFS, there was a member of the oil industry that was asked, if we didn't have this program, how much ethanol would you use? And that person had indicated, well, you know, we would still want to use ethanol for its octane, but we would probably use about 5 billion gallons of ethanol. That was a candid moment, and I think that is what you would see. You would see a dramatic reduction in the use of ethanol in fuel as they replaced it with their own petroleum. These folks are in the business of through-putting hydrocarbons, not——

Mr. BARTON. My time is about to expire, and I do want to give the other side a chance, since I am actually with the other side.

Mr. DINNEEN. But you were with us at one time, Congressman.

Mr. BARTON. No. I am not against you, not against you.

But, Mr. Martin or Mr. Gerard, if we repealed the ethanol mandate, if we repealed the renewable fuel standard mandate, since ethanol right now does cost less per gallon than gasoline, wouldn't the oil industry continue to use ethanol and blend it in because it is less expensive?

Mr. GERARD. Well, a couple things. First, we are pleased with your conversion.

The second thing is ethanol, let me just say this, on a BTU basis, does not cost less than gasoline.

Mr. BARTON. OK. On a BTU basis.

Mr. GERARD. So that is an important consideration, because you have to compare energy to energy, not gallons.

Mr. BARTON. OK.

Mr. GERARD. First thing. EIA testified last week, as did the Department of Agriculture, that it is likely that where current production isn't, current blending would remain. In fact, they believe there would be very little change, because of the octane values and other things that are part of the blending process.

Mr. BARTON. And, Mr. Chairman, could I ask Mr. McAdams a question, or I would be happy to yield back, because I know my time has expired?

Mr. WHITFIELD. Yes. Did Mr. McAdams want to make a comment or——

Mr. WAXMAN. I ask unanimous consent that our former chair——

Mr. WHITFIELD. Mr. Waxman asks unanimous consent that you ask one additional question.

Mr. BARTON. Well, I appreciate Mr. Waxman for being nice to me for—I almost said for a change, but that would be not cool.

But cellulosic has always been portrayed as the great hope, that we knew that ethanol from corn was somewhat inefficient, but we were told that if we could ever get to the cellulosic era, that it would be very efficient and very cheap. It hasn't happened yet. What is the realistic expectation of the ability to get ethanol from cellulosic—cellulosic sources? Is that still 10 years down the road or are we close to——

Mr. MCADAMS. No, sir. While I sit in front of you—thank you for the question, Mr. Chairman. I appreciate the opportunity to answer this.

As I sit in front of you today, there is a facility in Mississippi, in rural Mississippi, by the name of KiOR. It is a pyrolysis facility. It is crushing pine trees. And it is not making ethanol; it is making gasoline and diesel. And Mr. Gerard's and Mr. Drevna's clients, Chevron, and Hunt Petroleum have made 100 percent of the off-take purchases of that fuel. That plant came online in March. It is a new innovative plant. It is now a full capacity, running flat out and the RINs have gone on the market, effective this month for July. There are other plants, Dupont has one in Iowa. POET has another one.

There is a range of cellulosic technologies that are coming into being now on a commercial basis. They are being funded commercially. There are about five or six of them that is in the book that Bob has put onto the record.

The other thing I want to say is, don't overlook the advanced biofuels technology. I had the opportunity to witness the F–18's fly off the deck USS Nimitz using a hydro-processing technology in Louisiana, making 45 million gallons of renewable diesel.

So you are seeing both advanced biofuels and cellulosic biofuels come. And I agree with your assertion. If you repeal the RFS, the guys that get hurt the most are the members that I represent.

Mr. BARTON. OK. Thank you very much, Mr. Chairman.

Mr. WHITFIELD. At this time, I recognize the gentleman from California, Mr. Waxman, for 5 minutes.

Mr. WAXMAN. Thank you, Mr. Chairman. I would like to explore how the RFS aims to reduce carbon pollution, how well it is working and whether there are ways to strengthen its climate benefits.

Mr. McAdams and Mr. Dinneen, do you agree that reducing carbon pollution through the use of low-carbon renewable fuels is a critical goal of the RFS?

Mr. MCADAMS. Absolutely. As we move to 9 billion people on the world and other—other places around the world other than America increase their use of energy demand——

Mr. WAXMAN. You agree.

Mr. MCADAMS [continuing]. Having sustainable fuels—yes, sir.

Mr. WAXMAN. You agree.

Mr. DINNEEN. Without a doubt. Absolutely it is. And, in fact, the amount of carbon removed as a consequence of ethanol production last year is the equivalent of taking about 9 million vehicles completely off the road. The program is working.

Mr. WAXMAN. Dr. Martin, how does the RFS derive climate benefits?

Mr. MARTIN. Well, my colleagues here have spoken to the current status. I would like to look to the future and say that the largest potential source of benefits from the RFS comes from the next generation of biofuels, where we have the opportunity to substantially—I mean, first of all, to see fuels with very low greenhouse gas impacts, including very good integration with agricultural systems so that we see less competition with food crops, but also it is both the reduction per gallon and the number of potential gallons, and because the scale that is available to make cellulosic biofuels

is very large, the greenhouse gas mitigation potential is also very large.

Mr. WAXMAN. Mr. McAdams and Mr. Dinneen, without the RFS, are we likely to see the investments we need to develop new low-carbon renewable fuels in this country?

Mr. DINNEEN. Sadly, no, you will not. And the consequences is without the RFS, you are going to see more oil production in this country and the——

Mr. WAXMAN. The——

Mr. DINNEEN [continuing]. Profile of oil is getting worse while biofuels is getting better.

Mr. WAXMAN. OK.

Mr. MCADAMS. It is the main driver for our industry.

Mr. WAXMAN. There are concerns, however, that the RFS has some unintended consequences that may significantly reduce its climate benefits. For example, ramping up production of biodiesel may boost palm oil production.

Dr. Martin, could you please explain how large increases in the demand for advanced biodiesel could drive further production of palm oil, and what are the concerns about palm oil production?

Mr. MARTIN. Yes. Thank you. So the—I think RFS allocates a different bucket with regard to—with some consideration of, you know, what is available underneath them. And the—you know, biodiesel is—you know, there are some sources of biodiesel that are very low carbon, but the scale that those resources are available are limited. So, for instance, when you make a biodiesel or a renewable diesel or renewable jet fuel out of waste animal fat, then this seems like a very good low-carbon fuel, but there are other users for that, and so if the scale of those mandates exceeds what is available in that market, people aren't going to produce more chickens, because of that demand, and so you will end up driving more demand for vegetable oils. And the lowest-cost source of vegetable oil coming into the global market is palm oil, and so that is the basic concern.

Mr. WAXMAN. And palm oil production is linked to severe deforestation, land degradation and habitat destruction abroad and increases carbon pollution. Is that right?

Mr. MARTIN. Yes, that is absolutely right.

Mr. WAXMAN. I would like to enter into the record a statement from the Clean Air Task Force on this point, Mr. Chairman.

Mr. WHITFIELD. Without objection.*

Mr. WAXMAN. As we consider any changes to the RFS, we need to think about how to minimize unintended consequences and assure that we are actually getting the promised climate benefits. And there may be ways to structure the RFS to provide incentives for additional reductions in carbon pollution.

When the RFS was amended in 2007, existing corn ethanol plants were grandfathered, exempting them from the law's greenhouse gas requirements. These facilities produce most of the ethanol, and overall, the net effect of their fuel may be to increase carbon pollution, rather than reduce it. Some grandfathered facilities

*The information has been retained in committee files and is also available at *http://docs.house.gov/Committee/Calendar/ByEvent.aspx?EventID=101184.*

have reduced their carbon pollution through operational changes, such as fuel switching from coal to natural gas, but there is no requirement for such improvements.

Dr. Martin, do you think it would make sense to require all grandfathered facilities to improve their operations and reduce carbon pollution over time?

Mr. MARTIN. Yes. Absolutely. And if——

Mr. WAXMAN. I only have a few seconds left. Even for the newer facilities that were not grandfathered, the standards to reduce carbon pollution are fairly limited. Once a facility produces a biofuel that meets the greenhouse gas requirements, the RFS does not give that facility any incentives to do better.

Dr. Martin, would it also make sense for the RFS to encourage additional improvements, such as by giving additional credit to fuel producers that exceed the minimum emission requirements? Yes or no?

Mr. MARTIN. Yes.

Mr. WAXMAN. The renewable fuel standard is critical in developing next-generation low-carbon biofuels, but it appears that it could be improved to better achieve the intended climate benefits.

Thank you, Mr. Chairman.

Mr. WHITFIELD. The gentleman's time has expired. At this time, I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

Mr. SHIMKUS. Thank you. I think we lost the mike on this side.

Mr. WHITFIELD. Do we have anyone that is technically attuned?

Mr. TERRY. Barton's works.

Mr. SHIMKUS. Imagine that. Oh, the irony. And I was all organized. So—he is a munchkin, too.

All right. Thanks, gang. It is great to—it is great to be with you. So palm oil. That is a new one on me. Our diesel production is mostly soybeans, beef tallow and the like.

And I think we will talk about biodiesel in the next panel, but other than the RIN fraud, which is being investigated, biodiesel really isn't part of this debate. I think most people, it is dropped in, it is—there is no retail issues, it is across the market, and I just want to put that on the table. And that was kind of testified in the last hearing.

So, folks, we could have had this hearing in January, and I would have gotten the same freaking answers out of you all in January that I got today. And so the point is, as Chairman Upton said, listen and be constructive. Maybe we are getting—we got your sides. We know what they are. That is not really being constructive, because we have some issues we have to address, and so we would respectfully request that you come in and be constructive, because I think if—as you are learning, as much as we are, because you are hearing the members ask questions; you don't have enough for repeal. You do have enough for some reforms. So we better get in the room and get it done, which will help everyone. It will send the market signals to the next generation. It will keep the regular guys in. And it will address the price disparity, or I call it the risk premiums on the RINs, based upon producing something that is really not available or accessible at this time.

You all represent associations. And the members of your associations are not in line with your opening statements when they come in individually and talk to us. So, good for you guys for toeing the party line. We have to find, and we are committed to move on a fix, and it would be helpful for you all to start negotiating in good faith to get this done, because as the media was successful in reporting last time, I have got two refineries in and around my district. I have got ethanol refineries all over southern Illinois. I have got as much corn as you want. I have got crude oil production. I have got fracking. I have got it all, and I am standing squarely with a foot in both bodies, and it is my goal and desire to get to a solution that benefits us all, not one side over the other.

So let me go to the crux of the—and I think I lost it when I moved over here—the—so we have advocation of the repeal of the RFS. I think that has been clearly stated today. Obviously, my friends in the RFS are saying don't do anything.

Can I get you all to commit to at least exploring something that is in between, in between full repeal and keeping as in with no change? Can I get you all to say, we are going to meet with you and try to make this happen? You can do yes or no or answer a question, but I would like to go down the table. I would like to start with Mr. Gerard.

Mr. GERARD. Mr. Shimkus, I think you know we will work with you always, and we are happy to have those conversations. Let me make one brief point, if I can.

Mr. SHIMKUS. Be brief. I have got a minute left.

Mr. GERARD. I will hurry. First is, though, the reason we call for repeal first and foremost is this statute is fundamentally broken. It is not working. It is——

Mr. SHIMKUS. OK. We are back to the same thing, because now Bob is going to say it is perfect.

So, Bob, would you work with us? Jack, I don't—no.

Mr. GERARD. We will work with you——

Mr. SHIMKUS. No. Jack——

Mr. GERARD [continuing]. But let's address the question——

Mr. SHIMKUS. No, Jack.

All right. Bob?

Mr. DINNEEN. I believe to the extent that there are issues associated with the RFS, and I will acknowledge that there are some concerns that need to be addressed, they can be addressed administratively, but I would like to work with you to determine how we can make that happen.

Mr. SHIMKUS. OK. Charlie.

Mr. DREVNA. Absolutely, Congressman. If we all agree what the facts are and not what the bombast is.

Mr. SHIMKUS. Well, that is——

Mr. TERRY. That means no.

Mr. SHIMKUS. OK.

Mr. McAdams.

Mr. MCADAMS. We recognize our—maybe if they recognize it is the committee's jurisdiction and legislative authority, we would welcome the opportunity to work with you.

Mr. SHIMKUS. And, Dr. Martin, I don't have to—I mean, you can chime in if you want. I mean, you would be willing to help, I am sure.

Mr. MARTIN. Absolutely. Happy to help.

Mr. SHIMKUS. OK. But let me end on this premise, the government has established by law, and you have all heard me say this before, procedures to refine either traditional or next generation. We have moved, because of our Federal law position, have moved capital into these positions.

You all can't advocate us repealing a thing that shareholders would lose billions of dollars and that the promise of the investment made by Mr. McAdams in future cellulosic, that we walk away from a government-mandated law that moved capital in these refineries.

You are not advocating that we walk away from that and cause them to lose their private sector investment? Would—Jack, you wouldn't want us to do that to the refinery sector.

Mr. GERARD. No, we wouldn't, but what I would suggest, the second part of what I was going to say earlier is we need to define what it is we are trying to accomplish.

For example, when Mr. Waxman was asking questions about carbon emissions, he asked the future, particularly from the people that Mr. McAdams represents, they are much less carbon-intensive than some of the other fuels. However, the National Academy of Science points out that the current corn-based ethanol we are producing is more greenhouse gas——

Mr. SHIMKUS. All right. Let me stop you. My time's expired. Let me just go back to say you all need to come to the room, because if you keep these positions, no one is going to be happy and nothing's going to get done.

I yield back my time.

Mr. WHITFIELD. The gentleman's time has expired.

And we are happy to know that all of you are going to graciously come and work with us on this issue.

At this time, I recognize the gentlelady from California, Ms. Capps, for 5 minutes. Not you? OK. Who is it? Who is it?

Mr. GREEN. Me.

Mr. WHITFIELD. OK. Mr. Green from Texas, you are recognized for 5 minutes.

Mr. GREEN. Thank you, Mr. Chairman.

Although I would defer to my colleague from California, but I just love following my colleague from Illinois. Congressman Shimkus and I are good friends and over the years, but we also understand we come from different geographical locations.

And I am frustrated as anybody else with the RFS, and I voted for it in 2007. A number of us from my part of the country did, but what we have seen in the last number of years is, whether either with the RINs fraud, the gaming of the system, and I think some of us have gotten to the point where if we are going to have an RFS, it only should deal with things that are not edible. And I know that is some concern with Bob and your group. Corn and soybeans, obviously, you can raise the prices for everything. And coming from Texas, I first realized the problem was back in 2007 or 2008, and I got calls from all my neighbors saying our deer corn

went up, whey they were buying it in October to fill up their deer feeders.

So there needs to be—and I agree with my colleague from Illinois. I would probably vote for repeal of the RFS, but I just don't see where we are going to get there, but we need to see what we can do to make sure it is quality.

And a lot of people know I represent a lot of oil-based refineries, but I also have some biofuel facilities that are relatively small. And we actually have one that reopened because of market conditions and things like that, but I would like to sit down with that group in the room and see what we could do to make it workable.

But let me ask a few questions before my time runs out.

Mr. Gerard, can you tell me more about the Coordinating Research Council on the E15?

Mr. GERARD. Yes. The Coordinating Research Council is an institution, collaboration, if you will, research, to retest fuels, particularly in automobiles. It has been around since 1942. And we have come together over time, collaborated with government, particularly DOE and EPA, to test the potential impacts on the fleet, if you will, from bringing new fuels into the marketplace.

Most recently, and the reason this probably came up, is we have tested the E15. And what it concluded after testing on a few models, after designing the test program with EPA and DOE, I might add at their direction originally, we have found that it has significant impact. And as all the auto makers have now indicated, they will not warranty their cars under E15 and the current existing fleet.

Mr. GREEN. The EPA and the DOE were aware of this research?

Mr. GERARD. They participated in it. In fact, in about 2006 and 2007, they helped us devise it. And the testing that we did was actually—part of the creation came from the EPA and what they felt needed to be tested to look at these questions.

Mr. GREEN. OK.

Mr. DINNEEN. Congressman, might I suggest——

Mr. GREEN. Well, let me ask you a question, and you might be able to answer it any way you want. You stated in the public documents that oil companies have blatantly ignored the law and refused for more than 5 years to make any meaningful investments in infrastructure would allow the sales of E85 or blends above E10. Can you respond to the type of investments in renewable fuels that oil and natural gas has made?

Mr. DINNEEN. Sure. But, first, on the CRC test, I would ask that DOE's critique of that test be included in the record, because they had a great number of problems with the test fuels that we used. They were not indicative of what is out in the marketplace. And, in fact, one of the vehicles that failed actually failed on nothing but straight gasoline. So if you are going to live by that test, maybe we ought not be using gasoline in this country.

Mr. GREEN. OK.

Mr. DINNEEN. With respect to the investments that the oil companies have made, frankly, they have made precious little, but more importantly, they have prevented gasoline marketers from making those investments and offering fuels to consumers. For example, Phillips 66 has a franchise in Kansas, ARCO 66, that for

years had been offering E85, and Phillips 66 was OK with that, and it was an important part of his business. He then wanted to offer E15 and did. He was the very first E15 marketer in the country.

Mr. GREEN. OK.

Mr. DINNEEN. And Phillips wasn't OK with that.

Mr. GREEN. I am going to run out of time unless I get a chance——

Mr. DINNEEN. So what they did is they changed their franchise agreement——

Mr. GREEN. Let me ask a question.

Mr. DINNEEN [continuing]. To prevent that from happening.

Mr. GREEN. Let me ask, Mr. Gerard, if Congress were to cap ethanol blending at 10 percent and match the cellulosic requirement with the progress of the technology, how would you respond and API respond?

Mr. GERARD. Well, we would have to look at how you do that in order to the fuel mix across the country. We are happy to work with you on that.

If I could respond quickly, the oil and natural gas industry are the leading investors in zero-carbon-emitting and low-carbon-emitting technologies. From 2000 to 2010, the Federal Government spent $43 billion in this area. We spent $71 billion. The rest of all the private sector spent 74. We are leaders. We are trying to find the breakthrough in technologies. What the RFS attempts to do is mandate technological change, and it has now demonstrated that you can't do that with statute.

Mr. GREEN. Well, Mr. Chairman, I know I am out of time, and I wish I had more time for the whole panel, because we have a bunch of questions.

Mr. WHITFIELD. The gentleman's time has expired. At this time, I will recognize the gentleman from Nebraska, Mr. Terry, for 5 minutes.

Mr. TERRY. Thank you, Mr. Chairman.

And I want to associate myself with Mr. Shimkus's statement. It has been frustrating to just hear the same old entrenched, "you are either in or you are out," "nothing needs to be fixed," "it is either totally right or totally wrong." So it doesn't leave us a lot of options here for this committee to look at if that is where we are.

Now, I am interested in some of the more advanced biofuels. And, Mr. McAdams, I have been informed or told for over the last several months about exciting new advanced projects going to commercial state now. Could you give an update here?

Mr. MCADAMS. Sure. Be happy to do that.

Mr. TERRY. There are comments that there haven't been any going commercial from pilot projects. So have there been?

Mr. MCADAMS. I am happy to do that. Let me just take a myth off the table here. We have been able to hit the advanced biofuels numbers in 2011, in 2012, and we will hit them in 2013. It took the ethanol industry 20 years to produce the first 2 billion gallons, and in 2012, we delivered 2.25 billion gallons of advanced biofuels to the American public. Now, the largest portion of that 2.25 billion came from America's biodiesel industry. That was 1.1 billion. And the way the statute works, it receives a 1.5 to 1 energy dense mul-

tiplier. So if you can do the math, that is about 1.6 billion gallons that goes towards the 2.25 billion gallon target.

Second myth I would like to take off the table is that Brazilian ethanol fills the bulk of the advanced biofuels pool. That is simply not correct. Because of the nesting requirements in the RFS, you have biodiesel and renewable diesel, its new little brother, coming online filling the bulk of that target.

Just so the members understand the difference, renewable diesel is a pure hydrocarbon that hits the same exact ASTM spec as if you made it from a barrel of oil. That is what we flew the F–18's on; that is the F–76 we put in the USS——

Mr. TERRY. Let me interrupt you there, because that was the next question I have. I have also read stories about aviation fuel as an advanced biofuel, that it is not just being used as an experimental fuel within the Navy or Air Force, but also in commercial. Can you update me?

Mr. MCADAMS. I have had—I actually got to fly on the first flight from Seattle to Washington, D.C., last year. The first flight in the United States was a United flight from Houston to Chicago. One of my members has flown over 1,100 flights in Europe on a renewable jet fuel.

We have a number of technologies that have given the gallons to the military and have been certified on most of the military air frames. And then we have the hope of alcohol-to-jet, which is now moving through the process.

So, again, it is not just about cellulosic, it is about a whole variety of advanced technologies. We have one, two renewable diesel facilities in the State of Louisiana now that are running. We have several other smaller——

Mr. TERRY. Well, if you could submit the rest for the record, I would appreciate that.

Mr. MCADAMS. Sure. I would be glad to do that.

Mr. TERRY. So with my last minute 20, I want to ask, starting with Jack going to my right, I have been a supporter of biofuels, not just because I am from the Cornhusker State and that is economically important to Nebraska, but been a rabid supporter of a variety of fuels to offset imports.

So, Mr. Gerard, Jack, if you could start, do we need diversity in our fuel portfolio?

Mr. GERARD. Diversity is always good, as I mentioned to Mr. Rush.

I would say what is happening today, of course, is we are providing more and more domestically, which is getting us off the foreign import question.

Mr. TERRY. Is that a yes or a no?

Mr. GERARD. Yes. Diversity is always good.

Mr. TERRY. Sorry.

Mr. DINNEEN. Yes, Congressman, it is critically important. And thank you for your leadership on this issue over the past several years.

Mr. DREVNA. Diversity is always good as long as ago it has a positive impact on the consumer, including costs.

Mr. MCADAMS. I practice it in my 401 every day.

Mr. MARTIN. Yes. Absolutely.

Mr. TERRY. Thank you.

I yield my time, yield back my 5 seconds.

Mr. WHITFIELD. The gentleman's time has expired.

At this time I am recognize the gentlelady from California, Ms. Capps, for 5 minutes.

Mrs. CAPPS. Thank you, Mr. Chairman, for holding this hearing. And I appreciate the witnesses' testimony today. We all have a range of perspectives on RFS, but I hope we can agree on the importance of the policy's primary goal to develop a cleaner, more sustainable fuel supply. Developing reliable renewable fuels were reduce our dependence on oil, much of it foreign, strengthen national security and create quality local jobs.

There are a variety of Federal policies to help us move in that direction. Some are direct investments like tax incentives and research funding, and some, like the RFS, set public policy goals for private industry to work toward. I think both approaches play an important role of fostering growth of renewable fuels, but the RFS in particular is vital to creating some stability in an otherwise uncertain and volatile marketplace.

As we know, some are calling for the complete repeal of RFS due to concerns about the ethanol blend wall. I agree there are some issues with RFS that do need to be addressed, but a complete repeal would have far-reaching negative impacts, going far beyond the blend wall.

So I am going to ask Dr. Martin a couple of questions. You point out in your testimony that repealing RFS would lock in the status quo by more or less ending the development of advanced cellulosic biofuels. Can you elaborate on this? How would repealing the RFS impact our ability to develop viable new advanced fuel resources?

Mr. MARTIN. Yes. Thank you very much. I think it has been mentioned several times that the investment in the next generation of biofuels really does rest on understanding what the goals of the fuel policy are and the objectives that we are trying to meet. The RFS sets those goals and the companies have made investments and are starting to produce fuel.

I think something that sometimes gets lost in the sense of how much progress have we made, isn't this a failure already, is that we have moved from laboratories to commercial production, and we have done that in a relatively short amount of time, but the fuel industry is enormous, and so the amount of time to go from one commercial facility to 16 billion gallons is, of necessity, will take some time.

Mrs. CAPPS. Thank you. To continue, a key part of the RFS process is evaluating the total reductions in life cycle, greenhouse gas emissions for a given biofuel. In your testimony, you also state that the—and this is a quote from your testimony, the implementation of the RFS to date has had at best a limited positive impact on greenhouse gas emissions.

Can you explain why this is the case and how increasing the use of cellulosic biofuels would impact this assessment?

Mr. MARTIN. Right. Absolutely. We are very much looking to the RFS as a policy to reduce greenhouse gas emissions from the transportation sector and from fuels, but we think the biggest opportunity there is in the cellulosic biofuels and because of the competi-

tion with food in particular. And so I think it makes a lot of sense that the RFS, after scaling up the biofuels that were available in the beginning of the policy, is shifting to other resources and we think that—and that is where the big opportunities are going forward.

Mrs. CAPPS. One final question. I have a little time. And I see some others nodding, so if there is time to get a comment from others as well, but the RFS has played and will continue to play a critical role in accelerating the development and integration of advanced biofuels that we need in order to reduce our dependence on oil, but there is so much more that we can and should be doing. That is maybe the subject for another hearing.

Dr. Martin, other than the RFS, what more could Congress be doing to accelerate the development of a cleaner, more sustainable fuel supply?

Mr. MARTIN. Yes. Absolutely. I think there are a lot of opportunities outside of this policy, in particular in the Tax Code, because the delay in cellulosic has been all about investment, and certainly there are policies that could support more rapid investment.

Mrs. CAPPS. Mr. McAdams or others, would you like to comment as well?

Mr. MCADAMS. I wholly agree. The Tax Code has several options that would be very helpful. That is an area to look at.

Mr. DREVNA. Congresswoman Capps, the advanced biofuels, I think we have to differentiate on the cellulosic. What is—what is cellulosic ethanol, we are still going to have the 10 percent blend wall, with cellulosic drop-in biofuels that my industry is doing a lot of research on, so we are having this cross-section of definitions here, but all cellulosic is not cellulosic. The ethanol, we are still going to have the 10 percent blend wall, the cellulosic drop in biofuels are still years away.

Mrs. CAPPS. Any other comment?

Mr. MCADAMS. Ms. Capps, I am going to send Mr. Drevna some of the drop in gasoline made from pine trees so he has got some.

Mrs. CAPPS. There you go.

Mr. GERARD. Ms. Capps, I would suggest maybe this might be a way—an area that you might look at for those who are looking for the middle ground. As Mr. McAdams said, cellulosic and advanced in those areas, which are less greenhouse intensive, versus what we have today. If you look at the E10 blend wall we have today, driven heavily by corn ethanol, which is driving us to that brink, that is why we argue we should repeal that, and then if we want to look at another agenda or another policy down the road, those are the areas we should look at.

I think, as Mr. McAdams said, when you look at the advanced fuels that are still way down the road, there might be a better way to do this than have a mandate like the RFS that brings us to the point of crisis and has very adverse impacts on consumers.

Mr. WHITFIELD. The gentlelady's time has expired. At this time, I recognize the gentleman from Texas, Mr. Olson, for 5 minutes.

Mr. OLSON. I thank the chair and I thank the panelists for joining us this morning. This issue is slightly controversial, with some passion. That is a little attempt at some humor, something I learned from the ultimate Texas humorist, William Philip Graham,

otherwise known as United States Senator Phil Graham, who I worked for 4 years. And Phil Graham always taught me to seek the truth, and he said, by something very simply, Boy, facts are a little persistent "thangs." And that is a crummy Georgia-Texas, accent, but that is what I am here to do today, is find out the facts.

Here are the facts I took away from the discussion of last month's hearing before this committee. The RFS was designed for a U.S. energy future that no longer exists, that of a peak oil and increasing gas demand. The mandate will be met this year by using most of the older excess credits in the system. In future years, if unchanged, will be much more difficult. Compliance costs are spiking, especially for small refiners who don't blend fuels and generate their own credits.

The RFS has helped increase corn prices, and that has hit consumers back home, at Kroger's, at Safeway and HEB, and, yes, at Wendy's and even Whataburger. With all due respect to some of the panelists who said that there is not an impact on food prices, RFS does have that impact. Wendy's came into my office a month ago, wanted to talk about Federal issues. You think they want to talk about Obamacare, increasing taxes, all sorts of things? No. They wanted to talk about RFS corn-based ethanol and how it has increased their cost of doing business.

And I want to have a disclaimer, too. I am not, not opposed to corn farmers or ethanol. I have gotten blisters on my hands throwing a hoe in my uncle's farm there in south central Wisconsin cutting down the weeds in his corn fields, so I know how important corn is in that part of the country.

I do have some questions. I want to dig deeper on the RINs issue, so I have some questions for Mr. Gerard and Mr. Drevna, on its impact on small refineries. Large refineries, as we have seen, are able to generate many of their own RINs, however, many small refineries lack the distribution network and blending operations to do that. Can you please explain what this has meant for small refineries as RINs prices rise?

Mr. GERARD. Well, thank you. Go ahead.

Mr. DREVNA. OK. I am sorry. First of all, thank you, Congressman Olson, but I think that the issue is just—it transcends all refineries whether you are large or small, because not all refineries blend, not all refiners own blending facilities. Most do not. But it is a great question, because in response to your question, I can also comment on Mr. Shimkus' thought about not wanting to take away investment and have people suffer in the marketplace. Back in—when the RIN prices first skyrocketed, when the market saw that there wouldn't be enough RINs either for 2013 or 2014, they shot up at that time to a modest 60 cents. Huh. The refiners, the independent refiners lost $2.5 million of market capitalization in one day. So that is what this RIN thing has done. And that is over and above them having to pay for the cost.

Last week, Bill Klesse, chairman and CEO of Valero, testified on the Senate side that Valero, a very large independent refinery, is going to be spending between $500 million and $700 million on RINs. And, oh, by the way, they are the third largest ethanol producer in the country. They produce more ethanol than 97 percent of the above-the-knees members. So that is the reality. This is a

market-skewering, economically disastrous kind of policy that needs to be addressed.

Mr. OLSON. Mr. Gerard?

Mr. GERARD. Mr. Olson, the impact on whether they are small or large is fundamentally the same. Let me bring us back to the focus. The real culprit here is the E10 blend wall. Charlie and others have mentioned for many years, those RINs were in the 2 cent to 3 cent range, and it wasn't a concern.

What has happened is the markets are seeing the mandate under the renewable fuel standard and say, we are going to force you or mandate you through to essentially where we have options to either create an unsafe fuel, but the auto manufacturers say, we are not going to warranty our cars if you do that, or go to fuels like E85, where consumers are already telling us they don't want to buy the fuel. Why? Because it has less energy content in it. There is about one-third less energy in a gallon of ethanol than there is in a gallon of gas.

So when you look at the price differentials, the cost of pure ethanol has always been higher than a gallon of gasoline. Consumers are figuring this out. That is why even with flex-fuel vehicles, they are not buying E85, even though it is available. Minnesota is a good example. They have actually increased the number of filling stations in Minnesota, and the demand for E85 is going down. Consumers understand it is all about energy; it is what you have to pay for to get from point A to point B.

Mr. WHITFIELD. The gentleman's time has expired.

Mr. OLSON. Yes. I am sorry, Mr. Dinneen. My time——

Mr. DINNEEN. I thought the search for the truth would include both sides.

Mr. OLSON. Well, I mean, the chairman's got the gavel there, so——

Mr. WHITFIELD. At this time, I recognize the gentlelady from Florida, Ms. Castor, for 5 minutes.

Ms. CASTOR. Well, thank you, Mr. Chairman.

And thank you to all the witnesses for your testimony today.

I am certainly open to some reform of the RFS, but there are some overriding issues that I think have to keep in mind. In 2007, the Congress updated the RFS with the explicit purpose of reducing carbon pollution from the transportation sectors. The Congress at that time was looking for different strategy among different sectors of the American economy. The Congress said, here in the transportation sector, we have got to reduce greenhouse gases being generated in the sector and also to help Americans across the country avoid the impending high costs that are being brought about by climate change.

So the two primary ways in which the RFS aims to deliver these reductions are in the mandate for advanced biofuels, which must cut carbon pollution by at least 50 percent on a lifecycle basis, compared to petroleum fuels, and the mandate for cellulosic biofuels, which must cut carbon pollution by at least 60 percent. I know Congresswoman Capps was able to ask Dr. Martin about the greenhouse gases.

Mr. McAdams, what role do you see—how is it going? Are we really achieving the targets that we have set? You represent many

of the companies that are developing and producing these advanced and cellulosic biofuels. What kind of greenhouse gas reductions are we actually seeing?

Mr. MCADAMS. Well, by law, all of my members have to deliver a 50 percent greenhouse gas reduction over a 2005 baseline gasoline or diesel standard. And we delivered 2.25 billion gallons last year. And when you think about that—and the rules of the RFS were not even implemented until July of 2010. I defy anybody to say to stand up an entire industry in less than 3 years is a pretty decent performance, and we are probably going to be at 2.75 billion this year or above and over 3 next year. So we have done very well in the diversity of technologies that are coming online. These were all new, innovative technologies. This is—unlike the oil industry, who has depreciated their refineries, because they haven't built one in the last 40 years, my members have built three new refineries in the last 18 months. That is a heck of an accomplishment for America, and that diversifies our portfolio. So I am proud of the progress we are making, and you will see a lot more between now and 2016.

Ms. CASTOR. Well, I do believe they are replacing a significant quantity of petroleum with these low-carbon biofuels could result in climate change benefits and help. And the cost equation, you have to think about it on both sides. And coming from the State of Florida, I am particularly sensitive to this, because we are asking local taxpayers now to fund plans to address sea level rise, what is happening to our infrastructure along the coast. And unless we have some provable, evidence-based strategies going forward, we are just going to flail around and probably waste a lot more money.

The development of cellulosic biofuels, however, hasn't been as quick as Congress wanted. We are impatient. Plus corn is problematic. Is it raising food costs? Based upon what I am hearing from folks back home, they certainly believe so and they are providing evidence to back that up.

Last year, however, we saw the first cellulosic gallons produced in the U.S. The Energy Information Administration predicts the sector will grow substantially in the coming years.

Mr. McAdams, as I said, we are impatient. What else can we do? What else constructively in the RFS can we do to move this along? I know you talked about tax benefits, but this is the Energy and Commerce Committee and not Ways and Means. And if we are going to draft any legislation, what should it include?

Mr. MCADAMS. Well, one of the things I would encourage you to consider is the point that Dr. Martin referred to, which is, from a performance-based standard, we have many companies that build a fuel now that exceed the 50 percent threshold. Yet, under the RFS, it is just a 55-mile-per-hour line. They don't get any extra credit for it. You could actually see companies that have facilities that are less than the 50 percent threshold that might be encouraged to make further upgrades, like combined heat and power or switch their fuel sources to natural gas, that would actually increase their GHG coefficient if they were to get something for it, which would encourage them to do that. That is not currently in the RFS.

Ms. CASTOR. OK. And, Dr. Martin, I think you mentioned a new Florida company that has come online. Could you reference that for me, please?

Mr. MARTIN. Absolutely. I had a chance last year to visit the INEOS refinery in Vero Beach. And they are starting up a process using vegetative waste that would otherwise be headed to the landfill to make not just biofuel but also renewable energy. So it is really exciting to see these commercial facilities come up. And when you understand the time frame that that went from a laboratory to a pilot plant to commercial production, I think it is hard for them sometimes to understand—if you only look at the number, like how quickly is it going to be half of gasoline production, you miss these huge improvements as you go from, you know, milliliters to gallons to 1,000 gallons to 1 million gallons to 10 million gallons. We need to get to 10 billion or more gallons. But we have made tremendous progress to get to where we are now.

Ms. CASTOR. Thank you very much.

Mr. WHITFIELD. The gentlelady's time has expired.

At this time, I recognize the gentleman from Colorado, Mr. Gardner, for 5 minutes.

Mr. GARDNER. Thank you, Mr. Chairman. And thank you for convening this hearing on a very important issue for my congressional district.

The Fourth Congressional District of Colorado is the 11th leading agricultural district out of the 435 districts in Congress. We have corn growers. In fact, my home county has in the not-too-distant past been the number two or number three corn-producing county in the United States. And we produce livestock, the fifth largest cow calf operation in the country. We boast thriving oil and gas production. In fact, the State of Colorado ranks fifth in the United States in terms of natural gas production. Many of the groups who are represented here today and tomorrow do have different opinions regarding the Renewable Fuel Standard. And I thank the committee for what is a deliberative and systematic process in this debate. And I appreciate the witnesses for being here today.

So I will first direct my questions to Mr. McAdams. You discussed a need for certainty for investors and makers of advanced biofuels. I have an ethanol plant currently in my district that is looking to make cellulosic ethanol from bark beetle-killed wood. How would the development of this project be impacted if Congress made changes to the RFS?

Mr. MCADAMS. I addressed that directly, Congressman, in my opening statement. The largest single problem we have is certainty. Both in the Tax Code, where the provisions are on one year and off another year and now in the debate as to whether we are going to repeal the RFS or not repeal the RFS.

Mr. GARDNER. Affecting your investors?

Mr. MCADAMS. It is the number one concern of the CEOs that I represent.

Mr. GARDNER. In your testimony, you discuss short-term solutions to issues raised today that would give EPA more flexibility. Do you believe Congress can fix this problem and give the EPA the flexibility it needs?

Mr. MCADAMS. I am unclear as to whether they can. But I know that the EPA, because I have spoken to them on a consistent basis, is trying to deal with this RVO issue in the short term.

Mr. GARDNER. Do you think they have the authority make changes within the RFS currently?

Mr. MCADAMS. Yes, sir, I do.

Mr. GARDNER. To Mr. Dinneen, we are going to hear tomorrow from representatives—and I will give you a little time to respond to the comments made earlier. We are going to hear tomorrow from representatives of the livestock industry. As someone who hails from an agricultural district, I represent both the farm side and the ranching side. Can you discuss how the coproduct from ethanol production distiller's grain, how they impact livestock operations?

Mr. DINNEEN. Thank you very much, Congressman. Absolutely. We are only using the starch in the production of ethanol. What is left behind is a very high-protein, high-quality feed that is then going to poultry and livestock markets across this country and, indeed, across the globe. In fact, the amount of DDG, distillers' dry grains, that our industry produced last year is enough to produce the hamburgers to give everybody a quarter pounder a day for the next 8 months.

Mr. GARDNER. And I will ask a similar question at tomorrow's hearing with that panel because we have got group that is on the opposite side of that question tomorrow. How would you respond to the issue of higher feed and operating costs?

Mr. DINNEEN. Well, look, one of the reasons that the RFS was passed was to stimulate economic opportunity across rural America; $2 corn was not sustainable. And the Congress was having to pay farmers not to grow. What they wanted was a value-added market for farmers. One of the purposes of the RFS was to increase farm income, increase the price of corn. And it has done that. And as a consequence, this Congress can now contemplate a farm program that is significantly different than what you otherwise would do. And farmers are getting more of their income from the marketplace, not from the mailbox. And that is a good thing. But even so, our industry is using less than 3 percent of the world's grain supplies and none of its food grains—like rice or wheat. So we think that the impact on food is negligible to nothing.

Mr. GARDNER. I will give you a couple additional seconds if you want to respond to comments made earlier because I do have some questions for Mr. Gerard.

Mr. DINNEEN. I appreciate that.

Earlier, the issue was whether or not small refiners or large refiners that don't have downstream blending opportunity, they can't get the ranch. Well, we sell a lot of ethanol to major refiners. But regardless, these companies have more market power than anybody in the universe. And in their contract negotiations, they can make sure that the RINs are returned to them for ethanol that is blended with gallons that they are providing. And for Valero in particular, the third-largest RIN producer in the country, if they can't find RINs, they have got a problem. But that problem is not with the RFS. That problem is with their own internal operations. It isn't doing what it can to capture the RINs that it is producing.

Mr. GARDNER. Thank you, Mr. Dinneen.

Mr. Gerard, I am going to ask two quick questions. We may not have time to get to them. Can you discuss how you believe RINs translate to consumer costs. And number two, outline the risks you see associated as you have done so with blending higher volumes of ethanol in your opinion.

Mr. GERARD. Great question. I will try to be brief here, but I would like to provide you a lot of material.

EPRINC just did a study and released it a couple of days ago which pointed out that they believe because of the E10 blend wall—keep in mind that is the culprit here that drives the RIN price increase. Because of the E10 blend wall, when companies like ours, obligated parties, now try to comply with the Renewable Fuel Standard, it is arbitrarily and unfortunately driving up those costs. So when we try to comply, we have very few options. We can go out and quit producing, which we are trying to avoid doing. We can produce the fuel if the auto manufacturer says don't put it in our cars; and by the way, we have liability if we do for not having the appropriate product. Or we can try to push a larger blend, an E85 blend which the market has already shown won't take. What this report concluded is it shows over the next couple of years this will drive the cost of gasoline from 20 cents to $1 a gallon. That is just one of three reports we have. The Wall Street Journal editorial last Saturday said, they expect it will drive the cost of gasoline at least 10 cents a gallon and will cost the economy $14 billion.

The real injustice here, this is all avoidable. We can address this question if we will deal with the E10 blend wall and make sure that mandate is taken away. And that is why we support repeal. This law is fundamentally broken. And it is driving us to the brink of crisis for no reason other than the fact that we just haven't dealt with it.

Mr. GARDNER. Thank you, Mr. Chairman.

Mr. WHITFIELD. The gentleman's time has expired.

At this time, I recognize the gentleman from New York, Mr. Engel, for 5 minutes.

Mr. ENGEL. Thank you very much, Mr. Chairman.

I am very pleased that we are holding these hearings on the Renewable Fuel Standard. A program as important as this should be reviewed by Congress and any possible issues addressed. I believe that the Renewable Fuel Standard is an important tool in promoting U.S. energy security, an issue that I have been promoting for several years. When it comes to the RFS, much has been said, both good and bad during the last hearing and in testimony today. However, I believe, it is important to remember that this program reduces our greenhouse emissions and reduces our dependence on foreign oil. And both of those are very important. I believe that the EPA has the authority to deal with issues discussed today, such as the so-called blend wall. And the levels of advanced biofuels that are mandated. It is also important to remember that many of these new technologies aren't exactly new. So it is premature to judge their success or failure. There are things we can do to strengthen the RFS. I have recently introduced the Open Fuels Standard Act, which I believe is a complement to the RFS with my colleague from Florida Representative Ros-Lehtinen. This legislation would require auto manufacturers to build cars that can run on alternative

fuels. In addition to gasoline, it could include ethanol, methanol, natural gas, electricity, biodiesel, hydrogen, or some new technology. It would empower our consumers to make a choice about what fuel is best for them. I urge this panel to take up the Open Fuels Standard Act.

Let me ask, Dr. Martin, in your statement, you spoke about the motivation behind the expansion of the RFS which was to cut U.S. oil consumption. I believe that the evidence shows it has moved the U.S. toward that goal. Can you speak to how adoption of the Open Fuels Act might help us toward furthering that goal?

Mr. MARTIN. Certainly. I think reducing the use of oil is good for the country. And I guess I have heard in today's discussion some comments that the predictions in 2007 were wrong. And because we are using less oil now than we were in 2007, I think it is important to note that that is a positive sign. That is good for the country. Using less oil is the solution to the problems that oil causes to our economy. With respect to the open fuels standard, I think we have had some discussions in the past with your staff, and we have some detailed concerns about the best way to provide incentives for vehicles that use more—that they use cleaner alternatives. And so I think we definitely support those goals. And I think our approach to cutting oil use is not just a biofuels approach but relies on, as the open fuels standard emphasizes, reducing oil use with better biofuels but also with electric vehicles and a later variety of technologies.

So while we are happy to continue to work on details and the best way to implement that, I think is moving forward with oil-saving solutions across the economy is the right way to address the problems that oil causes.

Mr. ENGEL. Thank you. I might also add that in the various Appropriations bills, I have gotten amendments in those bills which would implement the President's executive order that in the Federal fleet of cars that they would all be flex-fuel cars.

Let me ask you again, Mr.——

Well, let me ask Mr. McAdams or Mr. Dinneen, would either of you comment on how the increased ability of consumers to choose their fuel as they would with the adoption of the OFS would affect the so-called blend wall? And can either of you address how more consumer demand of biofuels would help the industry grow more quickly?

Mr. MCADAMS. Well let me just make one comment, and I then will defer to Bob.

A number of my members—in fact, the majority of my members actually make a drop in hydrocarbon molecules which doesn't need an open fuel standard. It can compete directly with the hydrocarbon fuels today. So I will let Bob pick up the other piece.

Mr. DINNEEN. Thank you, Congressman.

We do support the open fuels standard, and we appreciate your leadership over the years on that issue.

I will tell you that greater E85 sales is absolutely a way around the blend wall. The blend wall this year, as I testified to earlier, is less than tow-tenths of 1 percent of the U.S. gasoline market. You can meet that with greater E85 sales. If the 3,000-plus E85 stations today were offering E85 and selling just 50,000 gallons a

month, we would meet that standard. And you can most certainly do that.

Certainly, as the price of gasoline has increased and ethanol prices have been coming down, consumer use of E85 is increasing specifically. And I can give you some specific data from the State of Minnesota that has shown since May there has been a spike in E85 use because the economics today are just compelling. And that is ultimately what is going to move this market.

Mr. ENGEL. Thank you. If you could get that to me, I would appreciate it.

Thank you, Mr. Chairman.

Mr. WHITFIELD. The gentleman's time has expired.

At this time, I recognize the gentleman from Kansas, Mr. Pompeo, for 5 minutes.

Mr. POMPEO. Thank you, Mr. Chairman. Thank you all for being here today. There has been a lot of discussion about the RFS protecting investments or being good for a particular industry, corn growers, bad for cattle guys. It seems to me those are the wrong discussions. It seems to me this is about consumers, providing them the independent energy at the source that they demand and that they want. It seems like that ought to be everybody's focus. A lot of nodding heads, but I haven't heard much talk about it today. So I want to try to get to that.

Mr. Gerard, a moment ago you said—but I will ask everyone to try to give me a yes or no. Yes or no, does the RFS today impact the cost of transportation energy for consumers in the marketplace today?

Mr. Gerard.

Mr. GERARD. It does. It clearly impacts it, but it is not in a downward fashion.

Mr. POMPEO. You think it goes up.

Mr. Dinneen.

Mr. DINNEEN. Yes, it impacts it.

And because ethanol is less expensive than gasoline, it is helping consumers today.

Mr. DREVNA. I respond in the affirmative to what Jack said.

Mr. MCADAMS. I think it is helping consumers because it is giving them a diversity of choice.

Mr. MARTIN. It is having a limited but positive benefit at the present time.

Mr. POMPEO. So you think it makes a gallon of gas cheaper?

Mr. MARTIN. It is hard to say. I don't have actually a specific analysis.

Mr. POMPEO. And Mr. McAdams, you think it makes it more expensive. But you think it is worth it because of the diversity?

Mr. MCADAMS. I think, over the long haul, the return on the investment is good.

Mr. POMPEO. My question is today. If you drive up to a pump, is it costing you money——

Mr. MCADAMS [continuing]. Compete with today's market. And my members are doing that.

Mr. POMPEO. Mr. Drevna, one of the responses to the RFS potentially is that refiners will export products to solve this challenge

that they perceive, at least, with respect to RINs. Is there evidence of that happening already today?

Mr. DREVNA. I am sorry. I didn't catch the last part of the question.

Mr. POMPEO. The question is about exports. The question is, is there evidence that refiners are exporting refined products today as a result of the RFS, that they would not have absent that?

Mr. DREVNA. Right today, I can't say definitively yes. But I can guarantee you, if this blend wall product isn't solved, refiners are going to—they have a couple of options to address the RIN in a blend wall. One is to cut runs, which will limit the supply of gasoline and diesel overall; and two is to export more, which would also limit their obligation. Another thing you have to take into consideration is the import of either gasoline or gasoline product to be blended here in the United States. There is evidence that shipments of gasoline and gasoline components have made a u-turn to go somewhere else because of the high cost of those free RINs.

Mr. POMPEO. Mr. McAdams, you talked about an F–18 you saw flying off the deck with this new and improved product. What did that cost compared to what it would have cost the taxpayer?

Mr. MCADAMS. I am not familiar with the exact price. I would be happy to try to find out for you.

Mr. POMPEO. If I am saying it is 10 or 15 times as much, would you dispute that?

Mr. MCADAMS. I just don't have the information.

Mr. POMPEO. Thank you.

If it was 10 or 15 times, would you still think it was a good idea?

Mr. MCADAMS. Over the long frame and depending on the number of gallons, it might be a great bet.

Mr. POMPEO. Mr. Dinneen, you talked about RINs being free. The gentleman who runs Valero said its RINs are going to cost $500 million. Why is he wrong?

Mr. DINNEEN. Because he is the third largest ethanol——

Mr. POMPEO. But why is he wrong? I understand what he does. Why is he factually wrong? It is about facts. We are trying to create policy from facts. Tell me why he is wrong about what he is going to have to report under Sarbanes-Oxley next year for the cost of his RINs.

Mr. DINNEEN. By regulation, ethanol producers have to give a RIN to the purchaser of the ethanol. So they are free. If they are out on the marketplace looking for RINs, looking for credits, it is because they have made a decision not to invest in E85 infrastructure, not to allow more ethanol to be used, and to go to the marketplace elsewhere.

Mr. POMPEO. I want to get to that. I appreciate that. You said, it is because they hadn't invested. Is there any lawful requirement for these companies to invest in this infrastructure? You posted on your blog—and I want to make sure I get the language exactly right, quote, "oil companies have blatantly ignored the law, refusing more than 5 years to make any meaningful investment in infrastructure that would allow the sale of E85 or blends above E10." What law is it that they were violating in not making those investments?

Mr. DINNEEN. Well, what they are ignoring——

Mr. POMPEO. No, no. What law? I am just trying to figure out what statute, what U.S. Code. I assume it was a Federal law. What law did they violate?

Mr. DINNEEN. The point is they are ignoring the RFS, which sent a very clear signal to everybody that we are going to be using more renewable fuels. The auto companies responded by producing more FFVs. Our ethanol responded by investing in new technologies. The oil companies responded by deciding not to allow consumers access to these other fuels.

Mr. POMPEO. So many more questions, but Mr. Drevna, go. I will see if the chairman will bear with me.

Mr. DREVNA. I have to respectfully disagree with Mr. Dinneen. We have no control over what the 95 percent of the independent gasoline operators do. It is up to them. It is up to them. If they want to make the investment to sell E85, which the consumers don't want, have at it. If Mr. Dinneen's members want to invest in E85 stations, my members would be more than willing to sell him the 15 percent gasoline.

Mr. DINNEEN. The franchise agreements is how they control what is sold. And in Kansas, in particular, we have seen what they do.

Mr. POMPEO. I know the story very well. Did any of those franchise agreements under penalty of death? Or did they enter those franchise agreements voluntarily, do you know?

Mr. DINNEEN. I am not privy to the franchise agreements, but I wouldn't say no to anything. All right? That is all I am saying.

Mr. WHITFIELD. The gentleman's time has expired.

At this time, I recognize the gentleman from Texas Mr. Hall for 5 minutes.

Mr. HALL. I knew when Barton turned it off on Shimkus it would come back. And your suggestion that they instruct or inform and help us reform, Mr. Shimkus, is probably one reason he whacked it off.

I am going to take a chance on that and ask some of the same questions that have been asked because just about everything has been covered.

Mr. Drevna, in your talking points, I guess American Fuel & Petrochemical Manufacturers' white paper is a good bit about the advanced biofuel shuffle. And I am told there is no difference between corn ethanol and sugarcane ethanol for fuel blending. The shuffle occurs only because of the RFS advanced biofuel requirement. So let me maybe go to Mr. McAdams if I might. And first, I want to thank the chairman for the hearing because I haven't attended a more important hearing, a more divisive hearing, or a hearing where men like you five could get together and really give us some good work if you could get together in the future. There ought to be some answer to this other than the Congress having to make an answer.

And how to proceed with RFS and issues with blend wall are very important to our energy future. I am not sure what our best path is right now where all of you come in. Hopefully, by the end of this hearing, we will have a better idea of how to move forward in the future.

So, Mr. McAdams, the blend wall, probably the most pressing concern to the renewable fuel standards and specifically an ethanol issue. But the RFS is designed to include advanced biofuels other than ethanol, including so-called, as some of you mentioned, the drop-in fuels that don't contribute to the blend walls and, in fact, may be the solution to it.

Mr. McAdams, are there currently any fuels being made that avoid the blend wall and take pressure off the use of ethanol? And are you concerned that unless the blend wall is addressed, it could sink the entire RFS, including the advanced biofuel provisions? Do you have that figure?

Mr. MCADAMS. Thank you Chairman Hall.

Let me first answer the question about the biofuels. Yes, there are a number of fuels that are drop-in biofuels that are currently being used in the D6 or the conventional pool. When you originally designed the RFS, I don't think most of the folks in the committee understood that other fuels could be compliant with the D6 pool, which was originally set up for the ethanol industry. With the advent of the rise in the RIN price for the D6 pool, we have seen a number of renewable diesel gasolines and some biodiesels actually come into the D6 pool. If you take Mr. Dinneen's testimony at his word that there is a 280 million gallon gap in terms of the number of gallons of gasoline to put the ethanol in, we may actually see 100 million gallons of renewable diesel this year used in the State of California because the State of California wanted the enhanced greenhouse gas reduction of those fuels back out the blend wall issue to some degree. Now I am not suggesting to the committee it is the panacea moving forward as the size of the cellulosic number grows.

But I do want everyone to be aware that there are a variety of flexible drop-in fuels that are now helping take the pressure off the blend wall. And yes, the blend wall issue has created a great firestorm, as you have witnessed today. And it is had a negative impact on my guys being able to build these innovative plants to find financing.

Mr. HALL. Mr. Gerard, would you like to comment?

Mr. GERARD. Yes, I would, Mr. Chairman. Thank you.

What Mr. McAdams says is probably true and important. Let me just add, though, and I think we talked about this before the issue. It is an incremental pressure. And what I mean by that, it still doesn't resolve the entire problem. Keep in mind the challenge we have with the blend wall today is only for this year. Next year, the volume goes up. The following year, the volume goes up yet again. And so this continues to escalate into the future. So while we are getting some incremental improvement in some biofuels and others, diesel, that is terrific. It is assisting, but none of it is sufficient to offset the pressure and the crisis we have in the blend wall. That is why we have got to come back and address the blend wall issue.

Mr. HALL. Thank you for that.

Mr. Drevna, I wish you would address the advanced biofuel shuffle, the import of sugarcane ethanol from Brazil and the exporting of corn ethanol from the U.S. to Brazil. What is happening and what ought to be done to fix this? And let me just say this because I think my time is probably almost gone. I know most of you there

that have invested and have built companies and are relying on a reasonable well-thought-out answer to this problem. You might feel like the button people felt when the zipper guy came along. But for your knowledge, the button companies are still going, and the zipper companies are all going together. So we need to work something that is satisfactory to all five of the folks you all represent there. That is a big job.

And I will yield back my time.

Mr. WHITFIELD. The gentleman yields back the balance of his time.

It is time to recognize the gentleman from Louisiana, Dr. Cassidy, for 5 minutes.

Mr. CASSIDY. Thank you. One of the advantages of going last is that you get to hear your colleagues and get a sense of where they are going. Some of you I know would like to totally repeal the RFS. But if Mr. Hall from Texas is saying that the buttons and the zippers are going to list, I am a little bit of a vote counter, and I don't think that there are, frankly, votes to repeal it. It is not—because I have been kind of sounding my colleagues as they walk out to get a sense of it.

Now, Mr. Gerard, you just suggested that—I am not committing you to searching for—I am a practical guy. So if we have got to come up with something that is going to keep the most deleterious effect of this from happening and if even Mr. Hall from Texas is going to say that we have to coexist, then I am going to kind of accept his lead and ask you guys, if there was something that we could do to at least ameliorate the negative effects. I gather we would start with the blend wall. Keep it from escalating. Can I just go down the line and ask each of you, if you can concede that there would be something that we could work on, what would that be?

Mr. GERARD. Clearly, the blend wall is the crisis right now. I would suggest, Mr. Cassidy, that the first thing we have got to do is to define what we are trying to accomplish. What I mean by that, I hear conversations about greenhouse gases. I hear import reliance. I hear a variety of other things involved. I think we need to define it because fundamentally today, the market is very different than it was in 2007.

Mr. CASSIDY. I accept that. As I listen to everybody and have read your testimony, it seems like the major concern that will keep all those guys voting against repeal would be greenhouse gases. Now I gather there is a confusion of experts on that. There just is. But also gather that for some folks, it is something which is going to be accepted as holy scripture, and they are not agnostic.

Mr. GERARD. Well, if you look at the panel today, there might be a distinction between Mr. Dinneen and Mr. McAdams because the National Academy of Sciences has concluded that the corn-based ethanol——

Mr. CASSIDY. I accept that. I am a practical guy. And they are going to believe it no matter what. And there are going to be some others who, for some other reason, decide they want to stay with the renewable fuels standard. I am not arguing either side. I am just telling what you I have observed. So when we start with the blend wall, perhaps prevent the escalating sort of demands of it, is there anything else that you would suggest, Mr. Gerard?

Mr. GERARD. Well, I think we need to do that first, and then again, I would suggest we go back and look at the foundation of the fundamentals. What are we trying to do?

Mr. CASSIDY. So walk down the aisle.

Mr. DINNEEN. Congressman, as I indicated before, I will acknowledge that there are issues that need to be addressed. But I do believe strongly that EPA has the authority to address some of those issues. I, for example, believe that the agency ought to be looking at transparency in the RIN market.

Mr. CASSIDY. Let me first say, our side doesn't trust EPA, OK? And I think if there is some legislative vehicle that could give assurance to both, that might be preferable. We can argue for the world view which we would like to have. I am just listening to my colleagues and getting a sense of what the world view is up here. So aside from relying upon the beneficence of the EPA, what else would you suggest?

Mr. DINNEEN. Well, the suggestion was that this blend wall is creating a crisis. I am a practical guy, too, Congressman. I just happen to believe that two-tenths of 1 percent of the U.S. gasoline market that is represented by the blend wall this year is not a crisis. And it can be addressed.

Mr. CASSIDY. But it escalates, as the other panel has said. So even though we may be able to mitigate it this year, in subsequent years, it will become more difficult. And as your neighbor just pointed out, there may be tanks of gasoline going elsewhere.

Mr. DINNEEN. The ethanol requirement increases by 600 million gallons——

Mr. CASSIDY. I feel like we are battling——

Let's work down the aisle.

Mr. DREVNA. Congressman, thank you. I think you have to look at what was anticipated, what were the directives, how they have played out, and a lot that hasn't been talked about today and we tried to bring it up, what is the ultimate impact on the consumer? What is the ultimate impact on the overall American economy, not this segment or this segment or this segment. Look at the thing holistically. Is, has it worked? Where has it failed?

Mr. CASSIDY. I accept that. I totally accept that. I think you have very compelling testimony. That said, I don't think that we are going to repeal the RFS. And so, keeping in mind that our primary thing should be the working family of the United States of America, is there anything incrementally that we could do that could improve that?

Mr. DREVNA. Well, incrementally, I don't think if a problem is unworkable at its core or at its nucleus, that tinkering on the outer electrons isn't going to get the job done. And that is why we are for repeal. And as Jack said earlier, you repeal it, we are still going to use 10 percent ethanol. Mike's gang is still going to get advanced biofuels. We are we will progress, not digress. I have maintained, Congressman, if we keep this law as it is, we are going to digress.

Mr. CASSIDY. Next?

Mr. MCADAMS. I would say immediately the committee should in a bipartisan way send a letter to the EPA because it is of no loss to you. And call on them to immediately release the 2013 RVO. And I think you will be surprised you will actually see a decrease

in the cellulosic number from the preproposed rule. And ask them whether or not they could do the 2014 and 2015 framework by November 31. I would do that irrespective of what your decision is with respect to legislation. I think you should do both.

Mr. CASSIDY. Dr. Martin?

Mr. MARTIN. I think moving forward with flexibility and also recognizing that the pace of expansion of biofuels over the next few years is going to be lower but putting a complete halt to it or trying to put it in reverse is going to have a very negative consequence. So moving forward at a deliberate but not excessive rate is the best solution.

Mr. CASSIDY. I yield back. Thank you.

Mr. WHITFIELD. The gentleman's time has expired. And there are no further questions for this panel. So I want to thank you all very much for——

I know it is frustrating for all of to you listen to the other side of the issue. But we look forward to working with you as we move forward to make some determination.

Mr. RUSH. Mr. Chairman, I have one question that has been kind of percolating in my head.

Can't we all just get along?

Mr. WHITFIELD. Why are you asking me that question?

Well, listen, thank you all. And we do look forward to working with you. We appreciate your testimony.

I would like to call up the second panel at this time: Mr. Tom Buis, who is CEO of Growth Energy; Mr. Joseph Petrowski, who is CEO of the Cumberland Group, on behalf of the Society of Independent Gasoline Marketers of America and the National Association of Convenient Stores. We have Mr. Shane Karr, vice president of Federal Government affairs, the Alliance of Automobile Manufacturers. We have Mr. Todd Teske, who is chairman and CEO of Briggs & Stratton. We have Mr. Robert Darbelnet, who is president and CEO of AAA. And we have Mr. Joe Jobe, who is the CEO of the National Biodiesel Board.

So if you would all have a seat. We thank you for being with us today. Thank you all for joining us today. And we do look forward to your testimony because many of you are quite affected by this renewable fuels standard. And I am sure you have some practical thoughts and ideas about it.

STATEMENTS OF TOM BUIS, CEO, GROWTH ENERGY; JOSEPH H. PETROWSKI, CEO, THE CUMBERLAND GULF GROUP, ON BEHALF OF SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA AND NATIONAL ASSOCIATION OF CONVENIENCE STORES; SHANE KARR, VICE PRESIDENT, FEDERAL GOVERNMENT AFFAIRS, THE ALLIANCE OF AUTOMOBILE MANUFACTURERS; TODD J. TESKE, CHAIRMAN AND CEO, BRIGGS & STRATTON CORPORATION; ROBERT DARBELNET, PRESIDENT AND CEO, AAA; AND JOE JOBE, CEO, NATIONAL BIODIESEL BOARD

Mr. WHITFIELD. So Mr. Buis, we will recognize you first.

Each one of you will be given 5 minutes. And on the table, there are a couple of boxes that will turn red when your 5 minutes is up.

So if you can stay within the time limit, we would appreciate it. We do have your testimony though.

So, Mr. Buis, you are recognized for an opening statement for 5 minutes.

STATEMENT OF TOM BUIS

Mr. BUIS. Thank you, Mr. Chairman. I appreciate the opportunity to testify, and I do appreciate——

Mr. WHITFIELD. Do you have your microphone on?

Mr. BUIS. There we go. Thank you, Mr. Chairman and members of the subcommittee. I appreciate this opportunity to testify today. And I would ask that my written testimony and the charts and data that we have submitted be submitted into the record.

Mr. WHITFIELD. So ordered.

Mr. BUIS. Thank you very much. I am Tom Buis. I am CEO of Growth Energy. We represent 79 ethanol plants and 81 associate members and about 40,000 grassroots supporters at Growth Energy. Our plant members utilize grain, corn, and sorghum to make biofuels. But they have also invested very heavily in what we call next generation production, both cellulose. We have a plant that is currently under construction in Iowa that will use farm waste, corn stover to produce cellulosic ethanol that should be online the first of next year.

We have another plant in Iowa that is actually capturing carbon from the corn ethanol plant and feeding it to algae bioreactors. That is about a 20-acre bioreactor process that can be seen there. And we have others that have invested in the use of woody biomass.

So the first generation of ethanol producers, which we primarily represent, are all invested in next generation, both to meet the greenhouse gas emissions targets and the targets of the RFS. The RFS, in our opinion, is an overwhelming success. You know, it has injected much needed competition and consumer choice into the fuel markets. We are only a little over 5 years since the passage of that law and only 3 years since the rules were finalized.

And already we are producing 10 percent of our Nation's gasoline supply. It has lowered the price at the pump. It has created American jobs. It has revitalized rural America, including farm income. It has improved the environment and made our Nation more energy independent.

Some want to see this policy fail, as we have heard today and elsewhere. But keep in mind not only are we producing 10 percent today in a very short period of time because of the RFS but we can do more in the future. With oil approaching $110 a barrel and gasoline nearing $4 a gallon, does anyone believe we don't need a less expensive competitive alternative to oil? That was one of the purposes of the RFS originally. We have that competitive product today.

And despite what some on the first panel have said, ethanol is the cheapest fuel in the world. We are 67 cents a gallon cheaper than clear gasoline. And even when they challenge or come back with the BTU unit, they are not counting the value of octane in the refining of that fuel. And our efficiency keeps improving. Energy

use and water use keep declining while yield and productivity is increasing from every pound of feedstock we use.

Despite this data, some are trying to blame biofuels for driving up gas prices. It is just another scare tactic to try to eliminate what I consider the best energy law passed by Congress in the last 40 years. RIN prices are not the cause of higher gas prices. There are 2.6 billion surplus RINs that can be used in the marketplace for this year.

We are going to produce about 13 billion gallons of ethanol and biofuels. Last year, the same situation with a short crop and a short production, RIN prices were 2 or 3 cents a gallon. And we still had high gasoline prices. So all this doesn't square. The real cause of higher gasoline prices and RIN prices is self-inflicted by the obligated parties who refuse to blend higher levels of ethanol. The real cause of higher gas prices is unrest in the Middle East, refinery outages, speculation, and increased demand.

Ethanol's competitive price is why Growth Energy led the way in asking the EPA to approve the use up to 15 percent ethanol fuel. That is how you break the blend law. That is how you solve all the controversy that we were hearing today. We could see it coming, Mr. Chairman. One of the reasons to go on to E15 is, even with the rosy scenario laid out in 2007 on fuel consumption, we were going to have to go to higher blends. That is why we filed it. That will allow the marketplace plenty of space for next generation biofuels.

The RFS and the E15, as I just mentioned, go hand in hand. E15 is the most tested fuel in the history of fuel changes. DOE performed a comprehensive test, using 86 different vehicles a total of 6 million miles. They found no harm to emissions equipment and no issues with engine durability, the two requirements for granting a waiver under the Energy Independence and Security Act.

By contrast, the CRC study that gets mentioned by our critics only tested eight vehicles, two of which had known engine issues. They did not test these engines on E10 and only tested three of the eight on ethanol-free gasoline and even one of those failed. It was a flawed test designed to make a political point to eliminate the cracking of the Berlin Wall. The E15 waiver is only approved for light duty vehicles built after 2001 and flex-fuel vehicles. It is not approved for off-road vehicles, small engines, motorcycles, or marine engines. In fact, it is illegal for those vehicles to use it, and it is stated so on the label that must be acquired on any station offering E15. The stations that have been offering E15, the results are pretty amazing. One of the myths that is perpetuated by the oil industry is that consumers don't want higher blends. Well, how do they know if they have never been offered them? Where they have been offered them, we are seeing volumes go up significantly. In one case from a retailer that testified at a congressional briefing last week, his volumes quadrupled in a year. They have not had access to that marketplace. So let's let the consumer have a choice.

I would also add that over the past 2 and a half seasons, NASCAR, which has quite a bit of its reputation staked on the durability and performance of its race cars has put 4 million miles on those cars without a problem. They got increased horsepower and increased performance.

Mr. WHITFIELD. Mr. Buis, I have let you go over about 2 minutes. If you could summarize, please.

Mr. BUIS. All right. I would like to summarize, Mr. Chairman, by saying that to repeal the RFS to me is unnecessary. To reform it is also unnecessary. We feel that there is enough flexibility within the law that all of these issues can be addressed. And if we want to get beyond the problem, let's crack that blend wall.

Mr. WHITFIELD. Thank you.

[The prepared statement of Mr. Buis follows:]

growth energy
America's Ethanol Supporters

777 North Capitol Street, NE, Suite 805, Washington, D.C. 20002
PHONE 202.545.4000 FAX 202.545.4001 GrowthEnergy.org

Testimony of Tom Buis

CEO, Growth Energy

Before the House Committee on Energy and Commerce
Subcommittee on Energy and Power

July 23, 2013

Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee on Energy and Power, thank you for the opportunity to present testimony on the Renewable Fuel Standard (RFS).

My name is Tom Buis, and I am the CEO of Growth Energy, the country's leading trade association of ethanol and renewable fuel producers. We represent 79 ethanol plants in 14 different states and 81 associate members involved in the value chain of producing ethanol. In addition, we have over 40,000 supporters in our grassroots group called Growth Force. Our plants produce ethanol from grain and are leaders in innovating second-generation fuels from sources like plant wastes, algae, and woody biomass.

We see the RFS as an overwhelming success that has created American jobs, revitalized rural America, injected much-needed competition into a monopolized vehicle fuels market, lowered the price at the pump, improved the environment, and made our nation more energy independent. That is a great record of accomplishment – one that I would call a resounding success and a modern American success story.

In particular, the RFS:

- Cracks the monopoly stranglehold petroleum-based fuels have on our transportation system, injecting much needed competition and providing drivers a choice at the pump.
- Provides a template to get safe and effective ethanol fuel blends like E-15 into the marketplace. When approving this fuel, the Department of Energy tested 86 different vehicles and drove them a total of 6 million miles, while the oil industry-funded study by the Coordinating Research Council (CRC) tested only 8 vehicles, including 2 that had known engine durability problems.
- Lowered the price at the pump by 83 cents a gallon in 2011 according to a recent LSU study.
- Supports 400,000 American jobs and $42 billion in annual economic activity.

These are real, tangible results that benefit every American today. But if some of the panelists had their way, we would throw all of this progress away so the oil industry can shut out competition and maintain its grip on the wallets of American drivers.

We see a different path forward for the United States. The Renewable Fuel Standard and higher-level blends of ethanol present the first real opportunity to create fuel diversity in the United States. It has been over 100 years since Americans had a choice in what they use in their automobiles. Now, the oil lobby has begun a sustained, multipronged campaign to kill our industry just as it ramps up and decreases oil's market share.

But the premise that America's newfound oil and gas resources mean we no longer need renewable fuels is simply not true. If the past is any indication of the future, more oil drilling has not done anything to reduce gas prices. Despite having record levels of domestic oil production, gas prices are still high and only going higher. This is because we don't control the cost of oil. The price of oil is still set in the global marketplace, and OPEC countries and Middle East politics still control the cost movements of oil. No matter how much we drill, we will still be subject to global events if we maintain the oil monopoly in this country.

With the success of the RFS, the United States is on the brink of energy independence and energy diversity. On behalf of Growth Energy, the biofuel industry, and America's farming communities, I urge you stay true to the Renewable Fuel Standard that is working and already showing results while still in its infancy.

The RFS has created competition in the vehicle fuels market. It has reduced fuel costs for American families, has freed the taxpayer from having to hold up the agricultural economy, and spurred significant investments in rural America. My testimony today covers eight key topics:

- How E15 is safe and ready for use
- The so-called "blend wall"
- The success of the Renewable Fuel Standard (RFS)
- How the RFS has revitalized rural economies
- How the RFS has helped livestock producers
- Biofuel production's limited impact on food prices
- The environmental improvements from the use of biofuels
- The national security benefits of the RFS

E15 is Safe and Ready for Use

When the RFS was first created, it was apparent that our nation's energy infrastructure and economy needed a wider market for renewable fuels. Even under fuel-use assumptions made in 2007 when the RFS was expanded, lawmakers knew higher-level ethanol blends like E15 would be required in order to meet the volumes originally set when the RFS was enacted. Unfortunately, the oil industry has decided to erect every legal, legislative, public relations, and regulatory hurdle possible to avoid moving to any fuel containing more than 10 percent ethanol. Instead of working to accommodate fuel choice for consumers, the oil industry has chosen to shut out competing fuels from their vertically integrated monopoly.

Because the oil industry continues to stifle fuel choice at the pump, consumers don't have access to E15. In the few dozen fueling stations where retailers have decided to offer E15 despite pressure by the oil industry, we have seen robust sales. This is because E15 is less expensive, safe for use, and high-performance.

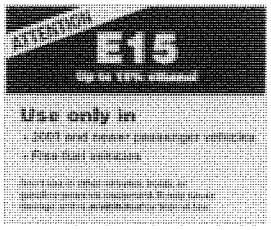


Figure 1

Over four and a half years ago, Growth Energy led the way by filing a waiver with the U.S. EPA to allow the sale of ethanol blends up to E15 beyond the current 10 percent ethanol in today's current fuel supply. By moving the nation to E15, we would reduce the price at the pump, add 136,000 new American jobs, reduce greenhouse gas emissions, and could reduce the demand of gasoline from foreign oil by 7 billion gallons. In addition, E15 would reduce the use of aromatics in gasoline, which are petroleum-derived fuel components known to harm human health.

When Growth Energy filed the original waiver for E15 with the U.S. EPA, we sought approval for all gasoline-powered engines and provided ample data to demonstrate this fuel's safety and efficacy. The Environmental Protection Agency (EPA) chose to narrow their specific testing by putting E15 on a path for approval for only 2001 and newer vehicles because they concluded that finding vehicles with low enough mileage to run a lifetime of miles for testing was extremely difficult. And, in fact, more testing was done on E15 than any other fuel ever approved by EPA under the

Clean Air Act, with the Department of Energy (DOE) testing 86 vehicles for a total of 6 million miles. DOE's testing found absolutely no issues with emissions equipment or with engine durability. With DOE's data in hand, the EPA ultimately approved our waiver in January, 2011 for all 2001 and newer passenger vehicles – over 80 percent of the vehicles on the road today. In fact, Ford, General Motors, and Volkswagen have already started labeling their vehicles as approved for E15 – General Motors for model years 2012 and 2013, Ford for model year 2013, and Volkswagen starting with model year 2014. Further, NASCAR has been running on E15 for 3 years for a total of 4 million miles in some of the world's toughest driving conditions and they have seen an increase in horsepower and no mileage loss suggesting that E15 is more than safe for use in everyday automobiles.

The only studies questioning the safety of E15 were conducted with no scientific basis whatsoever and used dubious technical assumptions. Like recent advertisements levied by the oil industry, little regard seems to be given to a factual underlying basis. For example, an oil industry funded-study of E15 by the Coordinating Research Council (CRC) is significantly flawed and DOE itself publicly released a direct critical response entitled "Getting It Right: Accurate Testing and Assessments Critical to Deploying the Next Generation of Auto Fuels" (http://energy.gov/articles/getting-it-right-accurate-testing-and-assessments-critical-deploying-next-generation-auto).

First, the CRC was extremely limited – only testing eight vehicles while the DOE tested 86. Second, CRC failed to test the engines on E10, the standard consumer gasoline found throughout the United States. Third, CRC only tested 3 of the 8 vehicles on ethanol-free gasoline and even one of those failed. Fourth, and perhaps most disturbing, CRC chose two engines that had existing durability issues – one of which had even been recalled. Finally, the test used was specifically designed to overly stress the engine valve train, so as to be unrealistic with real-world conditions. To sum up their findings, DOE said, "We believe the [CRC] study is significantly flawed."

It has also been argued by the oil lobby that gas mileage takes a major hit if E15 is used. This is not true. Any mileage loss is negligible, and any reduction is substantially offset by price reduction of fuel. Further, it is worth noting that refiners often make sub-octane gasoline, which is cheaper, poorer quality gasoline, because they can utilize the high octane and high performance benefits of ethanol to meet minimum octane standards.

It should be made clear to all on this Committee that E15 is a voluntary choice both for retailers and for consumers. Furthermore, fuel retailers who follow the misfueling mitigation rules should not face any significant incremental risk for offering E15. In addition, the decision to offer E15 is voluntary and based on a retailer's assessment of return on invested capital, customer mix, and retail station configuration.

We expect retailers to begin to adopt E15 because it is good business. At the close of business on Friday, ethanol was trading 65 cents lower than gasoline, and the upcoming corn harvest could push the spread to over a dollar. Because of this steep discount, increasing the ethanol blend in gasoline will save consumers even more and will give retailers offering E15 or higher level ethanol blends an edge in marketing to consumers, who largely base their fuel choice on price and performance. At a time of record gas prices, it only makes sense for refiners to comply with the law and allow sale of E15 and higher ethanol blends in the fuel marketplace as renewable fuels ensure competition in the marketplace.

For small and marine engines, and any other gasoline engine other than 2001 and newer passenger cars and light duty vehicles, the law explicitly prohibits E15. Further, the EPA has issued a specific rule to mitigate consumer misfueling, including a label specific to E15. In fact, ethanol is the only fuel that requires a warning label at the pump. Additionally, ethanol is the only ingredient labeled in gasoline even though gasoline is a chemical cocktail which contains approximately 200 different components.

Therefore, because E15 is a highly-tested, legal, cheaper, and better quality fuel than gasoline, the United States will benefit from its continued rollout across the nation.

The So-Called "Blend Wall"

Recently, the oil industry has falsely blamed the Renewable Fuel Standard as the cause of higher gasoline prices. These stories revolve around a false premise – that prices for a RFS compliance mechanism demanded by the oil industry when the RFS was first passed into law – Renewable Identification Numbers (RINs) – are responsible for the increase in domestic gasoline prices. In reality, these charges are clearly an attack organized by the oil industry to keep their stranglehold on America's fuel supply, eliminate consumer choice at the pump, and eliminate the competition from domestically produced renewable fuels.

It is a charge that is also objectively false. RIN prices are not the cause of higher gas prices. RINs for ethanol are provided free of charge to oil companies when they blend ethanol. Any added value comes from trading RINs in an opaque marketplace between oil companies. Ethanol has consistently been trading and will likely continue trading significantly cheaper than gasoline. At the close of business on Friday, wholesale ethanol was 65 cents less expensive than wholesale gasoline.

Yet, RIN prices are increasing because of refiners' unwillingness to blend ethanol and instead are willing to pay a premium specifically **not** to blend additional ethanol, even though it is cheaper in price. This is a business decision made by refiners, **not** by ethanol producers. Put simply, the blend wall is a self-inflicted wound because the oil industry is afraid of competition. Meanwhile, oil companies are currently making record margins. EPA clearly stated there is not a shortage of RINs for 2013. In fact there are over 2.6 billion carry-over RINs from 2012.

The simple solution to this oil industry created problem is to require the higher level ethanol blends such as E15. As soon as the oil companies adopt the higher blends, plenty of RINs will become available. The oil industry has erected hurdle after hurdle to defeat E15 and mid-level ethanol blends and continue to fight to try to eliminate the RFS. By refusing to sell higher ethanol blends, the oil companies only maintain the status quo: high gas prices for the consume, and record profits for the five largest oil companies.

The RFS continues to call for increasing amounts of biofuel to be blended into the country's fuel supply. However, there are market limitations put in place by the oil industry effectively "capping" the amount of renewable fuel that can be blended. This creates overproduction in a saturated fuel market.

Many have termed this the "blend wall," and breaking the blend wall is vital to the success of the RFS. Ethanol is consistently trading at a significant discount to wholesale gasoline while yet again oil has climbed over $100 a barrel and gasoline is climbing toward $4 a gallon. It makes little sense to prevent

E15 and even higher ethanol blends into entering the market, unless the objective is to benefit the oil industry. With the goal of the RFS to reach 36 billion gallons of renewable fuel by 2022, it was clear at the outset of the authorizing legislation in 2007 (EISA 2007) that higher blends of ethanol would be required regardless of the level of fuel consumption.

In fact, the Volumetric Ethanol Excise Tax Credit (VEETC) was designed to provide a financial incentive to provide ethanol blenders – not ethanol producers – to blend ethanol and make sure the blend wall didn't occur. The primary recipients of this incentive were integrated oil companies. VEETC paid out tens of billions of dollars to help these integrated oil companies upgrade their distribution network to meet the future need for higher inclusion rates of ethanol. Obviously they did not spend the proceeds on infrastructure upgrades to allow for higher blends at retail stations.

Success of Renewable Fuel Standard (RFS)

The RFS is the bedrock federal policy that has spurred billions of dollars of investment in America's cutting-edge biofuels industry. It has been the primary driver behind the only large-scale, commercially-viable alternative to regular gasoline – ethanol. Because of the forward-looking, long-term nature of the policy, the United States leads the world in innovation in biofuels, attracting investment from around the world. Today, because of the RFS, there are more than 200 ethanol biorefineries across the country and dozens of projects that will make advanced or cellulosic biofuels.

The RFS has provided U.S. drivers with a vehicle fuel that is made up of 10 percent biofuel, and that fuel blend is available in all 50 states. If the U.S. ethanol industry were a foreign suppler, only Canada would supply the U.S. with more fuel than the U.S. ethanol industry. This newfound biofuel supply is a key component to reducing our dependence on foreign oil by 25 percent since 2005.

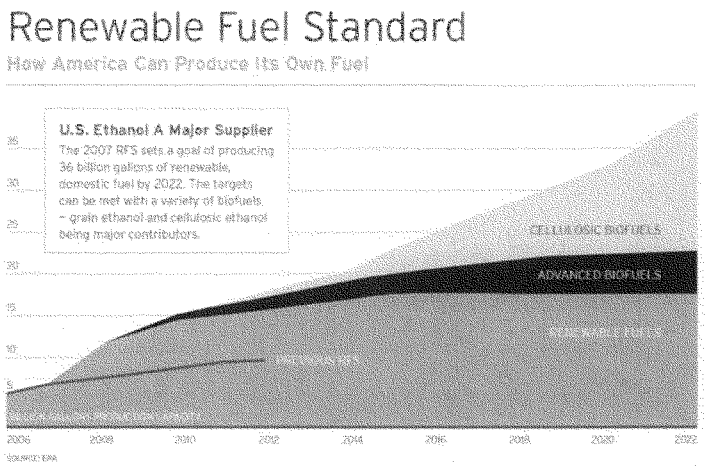


Figure 2

Advanced and cellulosic biofuels research, investment, and development are occurring right now. Growth Energy has several members who are producing these fuels because of the market signal provided by the RFS. These include:

- A cellulosic ethanol plant that is poised to produce the first commercially available cellulosic biofuel from corn stover in early 2014.
- A first of its kind algae bioreactor utilizing carbon dioxide and waste water that has operated for over two years.
- A project to utilize pine beetle killed wood as a fuel feedstock.
- A project to convert the fiber in corn kernels into cellulosic ethanol.
- A process to use grain sorghum and biogas to produce an advanced biofuel.

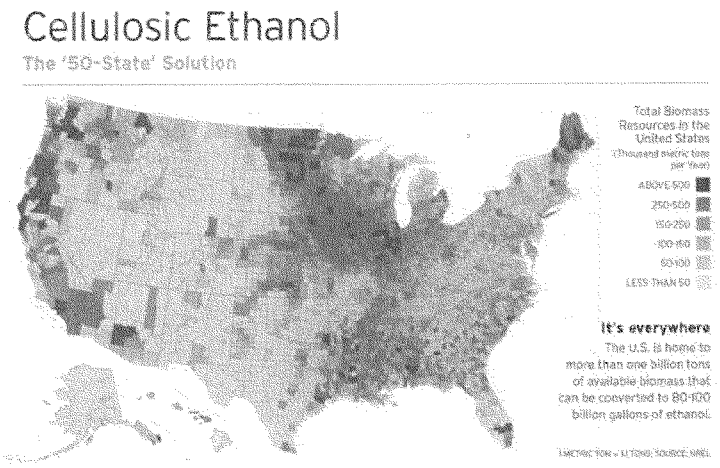


Figure 3

These exciting projects are just among our membership, and many more are taking place around our nation. Advanced and cellulose fuels that are now under development would provide benefits and economic opportunity to every state in the country. Any change to the RFS would kill investment in any advanced or cellulosic fuel project. Changing the RFS would put at risk an entire American-made, American-built industry at a time we can least afford to lose jobs. Also, amending the RFS would put at risk future research and development of advanced and cellulosic biofuels, which occupy the largest portion of the RFS. We are just 5 years into a 15-year plan, and we are just three years removed from when the Environmental Protection Agency finalized RFS regulations. Yet there are those in the oil industry who would look at the minor challenges we have faced in the short-term and embellish them in hopes of killing a rising competitor. Any changes to this policy will have devastating effects, and big oil seeks to exploit this fact to the benefit of its monopoly.

How the RFS Has Revitalized Rural Economies

The RFS has a tremendous positive impact on rural communities and the agriculture sector. Net farm income grew by 51 percent from 2005 to 2011 due in part by the RFS. The RFS also supports 400,000 jobs and over $40 billion in economic activity.

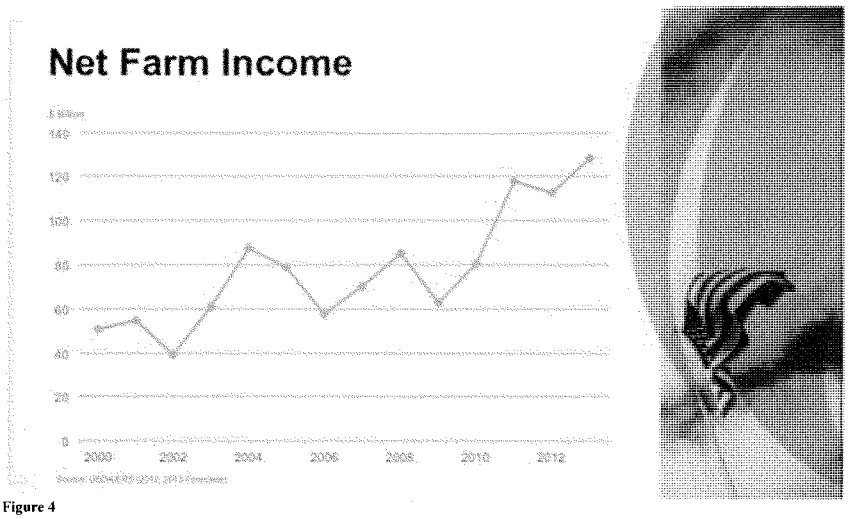


Figure 4

In addition, renewable fuels helped create a balance in supply and demand for crop commodities that alleviated the need for most forms of government payments and created a market-based, rather than a government-based, agricultural economy. This in turn drives farmers to utilize technology and soil resources to produce crops. According to USDA, since 2004, planted acres of corn increased from 80.93 million acres to 97.28 million acres for 2013. Harvested corn acres increased from 73.63 million acres in 2004 to 87.38 million acres in 2012. Similarly, production drives technology and efficiency – since 2000, corn yields went from 137 bushels per acre up to 153 bushels per acre in 2010. Likewise, taking an example from the poultry industry, USDA shows that turkey production was $2.89 billion in 2004 increasing to $4.99 billion in 2013. These figures prove the RFS has, and will, continue to drive growth across American agriculture.

Like any commodity, the market responds to natural forces such as supply and demand. The market for corn is no different. While the RFS created additional demand for corn, more importantly, it drives additional corn production that otherwise would not occur. For decades, farmers were paid far less than the price of production for their corn, and the American taxpayer heavily subsidized the price. Last year, ethanol critics alleged the RFS caused prices to rise more than $8 per bushel, when, in fact, the price increase was a direct result of one of the worst droughts in our nation's history. In fact, those purchasing corn could have locked in prices for under $5 per bushel as late as June 2012. On Friday, the price of corn was $5 per bushel and actually was trading under $5 for part of the day. The RFS has the flexibility built in that allows states to waive the RFS in cases of severe economic harm. Twice, states petitioned the EPA to waive the RFS and both times the petitioners failed to make the case.

A final point that should not be overlooked concerns the taxpayer savings from reduced farm program payments that occurred as the RFS was implemented. According to data from the Congressional Budget

Office, the average federal farm program payments to corn producers averaged over $4.4 billion per year for the 2002 – 2006 crop years. Corn payments averaged about $1.9 billion per year from 2007 to 2011, a reduction in taxpayer costs of almost 57 percent.

How the RFS has Helped Livestock Producers

Biofuel production only removes the starch from the corn. The protein, fiber, and oil are returned to the animal feed supply in the biofuel feed co-product known as distiller's grains. Distiller's grains amount to one third of the corn used in ethanol production. According to USDA, 80 percent of the calories from the decline of corn-based livestock feed are returned to the livestock industry in this form. Distiller's grains also replace soybean meal in feed rations, meaning there is less demand for soybeans, requiring fewer acres planted to soybeans.

Distiller's grains feed cattle, hogs, poultry, and other animals around the world. American farms can create food and fuel. In fact, the ethanol industry produced 38.8 million tons of distiller's grains just last year, the weight equivalent of almost 400 aircraft carriers.

American corn growers demonstrated they have more than enough capacity to satisfy all demand for livestock feed, exports, and ethanol. Because of new technology that allows farmers to grow more crops on fewer acres of land, corn farmers are poised to increase plantings even more to take advantage of the growing market for renewable fuels. On July 11, 2013 USDA pegged this year's corn crop at 14 billion bushels.

One of the biggest myths perpetuated by those who dislike the RFS is that 40 percent of the corn crop goes to biofuels. This is not only wildly false, it is completely misleading.

As the following chart shows, only 17.5 percent of net corn acres are used for renewable fuels. Only the starch is used for ethanol. Distiller's grains displace corn and soybean meal. Corn yields are three times that of soybean yields.

Forty percent of the corn crop goes to ethanol

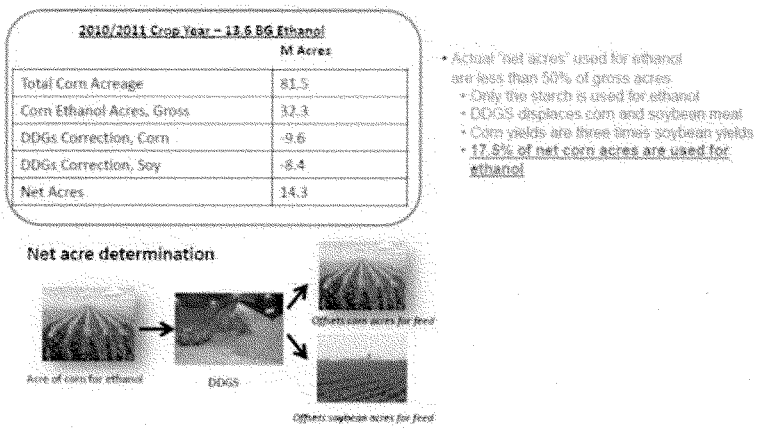


Figure 5

In the fall of 2012, Growth Energy put together significant comments to the EPA in response to requests to waive the RFS from various state governors. In those comments, we demonstrated that waiving the RFS would jeopardize farmers, rural jobs and economies and would increase consumers' prices at the pump. Specifically, we estimated that waiving the RFS could result in up to $7.8 billion in lost revenue and 8,300 jobs lost in ethanol producing areas. Additionally, waiving the RFS would result in a cost of $7.5 billion a year to consumers in higher fuel costs and between a $5.8 and $27 billion loss to American farmers. Finally, companies already spent billions of dollars building facilities, harvesting cellulosic materials and planning on the certainty of a fifteen-year RFS program as they move to the next generation of biofuels.

In fact, under the most recent corn usage data from USDA, it is estimated that the corn demand lost from 2011 to 2012 due to the drought was far greater for ethanol than for livestock feed. The demand lost from the ethanol industry was over 350 million bushels from 2011 to 2012, while the demand lost from animal feed was less than 100 million bushels. And with a 14 billion bushel crop projected this year (a 31 percent increase compared to last year's 10.7 billion bushel crop), corn demand for animal feed is projected to increase by 16 percent to 5.2 billion bushels, while corn demand for ethanol production is projected to increase by 5 percent to 4.9 billion bushels.

Despite overwhelming data, some leaders in the livestock and poultry industry blamed ethanol for rising feed costs and declining profit opportunities throughout the livestock production sector. The difference

between the total value of U.S. livestock and poultry production and the cost of feed is increasing, not declining. In fact, for the 7 years prior to the enactment of the RFS, the margin averaged $83.4 billion per year. In the 7 years since RFS became law, the margin increased by nearly 18 percent to an average of $98.2 billion per year.

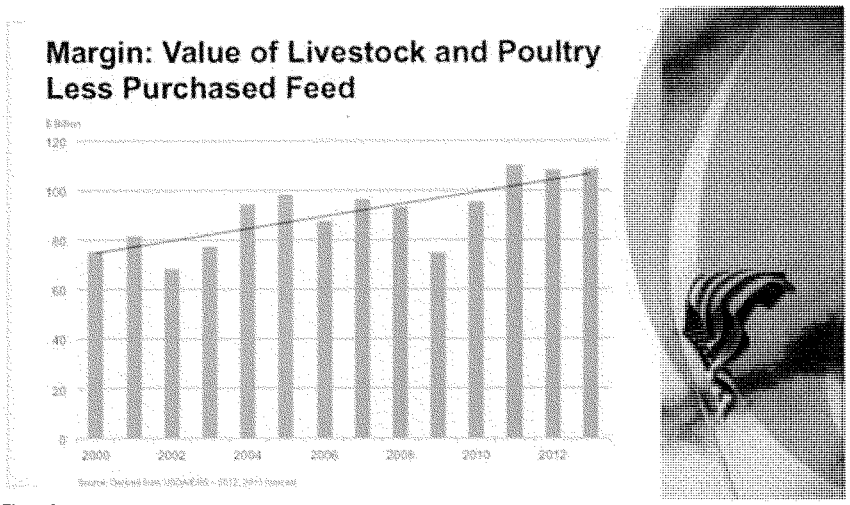


Figure 6

This chart shows what happened to the production of the four major livestock categories – beef, pork, broilers, and turkey over the 2003-14 period. To its credit, the livestock industry became far more efficient in managing their animal feeding operations and contrary to the claims of some, livestock production has actually increased by about 5 billion pounds over the period charted.

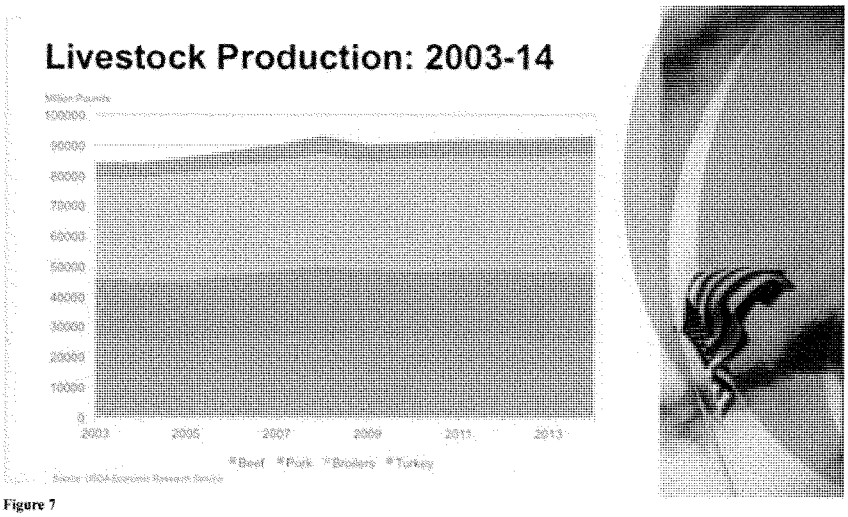


Figure 7

When prices are viewed in conjunction with production, one must question the veracity of the statements by those who suggest the RFS is causing the demise of the U.S. livestock industry. Not only has livestock production increased since the enactment of the RFS, but prices for beef, pork, broilers, and turkey also rose compared to the years prior to the RFS.

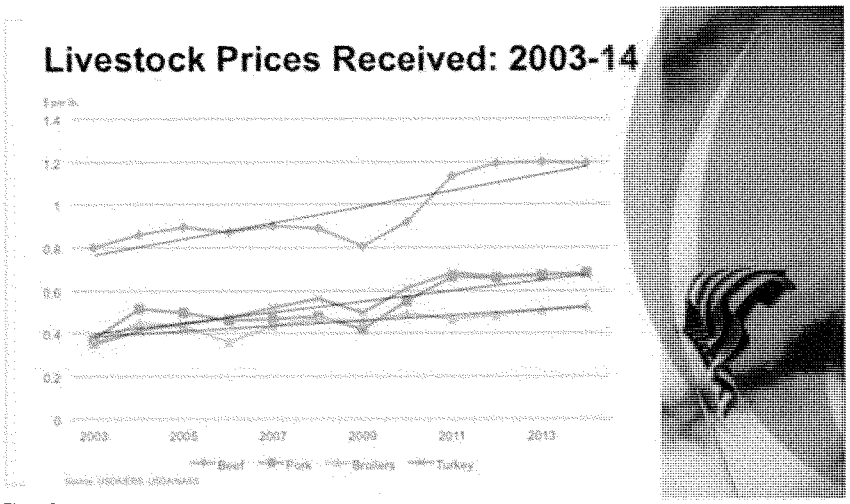


Figure 8

To summarize these charts: livestock production is up, livestock priees are up, and the margin between livestock values and the cost of feed grew appreciably all since the RFS was enacted. This hardly paints a picture of an economically distressed U.S. livestock seetor.

Biofuel Production's Limited Impact on Food Price

There are many factors that impacted food prices, including crop production shortfalls and increased demand overseas. On June 26, 2013, Dr. Joseph Glauber, Chief Economist at the United States Department of Agriculture testified before the Subcommittee on Energy and Power of the House Committee on Energy and Commerce that the total impact of changes in the corn market on retail food prices was small. This is consistent with prior analysis done by USDA, the World Bank, and many other independent groups.

Countless academic, economic, and government studies disprove the misplaced notion that biofuels production increased the cost of food. These studies instead found that record-high oil prices, Wall Street speculators and the high costs of manufacturing, packaging, and transportation have far more impact than ethanol on everyday grocery prices. There is no substantial link between ethanol production and grocery prices. Despite the proven facts, misinformed critics still actively try to stoke illegitimate fears that demand for ethanol will somehow drive up food prices.

Corn is only a fraction of overall food and grain costs. For every $1 spent at a grocery store, 85.9 cents go to marketing, which includes labor, transportation, energy, and packaging costs. Just 14.1 cents are associated with farm costs, and of that, only 3 cents are associated with the value of corn. The USDA forecasts that the price of food will increase by 3.5 percent in 2013, slightly above historical inflation

averages of approximately 3 percent per year. Food prices rise when oil prices rise. The price of food is driven up by transportation and packaging – not by renewable fuels like ethanol. Food processing is energy intensive, and packaging frequently uses petroleum-based raw materials. Transporting food worldwide also requires large amounts of fuel and, subsequently, large amounts of oil.

Figure 9

Contrary to the unsubstantiated opinions of those who would repeal the RFS, the chart below graphs the Consumer Price Index from 2005 to May, 2013 for all items, food, and gasoline. This clearly demonstrates that gasoline prices play a far bigger role in rising consumer prices than food costs.

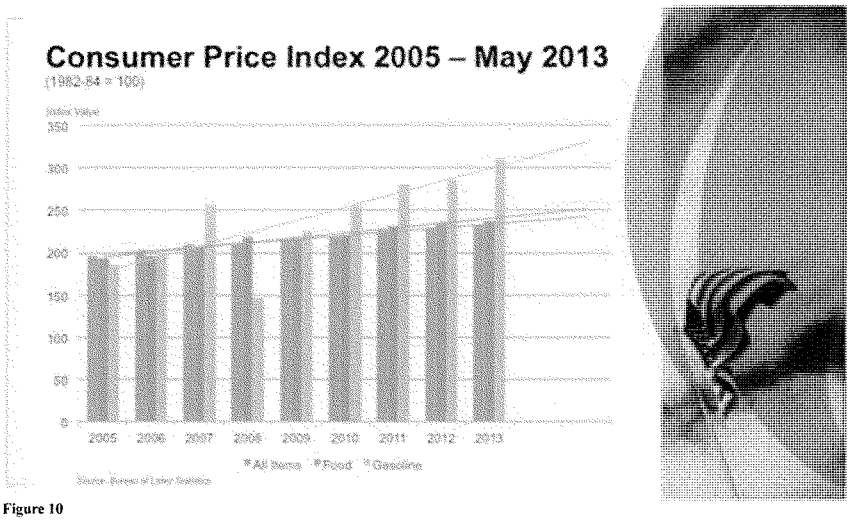


Figure 10

Since 2005, the CPI for food increased about 18.3 percent, roughly in line with the CPI for all items including food and gasoline which rose by about 16 percent. The index for gasoline increased by nearly 40 percent, and in recent years, the trend has followed a very steep upward path. Interestingly, this is occurring as we increased the amount of ethanol blended into our gasoline supply. Every credible analysis concluded that consumer gas prices would be even higher if it were not for ethanol holding prices down.

The following three charts that graph the prices spreads between retail, wholesale, and farm values help provide the answer. Farm values for choice beef, pork, and broilers – the primary livestock products demanded by consumers – rose slightly over the last decade. For the most part, wholesale values paralleled the upward movement of farm values. However, the retail to wholesale/farm price spread increased at a much faster rate.

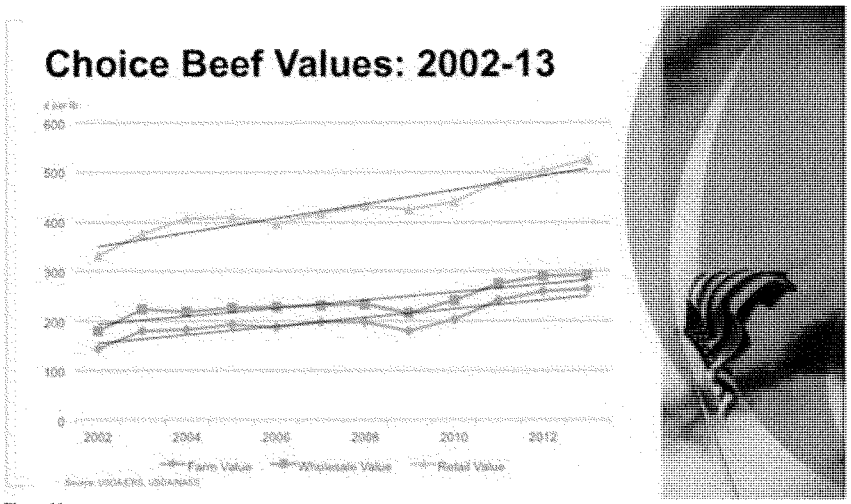


Figure 11

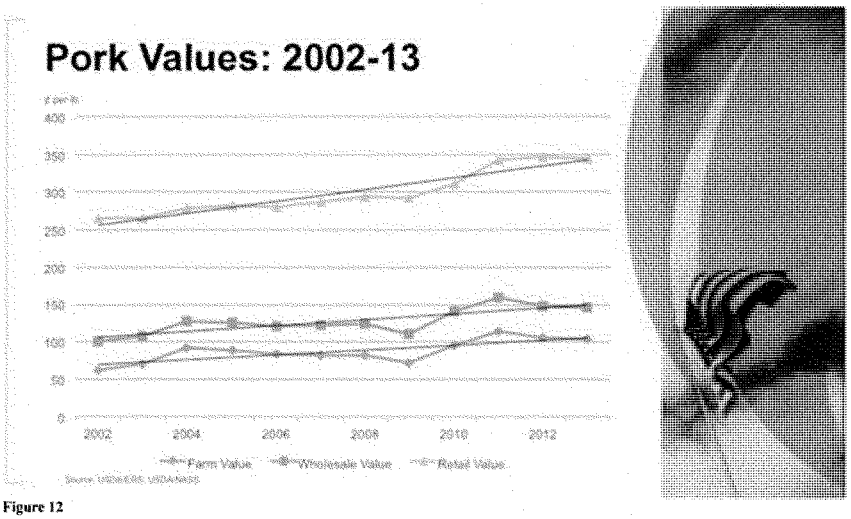


Figure 12

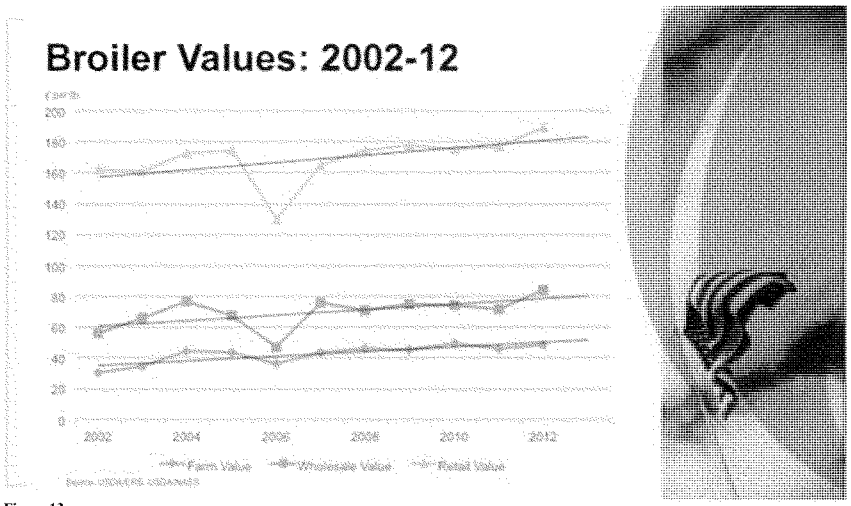


Figure 13

The primary cause of increased consumer prices rests not with livestock producers or those who process their products, but with the same food companies who complain about the RFS. According to the World Bank, over 50 percent of the global increase in food prices is due to energy costs, and for the U.S. the increase in the retail price spreads suggest that either energy costs and other non-farm cost factors are passed on to consumers or retained by the food companies as increased profit margins.

The takeaway conclusion from the independently generated World Bank report: certain actors are taking advantage of rising food prices which are, in turn, caused by oil price increases.

Environmental Benefits of Biofuels

The RFS is one of the most successful energy policies of the last forty years. It is reducing greenhouse gas emissions, reducing our dangerous dependence on foreign oil, and creating American jobs. The EPA estimates that by 2022, the RFS will reduce greenhouse gas emissions by 138 million metric tons or the equivalent of taking 27 million passenger vehicles off the road. In particular, studies show that traditional corn ethanol reduces greenhouse gas emissions as much as 59 percent compared to gasoline (*Improvements in Lifecycle Energy Efficiency and Greenhouse Gas Emissions of Corn-Ethanol*, Liska et al., which can be found here: http://onlinelibrary.wiley.com/doi/10.1111/j.1530-9290.2008.00105.x/abstract).

As we move to the next generation of biofuels, greenhouse gas emissions will be even further reduced. Recent studies show that using switchgrass and corn stover to produce cellulosic ethanol will reduce greenhouse gases as much as 94 percent and over 100 percent respectively (*Energy and Greenhouse Gas Emission Effects of Corn and Cellulosic Ethanol with Technology Improvements and Land Use Changes*,

Wang et al., which can be found at
http://www.sciencedirect.com/science/article/pii/S0961953411000298).

The long-term certainty of the RFS drove significant investment in the next generation of biofuels and new technologies both in ethanol production and in agriculture. By increasing yields, increasing efficiency, and deploying new technologies, ethanol and agriculture production continues to soften its footprint on the environment – particularly as fossil fuels like crude oil and natural gas become harder and harder to extract. Just in the past four years, we saw significant results – we get more ethanol from each bushel of corn: 2.82 gallons/bushel in 2012 vs. 2.78 gallons/bushel in 2008, using less water: 2.70 gallons of water per gallon of ethanol in 2012 vs. 2.72 gallons of water per gallon of ethanol in 2008, and are using less energy to produce a gallon of ethanol: 23,862 BTU/gallon in 2012 vs. 26,208 BTU/gallon in 2008 (Mueller and Kwik, *2012 Corn Ethanol: Emerging Plant Energy and Emerging Technologies*, http://www.erc.uic.edu/PDF/mueller/2012_corn_ethanol_draft4_10_2013.pdf).

Additionally, some of these newer technologies will be "bolted-on" to existing biofuel production facilities to take advantage of current power and resource streams – maximizing efficiency and driving greenhouse gas emissions even further down. Only by keeping this policy in place will we continue to see this type of drive towards more efficient systems to benefit our environment.

National Security Benefits of the RFS

The U.S. continues to be extremely vulnerable to shocks in the oil supply and price disruptions –from both foreign supply and the domestic supply chains. During the last decade, the price of oil nearly quadrupled, going from roughly $25 per barrel in 2001 to over $100 per barrel today. That price disruption had a significant impact on American consumers and the American economy, with the price of gasoline rising from $1.09 per gallon in 2001 to $3.67 per gallon today. Despite significant increases in domestic oil production, we still import millions of barrels per day of foreign oil sending more than $400 billion overseas last year alone. These imports are from a number of countries in unstable regions, like the Middle East, that have little interest in the United States' energy security (data from the U.S. Energy Information Administration http://eia.gov).

We also spend billions of dollars each year to protect oil supply routes in the Middle East – these costs could be dramatically reduced if we turned to more home-grown renewable ethanol. As an example, according to RAND, the U.S. spends between $67 billion and $83 billion per year protecting global oil interests ("Imported Oil and U.S. National Security", RAND Corporation, 2009). Critics of renewable fuels point to Canada as our largest source of our imported oil, but even Canada has recently developed assets, such as the Enbridge Northern Gateway Pipeline, aimed at exporting oil to China rather than exporting to the United States (http://www.northerngateway.ca/). Even ExxonMobil acknowledges processing nearly three times as much oil as is produced here in the United States ("What am I paying for in the price of a gallon of gasoline?", Ken Cohen, January 27, 2012 http://exxonmobilperspectives.com).

All of this additional oil is purchased on the global market that is still largely controlled by OPEC. So any time there is a supply disruption or OPEC arbitrarily decides to cut production, it hurts American consumers. We have seen Iran choke off the Strait of Hormuz, workers strike in Venezuela, pipelines burst, massive oil spills off our shores, oil-laden rail cars destroy small towns, and the list goes on – all of these situations both impacted the supply of oil and the cost American consumers pay at the pump. Even

in the past few weeks here in the United States, we watched refineries being taken offline for seasonal maintenance in the Midwest, thus causing outrageous price increases in Minneapolis and other places across the region ("Pain at the Pump as Gas Prices Soar above $4", http://kstp.com/article/stories/s3034685.shtml; "Spike in Twin Cities Gas Prices Leaves Drivers Frustrated", http://www.startribune.com/business/190374421.html).

American consumers simply cannot continue to pay the price for oil's monopoly of the liquid fuels market. The RFS has only started to reach its potential with home-grown renewable fuel now making up 10 percent of America's fuel supply, while the oil industry still controls 90 percent of the market. Without the RFS, there will be no other competitive alternative to imported oil, and American consumers will continue to be held hostage to the supply chain of the oil industry.

Conclusion

The RFS is a policy that is working. It is working to the benefit of the American people, and to the detriment of the age-old big oil monopoly. To implement the suggestions of some of the witnesses today and repeal or modify the RFS would effectively cede control of all transportation fuels to the oil industry. This would be a radical and poorly advised decision – one that history would judge as a colossal mistake.

The key to reducing prices at the pump is to inject competition in transportation fuels, and the RFS does that. If you want to reduce greenhouse gas emissions, the only statute that has required GHG reduction is the RFS. If you want to expand American made energy, the RFS does that. If you want to reduce foreign oil, the RFS does that.

The bottom line is that this is a policy that benefits all Americans. With oil prices yet again well over $100 a barrel and gasoline yet again climbing to $4 a gallon, we can no longer afford to be 90 percent dependent on fossil fuels.

I thank the Subcommittee for allowing me to testify and look forward to any questions.

Mr. WHITFIELD. Mr. Petrowski, you are recognized for 5 minutes.

STATEMENT OF JOSEPH H. PETROWSKI

Mr. PETROWSKI. Thank you, Mr. Chairman.

I am Joe Petrowski, the CEO of the Cumberland Farms Gulf Oil Group. We deliver gas to 3,000 locations over 29 states. We operate almost 900 company owned and operated convenient stores in 13 states. We are not a refiner. We are not a producer. We don't have any investments in ethanol. We are out there dealing with the customers. We have over a million transactions a day selling fuel. All we want to do is sell the fuel that our customers want in a legal and lawful manner. And we do believe that it is demand that generates supply. We will sell what our customers want.

Now I, too, don't believe the RFS should be repealed. I think it has achieved much of what Congress intended which was a diversity of supply, a domestic source of fuel, and has, I believe, on balance brought down the price of fuel to the consumer. With RINs trading at $1.50, for a blender that is almost picking up 15 cents a gallon on a 10 percent blend and with ethanol at 60 cents under, that is another 6 cents; that is 20 cents a gallon. But with RINs at $1.50, we are subsidizing exports and taxing imports, which has an effect of increasing prices. Just recently, a refiner who bought a refinery in Hawaii announced that when they invested in the refinery and got product up to levels, they would export to China rather than California or use it locally really to generate the RINs because an exporter get that RIN and an importer has to pay that RIN. So there are some deficiencies in the RFS, which Congress could never have anticipated. Driving is down, which is somewhat a demographic—online shopping, an older population. CAFE standards are up, which was mandated by Congress and was done effectively. But we are using less fuel than we did when the law was first put in. You cannot mandate to pour 14 ounces of fluid into a 12-ounce cup, which is essentially what we have done. Our suggestion is that the EPA in concert with the DOE set the standards of what should be blended forward, taking the realities of the marketplace. We think that is the right solution.

We are also going forward going to have more alternate fuel vehicles. So we do believe—there are other things I would like to see Congress—and maybe this is discussion for another day. It is cheaper because of the 1920 Jones Act for product in Louisiana to be shipped to Venezuela and Mexico than it is to Boston or New Jersey. Along with getting the RIN for being an exporter, that is giving a great incentive as we ramp up domestic production and ethanol production that we are exporting the product rather than using it domestically to lower costs for consumers.

If we have a bias at Cumberland Farms and Gulf Oil is we want lower energy prices for our customers because we have just noticed the discretionary spending in our stores is just much higher when the consumer is not spending it on fuel. So we might be rare among oil companies that we like lower oil prices. Now that is not altruism. It is the simple fact that we are not a producer or a refiner. We are a retailer.

That is it, Mr. Chairman. I have used my time.

Mr. WHITFIELD. Thank you very much.

[The prepared statement of Mr. Petrowski follows:]

Statement Of

Joseph H. Petrowski,
Chief Executive Officer
The Cumberland Gulf Group
Framingham, MA

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

July 23, 2013

Hearing on

"Overview of the Renewable Fuel Standard: Stakeholder Perspectives"

SUMMARY OF TESTIMONY

1. Neither the Society of Independent Gasoline Marketers of America nor the National Association of Convenience Stores supports the repeal of the Renewable Fuel Standard ("RFS") at this time. These associations do support the RFS being administered in a manner that reflects the realities of the market as it actually exists today, rather than how Congress in 2007 projected it would.
2. The motor fuels market in the United States is on the cusp of hitting the so-called "blend wall," when the RFS's annual volume obligations exceed the volume of renewable fuel the market can reasonably absorb. This could cause gasoline and diesel prices to increase, generating severe economic harm throughout the United States.
3. The Environmental Protection Agency possesses and should exercise its statutory waiver authority to adjust volume obligations to avoid hitting the blend wall.
4. It is incumbent on Congress to determine whether the Agency will use its waiver authority; if it will not, legislation may be necessary.

INTRODUCTION

Chairman Whitfield, Ranking Member Rush, members of the Subcommittee, thank you for the opportunity to present testimony before you today. My name is Joe Petrowski. I am CEO of the Cumberland Gulf Group headquartered in Framingham, Massachusetts.[1]

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).[2] Members of these trade associations represent approximately 80% of retail fuel sales in the United States.

---

[1] Gulf Oil is a premier gasoline brand supplying over 2500 stations in 29 states with a heavy concentration in the Northeast corridor. Lundberg Survey has sited us as one of the fastest growing brands in the United States. The company also supplies fuel to non-Gulf branded sites and premier non-branded marketers such as convenience retailer WAWA and big box retailer BJ's. We are also a supplier of over the road diesel and home heating oil. Overall we serve a wholesale customer base in excess of 1,000 and a retail base in the millions. Gulf remains a market leader in petroleum distribution as well as in the development of next-generation alternative fuels and other state-of-the-art solutions for our consumer's engine performance needs. We blend over 1 million gallons of biofuels daily. Our convenience store brand, Cumberland Farms, has almost 600 stores spanning 11 states across the northeast and Florida. All told, we employ approximately 7500 people, and 1.5 million customers transact at a Cumberland Farms convenience store, Gulf Branded station, or a third party branded outlet we supply every day.

In the interests of full disclosure, I am also a Board member of South Jersey Industries (NYSE ticker symbol "SJI"), a natural gas utility and diversified energy services company in Atlantic City, New Jersey. The company supplies natural gas, solar, electricity, and Central Power and Heating systems on a nationwide basis. I have also served in a number of capacities for diverse energy-related companies for the past 22 years including past Chairman of the New England Power Pool Board of Review and President of Consolidated Natural Gas Energy Services prior to its aequisition by Dominion Resources in 2000.

[2] SIGMA represents a diverse membership of approximately 260 independent chain retailers and marketers of motor fuel. Ninety-two percent of SIGMA's membership are involved in gasoline retailing, 66 percent are involved in wholesaling, 36 percent transport product, 25 percent have bulk plant operations, and 15 percent operate terminals. Member retail outlets come in many forms, including travel plazas, traditional "gas stations," convenience stores with gas pumps, cardlocks, and unattended public fueling locations. Some members sell gasoline over the Internet, many are involved in fleet cards, and a few are leaders in mobile refueling.

America's love affair with the automobile is not going away. Neither is the need for transportation fuels that underpin the economy and create jobs. In a country as vast as ours with a density of 79 people per square mile (as opposed to the Netherlands with 1300 people per square mile), the cost of transport is central to economic health. Our industry is committed to facilitating this contribution to the American economy, and doing so in a manner that complies with all applicable laws and regulations. We devote vast resources to offering and adapting to new technologies and market opportunities. My company is constantly striving to identify the best new products and services we can bring to our stores and facilities. Consequently, we are not beholden to any specific product. While Gulf Oil has a long and accomplished history beginning in 1901, it is no longer a fully integrated oil company and neither explores nor refines. We are truly fuel agnostic.

Our sole objective is to sell what our customers want to buy. As new fuels enter the market, we want to be able to sell them lawfully and with minimal volatility and risk. While agnostic on fuel we do have a bias: We believe it is best for the American consumer and our industrial position in the world marketplace to have reasonably low and stable priced energy. This can best be accomplished by focusing on developing diverse fuel sources from at the least secure, friendly regions and at best domestic sources for optimal results. It is a fact that when total national energy costs are less than 10% of GDP, economic growth is robust. We look forward to the day when the United States is a net energy exporter. Not only will that be positive to GDP and job growth, but it will position us to revitalize our industrial production, especially in energy-intensive industries with an eye toward value added product exports. And no policy would be more beneficial for the spread of world democracy and social justice than low energy prices driven by North American production. Decreasing the amount of energy the world buys from dictatorial, abhorrent and kleptocratic regimes guarantees the elimination of their importance on the world stage if not the end of these malevolent states.

Today's hearing focuses on the Renewable Fuel Standard ("RFS"). While I support the spirit and intent of the RFS, there are problems in the program that can be remedied without undermining the principles on which the program is premised – diversifying the fuel supply, increasing the overall fuel supply, encouraging domestic fuel production, and lowering fuel costs for American consumers.

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, the nation consumed approximately 150 billion gallons of gasoline; demand was expected to increase at an annual rate of approximately 1.3% through 2030. In reality, consumption this year is projected to be less

---

NACS is an international trade association composed of more than 2,200 retail member companies and more that 1,600 supplier companies doing business in nearly 50 countries. The convenience and petroleum retailing industry has become a fixture in American society and a critical component of the nation's economy. In 2012, the convenience store industry employed more than 1.84 million (1.82mm in 2011) workers and generated $700.3 billion in total sales, representing approximately 4.5 percent of the United States' GDP – or one of every 22 dollars spent – in 2012.

than 134 billion gallons. Higher CAFE standards combined with a struggling economy have brought gasoline usage to a standstill. We have also not seen the growth in flex fuel vehicles that was anticipated.

Without regard to these unanticipated market realities, the required RFS volume targets continue to increase year after year. As a practical matter, these targets can only be met if more ethanol is blended into gasoline. The market is not able to do this at the present time, largely because (as discussed below) retailers fear that selling gasoline blends greater than 10 percent ethanol (so-called "E10") will increase their liability exposure. There is simply insufficient consumer demand for such fuels to justify the risk. Once the RFS's volume obligations exceed the volume of renewable fuel the market can absorb, the market will have hit the so-called "blend wall."

As I describe in the testimony that follows, 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. What's more, this damage will not be caused by a shortage of gasoline, diesel, or ethanol (all of which are in plentiful supply), but rather a shortage of Renewable Identification Numbers ("RINs). RINs – which are used to ensure compliance with the RFS's volume obligations – are essentially an artificial commodity that has become an integral component of manufacturers' ability to produce and import fuel. As with any commodity that is in short supply, people have begun hoarding and trading RINs, which accounts for the dramatic increase in RIN prices throughout 2013. As we hit the blend wall, there will not be enough RINs to allow fuel manufacturers and importers to satisfy their volume obligations under the RFS. They will need to recover these additional costs, and will do so by passing the costs down so they are absorbed by consumers.

My testimony today will focus on how Congress and the Administration can help ensure that the market does not hit the blend wall.

COMPOSITION OF THE RETAIL FUELS MARKET

To fully understand how fuels enter the market and are sold to consumers, it is important to know who is making decisions at the retail level of trade.

Our industry is dominated by small businesses. In fact, of the 120,950 convenience stores that sell fuel, almost sixty percent of them are single-store companies – true mom-and-pop operations.

Many of these companies sell fuel under the brand name of their fuel supplier. This has created a common misperception in the minds of many policymakers and consumers that the large integrated oil companies own these stations. The reality is that the majors are leaving the retail marketplace and today own and operate fewer than 2% of the retail locations. Although a store may sell a particular brand of fuel associated with a refiner, the vast majority are independently owned and operated like mine. When people pull into an Exxon or a BP station the odds are good that they are in fact refueling at a small mom-and-pop operation.

We are in the customer service business. We have to make decisions each day regarding what products to sell and which services to offer to our customers, and we often take risks – you cannot be successful without doing so. But taking a chance by offering a new food product is very different from switching my fueling infrastructure to accommodate a new fuel. So when a new fuel product becomes available, our decision to offer it to our customers takes more time. We need to know that our customers want to buy it, that we can generate enough return to justify the investment, and that we can sell the fuel legally.

These are the fundamental issues that face the introduction of new renewable and alternative fuels today.

THE BLEND WALL

Since the enactment of the Energy Independence and Security Act ("EISA") of 2007, we have heard much about the impending arrival of the so-called "blend wall" – the point at which the market cannot absorb any additional renewable fuels. Most of the fuel sold in the United States today is blended with 10% ethanol. If 10% ethanol were blended into every gallon of gasoline sold in the United States today, there would be an insufficient volume of renewable fuels to satisfy the RFS mandates. In this regard, we have already hit the blend wall, but because obligated parties are permitted to "carry-over" RINs from the previous year, we have not seen the economic fallout the blend wall will eventually cause. RINs can only be carried over for one year, however, so as the volume obligations continue to rise, eventually there will be insufficient RINs to enable obligated parties to satisfy the RFS's mandates.

EPA Authorizing the Use of E15 Is Insufficient to Avoid the Blend Wall

As you are likely aware, EPA recently authorized the use of E15 in certain vehicles. However, this has so far done very little to expand the use of renewable fuels, due largely to a lack of consumer demand, as well as retailers' liability and compatibility concerns and state and local restrictions on selling E15. Indeed, EPA's decision to approve the sale of E15 serves to highlight the *limitations* that directly affect retailers and impede the implementation of the RFS.

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.[3] 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%. Further, given UL's policy, no device listing can be revised. Consequently, retailers who wish to sell any gasoline containing more than 10% ethanol (such as E15) must acquire a new dispenser that has been listed as compatible with the product. Dispensers can cost upwards of $20,000 and few retailers are willing to dispose of functional and modern dispensers in order to sell a new fuel for which demand is uncertain.

[3] 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.")

Recently, the two primary device manufacturers (Gilbarco and Dresser-Wayne) 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.

Converting dispensers to ensure their compatibility with higher levels of ethanol blended fuel is feasible because one can determine the compatibility of units at a particular location. More complicated is determining the compatibility of underground equipment. Retail fueling facilities can often change hands several times after a tank system is installed, leaving the current owners uncertain of the listing status of underground equipment. This equipment can include the underground storage tank itself, connecting pipes and fittings, submersible equipment and other ancillary units. It is essential that these units be compatible with these new fuels as well. Replacing them, however, is extraordinarily expensive. When a retailer proceeds to crack open concrete to address underground equipment issues, costs can quickly exceed $100,000 per location.

Assuming a retailer can confirm or upgrade his equipment to ensure compatibility with these new fuels, there remain other challenges. The rule authorizing the sale of E15 restricts its use to vehicles manufactured after 2001 and prohibits its use in earlier models or small engines. EPA issued a misfueling mitigation rule requiring the placement of dispenser decals near the E15 selector and requiring additional measures, but there are no physical applications available to prevent the consumer from misfueling. Further, it is expected that a sizeable percentage of consumers may not know in what year 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 subject to fines of up to $37,500 per violation. Even if the retailer is fully compliant with EPA's misfueling mitigation requirements he may be subject to civil litigation under the Act's private right of action provision. Further, because many engine manufacturer owner's manuals and warrantees do not authorize the use of E15, the retailer 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.

EPA Can Avoid the Blend Wall by Exercising its Waiver Authority

When Congress enacted the RFS, it included a safety valve for the Administrator to waive provisions of the RFS, after public notice and comment, when the program would lead to severe economic harm in a state, region, or the United States as a whole.[4] This clearly represents a Congressional acknowledgment that there could be situations when the RFS simply cannot be met. The blend wall represents such a situation. Accordingly, EPA should exercise its waiver authority to lower volume obligations such that they do not exceed the volume of renewable fuel that the market can reasonably absorb. This will not only avoid the severe economic harm that will otherwise damage the economy and consumers, but also enable the RFS to continue down a

[4] 42 U.S.C. 7545(o)(7)(A).

sustainable path and "bridge the gap" between the current fuels market and the future fuels market.

There is uncertainty, however, as to whether EPA believes it has authority to waive the RFS's volume obligations to avoid the blend wall. As discussed below, it is quite clear that it does have this authority. Nonetheless, *I urge this Committee to get from EPA a clear, unequivocal answer regarding whether it has the authority under current law to waive volume obligations to avoid hitting the blend wall. If it does, it should exercise this authority promptly. If it does not, Congress should pass a law making clear that the waiver authority extends to this circumstance.*

EPA's interpretation of its waiver authority is most fully explored in a 2008 decision denying a waiver request submitted by the State of Texas.[5] This interpretation was reaffirmed in the Agency's 2012 decision denying waiver requests that were submitted by several states.[6]

EPA has generally interpreted the statutory requirement that "implementation of the requirement would severely harm the economy or environment of a State, a region, or the United States"[7] as limiting its waiver authority to situations when "implementation of the RFS program itself [causes] the severe harm,"[8] rather than situations where implementation of the program would significantly *contribute* to severe harm.

The economic harm that would result upon the fuels market reaching the blend wall would be directly caused by the RFS. Unlike previous waiver requests that were predicated upon intervening economic factors (*i.e.*, droughts), the blend wall is an artificial dilemma that emanates solely from the RFS.

EPA's 2008 denial of Texas's waiver request also sets forth three additional factors the Agency will consider:

First, it states that its waiver authority is limited to situations where "there is a generally high degree of confidence that there *will* be severe harm as a result of the implementation of the RFS."[9] The Agency should certainly have a high degree of confidence that if prices at the pump increase substantially – as they will when the market reaches the blend wall – there will be almost immediate consequences on the American economy. Merrill Lynch, for example estimates that every one cent increase in the retail price of gasoline amounts to $1 billion in lost consumer spending.[10] Thus, when the market reaches the blend wall, and demand for RINs continues to outpace supply, and fuel producers' increased operating costs are passed down to consumers through higher prices for fuel, it will substantially detract from consumer spending in

[5] 73 Federal Register 47168 (August 13, 2008).
[6] 77 Federal Register 70752 (November 27, 2012).
[7] *Supra* n.2
[8] 73 Fed. Reg. 47171.
[9] 73 Fed. Reg. 47171 – 47172 (emphasis added).
[10] *See* Jeff Sommer, Numbers That Sway Markets and Voters, N.Y. Times, Mar. 3, 2012, at BU4, available at http://www.nytimes.com/2012/03/04/your-money/rising-gasoline-prices-could-soon-have-economic-effects.html?pagewanted=all&_r=0.

many areas of the economy and cause severe economic harm, particularly if it continues unabated for a prolonged period of time.

Second, the "harm" must be to the *economy as a whole* rather than one specific sector of the economy (*e.g.*, the livestock industry).[11] The economic harm that would result upon reaching the blend wall would apply to the entire U.S. economy. The United States is a petroleum-based economy. When the retail price of motor fuel increases, it not only constricts household budgets, but it causes the price of *everything* that is transported or produced using motor fuel to escalate. The harm is not targeted toward a narrow segment of the economy, nor is it offset by those few sectors that benefit financially from higher retail fuel prices. The nation's trade deficit rises, and often a recession is close at hand.[12]

Third, the Agency asserts broad discretion in determining whether to grant a waiver. EPA cites the provision providing that EPA "may" waive the RFS volume requirements after finding that implementation of the RFS program would severely harm the economy. When Congress intends non-discretionary action, EPA argues, it typically employs a term like "shall." "Thus, EPA believes Congress intentionally gave EPA discretion in determining whether to grant or deny a waiver request, even in instances where EPA finds that implementation of the program would severely harm the economy ... ."[13]

It is imperative that Congress obtain from the Agency a clear answer as to whether it is prepared to exercise its waiver authority to avoid the blend wall.

Why EPA Should Exercise its Waiver Authority to Lower Future Volume Obligations and Avoid Hitting the Blend Wall

The RVOs set forth in the 2007 law bear absolutely no rational relationship to current market conditions. The market simply cannot absorb the quantity of ethanol required without administrative or statutory changes to existing law.

Consistent with the flexibility that Congress granted the Agency, EPA should use its waiver authority to avoid the economic harm that the blend wall will cause. The economic harm that will result from hitting the blend wall would be *severe* and *directly* caused by the RFS. This will have three salutary effects:

First, it will achieve displacement of foreign fuel with domestic fuel without inflicting excessive costs on consumers.

Second, it would relieve the burden of non-compliance from the refining community without making those entities produce less and/or export more fuel, either of which would increase the price at the pump domestically.

---

[11] 73 Fed. Reg. 47172.
[12] Sitty: Gal Sitty, Bound by the Chains of Oil, Refueling Am. Blog (May 20, 2013, 9:28 AM), http://www.fuelfreedom.org/blog/bound-by-the-chains-of-oil/.
[13] *Id.*

Third, it would preserve the benefits of a diverse fuel supply.

As a policy matter, EPA's waiver authority represents the proper allocation of responsibility, whereby Congress is not charged with designating the appropriate annual volume obligations based on the market. Instead, this task falls to experts at EPA, who are required to consult with their counterparts at the Departments of Agriculture and Energy. In other words, a waiver to avoid the blend wall is how both the RFS, and the government in general, is supposed to work.

CONCLUSION

If Congress is serious about new and alternative fuels entering the marketplace, it must do all it can to avoid the blend wall. I urge you to press EPA officials to confirm that their authority to waive volume obligations under the RFS encompasses efforts to avoid the blend wall.

Again, thank you for the opportunity to testify today. I am of course happy to answer any questions you may have.

Mr. WHITFIELD. Mr. Karr, you are recognized for 5 minutes.

STATEMENT OF SHANE KARR

Mr. KARR. Thank you, Chairman Whitfield, Ranking Member Rush, and members of the subcommittee.

I really appreciate the opportunity to testify here today on behalf of the alliance and our 12 member companies. We represent companies headquartered all over the world that make roughly three out of every four new vehicles purchased each year, so a broad breadth of manufacturers representing a very sizable portion of the marketplace.

We, first of all, want to say we appreciate the thoughtful review of the RFS, and we have responded to several of the white papers, as other stakeholders have, and think that this has been a great process. The alliance didn't take a position on RFS II in 2007. And frankly, I can't tell you how many gallons of renewables the market is going to produce by a date certain. Of course, neither can any of the other 15 witnesses that you are hearing from over the course of these 2 days.

Frankly, we are all here because a number of the assumptions that were made in 2007 have proven inaccurate in 2013. And the first panel spent a lot of time talking about the decline in overall fuel use and the slow emergence of cellulosic biofuel. So I am not going to spend time on those. Rather, I would like to talk about another faulty assumption, if you will, and one that is actually embedded in the name of the standard. The assumption was that renewables would, in sufficient quantities, become a stand-alone alternative fuel. And it kind of went like this: Renewable producers would make billions of gallons and auto companies would make FFVs capable of running on fuel that was composed of 85 percent renewables and be sort of done and done. No blend wall issues, no compatibility problems. In the right vehicle, gasoline is largely displaced by a competitor that is almost all biofuel based, right?

It was a great vision. It has proved to be totally wrong.

Instead, the better way to think about biofuels might be as an additive. And that is not pejorative. It is just an attempt at an accurate description. It is effectively the tack that Growth Energy took when it petitioned EPA to increase the national blend from E10 to E15. To their credit, the producers were among the earliest to attempt to address the issue.

But the fact is that even as an additive, implementation has turned out to be very complicated and problematic, as the witnesses at the table will attest. We can make vehicles that can run on virtually any fuel. So I want to emphasize that. But there are a lot of competing policy priorities that we have to navigate.

So taking seriously Chairman Upton and Chairman Shimkus and Chairman Terry's—there are a lot of chairmen—admonition to come to the table with something, I will say to you that these would be our key watch words for moving forward, how we should look at biofuels policy:

One, prospectively, prospective, not retroactive policies with appropriate lead time for manufacturers.

Two, definitively, we need certainty about the fuel specs. The more precise the spec, the better we will be able to optimize all aspects of vehicle performance.

Three, comprehensively. Making the fuels important and having vehicles that can use the fuel is important. But it turns out distribution is absolutely critical as well, and we seem to have forgotten about distribution in 2007.

And finally, holistically. There are a number of ways to achieve energy security and our environmental goals. Biofuels are an important path, but they are just one. My members are giving consumers choices, and ultimately, the market will decide which one works.

If there is a lesson in the last 5 years, it is that we should be humble about our ability to see the future and committed to working together to overcome the challenges that arise. We appreciate the opportunity to appear. And again, I want to reemphasize we are committed to working with the committee going forward.

Mr. WHITFIELD. Thank you Mr. Karr.

[The prepared statement of Mr. Karr follows:]

AUTO ALLIANCE

DRIVING INNOVATION®

STATEMENT

OF

THE ALLIANCE OF AUTOMOBILE MANUFACTURERS

BEFORE THE:

ENERGY AND COMMERCE COMMITTEE
THE SUBCOMMITTEE ON ENERGY AND POWER
U.S. HOUSE OF REPRESENTATIVES

JULY 23, 2013

PRESENTED BY:

Shane Karr
Vice President, Federal Government Affairs

Summary

Auto manufacturers recognize that renewable fuels are an important component in our nation's energy strategy, and Alliance members have long contended that we can make vehicles that can run on virtually any fuel. However, the mere existence of vehicles that can run on a particular fuel or combination of fuels is not enough to make a coherent, successful energy policy.

It is important to recognize that some of the assumptions underlying the RFS when it was enacted in 2007 have turned out to be wrong, and that has created significant implementation challenges. No commercial production of cellulosic biofuels was reported in 2010 and 2011 and only 20,069 gallons were registered as RINs with EPA in 2012. As a result, EPA has waived or proposed waiving most of the original RFS mandates for cellulosic biofuels every year. U.S. gasoline consumption peaked in 2007 and declined to 133 billion gal/yr in 2012. EIA now projects a continued decline to 128 billion gallons by 2020. If even half of FFVs on the road today were being operated on E-85, they would consume a third of current ethanol production. Flawed assumptions have led to flawed policies such as EPA's retroactive E15 fuel waiver for MY 2001 and newer motor vehicles and the push by some for FFV mandates.

If Congress decides to revisit RFS2, automakers are open to prospective policies that reflect a comprehensive commitment to make renewable fuels successful in the marketplace. Such policies would need to address fuel production and distribution equally with vehicles and consumer acceptance. In considering potential new fuels, questions about infrastructure, cost, feasibility, impact on fuel economy and consumer acceptance must be considered. Appropriate cadence between a fuel's availability and vehicles that can run on it is important. In promoting a particular fuel, policy makers must take care not to disadvantage other potentially beneficial technologies.

Above all, automakers need lead-time and certainty to design and develop vehicles that can best meet the multitude of requirements placed on us by regulators, and by consumers.

Testimony

Thank you, Chairman Whitfield, Ranking Member Rush and members of the Subcommittee. The Alliance of Automobile Manufacturers (Alliance) is a trade association of twelve car and light truck manufacturers including BMW Group, Chrysler Group LLC, Ford Motor Company, General Motors Company, Jaguar Land Rover, Mazda, Mercedes-Benz USA, Mitsubishi Motors, Porsche Cars, Toyota, Volkswagen Group and Volvo Cars. Together, Alliance members account for roughly 3 out of every 4 new vehicles sold in the U.S. each year. On behalf of the Alliance, I appreciate the opportunity to offer our views on the Renewable Fuel Standard (RFS) and the role alternative fuels can play in helping address our nation's energy security and environmental concerns. We commend the Committee for its thoughtful and thorough examination of this energy policy.

Auto manufacturers believe that renewable fuels are an important component in our nation's energy strategy, and Alliance members have long contended that we can make vehicles that can run on virtually any fuel. Of course, doing so while still meeting all applicable requirements – including cost and acceptability to our customers – is far more complicated. The mere existence of vehicles that can run on a particular fuel or combination of fuels is not enough to make a coherent, successful energy policy.

The Alliance did not take a position on the volumetric targets or timing for renewables when the RFS2 was being debated in 2007, and we continue to defer to other stakeholders and policy makers who have more expertise with regard to fuel production. However, it is important to recognize that some of the assumptions underlying the RFS2 have turned out to be wrong, and that has created significant implementation challenges. As the Committee studies the RFS2 to determine if reform is necessary, the Alliance is committed to work in a constructive fashion to create certainty regarding our transportation fuel future and implementation from a vehicle and infrastructure point of view.

In 2007, when the RFS2 was significantly expanded as part of the broader Energy Independence and Security Act, policy makers and various stakeholders anticipated significant production of cellulosic biofuels within a relatively short timeframe. RFS2 has a substantial requirement for cellulosic biofuel by capping the volume of corn-starch derived ethanol at 15

billion gallons and increasing the cellulosic biofuel requirements from 100 million gallons in 2010 to 16 billion gallons in 2022. Unfortunately, this market has failed to come into existence on schedule. No commercial production of cellulosic biofuels was reported in 2010 and 2011 and only 20,069 gallons were registered as RINs with EPA in 2012.[1] As a result, EPA has waived or proposed waiving most of the original RFS2 mandates for cellulosic biofuels every year.

Additionally, in 2007, U.S gasoline consumption stood at a record 142 billion gallons per year (gal/yr) and had been growing at an average rate of 1.6% per year for the previous 10 years.[2] In its *Annual Energy Outlook 2007*, the U.S. Energy Information Administration projected gasoline demand to grow to 152 billion gal/yr in 2013 and 168 billion gal/yr in 2020.[3] In fact, U.S. gasoline consumption peaked in 2007 and declined to 133 billion gal/yr in 2012.[4] EIA now projects a continued decline to 128 billion gallons by 2020.[5]

The decline in fuel consumption combined with increasing mandates for corn ethanol would not necessarily have led to the "blend wall" concerns that we are facing now, if not for another flawed assumption – that consumers driving flexible fuel vehicles (FFVs) would use E85 in significant quantities. Automakers believe FFVs are a potentially useful piece of an overall alternative fuel strategy; however, their market penetration has not led to a meaningful uptick in renewable fuel usage. There are over 15 million FFVs on U.S. roads today, yet only about 2 percent of gas stations have an E-85 dispenser, and most are concentrated in the Midwest, where most ethanol is produced. If even half of these vehicles were being operated on E-85, they would consume a third of current ethanol production.

---

[1] 2012 RFS2RFS22 Data (as of June 7, 103) available at http://epa.gov/otaq/fuels/RFS2RFS22data/2012emts.htm.

[2] U.S. Energy Information Administration, "U.S. Product Supplied of Finished Motor Gasoline," March, 2013, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MGFUPUS2&f=A.

[3] U.S. Energy Information Administration, *Annual Energy Outlook 2007*, "Table 1.1. Liquid Fuels Supply and Disposition," http://www.eia.gov/oiaf/archive/aeo07/pdf/aeotab_11.pdf

[4] U.S. Energy Information Administration, "U.S. Product Supplied of Finished Motor Gasoline," March, 2013, http://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=MGFUPUS2&f=A.

[5] U.S. Energy Information Administration, *Annual Energy Outlook 2013,* "Table A11. Liquid Fuels Supply and Disposition," pg. 143.

This shifting landscape is certainly amongst the many drivers fueling the RFS2 debate and continues to create uncertainty for how the policy will be implemented. Biofuel producers and other stakeholders have been forced to think of alternative ways to ensure the RFS2 mandates are met. The Alliance believes this has led to the promotion of flawed policies such as EPA's retroactive E15 fuel waiver for MY 2001 and newer motor vehicles, a flawed pump labeling rule that fails to properly warn consumers away from vehicles not designed for use of E15, and the Open Fuels Standard.

E15 Waivers

The decision to approve the use of E15 for model year (MY) vehicles 2001 and newer is the poster child for policies that were adopted to mitigate the implementation challenges arising from RFS2. The Alliance strongly believes that EPA's decision to approve the use of E15 was made absent critical research and testing results, will likely lead to misfueling and vehicle damage or poor performance; and as a result, may result in a consumer "backlash" against biofuels. Prior to MY 2012, all motor vehicles were designed, certified, and warranted to only withstand up to 10% of ethanol in gasoline; today only two major OEMs produce E15 capable vehicles and all flexible fuel vehicles (FFVs) are able to consume the fuel. Recent studies, including studies conducted by the Coordinating Research Council (CRC), have demonstrated the potential adverse effects of E15 use on certain, post-MY 2001 motor vehicles not designed for such a fuel.

The CRC engine durability study found signs of valve seat wear caused by the mid-level blend (i.e., E15-E20). The CRC fuel system durability study also showed evidence of fuel level sensor errors, fuel pump failures and component swelling caused by the fuel. Recent data also underscored the risk of widespread damage from misfueling other types of engines on E15 as EPA recognized by excluding many products in its partial waivers. During EPA's rulemaking process, automakers and other engine manufacturers consistently urged EPA to wait to make its decision on the introduction of E15 to the nation's fuel market until all of these studies on the potential impacts of E15 on the existing fleet were completed.

The desire to allow more renewable fuels to be blended into the transportation fuel pool cannot be allowed to harm the significant investments made by consumers. We believe that E15

misfueling is unavoidable, particularly in light of the lack of any meaningful measures in place to prevent it. Indeed, EPA concurs in that it has never proposed a misfueling *prevention* plan, only a *mitigation* plan. The only deterrent to E15 misfueling in the mitigation plan is a pump label and it is unlikely that this English-only label would be read and followed by all consumers. EPA so weakened the label's cautionary messaging during the rulemaking process as to render the label essentially ineffective. Motorists focus almost exclusively on price, and inattention can lead to unintentional or inadvertent misfueling of their vehicles, and Clean Air Act violations, even when the passive warnings are provided. As EPA has noted, misfueling with leaded gasoline was widespread even when different nozzle sizes were used in addition to labels.

EPA's final E15 pump label language did not even refer consumers to their vehicle owner manuals for guidance, as the Alliance and others advocated. Automakers want biofuels to succeed in the U.S. and are committed to finding the right market solutions for sustainable biofuel use. If consumer satisfaction is compromised, the credibility of future biofuels and the RFS2 program may be questioned and challenged.

Flexible Fuel Vehicle Mandates

The Open Fuels Standard legislation would effectively require that 50 percent of all light-duty vehicles be FFVs. This is challenging enough – and completely unwarranted – based on the current definition of FFVs as vehicles capable of running on any blend of gasoline and ethanol up to 85 percent (E85). But the proponents of the bill have re-defined what constitutes an FFV – as a vehicle that must be able to run effectively on three fuels – gasoline, E85 and methanol blends up to 85 percent (M85). Insisting that automakers produce vehicles that must accommodate three fuels – of varying energy contents and in any combination – is unworkable. An array of compromises would be needed – at significant cost – to make vehicles capable of using all three fuels. Performance would be sacrificed, durability issues would be enhanced, reliability concerns would be raised, vehicle costs would increase – all to the dissatisfaction of customers and for little to no benefit, since M85 is available nowhere and E85 is available and used very sparingly.

As noted previously, automakers believe the FFV is a worthwhile technology that has a place as part of a broader portfolio of alternative fuel technologies; however, the last six years

have demonstrated that the mere existence of FFVs will not lead to more renewable fuel usage. The primary factors affecting the lack of E85 usage are pricing, availability, total full-tank range, and consumers' willingness to use the fuel. Because ethanol is often priced above its relative energy value (it has less energy than gasoline, so its cost per vehicle mile travelled (VMT) can be higher than comparable VMT cost of gasoline if not priced accordingly), E85 use is not competitive with the use of gasoline. And, because there is little demand for the product, retailers have been slow to install retail sites nationally. Policies to incentivize retailers to offer and price the product competitively and educate consumers on the value of E85 might be effective in promoting more E85 usage, but we should be realistic about potential growth of this market absent a fundamental change in the pricing relationship.

Looking Ahead

If Congress decides to revisit RFS2, automakers are open to prospective policies that reflect a comprehensive commitment to make renewable fuels successful in the marketplace. Such policies would need to address fuel production and distribution equally with vehicles and consumer acceptance, which are really the final link in the chain. In considering potential new fuels, questions about infrastructure, cost, feasibility, impact on fuel economy and consumer acceptance must be considered. Appropriate cadence between a fuel's availability and vehicles that can run on it is important. Such a prospective approach is a far preferable alternative to retroactively introducing fuels into a market that has not been designed, certified or warranted to run on them.

Some key considerations as we move forward include:

Octane Rating Level: Since ethanol provides less energy on a per gallon basis when compared to gasoline, the future fuel may need to provide for a higher octane rating to allow automakers to enhance efficiency and mitigate fuel economy decreases as more ethanol is added to gasoline. Higher octane rated fuels enable automakers to calibrate our engines to improve fuel economy. This change may be crucial for consumer acceptance. It is also critical that automakers are no longer penalized under future regulations for any decreases in fuel economy that are attributable to greater ethanol or lower aromatics use.

Legacy Fuels: Legacy fuels must continue to be available for older vehicles while the refueling infrastructure for higher level ethanol blends is transitioning. Government assistance in implementing an effective program to educate consumers about the fueling capabilities of their vehicles to prevent misfueling will also be crucial to the success of the effort. In addition, enforcement of fuel blend and labeling requirements must be extensively and effectively executed.

Above all, this approach must give automakers the lead-time required and establish the certainty needed to design and develop vehicles that can best meet the multitude of requirements placed on us by regulators, and by consumers. It should also provide certainty for producers, retailers, engine manufacturers and other stakeholders. With certainty about the fuels our vehicles will be using and with sufficient lead time, our engineers can design vehicles that are optimized for that fuel. Ultimately, providing the appropriate mechanisms and policies to allow the industry to deliver better fuel economy, better performance, and more cost-effective compliance with emissions standards will in turn improve the value proposition for our customers.

Finally, Congress must take care to minimize negative side effects of promoting a particular fuel. Several Alliance members are expanding their diesel offerings in the US market, because diesels offer significant fuel economy gains relative to their gasoline counterparts. Our members are very concerned by recent studies[6] indicating that failure to address the blend wall could lead to spikes in diesel fuel prices, which in turn, would drive consumers away from an important technology for reducing our overall dependence on oil.

Thank you for the opportunity to offer our views on the Renewable Fuel Standard and I will be happy to answer any questions.

[6] NERA Economic Consulting, "Economic Impacts Resulting from Implementation of RFS2 Program," October, 2012.

Mr. WHITFIELD. Mr. Teske, you are recognized for 5 minutes.

STATEMENT OF TODD J. TESKE

Mr. TESKE. Chairman Whitfield, Ranking Member Rush, and the distinguished members of the committee, thank you very much for soliciting our viewpoint on this. This is a very important issue for Briggs & Stratton. Briggs & Stratton is located in Milwaukee, Wisconsin. We are the world's largest manufacturer of air-cooled gasoline engines that are used in outdoor power equipment. We also manufacture the same equipment. So we have knowledge, obviously, on the engine side and the application side under various brand names. We operate in about 100 countries. So we are global. We have 6,200 employees throughout the world, of which, most of them, 5,300, are here in the U.S. We are primarily a U.S.-based manufacturer. We have 85 percent of our manufacturing is done here in the U.S. And we are really proud to be celebrating our 105th anniversary this year.

I would like to first take the opportunity to commend the committee on their workmanlike efforts in terms of these issues. There are a lot of different issues we have been following. Obviously, the white papers that the committee has put out through the Outdoor Power Equipment Institute. I am currently chair of that group. But I really am here today on behalf of Briggs & Stratton to give you an idea of small engine manufacturers. And the issue isn't just unique to Briggs. It applies to others in the industry as well, the issues that we have with the RFS and specifically with E15.

I would also like to recognize the EPA. We have over the years worked an awful lot with the EPA in terms of emissions regulations. Their career employees are just very professional people, and we have found them to be fair and balanced as we go through finding regulations that both protect, obviously, the environment but also make sure that the consumer is protected along the way.

So let me talk a little bit about the affect of ethanol on our engines. Our engines are currently designed to run on blends of E0, so zero percent ethanol, all the way up to E10. They are calibrated as such. The materials that we use will withstand E10. And when the partial waiver came out with regards to the EPA introducing E15 into the marketplace, they excluded offroad engines, which were excluded. So the EPA really recognizes that there is an issue with regards to our types of equipment. The problem is, it introduces the fuel into the marketplace. Part of the partial waiver also included a misfueling mandate that was out there to make sure that people don't misfuel. Because I think the EPA recognized that, in fact, there will be misfueling. That can and will occur.

So the issue along the way is when you get to E15—let me just give you a little bit of background when you get above E10. It degrades the engine components very quickly. And the engine itself will achieve premature failure. So our concern is really those consumers. There are 80 million engines out there in the U.S. today that Briggs & Stratton has made. And we want to make sure that those consumers get the value they deserve as we go along. So it is really the legacy equipment and also moving forward.

So the misfueling, we anticipate—and there are a lot of studies that have been done that misfueling will occur. Currently, the

misfueling mandate really calls for a label on a pump. And we have all been to the pump and filled up our cars. There is a lot of information there and this small very small label is not going to deter someone from basically putting fuel in their 5 gallon can or the 2.5 gallon can and taking it home and putting it in their piece of equipment, small engine. Also, when you look at it, studies have shown that because the cost, as we talked earlier today, the cost of ethanol, higher blends of ethanol is cheaper. People will migrate towards that fuel. There is also just simply a lack of knowledge out in the marketplace. Just yesterday I was talking with a CEO friend of mine in Milwaukee, and he was telling me about his boat. And I said you don't put even E10 in your engine. He said E what? He doesn't understand. The fact is, people don't understand these things. They will misfuel. And it will lead to premature failure with regards to their engines. They will not get the value they need.

So we at Briggs, we are not against renewable fuels at all. We believe renewable fuels are important. We want to make sure that there are renewable fuels that can be used in not only equipment that we make into the future but also equipment that we have made in the past that is out in the field, the legacy equipment. We are really very much for a drop-in fuels. We have tested isobutanol at our own expense. We have worked extensively with a company named Gevo in the past. We have found that the isobutanol as an example is a fuel that could be used as a drop-in fuel for our equipment, again, both legacy and going forward.

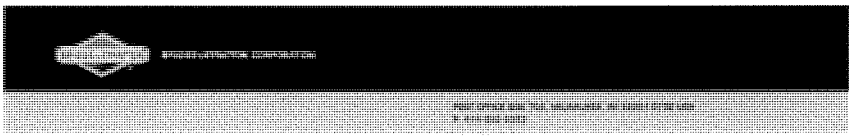
We would suggest that the committee rescind E15, the partial waiver because there will be misfueling that will occur.

And finally we would recommend at a minimum that the amount of ethanol that is blended into the national fuel supply be capped at 10 percent ethanol. So our engines can handle 10 percent. We would suggest you cap it at 10 percent.

So, again, thank you very much for allowing us to be here. And we look forward to your questions.

Mr. WHITFIELD. Mr. Teske, thanks very much for your testimony.

[The prepared statement of Mr. Teske follows:]



July 19, 2013

Mr. Todd J. Teske, President, Chairman & CEO, Briggs & Stratton Corporation
One page summary

Five reasons why EPA should revisit its 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.

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

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

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

5. The use of Biofuels or "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, from any feedstock, which are intended for use as "drop-in fuels" which provide a safe fuel for both legacy and newly manufactured small engines and outdoor power equipment.

At a minimum we recommend that the reform legislation rescind the partial waiver for E15, 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 for.

BRIGGS & STRATTON CORPORATION

POST OFFICE BOX 702 MILWAUKEE WI 53201 0702 USA
P 414 259 5333

July 19, 2013

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

Chairman Whitfield, Ranking Member Rush, Congressman Barrow and distinguished Members of the Committee, thank you for soliciting Briggs & Stratton's perspective on the issues raised by 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 challenge which the RFS presents to manufacturers, consumers and the environment. The Outdoor Power Equipment Institute, on which I currently serve as Chairman, has submitted formal comments in response to the Committee's white papers. My statement, which is submitted strictly in my capacity as Chairman and CEO of Briggs & Stratton, will attempt to define that challenge as it pertains to small engine manufacturers and offer suggestions on how to protect consumers from significant economic and environmental damage.

Briggs & Stratton Corporation, which is 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 pressure washers, generators, lawn and garden, turf care and other power equipment through its Briggs &Stratton, Simplicity®, Snapper®, Ferris®, Murray®, Branco® and Victa® brands. Briggs & Stratton products are designed, manufactured, marketed and serviced in over 100 countries 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

BRIGGS & STRATTON CORPORATION
POST OFFICE BOX 702, MILWAUKEE, WI 53201-0702 USA
P. 414 259 5333

celebrating its 105th 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, will achieve an additional 35% reduction in those emissions by January, 2014. In 2007, we signed a pledge with the Department of Energy to reduce our energy consumption by 25% over 10 years. Just 6 years later, we have already cut our consumption by 20%. These are just a few of the many examples that demonstrate our commitment to the environment.

Below are five factors justifying 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

BRIGGS&STRATTON CORPORATION
POST OFFICE BOX 702, MILWAUKEE, WI 53201-0702 USA
P 414 259 5333

life due to issues such as valve sealing, piston scoring, and head gasket leakage, just to name a few. Ethanol is also hydroscopic (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.

The Department of Energy (DOE) also conducted testing. After testing E-15 on a representative sample of small non-road engines, including Briggs & Stratton powered generators and power washers, the 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

BRIGGS & STRATTON CORPORATION
POST OFFICE BOX 702, MILWAUKEE, WI 53201-0702 USA
P 414 259 5333

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. 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

BRIGGS&STRATTON CORPORATION
POST OFFICE BOX 702, MILWAUKEE, WI 53201-0702 USA
P 414 259 5333

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 and has introduced additives and E-0 gasoline products to assist consumers with selecting the proper fuel. Briggs & Stratton does not feel it, 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 recent study, AAA found that 95% of Americans had not heard of the new E-15 waiver. In a

BRIGGS & STRATTON CORPORATION
POST OFFICE BOX 702, MILWAUKEE, WI 53201-0702 USA
P 414 259 5333

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 will require EPA to continue to revise fuel standards creating uncertainty in the marketplace and for

BRIGGS&STRATTON CORPORATION
POST OFFICE BOX 702, MILWAUKEE, WI 53201-0702 USA
P 414 259 5333

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

For the past three 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. 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 for.

Mr. WHITFIELD. Mr. Darbelnet, you are recognized for 5 minutes.

STATEMENT OF ROBERT DARBELNET

Mr. DARBELNET. Thank you. My name is Bob Darbelnet. I am president and CEO of AAA.

Mr. WHITFIELD. Would you move it a little closer to you, Mr. Darbelnet?

Thank you.

Mr. DARBELNET. We represent 54 million motorists in North America and appreciate this opportunity to share with you our concerns both relative to the premature introduction of E15 and what I think, in due course, you are going to be required to do, and that is to adjust the RFS standard.

But dealing with E15 first, we have—in our view, there are three prerequisites for the introduction of the new fuel. And the first one is that there be adequate testing to ensure safety. And in our view, that has not occurred. Granted, the EPA did extensive testing. But it was focused predominantly on emission controls. Industry testing, however, revealed real concerns, some of which have already been mentioned relative to premature engine wear and fuel pump failures. For that matter, even the Renewable Fuels Association, which is a great advocate for ethanol, advises retailers to be aware of the damage to their underground fuel systems that can be caused by E15. So if it is not safe for their tanks, it makes us wonder why it would be safe for our members' tanks.

The second requirement is that there be coordination between regulators, fuel retailers, and auto manufacturers. In our view, that has not occurred either. A number of the retailers are opposed to the sale of E15, and virtually all the significant auto manufacturers in this country have advised that E15 is incompatible with 95 percent of the vehicles that are on America's roads today.

And then, the third requirement is that there be outreach to consumers to mitigate the risk of misfueling. And that has not occurred either. We did some polling recently that indicated, much to the point that Mr. Teske made, 95 percent of Americans don't know what E15 is, let alone whether they ought to put it in their vehicle. And the EPA ceded to pressures to tone down that very small label that is required on pumps, such that it reads "attention" rather than "warning," which might have been the more advisable term, albeit, as noted, it is unlikely that that small label—by about 3 inches by 3 inches—is going to be detected in all the other messages that are on today's pumps. If you pump your own gas, you know what I am referring to.

But let me be clear, AAA is not opposed to the use of ethanol for automobiles. E15 is compatible with most vehicles, and it would allow for the reduction of our dependency on fossil fuel and offer motorists a choice as to what they purchase. So we are not opposed to ethanol. We are comfortable with E10. But we are certainly opposed to E15 under the current circumstances.

Allowing it to continue to be sold is irresponsible, and in our view, it should cease until adequate testing allows for the regulators, the retailers, and the people who manufacture the cars to reconcile their views, agree on which vehicles it can safely be used for, and adequately inform consumers.

Now as to the issue, which I know you are quite interested in, which is what to do with the RFS, for the moment, we are not calling on you to revoke or even modify the RFS requirement. We do believe that you are going to find yourselves confronted with the obligation to make some adjustment. And we certainly believe that it should be adjusted if we find ourselves in a situation where the only way to achieve it is to allow the continued sale of E15. If that were the only way to meet the requirement for 2014, it would definitely need to be adjusted, and I commend you for addressing this issue before it becomes much larger than it already is.

Thank you very much.

Mr. WHITFIELD. Thank you.

[The prepared statement of Mr. Darblenet follows:]

Written Testimony of
Robert L. Darbelnet

President and CEO

AAA

Before the U.S. House Committee on Energy and Commerce

Subcommittee on Energy and Power

Written Testimony on "Overview of the Renewable Fuel Standard: Stakeholder Perspectives"

July 23, 2013

Summary

AAA believes that ethanol blended fuels have the potential to provide drivers with a welcome choice at the pump, which supports American jobs, promotes American energy independence and can save Americans money. In order to realize these benefits, it is imperative that increased ethanol blends — or any new fuels — are only brought to market when consumers have been clearly informed and protected. The introduction of E15 gasoline to consumers has failed to meet this obligation.

The first step for a new fuel being introduced to market is thorough and thoughtful testing of how it will impact consumers and their vehicles. This should include research that looks at the full impact of fuel use on emissions, fuel systems, drivability, fuel efficiency and retail distribution to motorists. The fuel should not be approved for use in any vehicle or equipment that is not proven appropriate. While EPA testing of E15 was extensive it did not study the full impact of the fuel on a vehicle. Industry testing has subsequently raised real concerns of potentially costly damage from sustained use of higher ethanol blends.

Second, there must be effective coordination between regulators, fuel retailers and auto manufacturers. This has not occurred. Many retailers are rightly concerned with the cost and liability of offering higher ethanol blended fuels. Additionally, a survey conducted by AAA found auto manufacturers advise that only five percent of vehicles on the road are approved to use E15 — a stark contrast to the more than fifty percent that the EPA has advised can use the fuel.

Finally, it is vital for regulators to work closely with industry stakeholders to ensure appropriate outreach to consumers to mitigate the risk of misfueling. This outreach has not taken place, as evidenced by another AAA survey, which found that more than 95% of consumers had not heard of E15. In the best of circumstances, when filling up at a pump that dispenses the fuel, motorists have only a 3 and 5⁄8 inches wide by 3 and 1⁄8 inches high label to warn that they may be using a new product not designed for use in their vehicle. As AAA noted in our public comments submitted to the EPA in 2011, this label alone is insufficient.

Some groups have chosen to misrepresent AAA's position and the reasons that we have called for E15 sales to be suspended, rather than discuss the material concerns we have raised on behalf of motorists. AAA is not opposed to ethanol. Furthermore, AAA would support a motorists' right to choose E15 but not until the impact on vehicles is clear and only once basic thresholds of consumer education and protection have been met.

With this goal in mind, AAA has called on regulators and industry to suspend the sale of E15 until motorists are better protected. We welcome the Subcommittee's support in achieving this goal.

When reviewing the RFS requirements for 2014, EPA should consider whether adjustments are necessary or if target volumes can be met without putting consumers at risk. AAA's focus is on protecting consumers. If the adoption of E15 is critical to meeting the RFS, AAA calls upon parties involved do everything possible to educate motorists and work with automakers to ensure adequate consumer protections are first in place. If the only way to meet the RFS requirement is to introduce E15 before agreement has been reached on which vehicles can safely use it and the consumer has been adequately educated, then the RFS requirement should be modified.

Testimony

Thank you, Chairman Whitfield and Ranking Member Rush, for the opportunity to testify at today's hearing. My name is Bob Darbelnet, and I am the president and CEO of AAA.

AAA is a not-for-profit, fully taxpaying federation of motor clubs in the U.S. and Canada. AAA provides more than 53 million members with travel, insurance, financial and automotive-related services. Since its founding in 1902, AAA has been a leader and advocate for the safety and mobility of all travelers.

Our advocacy ranges from issues as diverse as distracted driving and teen driver safety, to tracking retail gasoline prices, to forecasting holiday travel patterns, to partnering with regulators to develop and implement more consumer-friendly fuel economy labels. We believe that consumer protection and education, supported by clear and thoughtful research, is not just a priority, it is an obligation.

I understand that today's hearing today will focus broadly on the Renewable Fuel Standard (RFS) which was created in 2005 and expanded in 2007. AAA is not opposed to ethanol and we have not opposed the RFS. We are very concerned with the way that one particular new ethanol blended fuel has been brought to market and is being sold to consumers: E15.

AAA believes that ethanol blended fuels have the potential to provide drivers with a welcome choice at the pump, which supports American jobs, promotes American energy independence and can save Americans money. In order to realize these benefits, it is imperative that increased ethanol blends — or any new fuels — are only brought to market when consumers have been clearly informed and protected. The introduction of E15 gasoline to consumers has failed to meet this obligation.

In November of last year — several months after E15 was first sold to motorists — a AAA survey found that 95 percent of consumers had never heard of the fuel. Additionally, despite the Environmental Protection Agency (EPA) waiver, allowing the use of E15 gasoline in model year 2001 and newer vehicles, we learned that far fewer vehicles — a scant five percent — were actually approved for use

under warranty by their manufacturer. Most alarmingly, this new fuel entered the market without adequate protections to prevent misfuelings and despite remaining questions about potential vehicle damage, even for EPA-approved 2001 and newer vehicles. For these reasons, AAA called on the EPA and retailers to suspend the sale of E15 until motorists were better protected.

As the Subcommittee is aware, the EPA was first petitioned in 2009 to allow the sale of E15. Since that initial request, AAA has worked extensively with the Agency to ensure that the fuel blend would only be sold to motorists if it could be done in a way that did not put them at risk. When I testified before House Committee on Science, Space and Technology five months ago, E15 was for sale at a handful of stations in three states. Today, despite continuing evidence that drivers are not aware of the fuel and could be unknowingly putting their cars in jeopardy, the number of states has doubled. Twenty gas stations in Nebraska, Iowa, Kansas, South Dakota, Illinois and Wisconsin are selling E15, and there is a strong likelihood that retailers will sell this fuel in additional states soon unless immediate action is taken to protect consumers. To understand what steps are necessary to correct the current lack of protection and education, it is essential to understand the process necessary for the successful introduction of any new fuel.

In our view, the first step for a new fuel being introduced to market is thorough and thoughtful testing of how it will impact consumers and their vehicles. This should include research that looks at the full impact of fuel use on emissions, fuel systems, drivability, fuel efficiency and retail distribution to motorists. The fuel should not be approved for use in any vehicle or equipment that is not proven appropriate.

Next, it is critical to implement consumer education efforts to ensure that the new product is only used as directed. This includes sufficient steps to prevent misfuelings, including, but not limited to, consumer protections at the pump and education efforts to ensure motorists are fully aware of the fuel they are using in their vehicle. The importance of these steps only increases in the event of a partial waiver, where there is significantly greater potential for motorist confusion and misfueling.

Finally, it is vital for regulators to work closely with industry stakeholders to ensure that manufacturers support federally-approved fuels marketed as safe to consumers. This is an essential final step to prevent motorists from unknowingly using a fuel their vehicle's manufacturer does not deem safe and that could potentially void their warranty and leave them liable for costly repairs.

E15 has been introduced into the market without the successful completion of any of these necessary steps.

Supporters of E15 rightly note that the Department of Energy (DOE) rigorously tested the fuel for exhaust emissions and components. This is consistent with the EPA's mission. It was however neither the rigor nor the duration of this testing that fell short, it was the scope of impact that these tests were designed to capture. After reviewing this research, along with other studies that have been conducted, AAA's automotive experts have concerns about reduced engine life and fuel pump failure from E15 use — factors that DOE testing was not structured to measure.

AAA would support E15 gasoline coming to market, but only following complete and conclusive testing demonstrating it was safe for approved vehicles and once necessary consumer awareness and protections were put in place.

Consumer education efforts to date and safeguards at the pump are also severely lacking. As previously discussed, AAA found that more than 95% of consumers have not heard of E15. In the best of circumstances, when filling up at a pump that dispenses the fuel, motorists have only a 3 and 5⁄8 inches wide by 3 and 1⁄8 inches high label (attached) to warn that they may be using a new product not designed for use in their vehicle. As AAA noted in our public comments submitted to the EPA in 2011, this label alone is insufficient. It is easily overlooked by motorists among the other stickers and signage on the pump and the final version is a watered-down and less attention-grabbing version of the initial label proposed by the EPA. The risk is only more alarming considering a recent survey referenced by the National Marine Manufacturers Association that found 35 percent of the current registered sellers of E15

— six of the then 18 registered program sites — had not even bothered to label the pump at all. This combination of uninformed consumers and insufficient identification at the pump puts motorists at unnecessary and unacceptable risk and is a recipe for misfuelings and vehicle damage.

Finally, both the EPA and the Renewable Fuel Association (a vocal supporter of E15's approval), agree that "it may be necessary for consumers to consult their vehicle manufacturer's website or an authorized dealership, to determine recommendations on the use of E15 in their vehicle." AAA took the guesswork out of that recommendation and checked. Automakers have approved less than 5% of cars on the road to use E15.

This leaves a substantial gap between the limited number of vehicles that automakers will cover and the slightly more than 50% of vehicles the EPA has approved to use the fuel. This sort of conflicting information confuses motorists, and AAA believes it is both premature and irresponsible to sell E15 to consumers while these issues remain unresolved.

While supporters publically and vocally deny and dismiss the potential damage to motorists' vehicles and fueling infrastructure that E15 may cause, these same groups do admit that higher ethanol blends may cause damage when it suits their business interests.

In a USA Today article in November 2012, Bob Dinneen, CEO of the Renewable Fuel Association (RFA), stated "there are no corrosive issues with E15. If there's an issue with E15 (damaging vehicles) we're going to know about it." This statement is in stark contrast to the RFA's own "E15 Retailer Handbook," which clearly outlines potential issues with the fuel. The handbook not only advises retailers that "some Underground Storage Tank systems and related underground equipment may not be compatible with E15 blends" but also cites the Underwriters Laboratories' warning that "some equipment, both new and used… demonstrated limited ability to safely accommodate exposure to fuels such as E15."

Perhaps most alarmingly, the renewable fuels industry testified before Congress in support of the Domestic Fuels Protection Act. This legislation was appropriately named in that it provided blanket

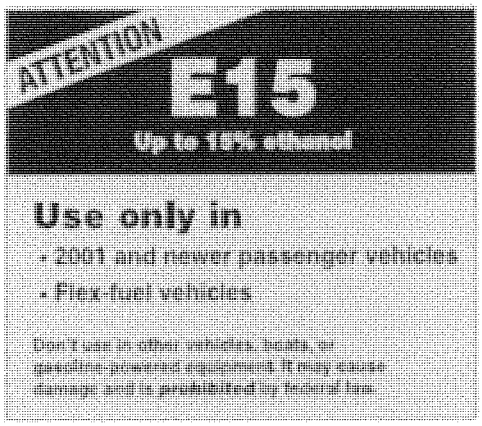
liability protections to fuel producers, while providing no protections to motorists. If these proponents of higher ethanol blends aren't confident enough to take responsibility for the risks of E15, it is not just inappropriate but inexcusable that the risk be passed on to unsuspecting consumers.

Some groups have chosen to misrepresent AAA's position and the reasons that we have called for E15 sales to be suspended, rather than discuss the material concerns we have raised on behalf of motorists. AAA is not opposed to ethanol. Furthermore, AAA would support a motorists' right to choose E15 but not until the impact on vehicles is clear and only once basic thresholds of consumer education and protection have been met.

With this goal in mind, AAA has called on regulators and industry to suspend the sale of E15 until motorists are better protected. We welcome the Subcommittee's support in achieving this goal.

The Subcommittee today will be focusing more broadly on the merits and shortcomings of the RFS. As this discussion progresses, I would urge you to keep American consumers front of mind. When reviewing the RFS requirements for 2014, EPA should consider whether adjustments are necessary or if target volumes can be met without putting consumers at risk. AAA's focus is on protecting consumers. If the adoption of E15 is critical to meeting the RFS, AAA calls upon parties involved do everything possible to educate motorists and work with automakers to ensure adequate consumer protections are first in place. If the only way to meet the RFS requirement is to introduce E15 before agreement has been reached on which vehicles can safely use it and the consumer has been adequately educated, then the RFS requirement should be modified.

Thank you again to the Subcommittee for the opportunity to testify here today and I look forward to your questions.


ATTENTION
E15
Up to 15% ethanol
Use only in
• 2001 and newer passenger vehicles
• Flex-fuel vehicles

Mr. WHITFIELD. Mr. Jobe, you are recognized for 5 minutes. Turn your microphone on.

STATEMENT OF JOE JOBE

Mr. JOBE. Thank you, Chairman Whitfield, Ranking Member Rush, and members of the committee.

It is good to see you again. I want to thank you for the opportunity to come and testify on behalf of the U.S. Biodiesel Industry.

My name is Joe Jobe. I am the CEO of the National Biodiesel Board. And I hope to leave you today with two important messages. First, under the RFS, the advanced biofuel and the biomass-based diesel categories programs are working. And second, with the help of the RFS, biodiesel is reducing consumer prices at the pump.

As a brief background, biodiesel is a renewable low-carbon diesel alternative made from an increasingly diverse mix of resources, including agricultural oils, recycled cooking oil, and animal fats. It is the first and currently the only EPA-designated advanced biofuel that is produced on a commercial scale with plants in virtually every State and was the first to reach a billion gallons of annual production.

NBB is the national trade association representing the biodiesel and renewable diesel industries. Our 200-plus member companies have produced the vast majority of the advanced by biofuel pool under the RFS, and we are pleased to be welcoming a new 137 million gallon renewable diesel member located in St. Charles, Louisiana.

Our industry has exceeded the biomass diesel category in every single year of the program, and we are on track to do so again this year. This is a tremendous success story. It has created over 50,000 jobs. It is diversifying and actually improving the domestic fuel supply, and it is reducing pollution.

A few positive things about biodiesel to point out. Our industry has added decentralized renewable refining capacity. It is diversifying the transportation fuel supply, which will ultimately help stabilize prices to the consumer. It is actually improving the quality of the nation's diesel fuel supply. Biodiesel blends have premium diesel characteristics. It is an oxygenated fuel, has high cetane, high lubricity, zero sulfur, and there is no fuel economy or horse power penalty. In fact, the diesel land speed record was set using B20. Biodiesel significantly reduces virtually all regulated emissions, including 57 to 86 percent carbon reductions.

One of our main feed stocks is recycled cooking oil. It helps keep waste out of the sewer systems, landfills, waterways and prevents costly infrastructure repairs.

Another important feed stock is animal fats, which means biodiesel is giving livestock producers new markets for waste, fats, and oils, increasing the value of cattle by $10 a head, $1.25 for hogs, and 30 cents for poultry.

Additionally biodiesel is saving consumers money at the pump. With the help of the RFS, fuel distributors are purchasing wholesale biodiesel and offering it to consumers at a discount to diesel fuel. The mayor of Gadsden, Alabama, recently announced that his city is saving $100,000 annually by using 20 percent biodiesel in his fleet. Additionally, Navy Secretary Ray Mabus, stated in testi-

mony in April that the Navy is saving an estimated $0.13 per gallon currently by use B20.

Now, the biomass-based diesel category is structurally different than the other sections of the RFS. Primarily there is no automatic mandate on the annual volume requirement. There is an EPA rulemaking each year to determine the appropriate volume for the following year. This is a robust and comprehensive process that is open to all stakeholders. Last year, that process resulted in a very conservative increase from 1 billion to 1.28 billion gallons, and we estimate that we are on track to exceed 1.5 billion gallons this year.

Before I close, I want to discuss briefly the issue of fraudulent RINs. In 2010 and 2011, the biodiesel industry experienced a few cases of criminals generating and trading fraudulent RINs. Our industry took very aggressive measures working closely with EPA and the petroleum industry to address the fraud head on. We developed and deployed a robust and comprehensive RIN integrity program that has effectively addressed the problem. This was a private sector solution that we developed and deployed. Two of the three cases of fraud were resolved in court and two criminals are sitting in jail. The third case is pending.

We also worked with the EPA and the petroleum industry to put in place a new regulatory framework that defines quality assurance plans, which gives obligated parties the opportunity for an affirmative defense. With these measures in place, we are confident that the issue of RIN fraud for biodiesel has been effectively addressed.

In conclusion, we believe that the RFS was the right policy when President Bush signed it in 2005 and again in 2007 with overwhelming bipartisan support, and it remains a sound policy today. My industry is fully committed to working diligently with this committee, with the EPA, our partners in petroleum and anyone else willing to work with us to make the RFS an unqualified success.

Thank you for inviting me to testify, and I look forward to answering your questions.

Mr. WHITFIELD. Mr. Jobe, thank you.

[The prepared statement of Mr. Jobe follows:]

National Biodiesel Board
605 Clark Ave.
PO Box 104898
Jefferson City, MO 65110-4898
(800) 841-5849 *phone*
(573) 635-7913 *fax*

National Biodiesel Board
1331 Pennsylvania Ave., NW
Suite 512
Washington, DC 20004
(202) 737-8801 *phone*
www.biodiesel.org

Written Testimony of Joe Jobe
Chief Executive Officer
National Biodiesel Board
Submitted to the United States House of Representatives
Committee on Energy and Commerce
Subcommittee on Energy and Power
Overview of the Renewable Fuel Standard: Stakeholder Perspectives
July 23, 2013

Chairman Whitfield, Ranking Member Rush and members of the Committee, it's good to see you again and I want to thank you for the opportunity to testify today on behalf of the National Biodiesel Board (NBB) regarding our perspectives on the Renewable Fuel Standard (RFS).

We have appreciated the opportunity over the past few months to respond to the committee's "white papers" and provide other information on our industry's tremendous success under the RFS. The timing of this hearing, I believe, is fortuitous for consumers because recent international events and the corresponding run-up in fuel prices should remind us all why Congress and the Bush Administration created the RFS just seven years ago with overwhelming bipartisan support. Despite what we have heard from the petroleum sector, the overwhelming driver of those price increases is our dependence on global petroleum markets, the lack of domestic refining capacity, which biodiesel provides, and the lack of choice in the fuels marketplace. As we are seeing with this latest price spike, no matter how much oil we find here at home, consumers will continue to see rising gas prices until we diversify the market. That is what the RFS is all about, and it is a success story.

Specific to our industry, I would like to leave you with two key messages today. First, Under the RFS, the Advanced Biofuel and Biomass-based Diesel programs are working. And second, with help from the RFS, biodiesel is reducing consumer prices at the pump.

But before I go into detail on those two points, please allow me to provide some background.

Biodiesel is a renewable, low-carbon diesel replacement fuel made from an increasingly diverse mix of resources including agricultural oils, recycled cooking oil, and animal fats. It is the first and currently the only EPA-designated Advanced Biofuel that is produced on a commercial scale across the country – and the first to reach 1 billion gallons of annual production. It meets a strict ASTM fuel specification and is used in existing diesel engines without modification. In 2011 and again in 2012, our industry produced nearly 1.1 billion gallons of biodiesel in plants across the country, from California to Florida, and blended that fuel into the 55 billion gallon petroleum diesel market.

NBB is the national trade association representing the biodiesel and renewable diesel industries. Our organization is made up of producers, feedstock organizations, fuel marketers and distributors, and technology providers, and our members have produced the vast majority of the Advanced Biofuel pool under the RFS in recent years.

Many today have focused on concerns about the blendwall and E-15, but I would like to take this opportunity to remind everyone that biodiesel is an Advanced Biofuel under the program that is exceeding volume requirements. Our industry, in fact, has cracked the 1 billion gallon mark for two consecutive years, exceeding the volume requirements under the RFS in 2011 and 2012. And we are on pace to do so again this year. This is a tremendous success story that is creating jobs across the country, improving our energy security, helping consumers and reducing pollution.

In exceeding the minimum requirement under the RFS, our industry has produced more than 800 million excess biodiesel gallon RINs (See Attachment A). This has given obligated parties a number of options, including the ability to use those excess gallons and RINs to help fill their conventional fuel requirements. In other words, a biodiesel gallon can be used to fill 1.5 ethanol gallons under the RFS. When biodiesel RINs are used to fill the conventional ethanol pool, blend wall issues are delayed a bit.

Looking back, in 2004, before the RFS was put in place, our industry produced only 25 million gallons. This year, we are on pace to produce more than 1.5 billion gallons. We have registered capacity at EPA to produce more than 3.0 billion gallons, so our facilities are running at approximately 50 percent capacity. Since 2005, the biodiesel industry has added more than 5.0 billion gallons of domestically produced biodiesel to the country's finished fuel supply. This is creating a number of benefits including:

1. Biodiesel adds real domestic manufacturing and professional jobs to our economy – at 1.0 billion gallons we support more than 50,000 jobs.
2. The added biodiesel refining capacity reduces our dependence on foreign oil and loosens refining limitations, which helps stabilize the devastating impacts of the global price of petroleum.
3. Biodiesel significantly improves the environmental quality of diesel fuel, reducing general pollutants as well as carbon emissions. According to the EPA, biodiesel reduces lifecycle greenhouse gas emissions by 57 percent to 86 percent compared to petroleum diesel. With some 4.6 billion gallons used between 2005 and 2012, biodiesel has reduced lifecycle greenhouse gas emissions by 74 billion pounds – the same impact as removing 5.4 million passenger vehicles from America's roadways.
4. Biodiesel helps keep cooking oil out of our sewer systems, landfills and waterways, preventing costly infrastructure repairs (cooking oil is a feedstock for biodiesel).
5. Biodiesel uses, as a feedstock, the rendered animal fat from cattle, hogs, chickens and turkeys and by doing so we increase the value of livestock producers by $10.00 a head for cattle, $1.25 for hogs and 30 cents for chicken and turkey – on each animal.

Additionally, biodiesel is saving consumers money at the pump.

Biodiesel is traded as a commodity, like a barrel of oil or a gallon of #2 diesel fuel or heating oil. With the help of the RFS, fuel distributors are purchasing biodiesel at a lower price than petroleum diesel, resulting in estimated consumer savings of $120 million in 2013. Consider these independent third-party statements:

- Navy Secretary Ray Mabus, Testimony before U.S. House Armed Forced Committee, April 16, 2013: "This past year the Navy purchased a B20 blend (80 percent conventional/20 percent biodiesel) for the steam plant at the St. Julien's Creek Annex, near Norfolk, VA. The cost of the B20 is 13 cents per gallon less expensive than conventional fuel, and is projected to save the facility approximately $30,000 over the 2012-2013 heating season."

- Gadsden, Ala., Mayor Sherman Guyton on the city saving about $100,000 annually in fuel costs and taxes by switching much of the city's fleet to 20 percent biodiesel blends: "We are being kinder to our environment, we are saving money and we are reducing our dependence on foreign oil. There's no downside. It's a win, win, win situation." (Gadsden Times - May 30, 2013).

- Michael Whitney, Love's Travel Stops/Musket Corp.: "Over the course of the past year delivered biodiesel prices have been lower than diesel prices. Accordingly, wholesale marketers of diesel have been able to offer biodiesel blends at the rack at a discount to clear diesel (diesel without biodiesel). These discounts have varied over the course of the year from as little as $0.0025 (1/4 of a cent) to as much as 4-5 cents per gallon."

These are all positives helping to stabilize the U.S. economy at a time when consumers are being hit with some devastating consumer inflation issues specifically related to the global price of oil. During the past year or so, through a well-organized media campaign we have heard a great deal of rhetoric about the cost of biofuels to obligated parties. Clearly, we understand they don't like the RFS, but it is clear that diversification and the RFS are good for consumers.

Just last week the U.S. Labor Department stated that "energy prices are impacting inflation for consumers." In its inflation report for the month of June, the Consumer Price Index (CPI), measuring consumer inflation, showed that prices were up by 0.5% on the headline CPI, but up only by 0.2% for the core CPI, which excludes the volatility of food and energy prices.

Opponents of the RFS often try to assert that hydraulic fracturing and horizontal drilling technologies have provided access to domestic shale oil, and that these new domestic sources of oil will make us energy independent. Their argument is that we no longer need the RFS or to develop any alternative sources of transportation fuel because we are increasing domestic petroleum supply which will lead to cheap fuel prices for US consumers. This is a false argument because it assumes that crude oil is priced regionally rather than globally. The US is several years now into one of the largest domestic oil booms in decades, yet US consumer prices for gasoline and diesel fuel have remained high and unstable.

The recent Egyptian revolution is another stark example of the fact that the domestic shale oil boom, by itself, will not protect US consumers from unstable global oil prices. Since the unrest in Egypt started, oil has jumped above $106 per barrel and gasoline prices recently shot up 20 cents in just 10 days. Global supply and demand did not change one drop. And Egypt doesn't even have any oil, they are just a key player in the unstable region where most of the world's oil resides.

Canada is a net exporter of oil - completely energy independent. Yet Canadian consumers will be paying the same increased cost at the pump generated by this latest unrest in Egypt. The Canadian experience provides compelling evidence that as a country, you can be a net exporter of oil, but it will not insulate your citizens from paying whatever price the international market and OPEC decide they will pay.

As stated recently in the *Wall Street Journal (July 10, 2013):* "The return of geopolitical concerns to oil markets has dimmed hopes that a U.S. shale boom could put a lid on the prices motorists pay at the pump."

The fact is that we simply cannot manage the global price of oil by increasing our own supply.

The only answer – which the RFS is gradually accomplishing – is to do what the electricity markets have smartly done: diversify our supply of fuels and build capacity. Coal, natural gas, nuclear, hydro, geothermal, wind, solar, and biomass all fuel our power plants, making our electricity prices stable and affordable. Clearly it makes sense to do the same in the transportation fuels market. We must also increase our refining capacity – and the only efficient way to do that in the near to midterm is through the ongoing development of biofuels.

By nurturing a renewable fuels industry in the U.S., we provide competition in the marketplace to keep prices down. Not only do we become less dependent on foreign oil, we become less dependent on *any* singular fuel. And in the process, we improve the air we breathe while creating good jobs here at home.

It was right when President Bush made the Renewable Fuel Standard the country's first real transportation fuels energy policy in 2005. And it remains the right policy today.

Before I close, I want to discuss briefly the issue of fraudulent RINs. In 2010 and 2011 the biodiesel industry experienced several cases of fraud where criminals created and traded paper biodiesel RINs that were not supported by biodiesel gallons. Our industry worked closely with EPA and now two of the three cases were resolved in court and two criminals are sitting in jail. The third case is pending.

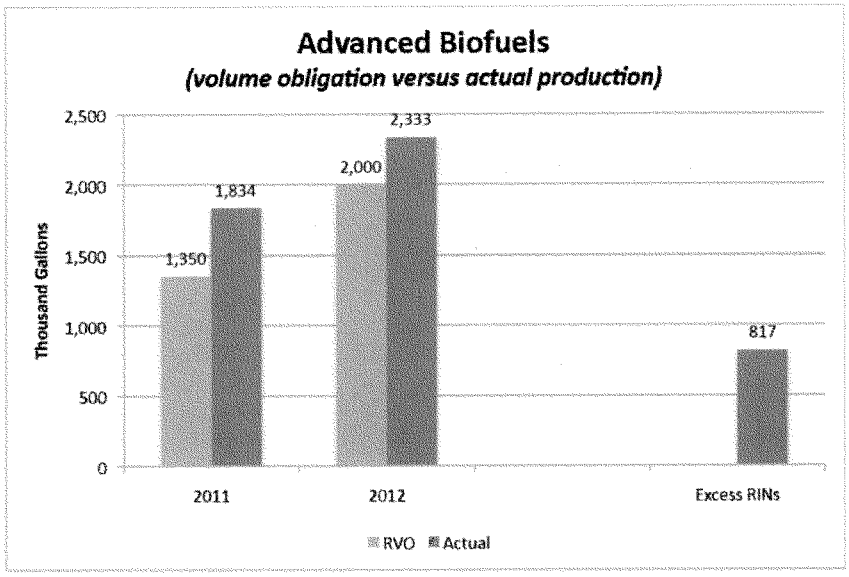
Just 12 months ago, I testified before the Energy & Commerce Oversight Subcommittee where we explained how our industry created a working group with the petroleum industry to assist EPA in solving fraudulent RIN issues. I am pleased to report that EPA, together with industry, has efficiently put in place a new regulatory framework that encourages RINs to be audited by independent auditors and that affords obligated parties the opportunity for an affirmative defense should they submit invalid RINs for compliance purposes. It is anticipated that EPA will

finalize the regulatory rule this fall. The proposed rule created a temporary framework that is in place for 2013, so obligated parties can benefit from the audit program immediately.

Although not perfect, the RIN audit program or Quality Assurance Plan (Q-A-P) is an example of what we can do collectively to solve real issues like fraud. I am confident, that we can resolve many of the other issues highlighted by this hearing if we work together cooperatively.

We appreciate the opportunity to provide you with our insights and look forward to working with this committee on any questions or comments you may have.

ATTACHMENT A



Mr. WHITFIELD. And thank all of you for your testimony. And I will recognize myself for 5 minutes of questions.

I think all of us have appreciated the additional capital investment that has gone in for ethanol and has gone in for biofuels and other technology, so that we know that we can produce these fuels. And those people who are most concerned about climate change, they are very excited about it as well. And I am really glad that Mr. Petrowski, Mr. Karr, Mr. Teske, Mr. Darbelnet are testifying today, not that I am not pleased to hear from Mr. Jobe and Mr. Buis, because we hear from those people frequently, but the one group of people out in the country that really do not have a voice is the consumer. And frequently, we don't focus on the consumer because we know that the overall policy is supposed to be a good policy, everyone is supposed to benefit from it, but the reality is when you get down to the independently-owned gas station, the automobile manufacturers, the small engine manufacturer, representative of millions of drivers, you do run into liability issues, you do run into expenses for putting in the new equipment that is compatible with what the government is mandating, and I am assuming you also are exposed to liability issues, because somebody's going to be sued if something goes wrong.

So, to the four of you, I would just ask, on a scale of 1 to 10, 10 being you are most concerned about it, how concerned are you about the cost to your consumers, the cost to you personally in your business, the liability issues, how concerned are you that there really will be problems if there is not some adjustment made in some way to this? So 10 being, I am really very much concerned; or 1, I am not really concerned about it at all. You can just let it go. We think it'll be OK.

So can we start with you, Mr. Petrowski?

Mr. PETROWSKI. I would say ten, Mr. Chairman.

Price is the number one driver for consumers at all times, but especially in hard economic times that we have been in. So I would say 10. Price is the driver for our business.

Mr. WHITFIELD. So you are saying by this that if we don't do something, you are as concerned about it as you can be?

Mr. PETROWSKI. Well, I would not scrap the RFS. Today I would——

Mr. WHITFIELD. Yes. I am not talking about scrapping. I am talking about adjusting.

Mr. PETROWSKI. Yes, I would be concerned if we don't address it, bringing the price of RINs down to something cheaper that we are going to translate to higher pricing, even though today I would just love to blend more ethanol. 5 percent ethanol with a 60 cent discount earns me 3 cents more, which I either can keep as profit or put—lower the price 3 cents on the street, which increases traffic to my facility, but I cannot put 15 percent in if we do not have liability relief on the automobiles, if we don't have the right labeling, if my equipment is not insured for 15 percent, pumps, dispensers, and tanks, so I would love to lower the—anything I can do to lower the price to my consumer is wonderful. But $1.50 RINs is subsidizing exports and taxing imports, which in the long run will lead to higher energy prices in the U.S., which I don't want to see.

Mr. WHITFIELD. OK. Thank you.

Mr. Karr.

Mr. KARR. It is a little bit difficult to pick the right number, but I am going to go with eight. I think, look, we have very serious concerns about the potential problems with E15 and the legacy fleet. Having said that, there are F50s out there. We—some of my companies are already certifying and warranting vehicles to E15, so, we are—again, we are committed to, we are able to adjust, but we have these issues with the legacy fleet, and we need to think about how we transition going forward.

Mr. WHITFIELD. Mr. Teske.

Mr. TESKE. Ten. And I would go higher if you'd let me.

Mr. WHITFIELD. OK.

Mr. TESKE. Yes. The fact is, is there is going to be misfueling, and it will cause premature failure of these engines, and whether somebody bought their engine 20 years ago or 20 weeks ago or 2 weeks ago, they are not going to get what they expected, and it is going to come right back at us.

Mr. WHITFIELD. OK. Thank you. Mr. Darbelnet.

Mr. DARBELNET. I would say, for our organization, so for us or our company, if you will, it is probably a two, because while we have thousands of vehicles on the road, I think we can educate our drivers to make sure that they don't put E15 in the tank that shouldn't absorb it, but thinking about our 54 million members, I would say it is a 10, because there is a great likelihood that they will damage their vehicles.

Mr. WHITFIELD. Right. OK. Thank you all so much. My time has expired.

Mr. Rush, you are recognized for 5 minutes.

Mr. RUSH. I want to thank you, Mr. Chairman.

You probably have noticed that there are a lot of cameras in the hearing room today. And there are many Americans who are at home today, and some of them are probably viewing this hearing, and they are hearing all the testimony and all the questions, and I am sure that there are—far too many of them are at home watching this because they are out of a job. And they have not heard any commentary on jobs and the impact of the RFS on jobs.

I think that it would be really a shame, really, if we had this 3-hour hearing and did not even utter the word "jobs" and—so I just want to ask each of you, if you would, what is the impact of the RFS on jobs, and what do you see the future of jobs in relation to RFS? Mr. Buis?

Mr. BUIS. Thank you very much, Congressman Rush.

The impact currently of the number of jobs that the ethanol industry has created, both direct and indirect, is around 400,000 jobs. When we filed what we called the green jobs waiver to EPA to increase the blend rate from 10 percent to 15 percent, the job assessment that was included with that waiver request says moving to E15 would create 136,000 new jobs, jobs here in America, jobs that can't be outsourced.

Mr. RUSH. Mr. Petrowski?

Mr. PETROWSKI. Thank you, Congressman Rush.

I feel very passionately about the solution of jobs is to lower overall energy prices in this country. And it is not about jobs in the ethanol industry or jobs laying pipe. It is about manufacturing jobs,

lowering the cost of energy. The average consumer, both in their heating bills and driving, uses about 1,500 gallons a year, so if we can lower the price by a dollar, we have put that back into the consumer's pocket. And discretionary consumer spending is a driver to the economy and jobs, so I think the focus of Congress should be on lowering energy prices however we can do it, domestic production, having the right facilities to move product from where it is to where it isn't. And I think the RFS has been very helpful in creating an additional motor pool supply of fuel and a diverse supply of fuel, so I think it has been very positive.

But I am not looking at ethanol jobs or pipeline laying jobs; I am looking at low energy prices and more consumer spending, and that is where I think we will pick up the jobs.

Mr. RUSH. Thank you very much.

Mr. Karr, do you have anything you want to add?

Mr. KARR. I am not an expert. I have no reason to dispute Mr. Buis' numbers.

Mr. RUSH. All right.

Mr. KARR. I assume they are probably accurate.

Mr. RUSH. Mr. Teske?

Mr. TESKE. Thank you, Congressman Rush. The RFS itself, obviously, we are not against renewable fuels, and so to the extent that there are drop-in fuels and they can create jobs, that is great.

The one comment I would make, though, is there are 5,300 people that work in our U.S. facilities.

Chairman Whitfield, there are 1,000 jobs in Murray, Kentucky.

Congressman Barrow, there are 1,500 plus jobs in Georgia.

The fact is that if there are negative effects that result from E15 and we get blamed, those people are going to be hindered, because we are going to get—it will come right back at us, and our brand will be impacted.

And although there is not—I can't quote the kind of jobs that others on the panel can, the fact is those jobs are really important to those people, and those jobs are really important to those communities in which they operate, and so we want to make sure that we are not only protecting the consumers, but we are protecting our employees that are in our factories today.

Mr. RUSH. Mr. Darbelnet?

Mr. DARBELNET. Thank you, Mr. Rush.

We would agree that the domestic production of ethanol has increased the number of jobs in this country, which we dearly need and support. However, we are concerned that we should not be introducing a product which can be harmful to consumers for the purpose of increasing the number of employed individuals. So we support the positive results that have been achieved, but we are concerned about the further risk that we are putting the consumer at by not dealing with the E15 issue.

Mr. RUSH. OK.

Mr. JOBE. Thank you, Mr. Rush.

Our industry—I will speak for the advanced biofuel category. Our industry accounts for about 85 to 90 percent of the advanced biofuel category. And I have been very proud to be a part of what is going on in the biodiesel industry. We have added 50,000 direct jobs. And many of our members have said that they look for sol-

diers that are coming home from Iraq and Afghanistan, because these are guys that are experienced in using fuels and dealing with equipment, and it is—that is kind of a success story there.

But one thing that—two quick things I want to point out is that it is not just about the direct jobs. In the last 6 or 7 years, our industry has built more than 200 plants. There has been a lot of investment, and that has been a lot of indirect jobs that have gone into that in building renewable refinery capacity, and it is all happened not at the expense of the petroleum industry. The petroleum industry, as you will notice, is doing fine. And it is really just helping to diversify the transportation fuel supply.

And that is really what the goal of the RFS is, because if we can diversify the transportation fuel supply, as you pointed out in the first panel, if we can make the transportation fuel supply look more like the power generation supply, make it more diverse, more domestically abundant, then we can really bring transportation fuel prices down. And as Mr. Petrowski said, that is going to have the biggest impact on the economy.

Mr. RUSH. Thank you.

Mr. WHITFIELD. The gentleman's time has expired.

At this time, I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman.

Again, appreciate the hearing.

Mr. Jobe, can you—Mr. Waxman talked about palm oil. So, obviously, I am from the Midwest. We were very involved, obviously, in getting biodiesel into the market and mine soybeans, reformulated cooking oil, beef tallow. And also I made a statement in the opening statement that the issues that you are or may not be involved with in this whole debate on blend wall; you really are kind of a subset of this whole debate. I don't know if anyone's raising concerns. Can you talk briefly about a couple of those provisions, the palm oil thing and how else you are related to this sector?

Mr. JOBE. Thank you, Congressman.

I was really hoping you would ask me about that question. Very simply put, palm oil does not qualify for the RFS, so the concern that palm oil will be coming in to fill the advanced biofuel is not a concern at this time. Furthermore, the concern stated by the gentleman from Union of Concerned Scientists is not a concern either, and here is the reason: It is based on the structural difference built into the advanced biofuel category. In order for the biodiesel industry to grow our category, the biomass-based diesel category, we have to go to EPA every year; it is just baselined at a billion gallons, a minimum of a billion gallons. And we have to go to the EPA every single year and we have to demonstrate them through very substantial and robust data development how much we can produce, how much our growers can produce, how much domestic supply we have without disrupting other markets, imports, exports and all of those other things.

We have been very, very conservative with our target goals, and so you are very right. Biodiesel is made from a very, very diverse range of domestic materials, from all types of animal fats from livestock production, all types of oil seeds, and that has been a real strength to our industry.

Mr. SHIMKUS. And we wouldn't have passed the original piece of legislation back in 1998 had we not really expanded the ability for a lot of different commodity products to get in there, because it needed a big coalition. If it was just soybeans, we wouldn't have enough votes, but by bringing in a whole new coalition, that helped.

And the poignant thing about your explanation of how the system works is really what we are kind of demanding, Mr. Chairman, on part of this ethanol debate, is, what is the real production limits? There are four different categories in this whole calculation now. What are we actually producing, and what can get into the market versus what theoretically do we think we should have and why aren't we there, and that is—I would say that is the whole risk premium on the RINs, because we just don't know. We have got an arbitrary number set in statute versus what are we continuing to ask to do?

I want to raise to Mr. Petrowski this question: Mr. Dinneen, and I had to leave, but he mentioned on the first panel, he asked about contractual agreements that may prevent retailers from offering E15 and E85. Is that an issue that you are aware of? And, of course, that would be a retail chain, I guess, vertically integrated might be versus an independent. Can you speak to that?

Mr. PETROWSKI. Yes. Thank you, Mr. Shimkus. I think what he was referring to is our equipment, the dispensers, the tanks, plus the fear of mislabeling, that someone is going to pull up with an older car that can't take the ethanol, keeps us from——

Mr. SHIMKUS. No, I don't think that is what he is referring to.

Mr. PETROWSKI. No.

Mr. SHIMKUS. I think he is referring to actual contractual limitation on a retail location from placing these things in their retail location. Do you want to—go ahead.

Mr. PETROWSKI. No, not at all. We make agreements to buy product all the time, and we can either buy it in bulk and do the blending ourselves. We are fortunate enough to have our own terminal——

Mr. SHIMKUS. Let me ask Tom to answer this question.

Mr. BUIS. Thank you, Congressman. That has been an issue in some areas. The contractual arrangements, I think, is what Bob was referring to. And with an E15 retailer, it came to head—once he started offering E15 and he was told he was in violation. We have also seen, I think, the State of South Dakota and most recently Iowa have passed provisions that prevent contracts that prohibit higher blends under the same canopy. And, you know, if you guys want to look at some suggestions into the future, that might be something you look at, because——

Mr. SHIMKUS. You mean, you are going to offer a possible solution to some of this——

Mr. BUIS. I am.

Mr. SHIMKUS [continuing]. These challenges?

Mr. BUIS. I just did.

Mr. SHIMKUS. Great. Thank you. And we would hope you all would do that. Let me just end on this.

My time has expired. But I just pulled up E85prices.com, and I do drive a flex-fuel vehicle. In Illinois, we have multiple locations.

And you would be surprised a—now, there is a BTU fall-off, but if you are saving 80 cents, 85 cents a gallon, it can pay, and so if we can get them into the retail locations, we can address the blend wall and we can solve a lot of problems.

Thank you, Mr. Chairman.

Mr. WHITFIELD. The gentleman's time has expired.

At this time, I recognize the gentleman from California, Mr. McNerney, for 5 minutes.

Mr. MCNERNEY. Thank you, Mr. Chairman.

You know, I didn't hear anyone in this panel say do away with the RFS. There was some comment about there—it needs tweaking, maybe the E15 ought to be scaled back to E10 for reasons, and I appreciate that.

Mr. Teske, I just want to say, I have loved my Briggs & Stratton motors over the years, so they are an American icon. And I appreciate your remark on the professionalism of the EPA. That is something I truly believe is the case, and it is something we need to get the word out a little bit more about. The question I have for you is what causes, what specific mechanism causes the failures of the Briggs & Stratton motors when they use blends higher than E10?

Mr. TESKE. Yes. First off, thanks for being a customer. I really appreciate it.

What happens, there are a couple of things that go on. There are a number of things, but a couple of things in particular. Basically, the materials that we use are rated for certain temperatures, and so when you have blends that are higher than E10, the alcohol will burn at a higher rate, a higher temperature. And basically what happens is, like, valve seats and other materials that are in the engine will degrade prematurely, because it can't handle the heat that it was intended to handle. And so, basically, then when that fails, all of a sudden a lot of the emissions regular—the emission control things that are in the engine will fail, and then, ultimately, it will lead to engine failure.

Also, when you get—not to take you back to high school history, but basically, when you have water and alcohol, obviously, there is an attraction that goes on, and so what happens is a lot of our seals and other things in the engine will absorb the alcohol, which will cause warping and disforming, if you will, and therefore the engine will not operate in the same manner that it was intended to operate with lower blends of ethanol.

Mr. MCNERNEY. So can these engines be protected proactively or is that too expensive for the average legacy customer?

Mr. TESKE. For the legacy customer, it can't—it won't—it can't be done. Going forward prospectively, certainly we can design engines that will operate. They operate on a plus or minus 5 percent of whatever the target is, and when that happens, obviously, one of the concerns we have is as we get to E15, and then we ultimately probably get to E20 and then E25, all of a sudden, it becomes very confusing. It is difficult to design a cost-effective engine that will handle a multitude beyond plus or minus 5 percent.

Mr. MCNERNEY. So when did Briggs & Stratton begin designing for E10, or did it have to do any design for E10?

Mr. TESKE. We have seen—we have had to change some materials over time. Years ago, when basically ethanol started to be in-

troduced, we have added—what has been interesting here is of late is over the last year or so, we have seen more carburetor issues, for example, have occurred throughout the country. The calibration and the materials basically don't handle ethanol all that well, although they will handle E10. When ethanol was pretty much in the Midwest, we didn't see a whole lot of issues on the coast. Now E10 is throughout, because we were—we test about E5 for certification purposes with the EPA. As you start to see the E10 go throughout the country, we do on occasion see fuel problems generally because as ethanol, higher blends of ethanol sit in the engine, it will gel up and will cause issues with starting and other things, which is why we have introduced fuel additives to make sure that consumers are protected from that.

Mr. MCNERNEY. OK.

Mr. Buis, I had a question.

Mr. BUIS. Yes.

Mr. MCNERNEY. I was going to ask you, continuing from the first panel, what has caused the delay of the success of cellulosic biofuels from the initial projections?

Mr. BUIS. That is a great question.

You know, the RFS didn't pass through the Energy Independence Security Act till late of 2007. In 2008, we had the biggest economic downturn that any of us have seen in our lifetime, not just here, but around the world, so you had a lot of investors and lenders that went to the sideline. They have started to slowly come out over the past year or so, and you started to see more investment into biofuels, but the second issue is market space. When you are going to produce a product that is already limited to 10 percent, and it costs a quarter to a half a billion dollars to build a cellulosic commercial bio refinery, you are probably not going to pull that plug and make a lot of investment. That is why we filed the waiver to move to higher blends. And despite all the—I think a lot of people think it is just E15. The waiver was actually approved for up to E15, but there are some, I am not saying this panel, that have this feeling, we are not going one ounce, one gallon above E10, because we want to kill the RFS.

Mr. MCNERNEY. OK. Go ahead and answer, if the chairman will allow that, Mr. Petrowski.

Mr. PETROWSKI. Yes. I would say as a retailer, if—cellulosic doesn't need to be mandated, remember, the import is going to be silage, grass, biomass, which is much cheaper than corn. We are processing 3 billion bushels, I believe that is the right number, of corn into the ethanol business at $4 or $5 a bushel. Any manufacturer who could substitute biomass for corn would do so in a heartbeat, because that would just all flow to the bottom line. So I think the limitations on cellulosic have been technological. And believe me, if I—ethanol today is 60 cents cheaper than gasoline. If somebody were to offer me cellulosic or any ethanol cheaper than that, I would buy it in a heartbeat if I could sell it.

Mr. MCNERNEY. OK. Thank you, Mr. Chairman, for your indulgence.

Mr. WHITFIELD. The gentlemen's time has expired.

At this time, I recognize the gentleman from Nebraska, Mr. Terry, for 5 minutes.

Mr. TERRY. Thank you, Mr. Chairman.

Mr. Buis, I missed earlier discussions, but I want to know what your feel is about whether the blend wall is a real issue or real concern.

Mr. BUIS. Thank you.

Thank you, Congressman. We have referred to it as a so-called blend wall. And it is so-called because the resistance by those who control the infrastructure, the fueling infrastructure, the refining, the obligated parties have not done, and oftentimes erected hurdles to move into higher blends.

When the RFS was enacted in 2007, it was always intended to get to 36 billion gallons by 2022. We were going to have to have higher blends. It has been 4 and a half years ago since we filed that waiver for the higher blends. Every regulatory, legal, PR and now legislative hurdles that they can erect, they have tried to erect instead of moving to a higher blend.

It could be solved real easy. There is not that much above the blend wall for 2013. For 2014, it could go up. You could use E15. You can use up to E15. You can use the 85, E30. Those are popular brands that sell extremely well, and consumers, despite what the first panel said, actually want them, they are buying them.

Mr. TERRY. All right. Appreciate that.

Mr. Karr, the EPA said, or it came out when they said—or was approving E15, but said it shouldn't be used for automobiles that were manufactured before 2001. Now, average life expectancy of a car today is 11 years. I am just wondering, do you know offhand how many are left for 2011 and below?

Mr. KARR. I should probably get you that number for the record rather than give you a bad number here.

Mr. TERRY. That is fine. I wasn't going to pin you down for an exact. I was just curious.

Mr. KARR. I would say the average age of a car on the road today is 11 years. So that tells you that is kind of the middle. We have got a lot that are a lot older than that.

Mr. TERRY. So it could be significant.

Mr. KARR. But, yes, I can get you the precise number for the record.

Mr. TERRY. So a lot of the arguments, and Mr. Teske was kind of hinting at this, but what some engines, EPA said that E15 and what can be appropriate for Briggs & Stratton, for lawn mowers or for boat motors or—so I guess the question here is that you are not—or Mr. Teske, that you are not here saying no E15 anywhere, are you?

Mr. TESKE. Well, what we are concerned about is misfueling. And there needs to be measures taken other than just a very small label on top.

Mr. TERRY. Well, that is what I wanted to kind of dive down into deeper, is OK, so are there methods that we can use to make sure that the consumer is informed? I mean, I can pull up to the pump right now and know which one is the E10 and the E85 and the no-ethanol blend, or unblended, I guess. Do you have enough confidence in the consumer to read those on the pump?

Mr. TESKE. While I have a tremendous amount of respect for consumers and consumer knowledge, what studies have shown is that

when consumers are very comfortable with what they have had, they don't pay as much attention as they would when there is something new and different. And so if you pull up to the pump and you basically have your red can, that 5-gallon can, and you want to fill it up and you have always filled it up for the last 20 years at the same gas station, you are not going to pay as much attention to the fact that there are issues. And that is really our concern, is that we will try to educate the consumer, definitely, and consumers are very smart, but studies have shown that when they are comfortable——

Mr. TERRY. Well, let me ask Mr. Petrowski, then, not to cut you off, but do you think there is a way of communicating at the pump so that consumers aren't mistakenly putting in E15 when it should be E10?

Mr. PETROWSKI. I think we can label very well, but I was told, and I am not old enough to remember this, I worked at a gas station in the 1970s, but I was told that when leaded and unleaded first came out and people were offering leaded at a much cheaper price, there were people, even though the nozzles were mandated to be different, who would bring a screwdriver and actually gerrymander their fill pipe so they could take the cheaper product.

Mr. TERRY. Yes. That is not a mistake. That is intent.

Mr. PETROWSKI. No, no. That is not a mistake, but not always—I have great respect for the consumers, but they are not always paying attention at the pump.

Mr. TERRY. All right. Thank you.

Mr. WHITFIELD. I would like to just get one clarification here, Mr. Buis, something that you had indicated, and someone on the first panel made this comment, too, that market access was being limited by the obligators. And factually, is it true that retail service stations are primarily owned by large oil companies or not?

Mr. PETROWSKI. No, Mr. Chairman. Can I answer that?

Mr. WHITFIELD. Yes.

Mr. PETROWSKI. In fact, I think that is part of the reason the obligated parties are now feeling the strain, is at one time, that was true, but the Exxons of the world, the Mobils of the world. We bought a lot of stations from Mobil, have gotten out of the downstream, so they are selling their product in bulk rather than blended to the consumer, so their obligations are greater. So I think that has been part of the problem, but most of the gas stations in the United States today at the retail level are owned and operated by small business people or people who have aggregated, like ourselves. We have 900 stations that we operate. But major oil diversified out of integrating and get rid of their downstream, so they are facing an obligation where they are selling in bulk and are obligated, and they are not selling as much what we say the parlance in the trade is over the rack or at the nozzle.

Mr. WHITFIELD. Thank you. I am sorry.

Mr. Olson, you are recognized for 5 minutes.

Mr. OLSON. I thank the chairman. And thank you to the witnesses for coming back. Our previous panel helped us get a better sense of where things stand on the RFS from the upstream view. This panel represents a shift, where the rubber meets the road and the impacts of RFS on families and businesses. It helps us get our

hands on one of the most controversial issues related to ethanol: how it impacts engines in vehicles. And I apologize if my questions have been repetitive, but duty called, and I had to run away for a bit, but my first question is for you, Mr. Petrowski. Increased use of E15 is one of the ways in which the ethanol industry sees a path to meeting the RFS. What would it take in terms of infrastructure for E15 to be more widely available with your member companies?

Mr. PETROWSKI. Thank you, Mr. Olson.

What I would like to see is us get some waiver from liability for misfueling. I would like to see us—when they talk about the average age of the cars, every new station we put in, we are putting in equipment that is compatible with the higher blend. The problem is we have 135,000 stations in the United States, and there are probably only 10,000 that get their tanks and pumps done every year, but, yes, we ourselves have done 150 of our own stations, 600, over new mainly for the inside to sell more food products, because there has been a shift in this country from tobacco, which has been a good shift, to food and beverages inside, but when we do it, we also change our pumps out to be more compatible with higher blends, but we could get there faster. As I said, because ethanol is 60 cents cheaper, we would rush to there—if I can save 3 cents to 4 cents a gallon by blending more ethanol, which at 60 cents discount, a 5 percent more blend will save me 3 cents. I sell 4 billion gallons a year, so you can work the math on that. The Federal Government would be very happy with the taxes, I would be very happy with my paycheck. Everybody—and the consumer, if I posted a 4 cent lower price on the pump, the consumer would be very happy.

Mr. OLSON. Yes, sir. And that is a real issue, because if the Secret Service could make a mistake of filling up the President's limousine in Israel with diesel fuel in a gasoline vehicle, then people that come into Tex 22 could probably make that same mistake with E10 and E15.

I have one more question for you, sir. How much do you hear from consumers about a ban for E15, your clients, the people that make your industry go? Are they clamoring for it? Just a little murmur?

Mr. PETROWSKI. Again, I would say our consumers would say if you can get me a fuel that is cheaper that isn't going to do damage to my engine, I am with you all the way. Again, demand pulls supply; supply does not create demand. And so we have no objections.

We had 20 E85 stations throughout our system. We have actually switched them over to diesel, not because we have anything against ethanol, but we weren't selling it. For example, on the Massachusetts turnpike, our E—we sold 12 million gallons of gasoline last year and 1 million gallons of E85. Now, maybe there is more SUV's and flex-fuel vehicles in Minnesota or Illinois than there is in Massachusetts, but we switched a lot of our E85 tanks over to diesel because we saw our customers say to us, as the new diesels were coming in, the high-mileage diesels, they wanted more and more access. So we respond to the consumer.

Mr. OLSON. And thank you, Mr. Petrowski.

Final question for you, Mr. Teske, on not just automobile engines, but the engines you make from Briggs & Stratton. And in

deference to the truth, I must admit that I have a lawnmower in my garage, but it is not powered by a Briggs & Stratton engine. But if I had a lawnmower in my garage powered by a Briggs & Stratton engine and I misfueled it with E15, who would be responsible for the damages? Any idea?

Mr. TESKE. Yes. And you are a prospective customer, so perhaps later we can chat. Basically, if you use E15 in your engine, your small engine, we void the warranty, the warranty. So, basically, theoretically, we are not responsible. It is really the consumer who would be responsible. But the consumer will not—they will not look at it and say, oh, I put ethanol in, they will look it in and they will see the diamond bar logo on the top, and they will say, boy, what happened to my Briggs engine.

Mr. OLSON. How could I have prevented that? What could I have done to mitigate the damage by putting E15 in there? Anything? I just reach in my wallet and pay it?

Mr. TESKE. No. I mean, once E15 in, right, it is in there and it is—unless you—if you start it up, it will start to cause issues.

Mr. OLSON. We have a name for that, but I will leave that at the side.

Mr. WHITFIELD. The gentleman's time has expired.

At this time, I recognize the gentlemen from Texas, Mr. Hall, for 5 minutes.

Mr. HALL. Mr. Buis, in your opening statement, I think the chairman and I were the only ones that heard it, but ethanol's cheaper than any other fuel? Was that your statement?

Mr. BUIS. I am sorry. I couldn't hear the question. I did make the statement ethanol is cheaper than any other transportation fuel.

Mr. HALL. And——

Mr. BUIS. We are 67 cents today under unblended gasoline.

Mr. HALL. Let me ask you, is the blend wall a real concern? Just yes or no.

Mr. BUIS. Yes.

Mr. HALL. Your organization led the efforts to secure EPA approval in E15?

Mr. BUIS. Correct.

Mr. HALL. And do you now think E15 is a viable option for gas stations to sell and vehicle owners to use?

Mr. BUIS. I do.

Mr. HALL. E15 was approved for 2001 and new vehicles but not for older vehicles, was it?

Mr. BUIS. Well, not for older vehicles was much to our chagrin, because when we filed——

Mr. HALL. Well, much to your chagrin, but it is a fact.

Mr. BUIS. Yes, it is.

Mr. HALL. OK. Let me go on. Why do you think vehicle and equipment makers are concerned about E15?

Mr. BUIS. I didn't hear the first part of it, sir.

Mr. HALL. Why do you think most gas stations have shown little interest in carrying E15?

Mr. BUIS. I think there has been enough controversy raised by those who don't want to see us move to higher blends that it has caused some resistance. We are slowly breaking through it, but

there was also legal challenges filed to E15. The U.S. District Court of Appeals ruled two to one in favor of EPA, and the Supreme Court refused to hear an appeal of the case.

Mr. HALL. Well, let's get back to ethanol, then. For small and marine engines and any other gasoline engine other than 2001 and newer passenger cars and light duty vehicles, the law explicitly prohibits E15. Further, EPA has issued a specific rule to mitigate consumer mis-fueling, including a label specific to E15. In fact, ethanol is the only fuel that requires a warning label at the pump.

Mr. BUIS. Yes, sir.

Mr. HALL. Is that true? And ethanol is the only ingredient labeled in gasoline, even though gasoline is a chemical which contains approximately 200 different components——

Mr. BUIS. Correct.

Mr. HALL [continuing]. And that is not even listed. So it may be cheaper to buy, but is it cheaper to use in the long run? If I would fill my tank up with high ethanol, how far could I get from the service station in the country?

Mr. BUIS. With pure ethanol?

Mr. HALL. Yes.

Mr. BUIS. That is not available. You can go up to 85 percent. Oftentimes 85 percent is not even 85 percent, depending upon the season. It can be——

Mr. HALL. Well, how far would my car go if you filled it up with ethanol? Just——

Mr. BUIS. If you filled up your regular car——

Mr. HALL. I wouldn't get out of the station, would it?

Mr. BUIS [continuing]. With E15, the mileage drag is going to be less than 2 percent.

Mr. PETROWSKI. Congressman Hall, could I interject on retailers and stations?

Mr. HALL. Not right now.

Mr. PETROWSKI. No? OK.

Mr. HALL. And you say there is no reason to repeal or to reform RFS. That is your opinion, isn't it?

Mr. BUIS. It is, yes, sir.

Mr. HALL. And if the RFS is repealed, would anybody still be using ethanol?

Mr. BUIS. I think would be——

Mr. HALL. In this country? You use it overseas and in South America, but would they be using it in this country——

Mr. BUIS. Yes, sir, they would.

Mr. HALL [continuing]. With gasoline?

Mr. BUIS. Yes, sir, they would. Ethanol is the cheapest source of octane available to produce gasoline from.

Mr. HALL. So did you—I think that—40 percent of corn's going to fuel. I am thinking about ethanol being the cheapest of all fuels and what it is used for. Ethanol is used with gasoline, or it has to be mixed with something to be sold, does it not?

Mr. BUIS. Yes. Yes, sir.

Mr. HALL. And 40 percent of the corn going to fuel, but it can be eaten or it can be fed to livestock, or Jack Daniel might buy it or the vodka people or Jose Cuervo might want to bid on it, but

absolutely unless it is mixed with gasoline, it has very little use, does it?

Mr. BUIS. Well, yes. There is industrial uses also for ethanol.

But I have to challenge this 40 percent. Everybody gets—when they get a paycheck, you have a gross salary and you have a net, and what the critics use on corn ethanol is the gross. They say we use 40——

Mr. HALL. But don't you use 40 percent? How about using——

Mr. BUIS. Pardon me?

Mr. HALL [continuing]. Thirty-nine percent?

Mr. BUIS. No, it is not 39 percent, sir.

Mr. HALL. Or 20 percent.

Mr. BUIS. It is about 18 percent of the corn crop, because——

Mr. HALL. If you use 17 percent of the corn crop? That is a lot more than ethanol.

Mr. BUIS. Pardon me?

Mr. HALL. If you use 17 percent of corn, that is going to fuel.

Mr. BUIS. There is residual value. We create a co-product.

Mr. WHITFIELD. I am sorry to interrupt this. We have got the Health Subcommittee that wants to come in here for a hearing at 1:30.

And Mr. Petrowski, I am going to give you 1 minute to reply. You were trying to make a comment.

Mr. PETROWSKI. Thank you, Mr. Chairman. Here is the problem for retailers today. I would love to have a higher blend than E10, and as I have said before, but my in-ground tank equipment, my pumps, my dispensers are warrantied for nothing higher than E10. And my insurance company has also said that if I put any product in that voids a warranty on this equipment, I am not insured for any residual spills or leaks. So short term, if I put in a greater amount, I would make a lot of money, but long term, the expense of putting a liability on that would make me——

Mr. WHITFIELD. Yes. That is a serious—it is a very serious issue.

Mr. PETROWSKI. It would make me an ex-CEO.

Mr. WHITFIELD. Yes.

Mr. SHIMKUS. Mr. Chairman, what Mr. Petrowski should have done is made sure he mentioned the liability relief bill that we have before the Chamber, which would be very helpful in his sector.

Mr. PETROWSKI. Yes. I——

Mr. WHITFIELD. Mr. Shimkus can take care of your liability for you.

OK. That concludes today's hearing. We will have another hearing tomorrow. And I want to thank all of you for coming. We appreciate your testimony. We look forward to working with you as we explore further options.

And with that, the hearing will be adjourned, but I do ask unanimous consent that we enter into the record comments by the climate—it has been accepted.

Mr. WHITFIELD. The record will remain open for 10 days.

The hearing is adjourned.

[Whereupon, at 1:36 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

PREPARED STATEMENT OF HON. JOHN D. DINGELL

Mr. Chairman, I would first like to commend you, Chairman Upton, and Ranking Members Waxman and Rush for holding this hearing. The way that the Committee has gathered stakeholder input through whitepapers and extensive witness testimony reflects the complexity of the issues surrounding the Renewable Fuel Standard and I commend our committee leaders for dealing with this in a bipartisan manner.

The use of renewable fuels can help us reduce our use of foreign sources of oil however there are also other arguments against biofuels. There is differing information on the effect renewable fuels have on the food supply chain, the life-cycle air emissions, and the cost-benefit of adding biofuel to gasoline. Shortly after passage of the Energy Independence and Security Act of 2007, I said changes to the RFS would likely need to be made based on changing market predictions. Perhaps now is the time and I look forward to working with Committee leadership to determine what changes merit further discussion based on the factual record the committee is now gathering.

We have already heard testimony from the Department of Agriculture that feed costs are over half of dairy cattle expenses and over 40 percent for hogs. This in turn may drive up costs for the food and restaurant industry. We also heard from the Energy Information Administration about ethanol's lower energy content could be driving consumers away from purchasing E85. Also, our innovative automotive manufacturers can make vehicles that can run on any number of types of fuels but if we don't have the refueling infrastructure in place, where will consumers fuel up?

Today we will hear from stakeholders who deal with the requirements of the RFS on a daily basis. Arguments will be made about the effect on food prices within the restaurant industry and the fact that so little E85 is sold at stations. Other arguments will be made regarding the benefits to the agriculture industry and securing America's energy independence. Some will advocate for a full repeal of the RFS and other will want it remain as it is. I will continue to listen to stakeholders about what action makes the most sense and I remain encouraged by the bipartisan work to this point by both Republicans and Democrats and encourage them to continue their work.

We need to keep fighting to put policies in place that create domestic demand for clean energy so that we can regain our leadership position in the clean energy race. I believe that good environmental policy and good economic policy go hand in hand. I look forward to today's testimony and examining what proposals the committee determines warrant further examination.

FRED UPTON, MICHIGAN
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA
RANKING MEMBER

ONE HUNDRED THIRTEENTH 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) 225-3641

August 19, 2013

Mr. Michael McAdams
President
Advanced Biofuels Association
800 17th Street, N.W., Suite 1100
Washington, D.C. 20006

Dear Mr. McAdams:

Thank you for appearing before the Subcommittee on Energy and Power on Tuesday, July 23, 2013, to testify at the hearing entitled "Overview of the Renewable Fuel Standard: Stakeholder Perspectives."

During the hearing, Members asked you to provide additional information for the record, and you indicated that you would provide that information. For your convenience, descriptions of the requested information based on the relevant excerpts from the hearing transcript are attached. The format of your responses to these requests should be as follows: (1) the name of the Member whose request you are addressing, (2) the complete text of the request you are addressing in bold, and (3) your response to that request in plain text.

To facilitate the printing of the hearing record, please respond to these requests by the close of business on Monday, September 2, 2013. Your responses should be e-mailed to the Legislative Clerk in Word format at Nick.Abraham@mail.house.gov and mailed to Nick Abraham, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515.

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 L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

September 3, 2013

The Honorable Ed Whitfield
Committee on Energy and Commerce
Subcommittee on Energy and Power
United States House of Representatives
Washington, D.C. 20515

Dear Chairman Whitfield:

Thank you for your letter of August 19, 2013 requesting additional information for the record of the Subcommittee on Energy and Power's July 23, 2013 hearing entitled "Overview of the Renewable Fuel Standard: Stakeholder Perspectives."

The purpose of this letter is to provide the requested information in your prescribed format.

(1) The Honorable Lee Terry

1. During the hearing, you were explaining the extent to which advanced biofuel technologies are being developed for military and commercial aviation purposes. Please elaborate.

a. Please list specific projects that are either in development or have recently come on line that the Advanced Biofuels Association would like to highlight for the record.

Advanced biofuels technologies are rapidly developing and approaching commercial cost competitiveness for military applications and commercial aviation. The advanced biofuels industry is increasingly focused on producing renewable fuels that meet military specifications for jet, marine, diesel and gasoline. Critically, these 'drop-in' fuels can be used seamlessly with existing infrastructure and blended without restriction into petroleum-based fuel supplies.

KiOR, for instance, is a next-generation renewable fuels company that has developed a proprietary technology platform to convert biomass into crude oil. They utilize cellulosic materials such as wood and forestry residuals and process them into gasoline, diesel and fuel oil blendstocks. The company built the first commercial scale cellulosic fuel facility in Columbus, Mississippi, which began shipping fuel in early 2013 and has 13 million gallons per year of production capacity.

Airlines that are activity flying routes using biofuels or are actively planning to do so in near future include: Alaska Airlines, United Airlines, KLM Dutch Royal Airlines, and China Eastern Airlines. Airlines that have tested biofuels in aircraft include: Virgin Atlantic, Air New Zealand, Japan Airlines, TAM, LAN, Air China, and Singapore Airlines.

800 17th Street, NW • Suite 1100 • Washington, DC 20006
T: 202.469.5140 • F: 202.955.5564 • W: advancedbiofuelsassociation.com

Of the many new technologies and projects that can be applicable to military and commercial aviation, ABFA is pleased to highlight several notable examples of defense advanced biofuels projects.

The 2012 Rim of the Pacific (RIMPAC) exercise, the world's largest international maritime exercise, demonstrated advanced biofuels made from used cooking oil and algae in Naval vessels and aircraft including the USS NIMITZ (CVN 68) and Carrier Air Wing ELEVEN, USS CHAFEE (DDG 90), USS CHUNG HOON (DDG 93), USS PRINCETON (CG 59), and USNS HENRY J KAISER (T-AO 187). According to the Navy,

- "Navy surface ships were powered using 350,000 gallons of hydroprocessed renewable diesel (HRD-76) blended with an equal amount of marine diesel (F-76).
- Navy aircraft burned 100,000 gallons of hydroprocessed renewable jet fuel (HRJ-5) blended with aviation fuel (JP-5)."

Fuel for the 2012 RIMPAC was provided by Dynamic Fuels from non-food waste cooking oil produced at their plant in Geismar, Louisiana along with algae based fuel from Solazyme. The Dynamic Fuels plant is a first of its kind $200 million facility capable of producing 75 million gallons of renewable diesel per year.

Other Defense funding, notably through the Defense Production Act's Advanced Drop-In Biofuels Production Project, is supporting key project areas. The DPA Biofuels initiative is currently funding engineering work and will complete the design, construction and/or retrofit, and operation of domestic commercial-scale integrated biofuels production enterprises (IBPE) that produce at least 10 million gallons per year of drop-in liquid transportation fuels targeted for military operational use, approved and certified as MILSPEC JP-5, JP-8 and/or F-76. Four companies are moving forward with projects: Emerald Biofuels LLC of Illinois, Natures BioReserve LLC of Nebraska, Fulcrum Brighton Biofuels LLC of California, and Red Rock Biofuels of Colorado.

Sincerely,

Michael McAdams
President
Advanced Biofuels Association

FRED UPTON, MICHIGAN
CHAIRMAN

HENRY A. WAXMAN, CALIFORNIA
RANKING MEMBER

ONE HUNDRED THIRTEENTH 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) 225-3641

August 19, 2013

Dr. Jeremy I. Martin
Senior Scientist
Clean Vehicles Program
Union of Concerned Scientists
1825 K Street, N.W., Suite 800
Washington, D.C. 20006

Dear Dr. Martin:

Thank you for appearing before the Subcommittee on Energy and Power on Tuesday, July 23, 2013, to testify at the hearing entitled "Overview of the Renewable Fuels Standard: Stakeholder Perspectives."

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 by the close of business on Monday, September 2, 2013. Your responses should be e-mailed to the Legislative Clerk in Word format at Nick.Abraham@mail.house.gov and mailed to Nick Abraham, Legislative Clerk, Committee on Energy and Commerce, 2125 Rayburn House Office Building, Washington, D.C. 20515.

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 L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

September 1, 2013

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy and Power
Committee on Energy and Commerce
2125 Rayburn House Office Building
Washington, DC 20515

Dear Chairman Whitfield:

Thank you for the opportunity to appear before the Subcommittee on Energy and Power on Tuesday, July 23, 2013 to testify at the hearing entitled "Overview of the Renewable Fuels Standard: Stakeholder Perspectives." I look forward to continuing to work with you and your staff on this important policy.

Attached are my responses to the questions that have been asked for the hearing record.

Once again, thank you for including the Union of Concerned Scientists in both the Subcommittee hearing and the continuing policy conversations about the Renewable Fuel Standard.

Sincerely,

Jeremy Martin

Jeremy I. Martin, Ph.D., Senior Scientist

Clean Vehicles Program, Union of Concerned Scientists

cc: The Honorable Bobby L. Rush, Ranking Member, Subcommittee on Energy and Power

Attachment

The Honorable Henry A. Waxman

At the hearing, you testified that production of biomass-based diesel under the Renewable Fuels Standard (RFS) is leading to increased production of palm oil abroad. You further testified that production of palm oil is linked to severe deforestation, land degradation, habitat destruction, and increases in carbon pollution. Please elaborate on these issues. Specifically:

1. ***How does the RFS currently and/or how could the RFS in the future drive increased production of palm oil? Please respond to the argument made at the hearing by the National Biodiesel Board that palm oil is not a concern under the RFS because EPA has not approved palm oil as a renewable fuel under the law.***

   Much of the attention on the food versus fuel conflicts associated with the Renewable Fuel Standard (RFS) has rightly been focused on corn ethanol, but biodiesel also has significant impacts. These impacts are poised to grow substantially more severe depending upon key decisions that the U.S. Environmental Protection Agency (EPA) and Congress make about the RFS and other biofuels policies, particularly the biodiesel tax credit.

   Biodiesel is produced from a variety of fats and oils, and production has expanded rapidly over the past few years. When made from a true waste diverted from the waste stream, such as non-marketable used cooking oil, biodiesel is a low impact, low-carbon fuel. However, when demand for biodiesel production exceeds the availability of used cooking oil and other low impact sources of fats and oils, serious problems can arise.

   More than half of the biodiesel sold in the U.S. is produced from food grade vegetable oil, either soybean oil or canola oil. As Mr. Jobe from the Biodiesel Board correctly pointed out during the July 23rd Subcommittee hearing, there is not at this time a significant direct use of palm oil to produce biodiesel in the United States. In its "Notice of Data Availability (NODA) for Renewable Fuels Produced from Palm Oil Under the Renewable Fuel Standard (RFS2) Program" EPA's preliminary finding was that palm oil would not meet either the 50% GHG reduction requirement for advanced biofuel, or even the 20% reduction required for conventional biofuel[1]. It is worth noting that EPA has not made a final determination on this point at this time.

   However, while U.S. biodiesel is not produced directly from palm oil, that does not mean that the nation's use of soybean oil for biodiesel has no impact on palm oil demand. Oilseeds like soybeans and oil palm (and the vegetable oils and meal that come from processing oilseeds) are traded around the world in enormous quantities, and the markets for these oils are strongly linked. Because many different oils can be used for the same purpose (e.g., cooking and frying), they are

[1] Notice of Data Availability (NODA) for Renewable Fuels Produced from Palm Oil Under the Renewable Fuel Standard (RFS2) Program. EPA–HQ–OAR–2011–0542; FRL–9608–8 Federal Register/ Vol. 77, No. 18 / Friday, January 27, 2012 / Notices. Page 4300 Available online at http://www.gpo.gov/fdsys/pkg/FR-2012-01-27/pdf/2012-1784.pdf

mostly interchangeable, are essentially traded on one market, and the prices of all the vegetable oils tend to go up and down together.

The oilseed trade is highly globalized, with palm oil traveling in enormous tankers from Singapore to Rotterdam, soybeans being shipped hundreds of miles down the Mississippi or Amazon Rivers to China, and rapeseed oil going from Canada to southern Africa. This global trade can lead to complicated supply chains and difficulties in tracing products from farm to end user. Changes in the supply and price of one of its components are quickly transmitted through a global web to all the other parts.

To understand the impact of U.S. biodiesel use on palm oil it is important to note that as the use of vegetable oil based biodiesel has increased in the U.S., it has not been produced primarily by expanding production of U.S. vegetable oil. Rather the change has tracked quite closely with increased vegetable oil *imports*, and this is a trend that is expected to continue.[2]

Because production of the excess vegetable oil demanded by the RFS is coming from overseas, we must also look abroad for the impacts, and an examination of recent trends in vegetable oil trade make it clear that the dominant supplier of new vegetable oil on the global marketplace is palm oil.

Overall, the three most important producing countries in the global trade in oils are Indonesia (19 percent), Malaysia (about 13 percent), and China (13 percent). Other countries, such as the United States (6 percent of vegetable oil production), the European Union (10 percent), and Brazil (5 percent), are major producers but consume most of their vegetable oil internally, so they make up a smaller part of the total that is traded between countries. However, the United States and Brazil are the principal exporters of raw soybeans, so they too play a major role in the dynamics of the market, as many of the soybeans are converted to oil after import, and any decrease in exports of soybeans pushes up demand for other oils, especially palm.

In recent years, palm oil has tended to have a declining price relative to the others, while still following the same trends of price fluctuations. Between 1995 and 2006 its price dropped from being practically identical to that of rapeseed oil to about 30 percent lower. Palm is the largest source of vegetable oil, the fastest growing, and the least expensive, which makes it the "marginal" commodity in the market. Thus, as demand increases for vegetable oils, most of the increased supply comes from palm rather than the alternatives.

The EPA considered the impact of the RFS on oilseed markets in the analysis they did for the 2010 final rule for the RFS2, and concluded that based on the assumptions it used then, there was a limited impact of U.S. soybean oil biodiesel use on palm oil production, and in any case the net

[2] More information including references on the global trends and impacts of vegetables oils are presented on pages 15-20 of our comments to EPA's Regulation of Fuels and Fuel Additives: 2013 Renewable Fuel Standards which is attached for inclusion in the hearing record, and is also available online at http://www.ucsusa.org/assets/documents/clean_vehicles/UCS-Comments-on-RFS-2013-Volumes.pdf

result of the global changes in agriculture were still consistent with allowing U.S. soybean oil based biodiesel to meet the 50% GHG reduction required for eligibility as an advanced biofuel under the RFS. However, two key factors have changed since the EPA concluded that analysis in 2010. First, the EPA and others have done a much more thorough study of the GHG impact of palm oil production since the 2010 rulemaking, so there is new information on palm oil trade and impacts that was not available in 2010.

But the most important change is that the EPA analysis in 2010 was based on an assumption a compliance scenario that is no longer plausible based on current information. EPA assumed that more than three quarters of the advanced biofuels mandated in the RFS would be cellulosic biofuels produced from biomass based feedstocks, and that only 1.82 billion gallons (BG) would come from bio-based diesel, of which only 660 BG would come from virgin vegetable oil (e.g. not previously used for cooking). However, in light of the slower than anticipated scale-up of cellulosic biofuel production, the potential exists for the RFS to result in much larger quantities of biodiesel use than the EPA evaluated in the 2010. The gap between the cellulosic levels in the EPA's 2010 compliance scenario and the 2013 mandate is 994 million gallons, and based on projections from the Energy Information Administration, this gap will probably grow to well over 10 BG in 2022. EPA has yet to clarify how it will address this shortfall, and until they do the prospect that biodiesel mandates grow very large is a substantial source of uncertainty and concern. More details on this topic are included in the attached comments the Union of Concerned Scientists (UCS) provided to EPA in their April rulemaking.

Mr. Jobe from the Biodiesel Board also mentioned that it is not necessary to worry about biodiesel mandates expanding beyond the available supply because of the EPA annual rulemaking process, which takes available supply into consideration. I agree that EPA has the authority it needs under the RFS to address the potential problems identified above. The one BG minimum statutory mandate for bio-based diesel specified by Congress is not unreasonable, so the problems identified above can be addressed by EPA under current authority. However, EPA has not yet clarified how they will make these decisions, and in particular whether the delayed commercialization will be allowed to result in far higher mandates for food based biofuels, and especially biodiesel, than what Congress originally contemplated when drafting the RFS.

One additional point of clarification on the process Mr. Jobe described for determining the biomass based diesel mandates and production levels is also important. There is more than one mandate that is relevant to the amount of biodiesel and renewable diesel demand induced by the RFS. While Mr. Jobe described the process to determine the process under which the biobased diesel mandate is set, it is likely that biodiesel use as an RFS compliance strategy will substantially exceed the biobased diesel mandate, and that biodiesel may be used to comply with a significant portion of the non-cellulosic advanced mandate or even potentially some of the overall renewable fuel mandate. Historically the relative prices of biodiesel and ethanol suggested that biodiesel was unlikely to substitute for ethanol in other mandates, but in light of infrastructure constraints that make it challenging to blend ethanol beyond E10, and also because of the tax credit for biodiesel, a

compliance strategy that relies more heavily on biodiesel to meet the non-cellulosic advanced and overall renewable fuel mandates is likely. Looking at 2013 mandate levels as an example, the biodiesel board provided EPA with data which they argued supported an expansion of the 2013 mandate from the 1.0 BG level in 2012, to 1.3 BG in 2013, and EPA finalized a 2013 mandate of 1.28 BG in their September 2012 final rule.[3] However, it is likely that biodiesel production will considerably exceed this level, driven by the demand not for biodiesel RINs, but by advanced and conventional RINs. This means that the additional indirect demand for palm oil may be induced by not only the specific biodiesel mandate level, but by the advanced and overall mandate levels as well, particularly if the EPA continues to expand the non-cellulosic advanced mandate to make up for the delayed cellulosic production as they have in 2012 and 2013. It should be noted in closing that EPA has indicated a willingness to show some flexibility in this regard in their 2014 volume proposal, and we look forward to providing them input on how best to proceed in a manner that minimizes the risk of indirectly expanding palm oil production at the expense of carbon emissions that significantly undermine the climate change benefits of the RFS.

2. ***What are the environmental impacts of palm oil production, and what implications do or could these impacts have on the intended climate change benefits of the RFS?***

In the past two decades, two sources of vegetable oil – soy in the Amazon and palm oil in Southeast Asia – have expanded dramatically, and much of this growth has come at the expense of tropical forests. It is not just the scale of the expansion, but also the pace (with production of both nearly doubling in just a decade) that has put pressure on forests. With demand expected to increase, how production of these oils expand in coming years will be critical to whether tropical deforestation emissions can successfully be reduced.

Palm oil in Southeast Asia showed a large boom at the expense of tropical rain forests in the 1990s and 2000s. Malaysia was initially the industry leader, and at first much of its new palm oil area came from the conversion of declining rubber plantations. But Indonesia, with annual production growth rates of over 10 percent, has overtaken Malaysia in the past decade. Although estimates vary, the Indonesian government plans to establish as much as 18 million additional hectares of palm oil plantation (beyond the 7 million hectares existing in 2008) over the next decade.

Of particular concern from a climate perspective is expansion into peat forests, which are swamp forests common to Southeast Asia whose soils contain very large amounts of carbon. Only about 10 percent of the plantations in Indonesia and Malaysia established up to 2003 were on peat soils, but these were responsible for over a third of the carbon emissions from palm plantations. Furthermore, the drained peat soils will continue to emit carbon dioxide for many years into the future as the peat continues to decompose. Deforestation due to vegetable oil expansion is likely to

[3] 40 CFR Part 80 Regulation of Fuels and Fuel Additives: 2013 Biomass-Based Diesel Renewable Fuel Volume; Final Rule. EPA–HQ–OAR–2010–0133; FRL–9678–7 Federal Register / Vol. 77, No. 188 / Thursday September 27, 2012 / Available at http://www.gpo.gov/fdsys/pkg/FR-2012-09-27/pdf/2012-23344.pdf

continue until governments and businesses make commitments to stop clearing forests and to making their products deforestation-free.

There is considerably more information in this topic in the UCS recent report, *Recipes for Success: Solutions for Deforestation-Free Vegetable Oils,*[4] which is attached for inclusion in the hearing record.

3. ***What measures do you recommend, either legislatively or administratively, to ensure that the RFS does not lead to increased palm oil production and to the adverse environmental impacts associated with this production? Should there be a limit on the volume of biomass based diesel allowed or required under the RFS? Are there types of biomass-based diesel that do not drive palm oil production?***

The EPA has sufficient authority under the existing law to address the challenges described above. Legislative changes to the RFS are neither necessary nor desirable at this time. The administrative actions EPA can take to address these concerns are described briefly below and in more detail in the comments UCS submitted to EPA for the 2013 rulemaking, which are attached.[5]

- EPA should finalize the palm oil rulemaking and clarify that a thorough analysis of the most accurate science confirms that palm oil based biodiesel or renewable diesel does not qualify as an advanced or conventional biofuel under the RFS.
- EPA should not allow the non-cellulosic advanced biofuel mandates to exceed 5 billion gallons, and should adjust the overall and advanced targets in parallel with the adjustments in the cellulosic biofuel mandates.
- Prior to any decision to expand mandates for biodiesel or non-cellulosic advanced biofuels beyond the levels evaluated in 2010, EPA should evaluate how doing so would impact the climate benefits of the policy. Because it is not practical to undertake this analysis as part of the annual volume determination, EPA should conduct a significant rulemaking as soon as possible to consider how best to implement the policy in the 2016 to 2022 timeframe in light of the delayed scale up of cellulosic biofuel. This rulemaking should include an analysis of the impacts on global agricultural markets, trade, deforestation and global warming emissions, and should finalize a concrete basis for the annual volume determinations that would ensure that mandates do not increase when market circumstance suggest that volume increases would be counterproductive to the goals of the policy.
- As part of the rulemaking described above, EPA should update the compliance scenario that was issued in the 2010 final rule in light of the most current information on the speed of commercialization of the cellulosic biofuels industry, an updated assessment of the implications for global trade and indirect land use change, and the constraints in the vehicle

[4] Union of Concerned Scientists (UCS). 2012d. Recipes for Success: Solutions for deforestation-free vegetable oils. Online at *http://www.ucsusa.org/assets/documents/global_warming/Recipes-for-Success.pdf*.
[5] The comments can also be viewed online at: http://www.ucsusa.org/assets/documents/clean_vehicles/UCS-Comments-on-RFS-2013-Volumes.pdf

and fueling infrastructure. This revised forecast should balance realism about what timeframes are practical and desirable with the speedy realization of the goals of the RFS. It is UCS's position that a revised and realistic compliance scenario would reflect that the 36 billion gallon target will not be met in 2022, and may be closer to 2030. And while this is a disappointment, a more realistic scenario will be more useful and provide enhanced certainty to all the market participants which will facilitate the investments that will make the goals of RFS possible. A realistic RFS compliance scenario is also important in other contexts, providing better information to other EPA rulemakings that rely on projected biofuel use over the next decade (like the vehicle GHG standards), and allowing market forecasters greater clarity on what to expect from the RFS over the coming decade.

4. ***What other legislative or administrative measures do you recommend to maximize the RFS's climate change benefits?***

To realize the climate change potential of the RFS two major goals have to be accomplished; accelerating the commercialization of low carbon cellulosic biofuels, and reducing the rate of expansion of food based biofuels. Congress and the Administration have many avenues to support these goals, including changes to the tax code -- extending and enhancing support for investment in cellulosic biofuel commercialization while allowing the biodiesel tax credit to expire, as well as introducing performance-based tax credits that build on the framework of the RFS and provide all biofuel producers an incentive to reduce emissions -- and changes to agricultural and energy policy that support development of cellulosic feedstocks, conversion technologies, and develop the required supply chain and logistics. Congress should also recognize that the RFS is a complex and time consuming policy to administer, so EPA needs adequate funding to execute the required actions in a timely fashion, and other agencies like USDA and DOE need the resources to provide EPA the support it needs.

Thank you for providing me with the opportunity to provide more information about the potential impact of the RFS on palm oil production and deforestation. I look forward to continuing to work with all the members of the Subcommittee on this important policy.

OVERVIEW OF THE RENEWABLE FUEL STANDARD: STAKEHOLDER PERSPECTIVES, DAY 2

WEDNESDAY, JULY 24, 2013

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

The subcommittee met, pursuant to call, at 1:35 p.m., in room 2123, Rayburn House Office Building, Hon. Ed Whitfield (chairman of the subcommittee) presiding.

Present: Representatives Whitfield, Scalise, Shimkus, Terry, Latta, Cassidy, Olson, Gardner, Griffith, Barton, Upton (ex officio), Rush, Barrow, and Christensen.

Also Present: Representatives Matheson, Braley, and Welch.

Staff Present: Nick Abraham, Legislative Clerk; Gary Andres, Staff Director; Charlotte Baker, Press Secretary; Sean Bonyun, Communications Director; Matt Bravo, Professional Staff Member; Allison Busbee, Policy Coordinator, Energy & Power; Tom Hassenboehler, Chief Counsel, Energy & Power; Ben Lieberman, Counsel, Energy and Power; Chris Sarley, Policy Coordinator, Environment and Economy; Tom Wilbur, Digital Media Advisor; Kristina Friedman, Minority EPA Detailee; Bruce Ho, Minority Counsel; Ryan Skukowski, Minority Staff Assistant; and Alexandra Teitz, Minority Senior Counsel, Environment and Energy.

Mr. WHITFIELD. I am going to call the hearing to order. As you know, yesterday was our second hearing on Renewable Fuel Standards. We had two panels of witnesses yesterday and we have our third panel of witnesses today. So I want to thank all of you for joining us today. And I will be introducing the members of the panel. But I would like to recognize the distinguished gentleman from Iowa, Mr. Braley, for the purpose of an introduction.

Mr. BRALEY. I want to thank you, Mr. Chairman, for holding the hearing and extending me the courtesy of introducing a friend of mine, a very distinguished Iowan, who is the first woman to be president of the National Corn Growers Association, Pam Johnson from Floyd, Iowa. Pam is a sixth generation farmer, who raises corn and soybeans with her husband, their two sons, and their young families. They also manage a seed business. And the thing that I noted most about her is she describes herself as coming from a long line of very strong men and women who have farmed for hundreds of years. And I think that says a lot about you. Welcome to the committee.

Mr. WHITFIELD. Well, thank you very much. And, Ms. Johnson, I thank you for being with us today. We do look forward to your testimony.

And at this time, I will introduce the other members of the panel. We are glad to have all of you. Mr. Bill Roenigk, who is the senior vice president of the National Chicken Council; we have Mr. Ed Anderson, who is CEO of Wen-Gap. And he is testifying on behalf of the National Council of Chain Restaurants; we have Mr. Chris Hurt, who is a professor at the Department of Agricultural Economics from Purdue University; and then we have Mr. Scott Faber, who is Vice President of Government Affairs for the Environmental Working Group.

And as you know, this is one of those issues where there is not a lot of complete agreement on. So we have heard a lot of different views. And we do look forward to hearing your views today. Each one of you will be given 5 minutes for an opening statement. And you will notice there are a couple of boxes on the table. And actually when the light turns red, that means stop. But if you are in the middle of a sentence, feel free to go ahead and complete it.

So, at this time, Ms. Johnson, we will start with you. And you are recognized for 5 minutes for your opening statement.

STATEMENTS OF PAM JOHNSON, PRESIDENT, NATIONAL CORN GROWERS ASSOCIATION; BILL ROENIGK, SENIOR VICE PRESIDENT, NATIONAL CHICKEN COUNCIL; ED ANDERSON, CEO, WEN-GAP, LLC, ON BEHALF OF NATIONAL COUNCIL OF CHAIN RESTAURANTS; CHRIS HURT, PROFESSOR, DEPARTMENT OF AGRICULTURAL ECONOMICS, PURDUE UNIVERSITY; AND SCOTT FABER, VICE PRESIDENT OF GOVERNMENT AFFAIRS, ENVIRONMENTAL WORKING GROUP

STATEMENT OF PAM JOHNSON

Ms. JOHNSON. Thank you, Chairman Whitfield, and members of the subcommittee, thank you for the opportunity to testify about the impacts of the Renewable Fuel Standard on the Agricultural Sector. My name is Pam Johnson. I am a sixth generation farmer for Floyd, Iowa, where I raise corn and soybeans with my husband and two sons, and we raised hogs for 38 years. I currently serve as the president of the National Corn Growers Association. And here today I am the voice of the family farmer and give the perspective of the rural community to this panel.

NCJ was founded in 1957, and represents over 39,000 dues-paying corn farmers. And corn is possibly the most versatile crop in the world, and demand is at an all-time high. The RFS is a critical piece of our Nation's energy policy. It has created jobs, lessened our dependence on foreign oil, and improved the environmental footprint of our Nation's transportation fuels. In 2012, the RFS supported more than 300,000 jobs, displaced 465 million barrels of imported oil, and lowered gas prices by at least 89 cents per gallon. It spurred the development of advanced in cellulosic biofuels. In short, it is doing exactly what it was designed to do.

When the RFS was initially conceived, corn producers were facing significantly depressed prices, averaging $2 per bushel. Between 1990 and 2006, producing corn was a losing business. As a

result, grain farmers became reliant on government payments as a source of income and as a means of survival. This dynamic changed in part to the emergence of the ethanol industry and the certainty provided by the RFS. Now all commodity prices across the board have risen, and without the RFS, it is likely that the entire farm economy would be in a deep recession. There is opportunity once again in rural America. Our two sons and a growing number of young farmers have returned to the farm after college. Corn production has allowed our livestock industry, ethanol industry, and our communities to grow. Due to the tax revenues and job security that the RFS enables, my small community has a new fire station, a remodeled hospital, and my grandson's kindergarten class is large enough to need another teacher.

Much of the criticism that the RFS faces regarding food prices, food availability, and its environmental footprint, are exaggerated at best and blatantly false at worst. Because of the farm value of commodities represent such a small share of retail food prices, the impact of the RFS on food prices is indiscernible. Higher energy prices as a result of increased petroleum costs play much larger role. The World Bank found nearly two-thirds of the increases in food price since 2004 are the result of the increased price of crude oil. According to USDA, the farm share of the food dollar is 15.5 cents for 2011, this is below the average of 16.1 cents for the prior 18 years. The farmer is getting a smaller percentage of the food dollar, therefore, it is unlikely that commodities prices or the RFS are large contributors to food price inflation.

Corn farmers have responded to demand by producing more corn on roughly the same amount of land. In the last 30 years, corn production has improved all measures of resource efficiency, land use, oil erosion, irrigation, energy use, and greenhouse gas emissions. I am proud to say that corn farmers work hard to be good stewards of the land and the environment. Our farmers continue to produce enough to meet increased demand for corn as food, feed, fuel, and fiber. We know the importance of seeking and embracing practices that will sustain the soil, to produce crops in the future.

Farmers have increased yields, produced more food, and avoided clearing additional acres of land. This has curbed greenhouse gases equal to a third of the total emissions since the industrial revolution. No other industry can claim to have done more. Not only has the RFS enabled our Nation to be more energy secure, some consumers have been given better and lower options at the pump. Last Friday, I filled my car at a station in Iowa with E–85. It was $1.34 cheaper than E–10, as pictured on the screen. The RFS is enabling families to choose a gas that is cleaner for future generations at a fraction of the price. NCGA appreciates the subcommittee's work to understand our perspective. We strongly believe that the RFS is doing exactly what it was intended to do. It is successfully driving adoption of renewable-fuel alternatives to petroleum, supporting jobs across the country, and ensuring we remain a global leader in developing new energy sources here at home. I look forward to hearing the testimony from the other witnesses and answering your questions. Thank you.

Mr. WHITFIELD. Ms. Johnson, thank you very much.

[The prepared statement of Ms. Johnson follows:]

National Corn Growers Association

Testimony of

Pam Johnson, President

before the

United State House of Representatives
Subcommittee on Energy and Power

Overview of the Renewable Fuel Standard: Stakeholder Perspectives
July 24, 2013

Chairman Whitfield, Ranking Member Rush and members of the Subcommittee, thank you for the opportunity to testify about the impacts of the Renewable Fuel Standard on the agricultural sector.

My name is Pam Johnson. I am a 6th generation farmer from Floyd, Iowa where I raise corn and soybeans with my husband and two sons. I currently serve as President of the National Corn Growers Association (NCGA). NCGA was founded in 1957 and represents over 39,000 dues-paying corn growers. NCGA and its affiliated state associations work together to help protect and advance corn growers' interests. Corn fuels nations around the world, as a food ingredient, a feedstock, a fuel, a fiber and ingredient in building materials and beyond. It is possibly the most versatile crop in the world and demand is at an all-time high.

The Renewable Fuel Standard (RFS) is a critical piece of our nation's energy policy. Since its enactment in 2005, it has created jobs, lessened our dependence on foreign oil and improved the

environmental footprint of our nation's transportation fuels. In 2012 alone, the RFS supported more than 300,000 jobs across the country, displaced the equivalent of 465 million barrels of imported oil, and lowered the price consumers paid at the pump by at least 89 cents per gallon. It is also spurring innovation and helping drive the development of advanced and cellulosic biofuel facilities. In short, it is doing exactly what it was designed to do – spur the development of a significant alternative to petroleum that ignites economic development for those who produce these new fuels and for those who use it.

Corn farmers have responded to the increased demand of ethanol from the RFS by producing more corn on roughly the same amount of land. In the last 30 years, corn production has improved on all measures of resource efficiency, by *decreasing* per bushel: land use by 30 percent, soil erosion by 67 percent, irrigation by 53 percent, energy use by 43 percent and greenhouse gas emissions by 36 percent.[1] All of these improvements have continued despite the increased demand of corn for ethanol.

This testimony will provide an overview of the manner in which the Renewable Fuel Standard has positively impacted the agriculture sector by creating jobs and promoting rural development, reducing greenhouse gases and allowing our nation to grow our energy at home.

FOOD PRICES AND FOOD SECURITY

There is no credible evidence to support the notion that the RFS is adversely affecting consumer food prices. The RFS has little direct impact on agricultural commodity prices; because the farm

[1] "Environmental and Socioeconomic Indicators for Measuring Outcomes of On-Farm Agricultural Production in the United States" Field to Market: The Keystone Alliance for Sustainable Agriculture, July 2012.

value of commodities represents such a small share of retail food prices, the impact of the RFS itself on food prices is indiscernible. That said, higher energy prices as a result of increased petroleum costs play a much larger role in consumer food prices. In 2013, the World Bank found that nearly two-third of the increase in food prices since 2004 are the result of the increased price of crude oil.

According to the USDA, across all commodities, the farm share of the food dollar is 15.5 cents for 2011. This is below the average of 16.1 cents per dollar for the time period 1993-2011. Because the farmer is getting a smaller percent of the food dollar, it is unlikely that commodity prices alone or a factor like the RFS are large contributors to food price inflation.[2]

Commodity prices, not just corn, have increased since the mid-2000s. These price increases are a result of several factors—increased corn demand for fuel ethanol being only one of those factors. For commodity producers, this increase has not been all profit. In fact, cost of production has increased as a result of higher energy costs, which has significantly impacted a producer's break-even point. At the beginning of the last decade, corn producers where facing significantly depressed prices averaging $2 per bushel. Through the 2002 farm bill, Congress responded to this economic disaster in rural America to help commodity producers survive tough times. At the same time, livestock producers benefited considerably from these significantly below market prices. However, the prices received for livestock products were considerably lower during this period as well. As commodity prices have rebounded in the last five years, the Federal Government has seen significant savings in the commodity title of the farm bill. Livestock producers, like grain farmers, are "price takers" in that they sell a commodity and have to accept a market price. Meaning no single producer is large enough to move the market, nor are they

[2] http://www.ers.usda.gov/data-products/food-dollar-series/food-dollar-application.aspx.

able to pass increased costs of production onto the next player in the marketing chain. Meat production has expanded in almost every sector since the passage of the RFS. Fortunately for livestock producers, during this same period of increased feedstuff costs, the U.S. has been expanding export markets for meat products. Increased exports have driven up the cost of meat and livestock and thereby covered much of the higher costs of production.

While the cost of production, partially due to higher feedstuff costs, has risen, a more likely explanation of the increased food costs are factors outside of agriculture. Specifically, rising diesel fuel and labor costs have greatly impacted food prices. All food sold in a grocery store is delivered by truck. In 2007, the average price of a gallon of diesel fuel was $2.88; by 2012 that had increased to $3.97, a 37.8 percent increase (Chart 1). Likewise, while U.S. labor wages may have stagnated due to the on-going recession, other labor costs, most notably health care has not. Unlike farmers, meat packers, wholesalers and food retailers are not "price takers" and increased costs of production can more easily be passed onto consumers. As the USDA data cited above indicates, the vast majority of the retail food dollar arises after products leave the farm.

The lack of any perceptible relationship between the RFS and retail food prices is further illustrated by the fact that the average American household spends less of its disposable income on food today than it did prior to existence of the ethanol industry and the RFS. Since enactment of the RFS2 in 2007, Americans have spent an average of just 9.7 percent of their income on food.[3] In the 10 years prior to adoption of the RFS2, spending on food accounted for 10 percent of disposable income. Spending on food, as a share of income, has trended down steadily since the 1940s and the emergence of ethanol and passage of the RFS have in no way interrupted this trend.

[3] USDA-ERS (2013). *Food Expenditures.* http://www.ers.usda.gov/data-products/food-expenditures.aspx

BENEFITTING RURAL DEVELOPMENT AND CREATING JOBS

The expansion of the ethanol industry has catalyzed substantial growth in the agriculture sector's output, efficiency and value. The role of the RFS has been to create a certain and stable market environment for renewable fuels producers and feedstock providers. In turn, this certainty has enabled investment in new agricultural technologies, such as more efficient farm machinery and higher-yielding corn seed. Agricultural gross domestic product (GDP), net farm income, livestock receipts and crop receipts have all hit new record highs in recent years indicating that the net impact of ethanol expansion on the agriculture sector has been resoundingly positive.

Expansion of the ethanol industry of the past decade has created and/or supported tens of thousands of jobs across all sectors of the economy. In 2012 alone, the RFS supported more than 300,000 jobs across the country.[4] While it is difficult to assess how much of the increase in farm revenue is attributable to RFS demand versus increased export demand, farm income has risen.

Despite the negative effects of the ongoing recession in the manufacturing sector, agricultural equipment manufacturers have been largely immune to the downturn. This is solely because as farm income has risen, farmers have expanded and recapitalized their operations. A large part of this recapitalization is new equipment purchases. Likewise, as farm returns and income have risen, land prices have also risen. This has expanded the property tax base in rural America which is vital to funding schools, roads and other public services. Finally, according to the USDA, total net agriculture income has risen since the passage of the RFS. In 2006, average farm income was $57.4 billion. In 2012, farm income was $112.8 billion, a 97 percent increase.

[4] Renewable Fuels Association.

As Table 1 indicates, while farm income has increased, this increase was not solely in the crop sector. Livestock receipts have increased over this time period as well.

It is nearly impossible to prove that any jobs were lost because of the RFS. U.S. meat output has grown steadily since the original RFS was enacted in 2005. In fact, 2013 production of red meat and poultry is projected to be the second-highest on record (only behind 2008) and 7 percent higher than output in 2005.[5] If, as some critics claim, the RFS has been overly detrimental to the livestock industry, annual meat production should have declined post-RFS. This can also be used as a proxy for employment in the meat sector. A decline in meat production would have resulted in a loss of jobs. This is not to say some companies did not bear the brunt of the change, but overall the sector appears to have increased production.

While the emergence of the ethanol industry has increased demand for corn, U.S. farmers have responded by growing significantly larger corn crops. The average annual U.S. corn crop averaged 7.2 billion bushels (bbu.) in the 1980s and last year 10.8 bbu. were produced. Of this increased crop, 39.5 percent was used for livestock feed, 30.8 percent was utilized for ethanol, and 9.2 percent was processed into dried distillers grains (DDGs).[6] According to the U.N Food and Agriculture Organization, DDGs have become the most popular alternative ingredient used in beef, dairy, swine and poultry diets in the United States and in over 50 countries worldwide due to the "abundant supply, excellent feed value and low cost relative to maize and soybean meal."[7] As a result of larger annual corn harvests and the growing production of animal feed co-products, increased ethanol production has not affected availability of corn for traditional users.

---

[5] USDA (April 2013). World Agricultural Supply and Demand Estimates.
[6] USDA, ERS Feed Outlook, Jan 15, 2013.
[7] U.N. Food & Agriculture Organization (2012). *Biofuel Co-products as Livestock Feed.* Makkar, H. (Ed.). Rome, Italy: FAO Press.

ENVIRONMENTAL BENEFITS

Between 1900 and 2012, the world's population grew from 1.6 billion to more than 7 billion. The Food and Agriculture Organization of the United Nations estimates that the world's population will increase to 9 billion by 2050. With the increased demand for conventional agriculture, it is more important than ever to produce crops today while looking towards the future health of the planet. Corn farmers work hard to be good stewards of the land and environment while producing crops that will be used for animal feed, fuel, food and hundreds of other applications. Farmers know first-hand that they must embrace and seek practices that will sustain the soil and climate to produce the crops of the future.

Fortunately, U.S. agriculture has made incredible technological advances. In 1960, the average U.S. farmer fed 26 people; today, due to these advances, the number has increased to 155 people. In fact, in the last 30 years, corn production has improved on all measures of resource efficiency, by decreasing per bushel: land use by 30 percent, soil erosion by 67 percent, irrigation by 53 percent, energy use by 43 percent and greenhouse gas (GHG) emissions by 36 percent.[8] Corn crops have doubled between 1980 and 2009 by only planting just 3 percent more acres. All of these improvements have continued while the ethanol industry has increased corn demand.

With increasing yields in agricultural production, farmers have avoided clearing additional acres of land that would have been required to produce the same amount of food. The impact of the higher yields has curbed greenhouse gases equal to a third of the total emissions since the dawn

[8] "Environmental and Socioeconomic Indicators for Measuring Outcomes of On-Farm Agricultural Production in the United States" Field to Market: The Keystone Alliance for Sustainable Agriculture, July 2012.

of the Industrial Revolution in 1850. No other industry can claim to have done more. A 2010 study[9] from Stanford University found that advances in high-yield agriculture have prevented massive amounts of GHG from entering the atmosphere, the equivalent of 590 billion metric tons of carbon dioxide (CO_2). In fact, the study concludes that "improvements of crop yields should therefore be prominent among a portfolio of strategies to reduce global greenhouse gas emissions."

Today's transportation sector contributes 28 percent to the nation's greenhouse gas production and is predicted to maintain this share for the next several decades.[10] Since the U.S., China, and Japan consume approximately 35 percent of the world's gasoline supply, we have a tremendous opportunity to impact the environment as we plan for the future of our planet. As you know, the RFS was implemented in part to reduce the production of GHG by increasingly substituting ethanol into the transportation fuel sector. Ethanol produced from corn has multiple environmental attributes when compared to gasoline from petroleum. A few comparative facts are worth review:

1. Ethanol is made from a renewable resource, corn, with additional feedstocks being developed and driven to commercialization because of the RFS. Petroleum (and natural gas) took millions of years to form and thus are considered non-renewable. Many of the new supplies require more energy intensive extraction and processing methods. In fact, exploration for oil is growing rapidly in some of the most fragile ecosystems on the planet including the boreal forests of Russia and Canada, the tropical forests and

[9] http://news.stanford.edu/news/2010/june/agriculture-global-warming-061410.html
[10] Fairly, P. (2011). Introduction: next generation biofuels. Nature 474:S2-S5.

savannas of central Africa, the wetlands and seas of Myanmar and Southeast Asia and the Peruvian Amazon.[11]

2. In the U.S., corn processed into ethanol represents less than 6 percent of harvested cropland. When corn grows, it takes CO_2 from the air and converts it into part of the plant, namely starch and cellulose (fiber). Numerous studies show that the growth of corn increases soil health, through the return of carbon via the roots and decomposing corn stalks.[12,13] In contrast, petroleum extraction does not return carbon back to the Earth.

3. Ethanol, because of its non-toxic and inherent octane properties, was chosen to replace petroleum-derived MTBE (methyl tertiary-butyl ether), a ground-water contaminant. In order to extract petroleum, landscape fragmentation and generation of toxic, hazardous, and potentially radioactive waste streams often occur.[14]

4. When the RFS was enacted and then modified in 2007, the EPA calculated that by 2022, corn starch ethanol would produce approximately 20 percent less GHG than the isolation and conversion of petroleum into gasoline. Corn conversion to ethanol has already reached this level today. Corn starch derived ethanol has not only reached the 2022 goal of reduced GHG emissions today, but due to significant advances in agriculture and ethanol production practices, it produces nearly 50 percent fewer GHG emissions

[11] Orta-Martinez, M. and Finer, M. (2010). Oil frontiers and indigenous resistance in the Peruvian Amazon. Ecol Econ 70(2): 207-218.
[12] Clay, D., et al. (2012). Corn yields and no-till affects carbon sequestration and carbon footprints. Agronomy Journal 104(3): 763-770.
[13] Kwon, H, et al. (2013). Modeling state-level soil carbon emission factors under various scenarios for direct land use change associated with United States biofuel feedstock production. Biomass and Bioenergy, http://dx.doi.org/10.1016/j.biombioe.2013.02.021.
[14] Parish, E. et al. (2013). Comparing scales of environmental effects from gasoline and ethanol production. Environmental Management 51:307-338.

compared to gasoline. Conversely, the U.S. oil and gas industry generates more solid and liquid waste than municipal, agricultural, mining and other sources combined.[15]

The RFS is not only one of our best options to substantially reduce greenhouse gas emissions from the transportation sector but is also a critically important component to the development of new technologies and of other efforts that will continue to be doing the same.

ENERGY SECURITY AND NATIONAL SECURITY

The U.S. government has invested and continues to invest in alternative energy resources as a means to increase national security. This has been done through a series of funding initiatives to government, academic, and private organizations. The foresight of this nation's leaders has supported the abilities of our citizens and provides one of the hallmarks of this country to produce some of the most advanced technologies in the world.

One of these initiatives is the RFS, which has contributed to U.S. energy security by providing an affordable and domestically produced alternative to oil while decreasing greenhouse gas emissions. Another mechanism has been through the Corporate Average Fuel Economy (CAFE) Standards, which decreases vehicle fuel consumption through increased mileage requirements. The continued support of methods to decrease the use of, and provide alternatives to, the consumption of energy while preserving the environment are critical to sustaining the planet for future generations – something farmers have been doing for generations.

[15] Ibid.

As a result of these and other commitments from the government, the United States is now more energy secure than it was prior to the implementation of the RFS. The production of more than 40 billion gallons of biofuel, mainly ethanol, in the last four years has provided an alternative to petroleum while decreasing GHG emissions. Reliance on foreign oil has decreased from 60 percent in 2005 to 40 percent today due to several factors including decreased usage, greater automobile fuel efficiency and a replacement of 10 percent of the gasoline supply with ethanol.

Since gasoline production is responsible for approximately 45 percent of U.S. oil consumption,[16] a 10 percent decrease in gasoline consumption corresponds to an approximately 4.5 percent decrease in overall oil consumption. Additionally, the shift in the United States from being a net importer of gasoline in 2006 to a net exporter in 2012 averaging 366,000 barrels per day is noteworthy. While this shift has occurred, the production and utilization of 870,000 barrels per day of ethanol (equivalent to 13 billion gallons) has enhanced the U.S. gasoline supply. Ethanol allows for a decreased reliance on foreign oil and contributes to the U.S. fuel supply such that gasoline can be exported.

In addition to creating a stable energy supply, the RFS has also had a positive impact on gas prices. Ethanol prices have typically been substantially below gasoline prices at the wholesale level in recent years. For the first five months of 2013, ethanol prices in Chicago have averaged $2.48 per gallon, while gasoline prices have averaged $2.96 per gallon in Chicago (wholesale prices in Chicago were utilized since it is the central pricing point for ethanol and the regulatory conditions for gasoline are not as varied as on the East and West Coasts). This 48 cent-per-gallon discount translates to a gross benefit of almost $0.05 per gallon of finished motor gasoline

[16] According to the U.S. EIA "U.S. refineries produce about 19 gallons of motor gasoline from one barrel (42 gallons) of crude oil. The remainder of the barrel yields distillate and residual fuel oils, jet fuel, and many other products. http://www.eia.gov/tools/faqs/faq.cfm?id=24&t=6.

supplied to consumers.[17] This does not take into account either the indirect benefit that ethanol has on gasoline prices by effectively lowering demand for gasoline (a benefit especially in past years when refineries were running close to capacity) or the enhanced octane value of ethanol over gasoline. [Pure ethanol has an octane value of 113; with the advent of the required addition of 10 percent ethanol to gasoline, manufacturers altered their refining processes to produce sub-octane fuel, which costs less, and added ethanol to make 87 octane fuel with the savings pocketed to the refiner].

Even as recent as last weekend, E85 was dramatically lower than the traditionally blended E10 in St. Ansgar, Iowa (Photo 1).

CONCLUSION

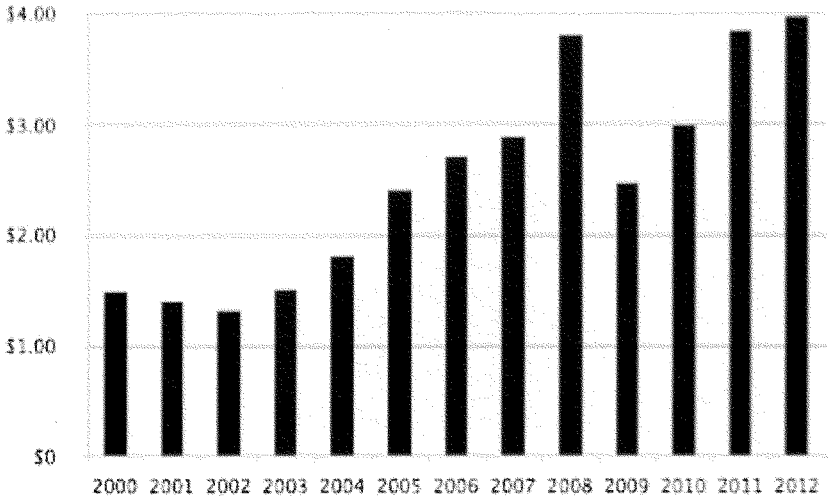
In conclusion, NCGA appreciates the Subcommittee's interest in better understanding the market dynamics surrounding the RFS. We strongly believe the RFS is doing exactly what it was intended to do. It is successfully driving adoption of renewable fuel alternatives to petroleum, supporting jobs across the country and ensuring the United States remains a global leader in developing new energy sources here at home. Corn growers will continue to meet the growing demands in an economical and environmentally responsible manner.

###

[17] Most gasoline contains 10% ethanol, thus price reduction is 10% of $0.48

APPENDIX

Chart 1: Average Price of a Gallon of Diesel Fuel

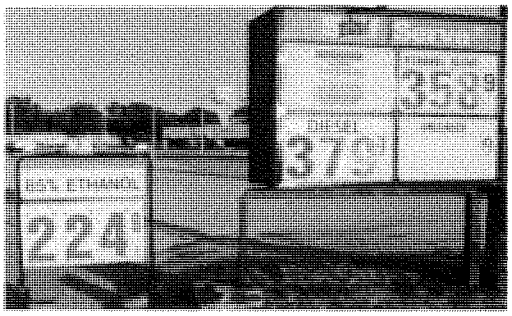


Source: DOE, EIA

Table 1: Income Statement for the U.S. Farm Sector (billion $)

	2006	2007	2008	2009	2010	2011	2012F	2013F
Crop Receipts	122.1	150.1	175.0	168.9	179.6	208.3	219.6	216.3
Livestock Receipts	118.5	138.5	141.6	120.3	141.6	166.0	171.7	176.5
Gross Income	290.2	339.5	377.7	343.3	365.6	428.5	446.5	481.1
Total Expenses	232.8	269.5	292.6	280.3	285.2	310.6	333.7	352.9
Net Farm Income	57.4	70.0	85.1	63.0	80.4	117.9	112.8	128.2

Photo 1:
Gas Prices in St. Ansgar, Iowa on Friday, July 19. 2013



Mr. WHITFIELD. And, Mr. Roenigk, you are recognized for 5 minutes.

STATEMENT OF BILL ROENIGK

Mr. ROENIGK. Good afternoon, Chairman Whitfield, members of the subcommittee. Thank you for this opportunity to participate in this critically important and most timely hearing on the Renewable Fuel Standard. I am Bill Roenigk, and I am speaking on behalf of the National Chicken Council. The National Chicken Council represents companies that produce, process, and market over 95 percent of the chicken in the United States. About 40 vertically-integrated chicken companies that are federally inspected comprise the U.S. industry. Since 2007, all these companies, at times, have struggled financially. Some have struggled longer and more severely than others. Chicken companies have been economically squeezed for much of the past 6 years. Rising feed costs for much of the past 6 years have outpaced the ability of these companies to pass on the higher cost of feed.

At least a dozen chicken companies have succumbed to this severe cost price squeeze by ceasing operations or having to sell their assets at basically fire-sale values, in some cases, to foreign owners. The business disruptions directly affects over 25,000 family farms and more than 300,000 employees that are directly working for the chicken companies. Since the RFS was implemented in October 2006, the feed costs for chicken, turkeys, and eggs have gone up over $50 billion. And that is not the total farm—or feed cost, that is the additional feed costs that we have had to incur, and it has been an understatement to say that we have had a difficult time passing on that $50 billion cost. More troubling than the higher costs actually is the volatility in trying to outguess the market. If you buy corn at $8 and it goes to $6 and your competitor buys at $6, you are at a tremendous disadvantage in trying to compete in the marketplace.

The RFS statute and the Energy Independence Security Act of 2007 is not just broad and complex, as the chairman has indicated in his comments about the hearing, it is also a statute that has outlived its usefulness if in fact the conventional fuels component of the RFS ever did have any usefulness. The actual experience of implementing the RFS has, unfortunately, been very much as those of us in animal agriculture expected. Our negative expectations have for the most part been exceeded and exacerbated by the impact of shortfalls of the corn crops of the past 3 years.

The RFS clearly lacks flexibility when the corn crop falls short. The unintended consequences of forcing a move too far and too fast with corn-based ethanol have become overly clear and overly painful. It has also become overly clear and apparent that there is no workable or reasonable provision in the RFS to provide flexibility when the corn crop is severely inadequate to meet all the needs.

I also would like to point out that the "renewable" part of the Renewable Fuel Standard term is a misnomer. That is, "renewable" implies there is abundance of some natural resource that provides an unending supply of some product. Having to apply over 200 pounds of commercial nitrogen fertilizer to achieve a corn yield of 160 bushels an acre does not qualify in our estimation as being a

renewable resource. If you did not apply that fertilizer, your yields would be cut in half; if you didn't apply them again the next year, you would be cut in half again. In short, the Renewable Fuel Standard, at least for the conventional biofuels part of it is broken beyond repair.

It is imperative and important at this time that Congress take action to take a hard, critical look at the RFS. If Congress concludes as we do, the RFS cannot be fixed because it is broken beyond repair, then Congress must do the right thing. And I would recommend those who are interested in more information about the National Chicken Council's position that you go on the committee's Web site and look for our white paper we submitted in response to your call for the impact on agriculture. The National Chicken Council looks forward to working with the ask subcommittee and others in Congress to fix, if possible, this very broken legislation.

Thank you, Chairman Whitfield, and members of the committee for this opportunity. And we look forward to your questions.

Mr. WHITFIELD. Thank you very much.

[The prepared statement of Mr. Roenigk follows:]

Overview of the Renewable Fuel Standard
Stakeholders Perspective

Hearing of the Energy and Power
Subcommittee
House Committee on Energy and Commerce

William P. Roenigk

On Behalf of the
National Chicken Council

Wednesday, July 24
Rayburn House Office Building
Washington, DC

Good afternoon, Chairman Whitfield, Ranking Member Rush, and Members of the Subcommittee. Thank you, Chairman Whitfield, for the opportunity to participate in the critically important and most timely hearing on the Renewable Fuel Standard.

My name is William "Bill" P. Roenigk. I was, until very recently, the Senior Vice President of the National Chicken Council and am now a consultant to the Council. The statement is presented on behalf of the National Chicken Council, which represents companies that produce and process over 95 percent of the young meat chickens (broilers) in the United States. The Council's producer/processor members are proud to provide on a consistent basis wholesome, high-quality, affordable chicken to both consumers at home and abroad. About 20 percent of the U.S. chicken supply is exported to the very competitive world market.

About 40 vertically-integrated chicken companies that are federally-inspected comprise the U.S. industry. Since 2007, all of these companies, at times, have struggled financially. Some have struggled longer and more severely than others. Chicken companies have been economically-squeezed for much of the past six years. Rising feed costs for much of the past six years have out-paced the ability of companies to pass on these higher feed costs in the form of higher prices these companies receive for their chicken products. At least a dozen companies have succumbed to the severe cost-price squeeze by ceasing operations or having to sell their assets at fire-sale values, in some cases to foreign owners. The business disruptions directly impact the over 25,000 family farmers who grow the chickens, and the more than 300,000 employees directly working for the chicken companies.

Since October 2006 through this month, July 2013, poultry and egg producers have had to bear the burden of higher feed costs totaling over $50 billion. The $50 billion higher feed costs is not the total feed bill, but rather the increase over feed costs if corn and soybean meal prices had remained somewhat steady at the pre-2006 levels. It is an understatement to say "it has been difficult to pass this

increased cost on to the chicken buyers," whether they are supermarkets, restaurants, further processors, or buyers overseas.

As troubling as the higher feed costs have been, an even more difficult challenge is the much greater volatility experienced in corn prices over the past six years. There is no futures market for chicken so establishing a hedge position including corn, soymeal, and chicken is not possible. The market risk for chicken is carried by the chicken companies. If you, as a chicken producer, guess wrong on the corn and/or soybean meal prices, you can pay a very heavy financial penalty compared with your competition who may have luckily guessed more correctly on the commodity market.

As Subcommittee Chairman Whitfield noted in the announcement about today's hearing the "Renewable Fuel Standard is a broad and complex statute... now is the time to take an in-depth look at the RFS and compare our original expectation for the program with the actual experience." Permit me to add that the RFS statute in the Energy Independence and Security Act of 2007 is not just broad and complex, but also a statute that has outlived its usefulness, if, in fact, the conventional fuels component of the RFS even did have any usefulness. The actual experience of implementing the RFS has, unfortunately, been very much as those of us in animal agriculture expected. Our negative expectations have, for the most part, been exceeded and exacerbated by the impact of the short-falls of the corn crop for the past three years.

Proponents of having a government mandate that requires a major quantity of corn to be used to manufacture ethanol whether or not there is an adequate supply of corn apparently had expectations that optimum weather conditions for producing corn and competing crops would be the norm every year. Recent history for the corn harvest has certainly proven otherwise.

Some groups have characterized the position of the National Chicken Council and our sister organizations in animal agriculture as being anti-ethanol. This conclusion is a mis-characterization. We are not anti-ethanol. Rather, we believe

the government should stand aside and permit the market to move the United States toward greater energy independence. The negative and, perhaps, unintended consequences of forcing a move too far and too fast with corn-based ethanol have become overly clear and overly painful. It has also become overly clear and apparent that there is no workable or reasonable provision in the RFS to provide flexibility when the corn supply is severely inadequate to meet all needs.

It is important to note that the Renewable Fuel Standard is a misnomer. That is, "renewable" implies that there is an abundance of some natural resource that provides an unending supply of some product. Applying over 200 pounds of commercial nitrogen fertilizer to achieve a corn yield of 160 bushels per acre does not qualify corn to be considered "renewable." Without the application of fertilizer, yields of corn would be one-half and if not applied again the next year, the yield would be reduced by another one-half.

In short, the Renewable Fuel Standard, at least for conventional biofuels, is broken beyond repair. It is most imperative and important at this time for Congress to take a critical, hard look at the RFS. If Congress concludes, as we do, that the RFS cannot be fixed because it is broken beyond repair, then Congress must do the right thing.

The National Chicken Council looks forward to working with the Subcommittee and others in Congress to repeal this very broken and irrepairable legislation.

Thank you again, Chairman Whitfield, ranking Member Rush, and Members of this Subcommittee for the opportunity to participate in the discussion today so that our thoughts and recommendations could be shared.

Mr. WHITFIELD. And Mr. Anderson, appreciate you and your family being here, and you are recognized for 5 minutes.

STATEMENT OF ED ANDERSON

Mr. ANDERSON. Thank you. Good afternoon, Chairman.

Mr. WHITFIELD. Be sure and turn your microphone on.

Mr. ANDERSON. Good afternoon, Chairman Whitfield, Ranking Member Rush, and members of the committee. My name is Ed Anderson. My wife Judy and I, with our son, Eddie, own a small Wendy's franchise with four restaurants in Virginia. We have 138 employees. I was also elected to the board of Wendy's Quality Supply Chain Coop, QSCC, a not-for-profit purchasing coop owned by Wendy's restaurant operators like me. QSCC purchases the food for Wendy's and is staffed by experts who understand and help us interpret commodity markets. The National Council of Chain Restaurants asked me to be here to represent our industry. I have never done anything like this in my life, but I do have a responsibility to my employees, fellow franchisees, customers, the food service industry, and my family to make sure Congress knows a well-intended idea has turned out to be a very serious problem, and it is getting worse.

Judy and I are the face of American small businessmen and women. We have worked hard to build our business. But when Congress passed the Renewable Fuel Standard, it created a new burden for businesses like ours. Now restaurant owners and employees like us are being hit at a time when our economy can't afford it. I doubt many restaurant operators or our customers know that an EPA mandate on corn ethanol is at the root of food cost increases.

Based on several analyses, we are asking Congress to repeal the RFS because it is estimated to be costing us up to $30,000 more per restaurant than we would normally pay. For our family business, that is up to $120,000 a year in additional costs. That might not be a lot of money in Washington, D.C., but for me and many others in the restaurant business, that is a lot of money. If Congress repealed the RFS, it would level the playing field and over time, return normalcy to the food supply chain so everyone competes fairly and food becomes more affordable.

Last year, RFS proponents blamed the drought for high corn prices. This year, they are blaming it on oil prices. But a 2012 report by PricewaterhouseCoopers confirms what our analysis at QSCC already thoroughly studied. It is the RFS that distorts food commodity costs so much that restaurants, our suppliers, and consumers are forced to pay more than we normally would under market conditions.

Please understand we are not anti-ethanol. We know if it wasn't for American farmers and ranchers, we wouldn't be here, and we support American agriculture. We get all of our beef and chicken from here in North America. But this mandate is making food so expensive that it is harder to continue investing in new or remodeled restaurants, which would create badly needed construction and restaurant jobs. I believe with all my heart that we live in the greatest country in the world. This country was built on the hard

work and the ingenuity of those who were willing to risk it all to build something. Removing the mandate for ethanol allows to stand on its own. Capitalism allows us all to adjust and be successful.

Let the natural market dictate the cost of ethanol, not a mandate. We can't pass these costs on to our customers. They are already struggling in this economy, and their own food costs at grocery stores have also gone up because of the RFS.

We are appealing to Congress to thoroughly study the issue like we have. Please listen to all sides and consider all implications. Then you will understand why repeal is the best solution. Recently, an educational campaign was launched called "Feed Food Fairness, Take RFS Off the Menu." It is led by the National Council of Chain Restaurants and supported by a coalition of small business owners, operators, franchisees, and many others in the food supply chain to urge Congress to repeal the RFS.

We believe the RFS must be repealed because we are concerned that if, for example, just the corn ethanol mandate is eliminated from the RFS, it would simply be replaced with some other food crop, and we would be right back where we are today. What sounded like a good idea has had serious consequences and artificially driven up the price for food both at home and in our restaurants.

Judy and I are the kind of people that make up much of the chain restaurant industry. We are here as small business owners, as employers, and as a family to bring attention to this issue and ask Congress to take action for all of us. Thank you.

Mr. WHITFIELD. Thank you, Mr. Anderson.

[The prepared statement of Mr. Anderson follows:]

SUMMARY OF TESTIMONY OF ED ANDERSON
CHIEF EXECUTIVE OFFICER AND PRESIDENT OF WEN-GAP LLC,

OVERVIEW OF THE RENEWABLE FUEL STANDARD: STAKEHOLDER PERSPECTIVES

BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES
July 24, 2013

- My wife Judy and I, with our son Eddie, own a small Wendy's franchise with four restaurants in Virginia. We have 138 employees.

- The Renewable Fuel Standard has created a new burden for businesses like ours. Now restaurant owners and employers like us are being hit at a time when our economy can't afford it.

- Based on several analyses, we estimate the RFS to be costing us up to $30,000 more per restaurant than we would normally pay. For our family business, that's up to $120,000 a year in additional cost.

- We're asking Congress to repeal the RFS. This would level the playing field and over time return normalcy to the food supply chain so everyone competes fairly and food becomes more affordable.

- A 2012 report by PricewaterhouseCoopers confirms what our analysts discovered. The RFS distorts food commodity costs so much that restaurants, suppliers and consumers are forced to pay more than we would under normal market conditions.

- We support H.R. 1461, the Renewable Fuel Elimination Act. We believe the RFS must be repealed because we are concerned that if just the corn ethanol mandate is eliminated from the RFS, it would simply be replaced with some other food crop and we would be right back where we are today.

TESTIMONY OF ED ANDERSON
CHIEF EXECUTIVE OFFICER AND PRESIDENT OF WEN-GAP LLC,

OVERVIEW OF THE RENEWABLE FUEL STANDARD: STAKEHOLDER PERSPECTIVES

BEFORE THE SUBCOMMITTEE ON ENERGY AND POWER
COMMITTEE ON ENERGY AND COMMERCE
U.S. HOUSE OF REPRESENTATIVES
July 24, 2013

Good afternoon Chairman Whitfield, Ranking Member Rush and Members of the committee.

My name is Ed Anderson. My wife Judy and I, with our son Eddie, own a small Wendy's franchise with four restaurants in Virginia. We have 138 employees.

I was also elected to the board of Wendy's Quality Supply Chain Co-op, QSCC, a not-for-profit purchasing co-op owned by Wendy's restaurant operators like me. QSCC purchases the food for Wendy's and is staffed by experts who understand and help us interpret commodity markets.

The National Council of Chain Restaurants asked me to be here to represent our industry. I've never done anything like this in my life but I have a responsibility to my employees, fellow franchisees, customers, the foodservice industry, and my family...to make sure Congress knows a well-intended idea has turned out to be a very serious problem...and it's getting worse.

Judy and I are the face of American small business men and women. I started with Wendy's more than 32 years ago as a manager trainee working for the Wendy's Company. My dream was to own my own business and build something to be proud of, and that I could bring my family into with me.

We've worked hard to achieve our success and build our business, but when Congress passed the Renewable Fuel Standard – the RFS – it created a new burden for businesses like ours. Now restaurant owners and employers like

us are being hit at a time when our economy can't afford it. I doubt many restaurant operators, or our customers, know that an EPA mandate on corn ethanol is at the root of food cost increases.

Our family is not asking Congress for a bailout – we're asking Congress to dig into the true impact of the RFS and see how it has distorted the market at the expense of small employers like Judy and me.

Based on several analyses, we're asking Congress to repeal the RFS because it's estimated to be costing us up to $30,000 more per restaurant than we would normally pay. For our family business, that's up to $120,000 a year in additional cost. That might not be a lot of money in Washington D.C. – but for me and many others in the restaurant business – that's a LOT of money.

If Congress repealed the RFS, it would level the playing field and over time return normalcy to the food supply chain so everyone competes fairly and food becomes more affordable. Last year, ethanol industry proponents blamed the drought for high corn prices. This year, those same proponents are now blaming the oil companies.

But a 2012 report by PricewaterhouseCoopers confirms what our analysts at QSCC already thoroughly studied. It's the RFS that distorts food commodity costs so much that restaurants, our suppliers and consumers are forced to pay more than we would under normal market conditions.

Please understand, we're not anti-ethanol; we know if it wasn't for American farmers and ranchers we wouldn't be here, and we support American agriculture. We get all of our beef and chicken from here in North America. But this mandate is making food so expensive that it's harder to continue investing in new or remodeled restaurants which would create badly needed construction and restaurant jobs.

I believe with all my heart that we live in the greatest country in the world. This country was built on the hard work and the ingenuity of those who were willing to risk it all to build something. Removing the mandate for ethanol allows

it stand on its own. Capitalism allows us all to adjust and be successful. Let the natural market dictate the cost of ethanol not a mandate.

We can't pass these costs on to our customers, they are already struggling in this economy and their own food costs at grocery stores have also gone up because of the RFS. We're appealing to Congress to thoroughly study the issue – like we have. Please listen to all sides and consider all the implications. Then, you will understand why repeal is the best solution.

Recently, an educational campaign was launched called "Feed Food Fairness: Take RFS off the Menu." It's led by the National Council of Chain Restaurants and supported by a coalition of small business owners, operators, franchisees and the entire food supply chain - to urge Congress to repeal the RFS.

We support H.R. 1461, the Renewable Fuel Elimination Act and similar legislation introduced in the Senate. We believe the RFS must be repealed because we are concerned that if just the corn ethanol mandate is eliminated from the RFS, it would simply be replaced with some other food crop and we would be right back where we are today.

What sounded like a good idea has had serious consequences and artificially driven up the price for food both at home and in our restaurants.

Judy and I are the kind of people that make up much of the chain restaurant industry. We're here as small business owners, as employers, and as a family, to bring attention to this issue and ask Congress to take action for all of us.

Thank you.

Mr. WHITFIELD. And Professor Hurt, you are recognized for 5 minutes.

STATEMENT OF CHRIS HURT

Mr. HURT. Thank you for the opportunity to provide some comments on the impacts of the RFS to date and to discuss the future direction of the RFS and its implementation. Out in the Midwest, we view what happens to the RFS as one of the most important drivers of the entire farm economy. The RFS really does matter to U.S. agriculture. I am here today as an agricultural economist from Purdue University. That is the land grant college of Indiana. And I am here to represent U.S. agriculture broadly and not to have any advocacy position on the RFS.

Some call the current high farm commodity price period the "biofuels era." I think it is a little bit of a mistake to believe that the RFS was the sole factor that caused the amount of changes in prices we have had. And those have had major impacts as you have already heard on different sectors.

We really have had two major things that changed that drove the demand so much higher for agricultural grains. One of those was clearly the biofuels. There we saw the massive increase in acreage, a lot of new demand for acreage, for corn, that increased about 16 million acres in the United States. That was a very large surge in demand. But there was a second very rapid surge since 2005, and that has been the growth of incomes in China and resulted in purchases of soybeans here in the United States, the additional purchases required about 13 million additional acres. All these factors have been built into higher grain prices. If we just look at the acreage impact, 16 million acres on corn driven by RFS. And 13 million on soybeans, it is about 55 percent of the acreage, higher acreage was driven by the—directed by the RFS.

So in some way, I think the RFS did have increased—the increase for corn ethanol was very rapid, maybe a little more rapid than U.S. farmers could supply. And clearly, we have had supply problems, as was mentioned already. But the soybean purchases from China are also part of this explosive price period.

Certainly, RFS has, as you have already heard, provided positive benefits for some sectors, the grain producers and farm landowners, especially. And it has been negative for people who are end-users and obviously the animal producers we have heard from, food consumers we have heard from, and those that are involved like restaurant industry. In the farm sector, U.S. farm incomes shot from $79 billion in 2005 to a record 128 billion estimated by USDA this year. Even more startling is farm land values have risen about 150 percent during this time period, since 2005, and that is, really, a very large number, approaching $1 trillion of extra real estate value in farmland. $866 billion higher land value, real estate value for farms in 2013 versus 2005.

The downside, of course, was felt by those users of grains. Prices of feed shot higher for the animal industry, as you have heard. And the animal industry cannot immediately pass that on. The prices are determined by their supply that year; when they had much higher feed prices, they can't pass it on. They absorbed that in losses in their margins, as you have already heard. And then even-

tually those losses discouraged some people. We have then a reduction in the amount of food available.

I looked at some of the meat sector. Per capita availability of meat has gone down, since grain prices went up at about 5 percent this year, per capita supplies of chicken and turkey; pork availability is 6 percent lower, and beef supplies in the United States are down 14 percent since we had that cheap corn.

So, clearly, we look at that. Consumers have less food availability to choose from at higher prices. They are definitely losers. Retail food prices have been mentioned. They have risen about—food has risen about 1 percent faster than the core inflation rate. And again, as is mentioned, it is the commodity portion of the food that we would relate to, the RFS, so it is a smaller portion.

Certainly the RFS has some major issues coming up. The blend wall I am sure you have talked about. We have a really slow start towards E–15 and E–85. We have tiny cellulose production, which was supposed to be the direction we were going at this point. And other issues.

Let me conclude then by saying crop farmers, I think, would like to maintain conventional ethanol levels about where they are today. I think they can reach the 15-billion gallon level that is slated. Our problems really are over on the cellulosic side.

And in terms of oil seeds, we can see some further increase in oil seeds. This might be like soybean oil. But I think the bottom line is what we would like the agricultural sector is to see some stability, as corn growers have indicated. We would really like to see, from the end-user side, we would like to see that there not be legislative mandates that increase the demand beyond the ability to supply that. So that we look at the supply, how quickly can supply grow. And if we are going to have mandates that those mandates, not increase demand quicker than supply. I look forward to any questions you have. Thank you.

Mr. WHITFIELD. Thank you.

[The prepared statement of Mr. Hurt follows:]

WRITTEN STATEMENT OF

Chris Hurt, Ph.D.

Professor of Agricultural Economics

Purdue University

As submitted to the

Subcommittee on Energy and Power

Committee on Energy and Commerce

United States House of Representatives

For hearing on

"Overview of the Renewable Fuel Standard: Stakeholder Perspectives"

July 24, 2013

Thank you for the opportunity to provide my perspectives on the RFS2 and the impacts it has already had on a broad range of different groups in our country. In these written comments I will provide some background on the struggles of U.S agriculture related to historic boom/bust cycles. Then a review of the role of the RFS2 as a driver of the recent boom period for crop producers and land owners will be provided. This is followed by highlighting some of the impacts of the RFS2 on crop versus animal industries and on food consumers. Finally I look at some of the concerns related to the continued implementation of RFS2 for the agricultural sector between 2013 and 2022.

Background on U.S. Agriculture Sector

The single greatest problem for U.S. agricultural in the past 100 years has been the tremendous production capacity of farmers and agribusinesses. Blessed with natural resources of land and climate. Driven by significant public and private investments in agricultural research and education; farmer productivity has been able to produce more food than U.S. and foreign customers could buy at prices that were profitable to farmers. Since 1929, much of U.S. agricultural policy has been directed to finding ways to increase demand for U.S. farm products, or to reduce supply.

Only during a few brief periods over this past 100 years has demand for farm products exceeded supply such that farm commodity prices were high leading to farm incomes rising above those of non-farm families. Those periods were a result of demand surges for U.S. farm products during World War I, again during World War II, during the 1970's farm commodity export surge, and now during the biofuels era.

Historically speaking farm commodity prices have tended to follow a cycle. Unexpected demand surges have been the reason for periods of higher prices that may last for roughly 5 to 10 years. The higher commodity prices begin to push up farm costs of production and land values. After a few years

the term "new era" becomes the refrain and those higher farm commodity prices and incomes result in supply expansion which eventually leads to lower prices and sometimes a total collapse in prices and farm incomes. Low prices and incomes can then persist for 20 years, especially if some of the demand base goes away.

Of the three completed commodity prices cycle over the past 100 years, two of them ended in financial bust for U.S. agriculture. The price and income surge around increased U.S. exports to feed Europe during World War I resulted eventually in massive new lands coming into production by "plowing up the Plains" and seeding wheat. Agricultural depression followed with U.S. farm land dropping each year from 1918 into the early 1930's. The Great Depression took over from there with the farm economy in deep recession for 20 plus years through the 1920s and 1930s.

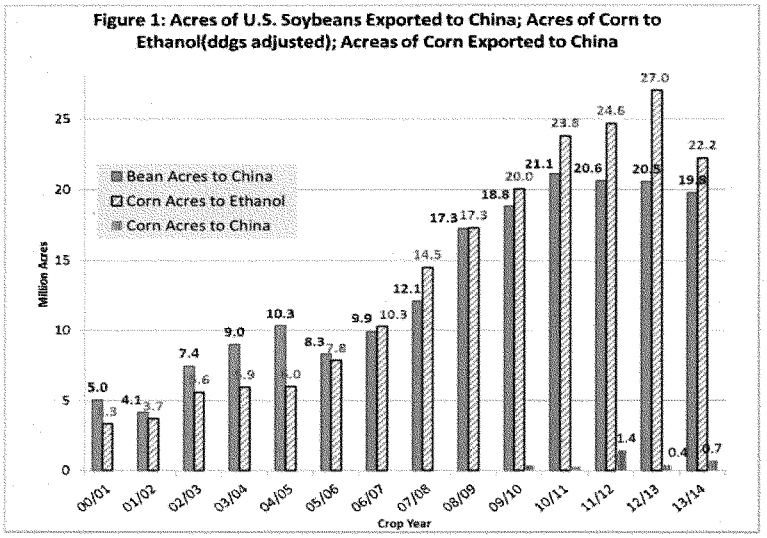
In a similar fashion the 1970s export boom, beginning with the Russian wheat deal in the fall of 1972, was followed by the farm sector financial collapse of the 1980s. In each of these bust, the U.S. government was a significant player in stabilizing the farm sector declines. In each of these boom/bust cycles the demand surge went on long enough to stimulate additional supply, but the new demands did not last. High supply with reduced demand means low prices and bankruptcy for some who locked in high costs of production during the height of the boom. Boom eras of 5 to 10 years tend to be followed by 20 or more years of weak prices and low farm incomes. This historical sketch gives foundation for concerns in agriculture. Will the current economic surge end as a boom/bust cycle or as a boom and then moderation cycle? Biofuels policy will likely be an important determinate in that outcome.

The Drivers of the Current Boom

In three papers for the Farm Foundation, a non-advocacy agricultural policy education organization, I and two Purdue peers outlined the reasons for the current boom. As in previous booms, unexpected demand surges led the way to higher prices. There have been two primary demand surges

since the 2005 crops that have been strong stimulants. The first of these is the RFS2 that has increased the use of corn for ethanol production and to a smaller extent the use of soybean oil for biodiesel. The second is often overlooked in the discussions of the impacts of the RFS and that is the tremendous increase in the exports of soybeans to China.

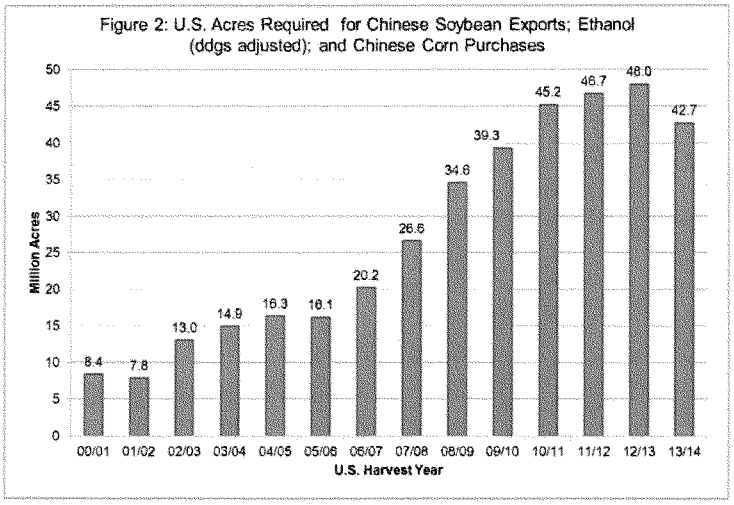
Figure 1 provides a visual observation on how quickly these demands were growing. From the 2005 corn crop, 7.8 million acres of U.S. production were needed to meet ethanol demands. By the 2010 crop that was nearly 24 million acres (a 16 million acre demand surge). For soybeans headed to China, it took 8.3 million acres of U.S. land from the 2005 crop jumping to 21.1 million by the 2010 crop (a 12.8 million acre demand surge).



Some argue that Chinese purchases of corn have also been driving higher farm commodity prices but that is a small volume compared to the rise in corn for ethanol and soybean exports to China. The

combined impact on the acreage required to meet these three demands is shown in Figure 2. For the 2005 crop acreage needed for these three demands was 16.1 million. That rose to 45.2 million U.S. acres by 2010, nearly six million additional acres per year.

Demand surges of this magnitude were beyond the ability of supply to keep up and prices rose for these high demand crops. Acreage shifted away from other crops and toward these high demand crops. Thus prices for all land based crops rose, including pasture and forage crops.



The RFS2 was a primary contributor to the demand surges shown here representing about 55 percent of the new demand (16 million acres out of 29 million), but it was not the only contributor. In fact the surge of soybean purchases from China represented about 45 percent of the new acreage needed, thus was nearly as large as the growth of corn use for ethanol due to the RFS2. The combination of these new demands occurring at the same time was also a contributor to excessive surges in commodity prices. If only one had occurred in the absence of the other the price impact would have

been considerably smaller. Too many people suggest that the time period since 2005 is a result of the RFS. The RFS has been one of two main contributors, but the impacts of the RFS in the absence of the surging demand by China would have been less pronounced.

Two additional contributors that facilitated the explosion of prices since 2005 were macro policy events and unfavorable weather which reduced U.S. production in 2010, 2011, and especially with the 2012 drought. Weak U.S. economic growth and monetary policy designed to promote low interest rates has tended to also keep the U.S. dollar weak and thus U.S. commodity prices high in dollar terms. That has included crops but also oil prices. In addition, the movement of agriculture into the energy business meant that agricultural markets became linked to energy (oil) markets more closely than in the past.

All told, a host of factors led to the boom period characterized by high farm commodity prices and shortages of basic food ingredients, but the RFS was one of the primary contributors.

Primary Impacts of the Recent High Crop Prices

High crop prices resulted when demand was growing faster than supply. During the demand surge, prices of grains grew faster than costs rose, thus margins in crop production increased rapidly. Using Purdue budgets, typical Midwestern farm land saw ownership returns move from about $115 an acre per year in 2005 to over $300 an acre in 2010, 2011, and 2012. Higher margins of course meant much higher incomes for crop farm families. U.S. farm income grew from $79 billion in 2005 to an estimate $128 billion estimated by USDA for 2013 (a record high).

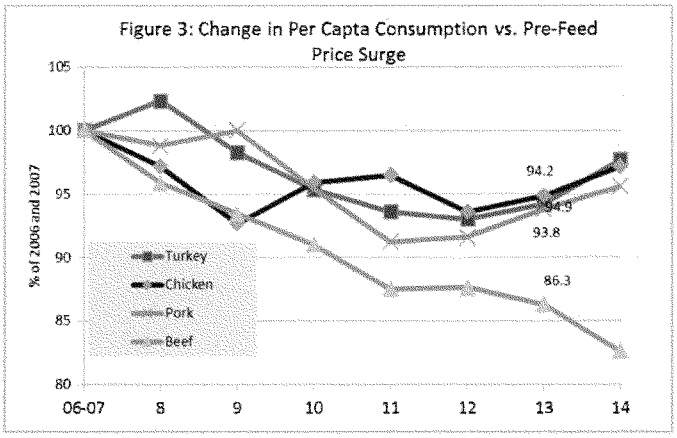
Agricultural land values increased as well. Not only were returns per acre nearly tripling, but interest rates were also falling. This provided not one, but two critical stimulants to much higher land values. The 10 year treasury fell from 5.1 percent in 2006 to about 1.6 percent by May of 2013. Land values increased about 150 percent from 2005 to 2013 for average quality Midwestern farm land, a

compound growth rate of over 12 percent annually. Across the country, the asset value of farm real estate increased by $866 billion during this eight year period (USDA). The monetary benefits of rising land values has been much more important to the growth of farm sector net worth than has higher farm incomes.

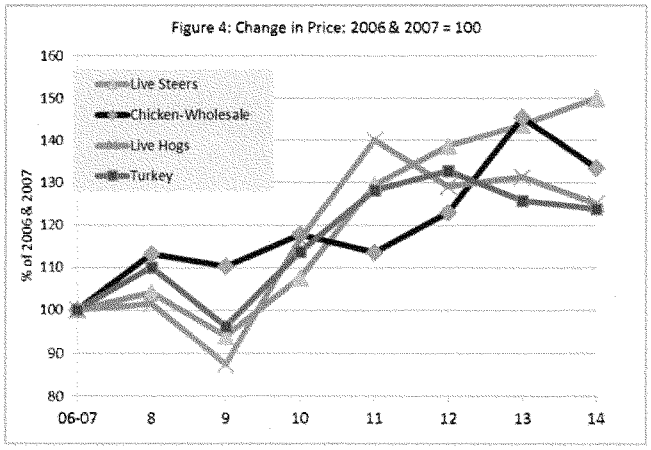
Higher farm incomes on crop farms benefited rural communities as that higher income spread through local purchases of farm and consumer goods and services. In addition, expansion of the ethanol industry in rural communities added some employment and related economic activity.

While a "golden era" was underway for crop farmers, the opposite tended to be true for the animals sector. Higher crop prices meant higher feed costs for animal producers. In the short-run they were unable to pass those higher costs on to food consumers, but rather had to absorb the higher feed costs as compressed margins (they lost money). After sufficient financial discouragement, some producers reduced production or got out of business. Eventually smaller supplies led to higher consumer prices that will eventually be sufficiently high to cover the higher feed costs.

Higher feed costs eventually are transmitted to food consumers as less available food and higher cost food. Figure 3 shows how U.S. per capita consumption of meats has decreased since feed prices began to move upward. It uses 2006 and 2007 as the base period set equal to 100. By 2013, per capita consumption of chicken and turkey has fallen about five percent from the base period. Pork consumption per capita has fallen about six percent, and beef production by 14 percent. USDA's estimates for 2014 begin to show a recovery of consumption as lower feed prices for the 2013 crop begin to lower feed costs and chicken, turkey, and pork producers begin expansion that will increase meat supplies in 2014. This may well be the beginning of a recovery phase for the animal industries.



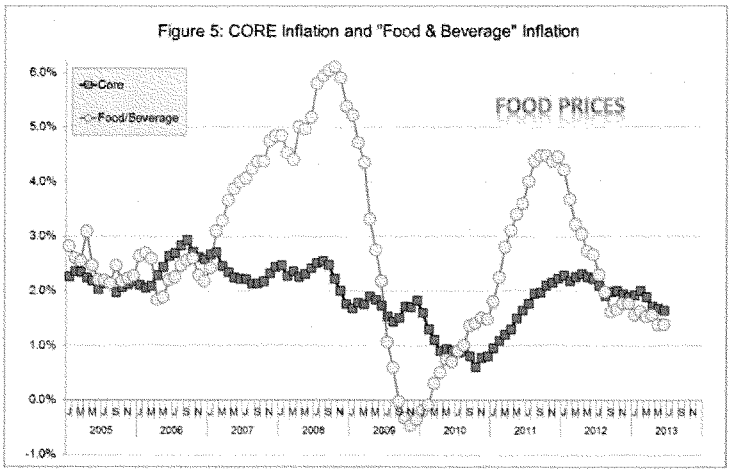
Higher meat prices were likely a primary factor in causing consumers to reduce their per capita consumption of these meat products. Figure 4 demonstrates how farm level prices have moved upward since the 2006 & 2007 base period, prices for turkeys and hogs are up by 25 to 30 percent by 2013 and up about 45 percent for chicken and cattle prices.



The animal sector was clearly harmed by the higher feed prices which were partially a result of the RFS. Bankruptcies and reduced production has meant large financial losses for the sector and reduced employment and local economic activity in the sector. In 2005 the animal sector of U.S. agriculture represented 53 percent of farm receipts and crops were 47 percent, by 2012, animals had fallen to 44 percent of receipts and crops moved up to 56 percent. Food consumers were also negatively impacted. They had less product available and had to pay higher prices.

Retail food prices have risen faster than the general inflation rate as measured by the Consumer Price Index (CPI) without energy commonly called the core inflation rate. Starting in 2006 through June 2013, the core rate has risen by an average annual increase of 2.2 percent while the CPI for food and beverages has risen by 3.2 percent per year on average. The one percent higher average annual inflation rate for food and beverage is related to the higher farm commodity prices and to higher energy prices especially in 2008 and again 2011.

Figure 5 shows monthly inflation rates for the CPI core and the food and beverage inflation category. The more rapid increases in food prices are reflected in 2007-2008 and again in 2011-2012. The impact of the RFS is primarily related to the commodity costs of the raw ingredients that go into the foundation of our food system. The commodity or farm component of food varies sharply from less than 10 percent for highly processed products like cereals to over 50 percent for some less processed products like eggs. On average the commodity portion might be something like 20 percent of the retail food dollar, although those estimates vary (Ferris estimates 19% of total food inflation during this period was due to higher commodity prices). Using that 20 percent level of an average food inflation of 3.2 percent suggest perhaps .5 to .6 percent of the annual inflation in retail food prices was related to higher commodity prices of our food. Food is a $1.4 trillion dollar industry so one-half of one percent represents about $7 billion of higher food costs per year related to the higher commodity prices.



The Current Agricultural Outlook and Implementation Issues for RFS2

Several of the drivers of high food commodity prices are expected to moderate in coming months and years. In addition, much of the sector adjustments to higher crop and animal prices has been made. However, biofuels policy could still be an influential factor in how the agricultural and food sectors evolve in coming years.

First, overall crop supplies in the U.S. and world are coming into better balance with heightened demand and this will allow farm commodity prices to moderate. The 2013 U.S. crops are expected to be closer to normal after three short production crops. In addition, reductions in the Conservation Reserve Program has brought more U.S. land into production, dropping from 35 million acres in 2005 to about 27 million today. In addition contracts on about 7 million additional acres will be expiring in the next three years. Some of which will go back to crop production if returns are favorable.

World production capacity has been increasing as well. Since the 2005/06 marketing year, world harvested acres of 13 major crops has expanded by 147 million acres, an expansion area roughly equal to one-half of the U.S. principle crop area. The largest expansions have been in South America and the Former Soviet Union but are widespread. Continued acreage expansion globally can be expected if crop returns remain favorable.

Demand growth may slow as well. Chinese demand for soybeans from the U.S. is expected to grow but at a slower rate than in recent years due to slowing income growth rates in China and due to greater competition from foreign countries for that business. Improving U.S. economic activity and higher interest rates in the U.S. in coming years may also strengthen the value of the dollar which could reduce commodity prices in dollar terms.

Corn demand growth for ethanol may be limited due to constraints from the blending wall. If those continue, it means that the period of rapid growth in corn use for ethanol is over and will tend to level off. A leveling off of this primary demand would give supply an opportunity to "catch up" and therefore provide a period of moderating crop prices. Those lower crop prices would provide increased margins for the animal sector and result in some expansion in animal production in the next few years and also provide a moderating influence on retail meat prices. Food inflation could drop back below the core inflation rate as it has already done this year (see Figure 5).

Meeting the 16.55 billion gallon RFS2 in 2013 is becoming increasingly difficult. Let alone the 18.15 in 2014 and 20.5 billion gallons in 2015, and so forth to 36 billion gallons in 2022, just 9 years away. The problems arise from the blend wall, from the inability of a cellulosic industry to develop, and from a slow-start toward E15 or E85.

Given the consumption of gasoline around 133 billion gallons this maximizes the E10 conventional ethanol around 13.3 billion gallons, even though conventional ethanol plant capacity is near the 15 billion gallon RFS maximum to be reached in 2015. Unless breakthroughs are seen in the movement to greater acceptance of E15 among gasoline retailers, or corn and ethanol prices drop sufficiently to make E85 more costs competitive, then corn use is capped at about the E10 use level plus ethanol exports. This puts annual corn use for ethanol near 5.0 billion bushels (as measured by USDA), a level that U.S. farmers can currently supply and still allow some growth for animal feed, exports, and other industrial uses.

Cellulosic ethanol mandates in RFS2 are now beginning to grow sharply with little production capacity. For 2013, the cellulosic mandate is for 1.0 billion gallons, but EPA has waived that to a tiny 14 million gallons, in line with production volumes. While, EPA has greatly reduced the cellulosic mandate since its start in 2012, they have not been reducing the overall mandate, requiring the full 16.55 billion gallons for 2013, and moving up to 20.5 billion gallons in just two more years in 2015. Greatly reducing the cellulosic mandate sends clear signals to investors that cellulosic ethanol probably will not happen as designed under RFS2.

Since EPA continues to maintain the overall RFS2, but largely waive cellulosic, and assuming the blend wall for conventional ethanol, this means the total RFS2 must be met with additional use of biodiesel; with advanced biofuels which most likely would be imported Brazilian sugarcane ethanol; or with the use of RINs. Meeting the total RFS2 with large quantities of biodiesel will require more land as the yield of fuel per acre is low compared to corn. As an example, average quality Midwest corn land will produce about 470 gallons of conventional ethanol per acre. So 1 billion gallons of additional ethanol would require the corn from about 2.1 million acres. Soybean oil production is only about 82 gallons per acre. Biodiesel also gets a 1.5 gallon credit for the RFS2, so the production of an additional 1.0 billion

gallons for RFS2 only requires 667 million gallons of physical biofuels. At 82 gallons per acre based on soybeans, this means 8.1 million added acres of soybeans. Using increasing amounts of biodiesel to meet the total RFS2 puts great demands on what has been the scarce resource in recent years, farm land. Reliance on biodiesel to meet RFS2 could also greatly distort fats and oil markets as well as markets for oilseed meals which would be in much greater supply with much lower prices. Meeting the RFS2 is going to require multi-billions of gallons if EPA continues to keep the total RFS in place and cellulosic develops too slowly.

If cellulosic ethanol were to develop it also will be competitive with other food crops at least for the portion that might be produced from dedicated energy crops such as miscanthus and switchgrass. These crops would be grown on marginal soils that today are used for forage crops and for grazing. Thus these crops would compete directly with the animal industries that currently tend to use that class of land. Forest residue and crop residue like corn stalks would not be competitive for land used for food production.

Meeting the EPA enforcement of the total RFS2 with increased imports of sugarcane ethanol from Brazil has positive greenhouse gas advantages versus conventional ethanol. It also reduces dependency on foreign oil imports, but does not stimulate economic activity in rural communities of the U.S. Unfortunately, if the blend wall stays in place, Brazilian ethanol goes into E10 and thus reduces domestic corn ethanol gallon for gallon. The actual impact then is to reduce rural economic activity in the U.S.

RINs are the final way obligated blenders can meet the growing RFS2 when physical supplies of biofuels are smaller than the RFS2. The available excess RINs will not be large enough to keep up with

the growing RFS2 into 2014 and 2015. As a result of this realization the market price for RINs has increased sharply in recent months.

How the RFS2 is implemented in 2014 and beyond can have major impacts on the agricultural sector. Agriculture was asked to generate capacity to produce up to 15 billion gallons of conventional ethanol, and to develop that capacity in a short time frame. U.S. Agriculture has largely completed what Congress asked of them with large positive and negative consequences for various sectors. Most of the adjustments have occurred as supply has finally risen to meet the current level of demand and commodity prices are expected to moderate. Crop farmers want to at least maintain current conventional ethanol levels and can, in a few years, increase production to meet the 15 billion gallon mandate if a way can be found around blend wall constraints. Oilseed production can also increase modestly allowing some modest expansion of biodiesel use, again over time. However, this cannot meet multi-billion gallon mandates without major distortions to segments of food markets. The animals sector and food consumers want to avoid political mandates in an RFS that increase demand for crops at a faster rate than U.S. and world supply can reasonably meet.

References:

Abbott P, Hurt C, Tyner WE. *What's Driving Food Prices?* Farm Foundation Issue Report (2008).

Abbott P, Hurt C, Tyner WE. *What's Driving Food Prices? March 2009 Update.* Farm Foundation Issue Report (2009).

Abbott P, Hurt C, Tyner WE. *What's Driving Food Prices in 2011? July 2011 Update.* Farm Foundation Issue Report (2011).

Ferris, Jake. Impacts of the Federal Energy Acts and Other Influences on Prices of Agricultural Commodities and Food. Staff Paper 2013-02. Department of Agricultural, Food and Resources; Michigan State University, June 2013.

Tyner, W.E. F. Taheripour, and C. Hurt, Potential Impacts of a Partial Waiver of the Ethanol Blending Rules, August 2012, Farm Foundation.

(WASDE) World Agricultural Supply and Demand Estimates. USDA. World Agricultural Outlook Board.

U.S. Congress, energy Policy Act of 2005, Public Law 109-58, 2007: Washington D.C.

U.S. Congress, Energy Independence and Security Act of 2007, in H.R. 6, 110 Congress, 1st session. 2007.

Mr. WHITFIELD. And Mr. Faber, you are recognized for 5 minutes.

STATEMENT OF SCOTT FABER

Mr. FABER. Thank you, Mr. Chairman, Ranking Member Rush. And thank you, members of the committee. I am the last witness on the last panel. So I will be brief, and I will take to heart Mr. Shimkus's command to listen and be constructive. I think that is exactly the right mindset to bring to this issue.

Mr. WHITFIELD. Would you mind just taking your microphone a little closer.

Mr. FABER. Absolutely. I will do whatever Mr. Shimkus says.

So I do think it is time to—and we have heard this over the last 2 days—it is time to recognize that the RFS is producing too many biofuels that increase greenhouse gas emissions, that increase food prices, that pollute our air and water, and not enough of the good biofuels that really help hold the promise of not pitting our energy needs against our food security and environmental needs. And it is important to look back and remember that the RFS was once heralded as a way to combat climate change. But according to EPA's own analysis in their 2010 Regulatory Impact Analysis, the RFS has actually increased greenhouse gas emission by encouraging farmers for plow up millions of acres of land, releasing carbon into the atmosphere and releasing nitrous oxide emissions into the atmosphere.

Again, according to EPA's own analysis, the rapid expansion of corn ethanol increased greenhouse gas emissions in 2012, and will continue to increase greenhouse gas emissions for years to come. And that is because most corn ethanol is either produced in a natural gas fire dry mill ethanol plant, which, according to EPA, increases lifecycle greenhouse gas emissions by 33 percent when compared to gasoline, or in a coal fire dry mill ethanol plant, which increases greenhouse gas emissions, again, according to EPA, by 66 percent when compared to gasoline. But that is not all. As farmers have applied more fertilizer to millions of acres of new crop land, the RFS has also increased the amount of fertilizer that winds up in our rivers and streams that, in turn, increases the cost of treating our drinking water. It has increased the amount of water that is used in many drought-stricken States. It has increased emissions of air pollutants, like particulate matter and ozone, and, as we have heard on this panel, increased food prices for consumers.

That is the bad news. I think the good news is that many second-generation biofuels hold real promise because many of these fuels convert wastes, not food crops, into fuel. Unfortunately, as you heard yesterday, the marketplace is saturated by corn ethanol, blocking the commercial development of these much more promising fuels. And so we believe that in order to allow second-generation fuels to gain a foothold in the marketplace, Congress must reform RFS to phase out the corn ethanol mandate. There is simply no reason to think that RFS as currently designed is providing sufficiently powerful incentive to develop these new fuels. In fact, all of the evidence suggests that RFS is failing to deliver on that promise. Over the last year alone, EIA has, on three separate occa-

sions, revised downward its estimates for cellulosic ethanol production in 2022.

At a minimum, Congress should level the playing field for these second-generation biofuels by making corn ethanol subject to the same high greenhouse gas reduction standards as second-generation biofuels. Right now, as I mentioned, most corn ethanol production is completely exempt from any of these greenhouse gas reduction standards. So they are, again, completely exempt from meeting these greenhouse gas reduction standards under the 2007 Act. And according to EPA's 2010 Regulatory Impact Analysis, increasing greenhouse gas emissions.

What is more, phasing out these food-to-fuel mandates would, as you have just heard, create a level playing field for livestock operators, for food manufacturers, for restaurant owners, who are paying more for food and feed.

I would like to just close by thanking you for reviewing these issue. We have now had many years of experience with the RFS. I applaud you all for recognizing that now is the time for reform, and we do look forward to working with you to come up with constructive ways to help bring these promising second-generation fuels to the marketplace. Thank you.

Mr. WHITFIELD. Mr. Faber, thanks very much. And thank all of you for your testimony. We appreciate your taking the time to be here.

[The prepared statement of Mr. Faber follows:]

Testimony of Scott Faber

Senior Vice President for Government Affairs
Environmental Working Group

Before the

Subcommittee on Energy and Power

Of the

House Committee on Energy and Commerce

On

Overview of the Renewable Fuel Standard: Stakeholder Perspectives

July 24, 2013

Thank you for the opportunity to testify. My name is Scott Faber and I am the Senior Vice President for Government Affairs at EWG.

EWG applauds the Subcommittee on Energy and Power of the House Committee on Energy and Commerce for reviewing the Renewable Fuel Standard.

To date, the RFS has failed to deliver the "good" biofuels that could help meet many of our environmental and energy challenges. Instead, the RFS has delivered too many "bad" biofuels that increase greenhouse gas emissions, pollute our air and water, destroy critical habitat for wildlife and increase food and fuel prices. Once promoted as a tool to combat climate change, the corn ethanol mandate of the RFS has instead increased greenhouse emissions, exacerbated our air and water pollution challenges, and driven up the price of staple foods.

Since it was expanded in 2007, the corn ethanol mandate has contributed to plowing up more than 23 million acres of US wetlands and grasslands to plant crops -- an area the size of Indiana. EWG recently analyzed the annually updated satellite data that the US Department of Agriculture uses to track land use and documented this rapid destruction of wetlands and grasslands.[1] Other studies have also documented this dramatic change to

[1] EWG, (2012) Plowed Under. http://static.ewg.org/pdf/plowed_under.pdf.

HEADQUARTERS 1436 U St. NW, Suite 100 Washington, DC 20009 | P: 202.667.6982 F: 202.232.2592
CALIFORNIA OFFICE 2201 Broadway, Suite 308 Oakland, CA 94612 | P: 510.444.0973 F: 510.444.0982
MIDWEST OFFICE 103 E. 6th Street, Suite 201 Ames, IA 50010 | P: 515.598.2221

the American landscape.[2] By accelerating conversion of wetlands and grasslands to grow crops, the RFS has driven up greenhouse gas emissions by releasing carbon stored in the soil[3] and by increasing fertilizer applications.[4]

Although the RFS was promoted in 2005 and 2007 as a tool to address climate change, the Environmental Protection Agency's own analysis has since shown that the lifecycle greenhouse gas emissions of corn ethanol were higher than gasoline last year (2012) and will be higher in 2017.[5] All but three corn ethanol production pathways increased emissions in 2012, and only nine corn ethanol production pathways are expected to meet greenhouse gas reduction standards for corn ethanol in 2017.[6]

What's more, new research suggests that the RFS will not achieve long-term greenhouse gas reductions. Researchers found that the cumulative greenhouse gas emissions caused by corn ethanol for the period between 2015 and 2044 to be about 1.4 billion tons – or 300 million tons more than emissions from an energy-equivalent amount of gasoline.[7] In other words, the cumulative lifecycle greenhouse gas emissions from corn ethanol are forecast to be 28 percent higher than those from gasoline. A separate study found that full implementation of the RFS, including the development and use of second-generation biofuels, would "substantially increase the portion of agricultural land needed for biofuel production" and result in almost no change in greenhouse gas emissions.[8]

These studies contradict earlier EPA research – based on hypothetical corn ethanol production in 2022 – that suggested that the 30-year lifecycle greenhouse gas emissions from corn ethanol would be lower than the emissions from an energy-equivalent amount of gasoline.[9] EPA's earlier studies presumed investments and upgrades, such as fuel switching, that are speculative at best, as most corn ethanol is not subject to the greenhouse gas standards of the RFS.

In addition to increasing greenhouse gas emissions, corn ethanol also increases emissions of many other air pollutants, including sulfur dioxide, particulate matter, ammonia,

---

[2] E.g. Wright and Wimberly (2012), *Recent Land Use Change in the Western Corn Belt threatens Grasslands and Wetlands.*

[3] Clearing forest, pasture or wetland for new cropland to produce biofuels results in decomposition of organic carbon and elevated GHG emissions, creating a "carbon debt" which may take many years for biofuel consumption to "pay down." See EPA (2011), Biofuels and the Environment: Triennial Report to Congress, at 5-9.

[4] Fertilizer applications increase emissions of nitrous oxide, a far more potent greenhouse gas than carbon dioxide. In 2011, nitrous oxide accounted for about 5% of all US GHG emissions, and nitrous oxide molecules stay in the atmosphere for an average of 120 years. http://epa.gov/climatechange/ghgemissions/gases/n2o.html.

[5] Environmental Protection Agency (2010) Renewable Fuel Standard Program (RFS 2) Regulatory Impact Analysis.

[6] See Docket No. EPA-HQ-OAR-2005-0161-3173.5

[7] Clean Air Task Force (2013), Corn Ethanol GHG Emissions Under Various RFS Implementation Scenarios, included in CATF Comments on EPA RFS 2013 Volume Adjustment. [Hereinafter CATF]

[8] Mosnier, et al. (2013), *Alternative US Biofuel mandates and global GHG emissions: the Role of Land Use Change, Crop Management and Yield Growth.*

[9] CATF at 3.

nitrogen oxides and ozone.[10] In 2011, the National Academy of Sciences found that "overall production and use of ethanol was projected to result in increases in the pollutant concentration . . . Those projected air-quality effects from ethanol fuel would be more damaging to human health that those from gasoline use."[11] In particular, experts have found that, compared to the lifecycle emissions from gasoline, corn ethanol results in significantly greater emissions of particulate matter, which can contribute to respiratory illnesses.[12] As a result, the RFS is complicating state and local efforts to meet particulate matter pollution standards. In addition, RFS2 will raise ozone levels even higher than RFS1.[13] Overall, the increase in emissions caused by the RFS are, according to the National Academy, "projected to lead to increases in population-weighted annual average ambient [particulate matter] and ozone concentrations, which in turn are anticipated to lead to up to 245 cases of adult premature mortality."[14]

Corn ethanol also contributes to significant water quality and quantity challenges. As the number of acres dedicated to corn production has increased – from 79 million acres, on average, between 2000 and 2006 to 90 million acres, on average, between 2007 and 2012 – farmers have applied more nitrogen fertilizer.[15] Nitrogen that washes off farm fields contributes to poor water quality, increasing water treatment costs and creating low-oxygen "dead zones." As the National Academy noted, "the increase in corn production has contributed to environmental and surface effects on surface and ground water, including hypoxia, harmful algal blooms and eutrophication."[16] Water used to irrigate corn ethanol and by ethanol refineries also depletes aquifers and streams. According to various studies compiled by the Academy, producing a gallon of gasoline, on a well-to-wheel basis, consumes far less water than producing a gallon of corn ethanol.[17]

Fortunately, some second-generation biofuels hold far more promise than corn ethanol. Because many of these fuels convert crop wastes or other byproducts into fuel, some second-generation fuels do not contribute to the conversion of land or increase the use of farm chemicals.[18] Unfortunately, the marketplace is saturated by corn ethanol, blocking the commercial development of promising second-generation fuels. While corn ethanol refiners currently have the capacity to produce 14.7 billion gallons, gasoline refiners can

---

[10] Wagstrom and Hill (2011), *Air Pollution Impacts of Biofuels*, in Gasparatos and Stromberg, Socioeconomic and Environmental Impacts of Biofuels: Evidence from Developing Nations, Cambridge University Press, England. See also

[11] National Academy of Sciences (2011), *Renewable Fuel Standard: Potential Economic and Environmental Effects of US Biofuels Policy*, at 246. [Hereinafter NAS].

[12] Tessum, et al. (2012), *A Spatially and Temporally Explicit Life Cycle Inventory of Air Pollutants from Gasoline and Ethanol in the United States*; *See also* Cook, et al., (2010) *Air Quality Impacts of Increased Use of Ethanol under the United States' Energy Independence and Security Act*

[13] Environmental Protection Agency, Renewable Fuel Standard Program (RFS 2) Regulatory Impact Analysis (2010) at 602.

[14] NAS at 206.

[15] Testimony of Joseph Glauber, Chief Economist, USDA, before the Subcommittee on Energy and Power of the House Committee on Energy and Commerce, June 26, 2013. Corn acres reached 97.2 million acres in 2012.

[16] NAS at 10.

[17] *Id.* at 227.

[18] Tilman, et al. (2009), *Beneficial Biofuels – The Food, Energy, and Environmental Trilemma; See also* Wagstrom and Hill.

only blend 13.4 billion gallons of ethanol into the fuel supply, what is commonly known as the "blend wall." Expected declines in fuel consumption, driven largely by fuel efficiency standards, will further reduce the amount of ethanol that can be blended into gasoline, and significant infrastructure and engine constraints limit the use of higher ethanol blends.

To allow second-generation biofuels to gain a foothold in the marketplace, Congress must reform the RFS to phase out the mandate for corn ethanol. Accelerating development of promising second-generation fuels is critical to efforts to reduce the carbon intensity of the overall fuel supply, but this is not happening quickly enough to offset the negative environmental impacts of conventional biofuels. There is little evidence that the RFS, as currently designed, is providing sufficiently powerful incentives to develop these fuels. The Energy Information Administration has repeatedly reduced its predictions for cellulosic biofuel production by 2022: from less than 3 billion in 2012,[19] to less than 1 billion gallons in January 2013,[20] to less than 500 million gallon in April 2013.[21] At a minimum, Congress should "level the playing field" by demanding that all corn ethanol production meet the same high greenhouse gas reduction standards as other biofuels.[22]

Accelerating development of second-generation fuels that convert wastes into fuels could have other benefits.[23] In particular, phasing out the corn ethanol mandate and allowing second-generation fuels to meet current marketplace demand for ethanol could reduce food and feed prices. Between 2005 and 2012, annual corn ethanol production grew from less than 4 billion gallons to almost 14 billion gallons. As a result, the share of corn diverted from food and feed supplies has increased from 6 percent to 40 percent.[24] Expanding corn production has only partially offset the rapid growth in demand for corn ethanol, resulting in significantly higher corn prices. Although many factors have contributed to recent price increases, experts estimate that the rapid expansion of corn ethanol accounted for at least one-third of the increase.[25] Rising demand for corn also drives up the price of other crops such as wheat.[26] Unless we reform the RFS to speed up development of second-generation fuels, our ethanol policies will continue raise the cost

[19] US EIA, Annual Energy Outlook 2012 (June 2012). The AEO 2013 (April 2013) concludes that cellulosic biofuel production will not grow until after 2013.
[20] US EIA Deputy Administrator How Gruenspecht, (January 2013), *Biofuels in the United States: Context and Outlook*
[21] US EIA, AEO 2013, at 83. See fig. 100.
[22] In addition, Congress should reject new subsidies for corn production and instead support common-sense reforms such as payment limits and means testing. Second-generation fuel feed-stocks are generally not eligible for farm subsidies.
[23] Some second-generation fuels, under certain scenarios, increase greenhouse gas emissions and food and feed prices.
[24] World Agricultural Outlook Board, USDA, World Agricultural Supply and Demand Estimates (2013).
[25] E.g. Babcock and Fabiosa (2011) *the Impact of Ethanol and Ethanol Subsidies on Corn Prices: Revisiting History*. CARD, Iowa State University.
[26] Griffen and Soto (2012). *US Ethanol Policy: The Unintended Consequences*

of basic staples for American consumers and increase the number of food-insecure people around the globe.[27]

In conclusion, the rapid expansion of corn ethanol production has increased greenhouse gas emissions, worsened air and water pollution, and driven up the price of food and feed. By contrast, some second-generation biofuels could significantly reduce greenhouse gas emissions without creating new environmental challenges or increasing food prices. So long as corn ethanol saturates the marketplace for ethanol, there will be little incentive to develop these promising new fuels.

[27] Condon, Klemick, and Wolverton (2013). *Impacts of Ethanol Policy on Corn Prices: A Review and Meta-Analysis of Recent Evidence.*

Mr. WHITFIELD. I am going to recognize myself for 5 minutes of questions. We actually have votes on the floor. And, unfortunately, there is like eight or nine amendments. It is going to take some time. So I know members are interested, have a lot of questions. I will go and ask mine now and maybe we will get to Mr. Rush. And then hopefully, you all can go down to the cafeteria and have a sandwich or something for an hour. But I do apologize in advance for this inconvenience.

As I said, we have had a number of hearings on this. And it is a complex topic. Initially, when the Renewable Fuel Standard was adopted, there were three basic reasons for doing so. One was less reliance on foreign oil, the second was to revitalize the rural areas, and the third reason was to reduce greenhouse gas emissions. And so the question I would like to ask each one of you is, if those were the three primary reasons given for the adoption of Renewable Fuel Standard, the International Energy Agency recently said that within a short period of time, 5, 6 years, America will be the number one oil producing country in the world because of recent finds in new fields like the Bakken Field, which means that one of the reasons for this standard, being less dependent on foreign oil, seems to be less important.

The second reason is that we reduce greenhouse gases. Well, Mr. Faber, in his testimony, points to studies. And I will just read from a few of them here. "Researchers found that the cumulative greenhouse gas emissions caused by corn ethanol for the period between 2015 and 2044 will be about 1.4 billion tons, or 300 million tons more than emissions from an energy equivalent of gasoline." And they say that actually EPA's original research was wrong. And then it says, "The National Academy of Sciences found that overall production and use of ethanol was projected to result in increases in the pollutant concentration. Those projected air quality effects from ethanol fuel would be more damaging to human health than those from gasoline use." And I could go on from there.

Now, I am from a rural area. And I could tell what you what, every time I go home, our corn growers, our soybean growers there are thrilled because great yields, good prices, and the economy is going strong. But if the validity of doing a program like this, as complex as it is, only one reason given initially still appears to be out there, I would ask each one of you if you could just give me your view on, since we are only fulfilling now it looks like maybe one of the original intents of the standard, of why should we continue it? And, Ms. Johnson, if you wouldn't mind responding, I would appreciate it.

Ms. JOHNSON. Thank you for that question. Several things. We have data to prove that corn production alone has reduced greenhouse gas emissions by 36 percent. And we are doing that with new technologies and farming smarter and putting nutrients into the crop precisely using GPS and computers so that those techniques are helping on that end. And in the end, on the corn to ethanol, the EPA asked that corn ethanol reduced greenhouse gas emissions by 20 percent by 2022, and the corn ethanol business has already met that.

Mr. WHITFIELD. So, Ms. Johnson, sorry for interrupting. I have a minute and 24 seconds left. But basically what you are saying is that your studies indicate that there has been a reduction?

Ms. JOHNSON. Correct.

Mr. WHITFIELD. And what about the oil independence issue, as we produce more and more oil, what would you say to that?

Ms. JOHNSON. The amount of gallons of ethanol added to the fuel supply has reduced it. Yes, we are using less gas here. Yes, we have more gas here, but it is harder to get that kind of gas out of the ground, and the carbon footprint of that will be bigger also. So I think we have to look at going forward in the future these—these products are still fossil fuels, and they are still, at some point, finite and we need to develop renewable fuels.

Mr. WHITFIELD. Mr. Roenigk, do you have a comment?

Mr. ROENIGK. I would just observe what Dr. Hurt set about almost a trillion dollars increase in land values. That is great for the people who own that land, wanted to sell it. But if you are a young farmer trying to get into agriculture, and we do need some young farmers out there, we have raised a very high hurdle for them to overcome to continue to be in animal agriculture,

Mr. WHITFIELD. But is it still your position it should be repealed?

Mr. ROENIGK. Our position, there needs—if we cannot put flexibility into the program, then we need to fix it. And if we can't fix it, then we need to repeal it.

Mr. WHITFIELD. Mr. Anderson.

Mr. ANDERSON. Thank you. I am just a small businessman. So when we talk about these other things, it is very difficult for me. But on a daily basis, the thing I can speak about is I have a responsibility to my 130-plus employees. And I know that the rising of the food commodity prices has put a severe impact on us, not only at the restaurant, but even in the grocery stores. And that has made it very difficult for everybody to pay higher prices for gas and for food at this time.

Mr. WHITFIELD. Mr. Hurt.

Mr. HURT. Yes, I think there has been enough change that we need—Congress should look at the Renewable Fuel Standard, and implementation is going to be very difficult given the high amounts of additional biofuels that are to be produced.

Mr. WHITFIELD. Mr. Faber.

Ms. FABER. I would just add that it is not EWG's view, it is both EPA's view and the National Academy of Sciences' view that the corn ethanol mandate has increased greenhouse gases. They wrote in 2011 that, "regardless of whether the co-product is sold wet or dry, corn grain ethanol has life cycle greenhouse gas emissions higher than gasoline in 2012 and 2017." So I think we don't need to get into this fight of dueling studies. The experts, EPA and the National Academy of Sciences, have already drawn the conclusion that especially in the short run when we need greenhouse gas reduction the most, corn ethanol is increasing emissions by increasing the amount of carbon that is released into the atmosphere.

Mr. WHITFIELD. Thank you very much. And now, Mr. Rush, would you like to ask questions now or do you want to come back?

Mr. RUSH. I think it would be appropriate given the fact that we have got, like, seven votes left.

Mr. WHITFIELD. OK. I know a number of members have questions for you all. And I do apologize. But if you don't mind, we do need to go vote. There is going to be seven or eight votes. It may take 50 minutes, 55 minutes. So if you all would come back at about hour from now, we would genuinely appreciate it. With that, we will recess the hearing for one hour. Thank you.

[Recess.]

Mr. WHITFIELD. At this time, I will recognize the gentleman from Colorado for 5 minutes of questions.

Mr. GARDNER. Thank you, Mr. Chairman, and I appreciate the witnesses' time and their time for being here. Yesterday, the witnesses were able to provide entertainment, insight, arguments, and a lot of good information on the impact of renewable fuel standards on fuel production sales and usage.

Today, I thank you for the opportunity to talk about the impact it has on agriculture, on food prices around the country. And I mentioned yesterday about my district's strong agricultural sector, not only some of the Nation's leading corn producers on the county basis in the country as well as farmers and ranchers throughout Colorado, and the 4th congressional district, the 11th largest ag district out of the 435 districts here in Congress.

And to William Roenigk, is that Mr. Roenigk?

Mr. ROENIGK. Yes.

Mr. GARDNER. Of the National Chicken Council. I asked a similar question yesterday to Bob Dinneen, president of the RFA. Could you talk about the coke product from ethanol product to distill his grains, how they impact livestock operators that you represent?

Mr. ROENIGK. Yes, thank you. Great question. You are referring to DDGs?

Mr. GARDNER. Yes.

Mr. ROENIGK. It is a great product if you are ruminant. If you are a chicken cattle, dairy cattle, but if you are single stomach animal like poultry and hogs, doesn't work so well, and even works less today than it did a few years ago. Now the technology is such that they are able to take the oil out of the DDG. So, before there was some energy from the oil, but now that energy is gone, and so for poultry, very difficult to really get much benefit from DDGs, and so we use a very limited amount, in most cases, less that 5 percent. Having said that, it is good that the—our competitors in large animals can use it and take some of the pressure off the corn market.

Mr. GARDNER. And your conversation as livestock operators, they believe that DDGs have actually helped with their profitability; is that correct?

Mr. ROENIGK. Yes, I would agree.

Mr. GARDNER. Ms. Johnson, to you, I got my start in Congress actually as an intern working in the Corn Growers Office, which right now represents the 24th highest producing corn district in Congress. In your testimony you talk about how the RFS has benefited rural communities. Can you elaborate on what has happened to farm income in the United States since we adopted the RFS in 2005?

Ms. JOHNSON. Sure. As I say in my written testimony, before the days of the RFS, farmers were facing prices of $2 corn and below,

and so actually, as corn growers, we got together with other entrepreneurs and decided what we had to do to develop markets, and ethanol looked like it was promising growth because we were fulfilling our needs to the domestic livestock industry and our exports, and so we needed a new market. So, it has been very important to us to help work with that and develop it.

Mr. GARDNER. Thank you. Talk a little bit again about what has happened with government payments to farmers in that same time period.

Ms. JOHNSON. Sure. Well, at that time, unfortunately, we had to get half of our income from the government just to be able to survive, and some of us that are old enough like me have been through the 1980s and we have seen what that can do to farms and farm families. So, now we are able to get our income from the marketplace.

Mr. GARDNER. And, in your testimony, you talk about RFS impact on food prices. Mr. Hurt has made some comments about that as well. Would you further elaborate on that a little bit?

Ms. JOHNSON. Sure. As the Secretary of Agriculture, Tom Vilsack has said it, at this time, the American consumer can leave the grocery store with more money in their pocket even with food prices today the way they are, and have more disposable income to spend on other things. And corn gets $0.03 out of the food dollar that the consumer has to spend.

Mr. GARDNER. And can you talk about that a little bit. I think in your testimony, you talk about how it was $0.16 of every dollar spent, the farm share being $0.15 now lower. Can you talk a little bit about that impact?

Ms. JOHNSON. Sure. So, for the food dollar, 84.5 cents goes into marketing, or the petroleum cost to get that food product to market, and of that dollar, then the 15.5 cents, as you say, goes to the farm, and of that, only $0.03 can be attributed to what the corn price is in that product, whether it is hamburger or chicken or beef or pork.

Mr. GARDNER. And you know, there are various biometric requirements within the renewable fuel standard, and do corn growers, your organization supportive of new biofuels and cellulosic ethanol coming to the market?

Ms. JOHNSON. We do. As was said earlier that we are blocking cellulosic and new biofuels coming in, that couldn't be further from the truth. We welcome them, and we think that corn ethanol is the basis and the foundation of that happening, and with the RFS, that provides the incentive that there is certainty, just like when corn ethanol started out, that those industries can build on that and have innovation and technology coming to improve and start the next generation.

Mr. GARDNER. Thank you. And Mr. Chairman, I yield back.

Mr. WHITFIELD. Gentleman yields back. At this time, I recognize the gentleman from Illinois, Mr. Rush, for 5 minutes.

Mr. RUSH. Thank you, Mr. Chairman. Following up on my friend from Colorado's line of questioning. The issue of providing food costs is an issue that I am extremely sensitive to. I represent a district with some of the highest rates of both poverty and unemploy-

ment in the Nation, and making sure that my constituents can afford to put food on the table is of the highest concern for myself.

In various meetings regarding the RFS, my office has received some conflicting information on the impact that this policy has had on food prices. Some have insisted that the RFS has helped to raise food prices due to the use of corn ethanol, while others have stated in writing, energy costs have played a much larger role in raising food prices.

During today's panel discussion, in fact, Mr. Dinneen stated and showed a pretty convincing slide—yesterday's panel, rather. Mr Dinneen showed a pretty convincing slide demonstration that the year end global food prices and global fuel oil prices rose and fell almost simultaneously between the years 2000 to the present.

And I want to ask all the panelists today, as I understand it, as many witnesses confirmed yesterday, the RFS has actually helped to reduce fuel costs, at least in the transportation sector. I want to learn more about the impact that repealing the RFS would have on food costs, if any?

So I want to go down the line and ask each of you to briefly share your views on what has been the greatest impact on food costs, the RFS or rising energy costs?

Separate question. What impact would repealing the RFS have on the price, the price that Americans pay for food?

So I am going to go down the line, beginning with you, Ms. Johnson. Can you answer those questions?

Ms. JOHNSON. Thank you very much. We believe that it is the rising cost of fuel that is costing people more for their food dollar. There is a high correlation between the price of a barrel of oil and what people pay for food because as transportation costs go up, and we believe that the impact of removing that would be deleterious to your constituents also, because the average family saves $1,200 a year out of their family budget by reduced fuel prices because of having ethanol at the pump, $1.09 per gallon on the average to save. And I buy both food at the—groceries and fuel for my family, and as corn prices have gone down this year 30 percent, I have yet to see food prices come down 30 percent. So, we will see if they do, and then we will decide if there is a correlation between the two.

Mr. RUSH. Mr. Roenigk.

Mr. ROENIGK. Yes, thank you for the question. With all due respect to Ms. Johnson, I would like to suggest the following example. She is making so much per acre on growing corn, but let's say Green Giant came to her and said, OK, I would like you to grow green beans for us. I suggest that Ms. Johnson would say, I am making this much on corn. If you want me to grow green beans, I need to make at least that much on green beans.

So when corn says we only increase food a little bit because we are only so much of the market, it is not just one boat in the harbor. It is raising all the boats in the harbor. So you have to look at all the food costs. Corn competes with all the other crops. If you are a farmer, you are going to produce what is most profitable, and if somebody else wants you to produce something other than corn, it has got to be least as profitable, or more so. So the argument needs to be much broader than just what is the cost of corn.

Mr. RUSH. Mr. Anderson, do you have anything that you want to add to this?

Mr. ANDERSON. Yes, sir, Congressman. There are a couple of things.

One, when we talk about the increase in food, I can tell you that the Bureau of Labor Statistics states that from 2005 to 2012, that food has outpaced core inflation during that time, 25 percent to 16 percent. When we talk about the price of higher food, I can tell you that I come here and can tell you that, in my restaurants, food has increased for the last 5 years. In a QSCC, which is the Quality Supply Chain Coop at Wendy's, they study it every day, and that is a fact as far as we are concerned.

Additionally, it impacts everybody because, as was just stated, whether it is too much corn being planted, then it takes away from soy beans, so then the soy bean price go up. So, the cost to consumers has gone up significantly and the cost for us in the restaurants has gone up significantly for the same reasons. Thank you.

Mr. RUSH. Thank you. Mr. Hurt.

Mr. HURT. My evaluation would be that there has been a direct correlation. RFS has raised food prices. There is always a question of what is the magnitude. I think the direction is on the upside. We have seen food inflation be about a percent higher than the core inflation per year on average. Our evaluation is about half of 1 percent a year as related to the commodity food portion of that, kind of the farm value of that.

As we work that through, that ends up being about $7 billion a year on our food system. We have a very large food system and that there are some additional higher costs. Energy is also very important in that, and splitting those out, exactly which one is the bigger contributor, I am not well qualified, but I think they both have been positive.

I would also mention that food inflation, I would expect to now drop below the core inflation. We have a good crop in the United States finally here in 2013. We are going to see moderation in some of these basic food prices like our corn, soybeans, wheat. That is going to help to begin the process of moderating food price inflation even more.

Mr. RUSH. Thank you. Mr. Faber. Thank you, Mr. Chairman.

Mr. FABER. I would just add that there are many factors that are contributing to food inflation. When USDA chief economist Joe Glauber was here a month ago, he attributed about a 30 percent of the increased price of corn to the RFS, but there are many factors that are contributing to higher corn prices and ultimately higher food prices, including energy prices, strong global demand for our commodities.

The RFS is one of the factors that Congress can control. So of all the things that impact the price of corn and ultimately the price of food, energy prices, the weather, strong global demand, the amount of ethanol that we blend into gasoline is one of the factors that we can actually change.

Mr. WHITFIELD. Thank you. The gentleman's time has expired. At this time, I recognize the gentleman from Illinois, Mr. Shimkus, for 5 minutes.

Mr. SHIMKUS. Thank you, Mr. Chairman. I think, since we are getting close to the ending of the whole panels, I think it would be instructive just to talk about ethanol and how it actually got developed. And everybody talked about 2005, but it wasn't in 2005 that developed ethanol into the markets. It was the Clean Air Act of 1992 because it caused the fuel to burn cleaner, it was tailpipe emissions, and that was the entry. It was also the entry with another product called MTBE, which eventually became a persona non grata because of some odor and discoloration, not toxicity but—so MTBE got left, ethanol started going into that market for the Clean Air Act. So then it was 2005 that we made the transition of energy security, decreased our reliance on imported crude oil by having renewable fuels.

The environment has shifted quite a bit with our own ability to produce fracking and going through our depleted wells using new technology and getting more oil out of them, and that is kind of what stirred up this debate again.

But I think the basic premise is that in any business, and as the government has sent a signal, and you have made capital investment to respond to that Federal law, I think no one would be supportive of the government changing the rules to bankrupt those who invested private capital to meet the law of the national government. Is there anyone? No.

So, that is part of this debate, that we made promises, investment, private capital to build refineries. Ethanol refineries, a lot of times in rural America where they have nothing but fields, now they have got a little refinery there, it is paying taxes, as Pam has mentioned. So that is why we are trying to find the sweet spot in this.

Scott and I appreciate your acknowledging that. We didn't get much of that yesterday, but we think we will as we move forward. But Scott, let me ask you, we understand the new world of cellulosic. There will be many of us who, and I think even my friends on the other side, it is going to be built on the foundation of corn-based ethanol. So I would hope that, if that is the future you-all want to go——

Mr. FABER. Yes.

Mr. SHIMKUS. Your testimony says reduce. I don't think that is going to pass the political scrutiny, but if it is, build on that future, then we have got an area we can work together.

Mr. FABER. Here is the challenge, and I think—we see this problem the same way, and one of your witnesses made this point yesterday that I can't pour this jug of water in this cup, and that is fundamentally the problem with the RFS we have today.

Mr. SHIMKUS. But that is why we are having this hearing. That is exactly why we are here.

Mr. FABER. But, and I think one of the things that was not said explicitly, but we all know, is that we will be in an E10 environment because of the engine and infrastructure hurdles for some time.

Mr. SHIMKUS. All right. My time is expiring, but you can't put 14 ounces in a 12-ounce cup.

Mr. FABER. Right.

Mr. SHIMKUS. But that is where we need your help. How do we make these changes? And I want to go to Pam real quick, because I want to ask this question.

Can you, representing National Corn Growers, a lot of my friends, can you envision a modified RFS that avoids the near term pitfalls that would be acceptable to American corn farmers?

Ms. JOHNSON. Yes, I can.

Mr. SHIMKUS. OK.

Ms. JOHNSON. And I think some of the problems that we are encountering now could have been avoided because when the law was written in 2005, we knew that one of the goals was to increase the level of blending renewable fuels. So part of that problem is a willingness to make sure that those renewable fuels are available.

So it comes as no surprise to me in 2013 that now—it does not come as a surprise to me that we need to blend those fuels.

Mr. SHIMKUS. Right. And let me go to Mr. Roenigk real quick, because I want to get—because I am from livestock sector, not chicken, we have the other white meat, which we are very proud of, and of course, DDGs are a big part of what they have done to offset their cost. Can you and the Chicken Council see a way in which, kind of the same question, and modify RFS that avoids some of these near term pitfalls?

Mr. ROENIGK. We need flexibility. It is clear that the current RFS doesn't have flexibility, and so we are open to reasonable alternatives that would provide for those situations where there is not enough corn and we can all share in that situation.

Mr. SHIMKUS. And let me finish on this, and just because my time is very close. Two articles when I was flying out talked about the high price of gas. Gas is going up again for a lot of reasons, and in both these articles, there was not a single mention of ethanol RINs. When you take the—when you take this policy paper from the World Bank, May 2013, I read it here numerous times, it says this, it concludes that the most of the price increases—this is about food increases, prices of food increases from the World Bank. It concludes that most of the price increases are accounted for by crude oil prices, more than 50 percent, followed by stock-to-use ratios and exchange rate movements which are estimated about 15 percent. Crude oil prices mattered most during the most recent boom period because they experienced the largest increase.

So, we can have this food-fuel fight all the time. It is transportation costs, it is crude oil, it is the barrel, and it is the truth.

So, Mr. Chairperson, thank you, and I yield back my time.

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

Mr. GRIFFITH. Thank you, Mr. Chairman. I appreciate it, and start with Mr. Faber.

Mr. FABER. Yes, sir.

Mr. GRIFFITH. In your testimony you state that the EPA's own analysis has since shown that the lifecycle greenhouse gas emissions of corn ethanol were higher than gasoline last year, 2012, and will be higher in 2017. So, the RFS was intended to introduce cleaner, more efficient fuels, and the largest existing component, by far, corn ethanol is less efficient and dirtier than gasoline, question mark; is that true?

Mr. FABER. That is correct. That is according not only to EPA's analysis, but the National Research Council's 2011 report as well as other studies that have looked at—that have compared the greenhouse gas emissions associated with corn ethanol to the energy equivalent amount of gasoline.

Mr. GRIFFITH. And that deals with the production costs and so forth, correct? Not just the burning of the——

Mr. FABER. In part, because of the carbon debt created by corn ethanol. When we encouraged farmers to plow up millions of acres of land to produce more corn, we released an extraordinary amount of carbon into the atmosphere. We applied a lot more fertilizer that went into the atmosphere in the form of nitrous oxide, which is 300 times more potent greenhouse gas than carbon dioxide.

And in combination, that has increased in the short run the lifecycle greenhouse gas emissions associated with corn ethanol.

Mr. GRIFFITH. All right. And so should corn ethanol continue to be a part of the RFS from an environmental perspective? I understand there is always a balance.

Mr. FABER. If our goal is to reduce greenhouse gas emissions, and I think this goes back to Mr. Shimkus' point, we have to find room in the E10 pool for these promising cellulosic biofuels. If I produced a cellulosic ethanol today that got a 50 or 60 percent reduction in greenhouse gas emissions, there simply would be no place in the pool because the pool is only 13.4 billion gallons and the corn ethanol industry has the capacity to produce 14.7 billion gallons. So I think we just need to create a foothold in the existing E10 pool for these new biofuels that really promise to deliver on greenhouse gas reductions.

Mr. GRIFFITH. All right. Thank you.

Mr. Roenigk, last year we had a drought across a big chunk of the country, bad weather scenario. I was one of those who asked the EPA to grant a waiver from the RFS. What, in your opinion, would it take for the EPA to recognize severe economic harm and waive the mandate? What kind of conditions do you think they would have to have?

Mr. ROENIGK. I can't speak for EPA what it would take for them to do that, but it is difficult to imagine a scenario, short of a, whatever definition of a crisis is, but they have demonstrated that the current regulations, it is basically impossible to rise to that level.

Mr. GRIFFITH. From your opinion, last year probably would have met the test; is that correct?

Mr. ROENIGK. I think it came very close. It didn't go over that hurdle and EPA felt that wasn't enough, so I'm not sure what the situation is. I was pleased to hear Dr. Hurt, I won't say guaranteed, but basically say the corn is in the crib or in the bin, but those of us in the chicken industry have learned not to count the chickens till they are hatched.

And so I am hoping the corn is in the crib this fall and we can all perhaps breathe a little easier, but to go back to your question, I can't speak for the EPA, but it is difficult to imagine under current rules what it would take for them to recognize that.

Mr. GRIFFITH. All right. And Mr. Anderson, your restaurant group has been vocal about repealing the RFS. You were asked what factors were out there, you listed that one. Of course, trans-

portation is a big one too, but would I be wrong in saying that another cost driver, not only at your restaurants, but in the grocery field is the refrigeration of the food, and that is usually electric and the jump in electric prices has also been one of the concerns that are cost drivers for you-all?

Mr. ANDERSON. It would be difficult for me to speak on that as far as specifics.

Mr. GRIFFITH. Sure.

Mr. ANDERSON. What I can tell you is that, again, the cost of corn has impacted the proteins, which we use. You have cattle, you have dairy cattle, you have got chickens, you have got the hogs, all of them use corn. You also, we use buns. All of these things have the food in it and it has impacted us dramatically in the cost of the products.

Mr. GRIFFITH. And somebody mentioned earlier, and it may have been you. I apologize because I don't remember, but you know, if you raise the cost of corn, the soybeans—it might have been you, Mr. Roenigk, but if you are producing more corn, then the price of soybeans goes up, that would be true for the wheat, too, when you referenced the buns, that is what you are talking about?

Mr. ANDERSON. Exactly. Because what would happen is, as corn goes up, more people want to plant corn. Well, if you plant more corn and there is only so many acres that can be planted, then there is less soybean and then less wheat, and so we have seen significant increases in soybean, and we use that to make our chili and other products, and obviously, our buns, which we sell quite a few of those also.

Mr. GRIFFITH. All right. Thank you very much, and I see my time is up, and I yield back, Mr. Chairman.

Mr. WHITFIELD. The gentleman's time is expired, and at this time, I recognize the gentleman from Louisiana, Mr. Scalise for 5 minutes.

Mr. SCALISE. Thank you, Mr. Chairman. And again, thank you for having this series of hearings. This is the third panel that we have heard from, and a lot of really good interesting perspectives on the renewable fuel standard. I wasn't here in Congress when it passed and was updated, but I have seen and heard a lot of first-hand stories of the problems that it is causing, whether intended or unintended, but serious consequences that we are seeing throughout many parts of our economy, and again, it is still in the early stages as we are approaching the blend wall, by all estimates, by next year, or at the latest at the end of next year, we would be hitting that blend wall, and then you have even deeper problems.

And so that is why we are here is to talk about what those problems are and then solve this problem. And I know I support legislation that would solve it by repealing the mandate because clearly it is not working the way it was intended. But when we get to some of the points that have come up in some of our earlier panels, we had, in our first panel yesterday, we had a gentleman who talked about the impact on the price of food, and I know some of our panelists here testified about how RFS, one of its intended or unintended consequences, and an increase in food prices that you are experiencing, one of our panelists said that the—I think his quote was the impact of the renewable fuel standard itself on food prices

is indiscernible. And I would like to, Ms. Johnson, get your take on it, and then also ask Mr. Roenigk and Mr. Anderson as well, because I know you each have different perspectives on it, but that was one of the panelists yesterday.

Ms. JOHNSON. Thank you for the question, and we can get you more information from the consumer price index, but some of the data that we have, if corn is $6 a bushel, the corn equivalent is $0.27 for a pound of beef, $0.38 for a pound of pork, $0.27 for chicken, if it drops down to $4, which it is heading there, we had rain across the midwest, as Dr. Hurt said, and we are below——

Mr. SCALISE. Would you agree or disagree when he said that the renewable fuel standard itself had no impact or an indiscernible impact on the price of food?

Ms. JOHNSON. It had some impact, but the greater impact is from the price of a barrel of oil and energy prices, and we can get you the data on hamburgers, chicken, pork, milk, eggs.

Mr. SCALISE. Well, let me ask the chicken—the chicken man, Mr. Roenigk. I apologize if that's——

Mr. ROENIGK. That is fine. I appreciate that.

Mr. SCALISE. If you can give me kind of your perspective on what you have seen.

Mr. ROENIGK. Sure. The rule of thumb is, if a bushel of corn goes up $0.30 a bushel, you have added one penny to the cost of producing a live weight chicken. And the same way on soybean meal. Of a ton of soybean meals goes up $30 a ton, you have added $0.01 to the increased cost production of producing a live chicken, so that is the rule of thumb. It is a pretty direct correlation, and there is not a whole lot of substitutes, and you—if you want to produce chickens and you got them in the field, you got to feed them and you absorb the cost or try and pass it on.

Mr. SCALISE. Let me ask you, Mr. Anderson, because in your testimony, I think it is the closest thing I have seen to an exact number, to a rough estimate of a dollar figure that has been attached to increase in the cost of food to consumers by the renewable fuel standard. Taking out fuel, and you know, there are all other factors going in, but the renewable fuel standard is one of those factors. I don't see a lot of people disputing that it is, and so, you know, if it is, then there has got to be an amount attached to it.

What you are saying is the amount that you are seeing at your stores is $30,000 more expense of food due to the renewable fuel standard; is that right?

Mr. ANDERSON. That is correct. And just to tag on right there, it takes 8 pounds of corn to make 1 pound of beef, so you can imagine as the price goes up, what that does to the cost of beef.

Additionally, it wasn't just us that came up with the $30,000, you know. We would be happy to provide the 2012 report by PricewaterhouseCoopers that confirmed what our analysis at QSCC was already thoroughly studying, and that is the fact that the RFS does distort food commodity prices so much, that whether you are a restaurateur, a supplier, or a consumer, that you are forced to pay more for the price of food.

Mr. SCALISE. Thank you. And I mean, this is passed on to consumers. I would imagine it is not just like, OK, it is another 30 per store, 30,000 per store, and that is just money that comes out of

the sky. I mean, that is money that somebody let goes, and goes to a restaurant, they are going to have to be paying more money, in essence, $30,000 per store more that is going to cost consumers, every store, and these are real prices that are affecting people.

One last thing I want to mention is, we had somebody testify yesterday about the impact on—from Briggs & Stratton, impact on motors, one of the many other detriments that are coming if you get to E15. There are many tests that have been run by not third parties, but the actual companies that make some of these motors and engines that have seen and experienced tremendous damage to engines, and I don't know if anybody wants to comment on it, dispute it. I have heard nobody dispute that, but that is a serious consequence that has been out there, real testing that has been done that is a detriment that many consumers are facing, and frankly, are very concerned about when they see this coming down the road.

Mr. ANDERSON. Congressman, may I respond to the price increase piece. The fact is that we can't pass these costs, these additional costs onto our consumers right now. And there is two reasons right now: One, they are already strapped by paying a higher price for food and for gas.

Mr. SCALISE. Because they are paying it, too, at the grocery.

Mr. ANDERSON. Exactly. Secondly, we are in an extremely competitive market, and people will vote with their feet on price increases. So this is something that has been very difficult for us, and we have just had to absorb this increase, a significant portion of it.

Mr. FABER. Congressman, we carefully looked at these engine effects issues, and clearly, most of the engines for boats, lawnmowers, augers, chainsaws, small engines are simply aren't equipped to run on higher blends, and the cost of having to convert all of those engines would be enormous. So, it seems to me that our focus ought to be how do we—how do we bring more advanced biofuels to a market that can compete fairly for that pool of E10, that E10 pool and not try to force every consumer and every car owner in America to switch engines in order to meet the needs of one particular industry.

Mr. SCALISE. Why we need to stop. Thank you. Mr. Chairman, thank you, I yield back the balance of my time.

Mr. WHITFIELD. The gentleman's time has expired. At this time, Mr. Braley and Mr. Matheson are on the Energy and Commerce Committee. They do not happen to be on this subcommittee, but both of them have been so focused on the renewable fuel standard that they come to these hearings, and we give them an opportunity to ask questions, so I recognize Mr. Braley for 5 minutes.

Mr. BRALEY. Thank you, Mr. Chairman. Is anyone on the panel a history buff, by chance?

All right. Mr. Faber, Mr. Anderson, have you heard of something called "The Whiskey Rebellion"? I am going to pit the chairman against Mr. Scalise with this question, so I want you to pay close attention.

Isn't it true that we have been refining corn in this country a lot longer than we have been refining petroleum?

Mr. FABER. People have been refining corn to produce ethanol since the Persians, absolutely.

Mr. BRALEY. So, when we talk about some of these issues, and we are talking about these trade-offs, I think it is important to keep that in perspective, because when you talk about the trade-off, Mr. Roenigk, between growing green beans in Iowa and corn in Iowa, you are talking about a false choice, because people grew corn in Iowa for over 150 years before ethanol plants started appearing on the prairies. You knew that. And they grow corn in Iowa because the climate and the soil conditions make it very conducive to growing corn, and it is much more conducive than growing green beans. And one of the things that we have to focus on in this hearing is the actual trade-offs that make a difference to the people in this country.

One of the things that you talked about in your testimony, Ms. Johnson, is how the National Corn Growers are not opposed to new generation biofuels that can take us beyond corn-based ethanol, and in fact, one of the things that we have been talking about is the demand that corn ethanol production places on the cost of food for livestock, and yet one of the byproducts of ethanol production is distiller's grains, which are used by many livestock producers as a feed source.

So, that is one of the benefits that comes from ethanol production, and another thing that can happen is, as we move to cellulosic ethanol, when in fact there are two ethanol plants in Iowa that are cellulosic-based, then you use corn stover and the byproducts of the corn stock to generate biofuels as well, correct?

Ms. JOHNSON. Right.

Mr. BRALEY. One of the things that you mentioned was this photograph that was up on the screen showing the prices for E85 ethanol in St. Ansgar, Iowa, which is in my congressional district, 2.24 a gallon, which is a clear benefit to consumers who are interested in using advanced biofuels. And I just happened to check, in addition to that price in St. Ansgar, you can buy E85 for 2.39 in Westside, for 2.49 in Riverside and Neal and Urbandale, Iowa, so this is a product that is already reducing the cost of fuel for consumers in our state, correct?

Now, one of the things that we talked about was the trade-offs that are impacting the price of food. And Mr. Anderson, you grew up in the Garden State of New Jersey?

Mr. ANDERSON. Yes, I did.

Mr. BRALEY. You did. And you talked about the impact of rising corn acres on soybean planting and the loss of acres to soybeans. Do you remember that?

Mr. ANDERSON. Yes.

Mr. BRALEY. Have you ever been a farmer?

Mr. ANDERSON. No, I have not.

Mr. BRALEY. Worked on a farm? Do you understand the concept of crop rotation in States like Iowa and Illinois where Mr. Shimkus lives, and Nebraska. They call themselves the Corn Husker State, but nobody is husking corn there anymore that I know. Do you know what crop rotation is and why farmers alternate between corn and soybeans?

Mr. ANDERSON. Yes, sir.

Mr. BRALEY. It is to replenish the soil by putting nitrogen back in if it is taken out by the corn crop, and that is why in States like

ours you see large acres of production of corn and soybeans. And one of the things we know about soybeans is that they are used to also generate a renewable fuel called biodiesel. You are aware of that?

Mr. ANDERSON. Yes, sir.

Mr. BRALEY. And in fact, many restaurants in this country have gotten into the renewable fuels business by using their waste fats to deliver to companies that are using it to convert it into biofuels, correct?

Mr. ANDERSON. Correct.

Mr. BRALEY. So some of the members of your restaurant association are also generating income from the biofuels industry to help reduce the cost of operating their businesses.

Mr. ANDERSON. I can assure you that the income from that grease comes nowhere near the $30,000 impact from the increase in the RFS.

Mr. BRALEY. Well, you talked about the fact that some of the restaurants are faced with the risk of closure because of the RFS. Do you remember saying that in your opening statement?

Mr. ANDERSON. No, I don't.

Mr. BRALEY. OK. My recollection is that when you were describing the impact of the RFS on restaurants in the United States, you suggested that some of them could be faced with closure if we don't do something about the RFS. So you are not suggesting that.

Mr. ANDERSON. No, I did not suggest that.

Mr. BRALEY. All right. With that then, I would yield back, and I thank the chairman for extending me this courtesy.

Mr. WHITFIELD. Well, thank you, Mr. Braley. At this time, I recognize the gentleman from Nebraska, Mr. Terry, for 5 minutes.

Mr. TERRY. Well, I appreciate that. I appreciate this, and so my first question is to Mr. Roenigk. And you talked about the expansion of the corn crop and the additional millions of acres that have been used in the fertilizer, and that helps the production of our crops, and that they are producing twice as much now, and I just want to make clear what you were trying to get at, because I am sure you are not saying that we should stay at a process where our corn crops and soybean crops should be cut in half.

Mr. ROENIGK. Absolutely not.

Mr. TERRY. If you are advocating that we cut our corn crops in half as it sounded like you were doing, what would that effect be on corn and soybean prices?

Mr. ROENIGK. If I could clarify. What I tried to say is the term "renewable" implies, suggests that this is a resource in a natural basis continues to be more or less unlimited in terms of being available. If you want to produce corn, at least commercially, you need to apply commercial nitrogen which comes from a source that Congress considers not to be renewable. So that is all I was saying. If you don't use commercial nitrogen fertilizer to produce corn, I don't think you are going to get 160 bushels or per acre.

Mr. TERRY. Well, I have never heard that argument before that if you use fertilizer, it is not a renewable crop. I can't tell you how adamantly I oppose that position. I think it is just silly, frankly, because we have used fertilizer on crops for hundreds of years.

Mr. ROENIGK. I think you should use fertilizer on crops.

Mr. TERRY. Well, nitrogen is a fertilizer on——

Mr. ROENIGK. Is it organic fertilizer or commercial fertilizer or——

Mr. TERRY. Oh, so it can all be pig crap that we can put on there and then it is renewable under your standards?

Mr. ROENIGK. I am sorry?

Mr. TERRY. I said "pig crap," you should be waste. And then it is renewable, but only if it is from animal waste.

I am going to move on. Well, I do want to ask you one thing because—does the chicken industry use distiller grains in their feed? Do you mix that up?

Mr. ROENIGK. Yes. We used to use more, but since the oil has come out of the DDGs, we use less of it because the energy is out, but yes, we still use a small amount. Some companies use up to 5 percent, but it is not a preferred feed ingredient.

Mr. TERRY. OK. So what percentage of it would be mixed in, 5 percent?

Mr. ROENIGK. Up to 5 percent. I would suggest the current usage is probably something in the 2 to 3 percent range when we look across the industry.

Mr. TERRY. All right. Mr. Hurt, I have two—or Dr. Hurt. It should say "Dr." Up there, and I appreciate that you are taking no position in this repeal RFS.

Mr. HURT. That is safe or unsafe.

Mr. TERRY. That means supposedly you are neutral. So I want ask you a couple of questions, and I have read your testimony, and I want to follow up on some concepts that weren't, I think, taken to conclusion.

So, Mr. Anderson and Mr. Roenigk and Mr. Faber argue just repeal the RFS, do it today, it is the cause of all the world's problems, and if we repeal it today, what are the consequences? Does that have an effect on corn prices and does it have an effect on the land prices?

Mr. HURT. Nobody knows for sure. We will just start with that statement. But we think repeal of the RFS does away from cellulose altogether. It is gone.

Mr. TERRY. Well, if you repeal the total, yes, you will. You will repeal advanced——

Mr. HURT. Let's start with the things that——

Mr. TERRY [continuing]. Biofuels, ethanol, advanced, cellulosic whatever, it is all gone.

Mr. HURT. Probably goes away if the subsidy, the dollar subsidy goes away, biodiesel goes away. Actually, as we look at conventional ethanol, what we have today is an oil industry that has as their mixture, their chemistry, they have ethanol in that blend. They have ethanol in the blend for two primary reasons, one is oxygenate, that is replacement of MTBE; the second is as an octane booster, and they have it because it is economic to have it in their mix for octane. They—we understand from the oil industry that they refined to about 84-octane now. That is a lower level than they would normally, to get 87-octane, they then blend 10 percent ethanol. Ethanol is about 113- to 115-octane. That brings that gasoline up to 87.

Now, what we don't know is because of the renewable fuel standard, the oil industry knew that they were going to have to blend 10 percent ethanol, so this, given the fact they have to blend 10 percent ethanol, this is economic. If we assume that economics continues, then maybe there would not be a collapse in corn use for ethanol. Maybe.

On the other hand, 5 years from now, the oil industry might find other ways to oxygenate and octane, so I think it doesn't say it would all go away. In the short run, we don't think a lot would go away.

Mr. TERRY. I think that is a fair analysis, but Mr. Anderson and Mr. Roenigk have advocated no use anymore, so we couldn't use corn-based ethanol for an oxygenate or to increase the octane.

Mr. HURT. Yes. And again, I think your question was if you take away RFS.

Mr. TERRY. I did. I changed the question on you.

Mr. HURT. You take away the RFS, the market, the market determines, and then what we are saying is the market would still buy some for awhile until the oil industry, perhaps, totally reformulated it.

Mr. TERRY. Mr. Anderson, wouldn't you be frustrated if the market still allowed 10 percent blend and it was ubiquitous because of octane needs? I mean, you would still would then have Armageddon occurring in the fast food industry.

Mr. ANDERSON. What I would say to you is that, first of all, we are not anti-ethanol. What we are saying is take the mandate away and let free enterprise and free market conditions determine the cost of the product.

That way the government is not picking winners and losers. All we are doing——

Mr. TERRY. You can't have it both ways.

Mr. ANDERSON. I am sorry.

Mr. TERRY. You can't say eliminate the mandate because the mandate for the—that essentially gets you to the 10 percent is wrong, but then when Mr.—Dr. Hurt was saying, well, there may not be any displacement because the market was pretty much built off of that 10 percent, well, you are still going to have Armageddon then. So, it sounds to me like you are just against corn ethanol, not just market.

Mr. WHITFIELD. The gentleman's time is expired.

I would like to remind all the members that not to change the question in the middle of the question.

Mr. Olson, you are recognized for 5 minutes.

Mr. OLSON. I thank the chairman. There will be no change in the middle of the question from this Congressman from Texas. I would like to thank the witnesses for coming this afternoon. I appreciate your time and patience with the votes.

As we were hearing yesterday on this issue, a little different group here, but as I said in the hearing, I am not opposed to corn farmers, I am not opposed to ethanol, corn-based ethanol. I have got some corn production in Texas 22, small, but the western part of the county produces corn. Uncle Gus had a farm, corn farm in South Central Wisconsin. Every summer he would go up there. Guess who worked in the corn field with a hoe whacking the

weeds? P. Olson getting paid $5 a week. Yay, thank you so much, Uncle Gus.

Mr. TERRY. He had machinery for that.

Mr. OLSON. Just to make sure, you know, it seems very clear to me that the renewable fuel standard is on a path right now with some very negative consequences for our economy. One of those consequences is related to the impact on families trying to put food on the table.

Last month we had the Department of Agriculture before this committee. I asked about the impact of RFS on food prices. Their economists say most of these point to about 30 percent of recent spikes in corn prices being due to RFS.

These corn prices trickle into every aspect of our economy. The USA Report this spring predicted that high-priced corn and other commodities will "permeate supermarkets," and that, "stressful inflation for beef and pork will intensify." That hurts families and that hurts businesses.

So my first question is for you, Mr. Roenigk, I hope I pronounced that correctly, sir, and I apologize if this question was answered while I was off there counting my votes, but we routinely hear from supporters of the RFS that it boosts employment for corn farmers that, of course, you remember, are heavily present in rural America as well, and you point to negative impacts of the RFS. Would you argue that the RFS has hurt hiring for employment in your industry, and are you able to put a number on that impact?

Mr. ROENIGK. Thank you for the question. If I understand correctly, we need corn farmers, corn farmers need us, and to give you a specific number as to what that balance should be, I would like to get back to you if I could on that.

Mr. OLSON. That works for me, sir. Thank you very much.

I would like to talk to you, Mr. Anderson, next question, please, sir. And my question for you, sir. I had a Wendy's franchise owner from back home in Texas come to my house about a month ago, and I thought we would talk about Obamacare, impact on small businesses, tax policy, none of that. We talked about the RFS in corn-based ethanol.

And they agreed, he agreed with your testimony, each of the restaurants loses roughly $20- to $30,000 per year because of commodity prices in the RFS. So my question is, what does $30,000 mean to your stores? Where are some things you would otherwise be able to do with that money?

Mr. ANDERSON. Thank you, Congressman. That $30,000 per store means a lot, and I will give you two examples. With that additional money, I can reinvest in my restaurants. If I reinvest in my restaurants, then not only am I maintaining the jobs that I have in my restaurant with the employees that I have, but also it helps to create or sustain other jobs.

When we build new restaurants or remodel, I will give you two specific examples. The person who does the landscaping in my Wendy's, for my four Wendy's, he started just as a person cutting a couple of lawns. He came to me and asked for an opportunity to present his case to take care of that. I agreed. That person now hires over 35 people. He has created 35 jobs along with the sustainability of his because of that. That is a trickle-down effect of jobs.

Additionally, my window cleaner, same thing. This gentleman was just cleaning a couple of windows. He came in and asked me if he could have the opportunity to quote cleaning our windows. I agreed to do that. He now hires 7 to 10 people to help clean windows. So there is a trickle-down effect when I can have money to invest in my restaurants.

If I build a new restaurant, I create 30 more jobs on average, I create four to six more management positions, and I have created work for construction which we all know is badly needed in this country. While they build the restaurant, the equipment to supply that restaurant, and then there is the food that has got to be there to supply it, and again, it is more job security for those that are cutting my landscaping and cleaning my windows.

Mr. OLSON. Washing windows. Yes, I am out of time. One suggestion, sir, get the first Whataburger franchise here in the Washington, DC Area. You will be booming. That is the Texas national restaurant, a hamburger restaurant, Whataburger, Whataburger, Whataburger.

Mr. WHITFIELD. What is the name of it?

Mr. OLSON. Whataburger.

Mr. WHITFIELD. Oh, Whataburger. Thank you.

Mr. OLSON. I yield back.

Mr. WHITFIELD. At this time I would like to recognize Mr. Matheson for 5 minutes. He has been sitting here very patiently.

Mr. MATHESON. Thanks, Mr. Chairman. Thanks for doing these hearings. I am sorry my conflict prevented me from being here for the first two panels, and I assume we can send some written questions in for them, if we can. Appreciate your patience with that.

Couple of questions I wanted to ask. Ms. Johnson, you mentioned a savings on fuel cost, $1.09 a gallon. I think that was a study by the Renewable Fuels Association that came up with that number; is that correct?

Ms. JOHNSON. Yes.

Mr. MATHESON. Are you familiar with the article in Scientific American this week, the study out of MIT that says that that study was flawed and that that number is actually not true and that there is no discernible effect on fuel costs from ethanol?

Ms. JOHNSON. I am not.

Mr. MATHESON. OK. Mr. Chairman, I wish I had a paper copy of that study, but if it is permissible, I think that ought to be part of the hearing record. This is an article in Scientific American.

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

Mr. WHITFIELD. Without objection.

Mr. MATHESON. Thank you. I think also, the issue that is interesting now compared to a couple of years ago is the impact of RINs. Didn't I hear they are a buck thirty-four or something like that? It is a lot more. So I think the effect on fuel costs is a relevant topic for us to look at, and we ought to talk about things have changed. Whatever study said it was in 2009 or 2010 or 2011, I just know in 2013, the cost of RINs has gone up a lot, and it has got to be having an impact on price at the pump.

Another question I wanted to ask you, Ms. Johnson. Last month, during the first RFS hearing, we heard testimony from government witnesses. We had someone from the Energy Information Adminis-

tration. We had someone from the U.S. Department of Agriculture. They indicated that as long as ethanol continues to be economical, which I believe in your testimony you indicate is true, this issue about using it as an oxygenator, as an octane booster, that they estimate, the EIA estimates that if you get rid of the RFS altogether, it would result in roughly about a 10 percent reduction in the amount of ethanol that is used in the supply chain today.

Do you agree with that or do you have a sense if that would be the case or not?

Ms. JOHNSON. I do not agree with that statement because the oil industry needs an incentive to blend renewable fuels; otherwise, there is no incentive to blend those fuels. And you know, we have talked in other panels, too, about battling over different studies, so you know, we have got the numbers that say that consumers saved $1.09 a gallon at the pump and that saved families $1,200 last year.

Mr. MATHESON. I hear you. You are right. In our business, we hear about different studies and different statistics all the time. Sometimes it is good to see who it is coming from if they have an interest in what that study says.

Ms. JOHNSON. Congressman, if I can just say we have got a short-term problem. The drought did cause a lot of damage last year, a lot of tough issues for all of us, and so the short-term answer to a short-term problem is we are looking at producing a very abundant corn crop for this year, which will answer short-term problems. We have to start looking at what the long-term big picture is for fuels in America and what it means for the three things that the RFS was originally set out to do.

Mr. MATHESON. I couldn't agree more.

Mr. Faber, do you have a thought about the statement from the Energy Information Administration that indicates that if the mandate goes away, it will result in a drop of about 10 percent on the overall use of ethanol in our fuel supply chain?

Mr. FABER. I think it is incredibly important question and it goes back to something that Mr. Terry was alluding to as well. What happens if you got rid of RFS? And when you, I think some of your witnesses yesterday alluded to this, and EIA has confirmed it, that in the short run, not much. That because we have more than 14 billion gallons of ethanol production capacity and because the gasoline refiners are now routinely blending ethanol, in part because of Mr. Braley's picture, in part because in some time—at some points in the year it helps water the scotch (phonetic). It is a little bit cheaper than the RBOB in gasoline. There is plenty of incentive for gasoline refineries to continue to blend ethanol. To Professor Hurt's point, in the absence of the floor, in the absence of mandate that some day there may be other ways for blenders to improve octane or to provide an oxygenate, and that is the trade-off.

The benefit to consumers of phasing out the corn mandate, not repealing the entire mandate but phasing out the corn mandate is you are providing more room in that 13.4-gallon E10—13.4 billion gallon E10 pool for these cellulosic biofuels that have the potential to really reduce greenhouse emissions.

Mr. MATHESON. Well, I would concur with that. I would also say the other benefit would be that you would get rid of the need for the RINs that are, I think, increasing and distorting markets.

Mr. FABER. Absolutely.

Mr. MATHESON. And I think that that would be helpful.

Mr. Chairman, I think that weraised an issue that may be interesting for this committee to look at which is, in the short run, it appears that ethanol is a good way to pursue oxygenating fuels or octane boosters. There is a concern in the longer run there may be alternative choices that the refining industry could use. Maybe we could have a hearing to talk about what the likelihood or viability is of those alternative choices. That might make us a little more informed as we look at the impacts of the renewable fuel standard. With that, I really appreciate your patience, and I will yield back my time.

Mr. WHITFIELD. Well, thank you, Mr. Matheson, and thanks for that suggestion. The RINs were certainly discussed a lot yesterday, and the RIN prices yesterday, and I want to thank all of you for taking time from your busy schedules to come and join us and to give us your views.

As we all know, it is a rather complex issue, and we are—we have had a lot of hearings, and we have read a lot of responses to the White Paper invitations, and it is an important issue, so we are going to proceed cautiously. I think most people agree that there are some inequities that need to be addressed, and I don't know precisely where we are going to end up, but that is what the political process is all about.

And so with that, I would thank you-all again and that—I would ask unanimous consent to enter into the record letters from various groups, including the American Motorcyclist Association, the American—the Oregon Dairy Association, the Oregon Cattleman's Association, the Oregon Petroleum Association and the American Cleaning Institute. So, if you would enter that into the record.

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

Mr. BRALEY. Mr. Chairman.

Mr. WHITFIELD. Yes.

Mr. BRALEY. Would you also allow unanimous consent request to enter a similar statement from the Iowa's Cattleman's Association?

Mr. WHITFIELD. Absolutely.

Mr. BRALEY. In support of maintaining the RFS.

Mr. WHITFIELD. Absolutely. Absolutely. Without objection, so entered.

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

Mr. WHITFIELD. Hey, I had heard about the Iowa Cattleman's Association. So that concludes today's hearing. The record will remain open for 10 days, and thank you-all once again.

[Whereupon, at 4:10 p.m., the subcommittee was adjourned.]

[Material submitted for inclusion in the record follows:]

SCIENTIFIC AMERICAN™

Permanent Address: http://www.scientificamerican.com/article.cfm?id=ethanol-fails-lower-gas-prices-study-finds

Ethanol Fails to Lower Gas Prices, Study Finds

Blending ethanol brewed from corn into gasoline stocks is not bringing down fuel prices, an M.I.T. study finds

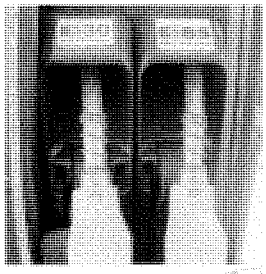
By Julia Pyper and ClimateWire | Wednesday, July 18, 2012 | 18

The renewable ethanol fuel blended into the United States' gasoline supply does not lower prices at the pump as advocates have claimed, according to a study released this week by the Massachusetts Institute of Technology.

The paper critiques earlier studies sponsored by the Renewable Fuels Association (RFA), which found that mixing ethanol with transportation fuel reduced gasoline prices by 89 cents in 2010 and $1.09 in 2011.

"The RFA and Secretary of Agriculture are relying on the [papers] for policy recommendations, and once I started seeing signs and billboards all around D.C. pop up with the same numbers, it became important for me to set the record straight," said Christopher Knittel, a professor of energy and economics at MIT and lead author of the report.

Today, ethanol made from corn makes up about 10 percent of all U.S. gasoline, up



PRICE IMPACT: An analysis from M.I.T. finds that blending corn-based ethanol into gasoline supplies is not reducing prices. *Image: USDA.gov*

from 3 percent in 2003. Industry groups have maintained that increased ethanol production supports farmers, improves energy security, lowers greenhouse gas emissions and saves money at the pump.

But the MIT paper found that ethanol production has almost no impact on gasoline prices. According to Knittel, the RFA reports are flawed because the statistical models omitted important variables and made flawed correlations -- in this case that as ethanol production increased, the ratio of gasoline to oil prices fell.

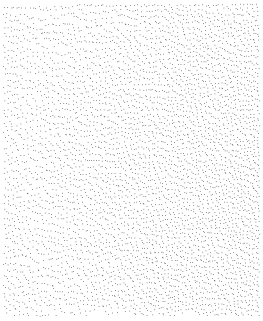
"We just took their exact statistics model, and instead of using the ratio of oil prices to gasoline prices, we plugged in variables we know ethanol can't affect," he said. "We found that if you use their flawed statistics model, one would find that ethanol reduced natural gas prices, increased unemployment in the U.S. and Europe, and increased the age of our children."

Matt Hartwig, RFA's director of communications, pointed out, however, that the cost-savings were derived from the model used in a 2009 peer-reviewed study. It was accepted that introducing more etbanol expands fuels supplies, reduces the amount of imported oil and lowers the price of gas.

"It's the tone of the paper that belies more than anything perhaps a personal vendetta or grudge rather than intellectual process," Hartwig added. "It seems to be heavy on snark and light on substance."

Congress still pondering

Knittel's economic critique of ethanol comes as Congress continues to debate government policies on alternative vehicles and alternative fuels, including the



renewable fuel standard ethanol blend mandate, or RFS. The updated RFS2 program requires that 36 billion gallons of renewable fuel be blended into transportation fuel by 2022.

At a House Energy and Commerce Subcommittee on Energy and Power hearing yesterday, subcommittee Chairman Ed Whitfield (R-Ky.) said that the RFS program "has worked well in several respects." But, he added, alternative energy technologies required greater congressional scrutiny in order to ensure an "all-of-the-above approach" rather than energy policies that favored one particular fuel over another.

Rep. Joe Barton (R-Texas) said that if the goal of the RFS is to reduce dependence on foreign oil imports and improve environmental quality, then natural gas and clean coal technology should be given greater consideration.

"Although clean coal and natural gas are not renewable in the classic sense, certainly they would reduce emissions. I'm puzzled," he said. He added that some studies have suggested that the low energy density of ethanol would perversely lead to greater amounts of greenhouse gas emissions.

Citing the recent record-breaking drought that has struck two-thirds of the country, Rep. Bobby Rush (D-Ill.) maintained that biofuels and the RFS are important parts of U.S. climate policy.

"Today we see why it is extremely necessary to move our country towards an increasing reliance on alternative sources of energy as opposed to carbon-intensive fossil fuels ... that contribute enormously to ever-present climate change," he said.

Concerns about impact of drought on fuel prices

By devastating corn crops, this year's scorching summer temperatures will also affect ethanol production.

"The tough conditions that the nations' farmers are having certainly will have an impact on ethanol production, and it may result in fewer gallons produced than estimated at beginning of year," said RFA's Hartwig. "But we firmly believe production is ... still on pace to exceed RFS2 requirements."

The RFS requires refiners to blend 15.2 billion gallons of renewable fuel sources in 2012 of which ethanol will make up the vast majority. The RFS also set a 15-billion-gallon cap on corn-based ethanol per year, which has urged the industry to look to feedstock alternatives, such as algae or wood and grasses and other cellulosic biofuels. Refiners are required to blend 2 billion gallons of advanced biofuels this year.

"From here on in, it's going to be advanced biofuels," said Douglas Durante, executive director of the Clean Fuels Development Coalition, speaking from a forum hosted yesterday by the American Council on Renewable Energy (ACORE). "So now the risk gets higher; the technology leap gets greater."

Political uncertainty has also made advanced biofuel production a challenge, he added. "We've had very inconsistent policy, and it's very difficult to figure out if we're committed to this thing."

Automakers producing flex-fuel vehicles have also been struggling to get a grip on where ethanol markets and regulations are headed. The results of the MIT study could complicate their strategy further.

"If an alternative fuel is not lowering prices to the consumer, the expectation is and historical evidence is that consumers won't respond. If it's not lowering prices at the pump, then there's no incentive for most customers to choose these high ethanol fuels (E85) that may cost more per gallon on an energy basis," said an auto industry expert who did not want to be seen as taking a public position on the issue.

"We're not opposed to biofuels in any way," he said. "Our concern is that it could undermine the consumer pull for these fuels. ... What's the value of spending billions and billions equipping vehicles to handle high flex fuels if the consumer is not going to continue to use that fuel?"

Reporter Robert S. Eshelman contributed.

Reprinted from Climatewire with permission from Environment & Energy Publishing, LLC. www.eenews.net, 202-628-6500

101 Constitution Avenue NW, Suite 600W, Washington, DC 20001
T (202) 742-4301 F (202) 742-4304
AmericanMotorcyclist.com

July 22, 2013

The Honorable Ed Whitfield
Chairman
Subcommittee on Energy
and Power
2125 Rayburn HOB
Washington, DC 20515

The Honorable Bobby Rush
Ranking Member
Subcommittee on Energy
and Power
2322A Rayburn HOB
Washington, DC 20515

Dear Chairman Whitfield and Ranking Member Rush:

The American Motorcyclist Association applauds the U.S. House Subcommittee on Energy and Power of the Committee on Energy and Commerce for holding the hearing entitled "Overview of the Renewable Fuel Standard: Stakeholder Perspectives."

Founded in 1924, the AMA is the premier advocate of the motorcycling community, representing the interests of millions of on- and off-highway motorcyclists. Our mission is to promote the motorcycle lifestyle and protect the future of motorcycling.

In October 2010, the U.S. Environmental Protection Agency approved the use of E15, a blended fuel that includes up to 15 percent ethanol by volume, in model year 2007 and newer light-duty vehicles (cars, light-duty trucks and medium-duty passenger vehicles). Then, in January 2011, the EPA added model year 2001-2006 light-duty vehicles to the approved list.

None of the estimated 22 million motorcycles or ATVs currently in operation is on the list.

The AMA has repeatedly expressed concerns about E15 being mistakenly used and possibly damaging engines in motorcycles and ATVs, and about the continued availability of gasoline that has no ethanol, or gasoline with only a 10 percent blend, for use in these 22 million motorcycles and ATVs.

Moreover, the EPA used only one test to determine if E15 is safe for vehicles before granting a waiver. The AMA has urged the agency to allow for an independent scientific study by the National Academy of Sciences into the effects of E15 on vehicles. We also request that motorcycles and ATVs be included in such a study.

With E15 available in the marketplace, inadvertent misfueling may readily occur. Even now, studies show that the majority of motorists do not know the difference between E10 and regular gasoline. The problem is potentially worse with E15. Additionally, a National Marine Manufacturers Association study has shown that mislabeling is already occurring where E15 is sold, which may lead to inadvertent misfueling.

On Feb. 7, the EPA posted a new option for retailers on its website's "E15: Misfueling Mitigation Plans" page to try to avoid misfueling by consumers.

Under the new option, retailers who use a blender pump to sell E15 and E10 fuel through the same hose must also have a separate E10/E0 fuel pump. Those retailers would be required to have a label on the blender pump that reads: "Passenger Vehicles Only. Use in Other Vehicles, Engines and Equipment May Violate Federal Law." Retailers would also be required to have signs indicating the location of the dedicated E10-or-lower fuel pump. There would be no minimum-fuel-purchase requirement at that pump.

The AMA can only imagine how many motorcyclists and motorists will be lining up at that single pump to get E10-or-lower fuel.

In fact, boosters of the untested E15 ethanol blend insist that the EPA "has seen to it that E15 is clearly labeled at fueling stations."

However, fueling stations selling E15 are not abiding by the current EPA label requirement. One example is visible in the attached photograph taken July 6, 2013, in Platteville, Wis., at a Smart Station retailer. The Smart Station E15 label differs from the approved EPA language. How will motorcyclists know this fuel is unsafe for their motorcycles? Furthermore, the placement of the E15 hose adjacent to the visually identical 89 octane hose is some distance from the E15 label.

If a retailer does not accurately and clearly label the E15 fuel hose, a motorcyclist – or motorist -- may inadvertently use it, believing it is an E10 or E0 blend.

Therefore, the AMA does not believe this new misfueling mitigation plan will do what it is intended to do – keep users from misfueling with E15. It simply does not provide clear direction. Another label on a blender pump that already has many labels will not suffice to avoid misfueling and could be easily overlooked. The misfueling mitigation plan calls for no physical barriers in the fueling nozzle/receptacle as was provided for when the nation went from leaded to unleaded fuel. History tells us that, even with these physical barriers in place, misfueling still occurred.

Last year, the AMA told the EPA that with E15 now coming into the market, our members who make a concerted effort to fuel their motorcycles or ATVs with E10-or-less fuel may unknowingly refuel with residual E15 left in a blender-pump hose. A blender pump dispenses different fuel blends through the same hose, such as E10 and E15. When a customer buys E15, as much as a third of a gallon of residual E15 is left in the hose, which can inadvertently get into the next customer's vehicle while fueling with E10.

The EPA said: "In an effort to address this potential misfueling issue, EPA approved an industry-submitted [approach] that requires a minimum purchase of four gallons from blender pumps that dispense both E10 and E15 from the same hose and nozzle. Such an approach would prevent misfueling by diluting any residual E15 left in the hose from the previous sale of E15."

However, the AMA objected to this misfueling mitigation plan because our members' street bike fuel tanks are small, holding roughly three to six gallons. Off-highway motorcycles typically have even smaller gas tanks.

The AMA wants access to safe fuels for motorcycles and ATVs. Given marketplace realities, wherever E15 is sold there will very likely be inadvertent misfueling issues. Motorcycles and ATVs are not approved for E15 use, and inadvertently misfueling a motorcycle or ATV has the potential to not only damage the machine but also to void a manufacturer's warranty.

The loser of any inadvertent misfueling is the motorcyclist and ATV rider. The AMA stands behind not only its members, but all riders, in calling for more extensive testing for E15 and more thorough misfueling safeguards.

Again, the AMA thanks you and the subcommittee for holding the hearing on the RFS.

Sincerely,

Wayne Allard

Wayne Allard
Vice President, Government Relations


smart

3415 Commercial St. SE, Ste. 217
Salem, Oregon 97302
Phone: (503) 361-8941 • Fax: (503) 361-8947
www.orcattle.com

May 1, 2013

The Honorable Ron Wyden
221 Dirksen Senate Office Building
Washington, DC 20510
Sent via fax: 202-228-2717

Dear Senator Wyden,

The Oregon Cattlemen's Association writes to you today to voice our concern over the widespread diversion of our nation's corn crop for ethanol production. This is largely the result of the mandates of the Renewable Fuel Standard (RFS) a program that does not currently recognize newer technologies that produced ethanol from feedstocks like natural gas. Corn's RFS monopoly has serious implications for ranchers and other agricultural sectors. That is why we strongly support the expansion of the conventional biofuels portion of the RFS to allow a broader range of domestic fuel sources to be used to make ethanol.

There are 12,000 cattle operations in the state and every one of them has felt the burden of high feed prices. In 2012 over 40% of our nation's corn crop went towards ethanol as opposed to food or feed. The dependency on corn leaves both the fuel and food markets open to price shocks as was evident with last summer's record drought which had a devastating effect on corn crops. The drought of 2012 severely reduced the corn yield and sent corn prices to record highs. Everyone in the barnyard business saw feed supplies disappear and prices go through the roof. As a result, many farmers are liquidating cattle or selling their herds. A modified RFS that encourages the diversification of alternative fuel options will help bring immediate and long-term relief to this ongoing problem.

The agricultural sector is struggling. The administration and both chambers of Congress have called for an "all of the above" approach to energy policy in order to stimulate job growth and reduce our dependence on foreign oil and now is the time for action.

Please support all efforts to diversify the RFS so that pressure can be taken off corn and return feed prices and supplies can return back to beneficial levels.

Sincerely,

Curtis W. Martin, President
H - 541-898-2361
C – 541-962-9269
vprchnp@eoni.com

Mark Oldenkamp
Valley Fresh Foods Inc.
8539 Crosby Road NE
Woodburn, OR 97071

May 20, 2013

The Honorable Kurt Schrader
108 Cannon HOB
Washington, D.C. 20515

Dear Congressman Schrader:

Thank you for sponsoring the *Domestic Alternative Fuels Act of 2013* (HR 1959). I just sent a note of encouragement to Senator Wyden asking for his support on this same issue.

The Renewable Fuel Standard's reliance on corn has put enormous pressure on corn supplies and prices, severely impacting the fuel, agriculture, livestock, transportation and food service industries and creating hardship for businesses and consumers who depend on affordable corn and fuel prices. As egg farmers, we use a lot of corn and 2013 has been very challenging so far with our highest feed prices ever.

Allowing the energy and fuel industries to use alternative feedstocks such as ethanol derived from natural gas to satisfy their obligations under the federal Renewable Fuels Standard is a smart step forward for our economic and our energy futures.

Please know that you have our full support as you work to pass HR 1959. Thank you again for the leadership you have displayed on this issue.

Sincerely,

Mark Oldenkamp
VP NW Operations

PS: Thanks for your work on the egg bill also. The lobby against this is huge even though we all know it is rare for farmers to do what we are proactively proposing. Not sure what comes next, but I thank you for this effort.

March 14, 2013

The Honorable Ron Wyden
221 Dirksen Senate Office Building
Washington, DC 20510

Honorable Kurt Schrader
108 House Office Building
Washington, DC 20515

10505 SW Barbur Boulevard
Suite 101
Portland, OR 97219
503-780-9956
FAX 503-546-2502
www.odfa.org

Congressman Wyden and Congressman Schrader:

RE: Renewable Fuel Standard (RFS)

As Congressmen, you have always taken a big picture, nonpartisan approach to issues. Oregon dairy farmers are being crushed financially by the unintended consequences created by making ethanol from corn. It is vital that the United States have a balanced, and sensible, domestic energy approach. I am asking if you would consider supporting the effort to modify the Renewable Fuel Standard (RFS) to allow a broader range of domestic fuel sources, such as natural gas, to be used to make ethanol.

Congress and the White House are asking for an "all of the above approach" to our energy policy, this would result in more jobs and reduce the country's dependence on foreign oil. Modifying the RFS, which currently leans very heavy on corn, would bring both immediate and long term relief to this crisis.

The Domestic Fuel Solutions Group is a coalition of groups that are fuel industry stockholders. This group is seeking a pragmatic, bipartisan legislative and regulatory solution to the limitations of the RFS. There are many benefits to expanding the conventional biofuels portion of RFS. It would create a new alternative fuel industry, resulting in jobs and a boost to the economy. This also has the potential of putting corn prices back to a number that is realistic for dairy farmers. It mitigates the harmful effects if corn ethanol production on the environment.

We urge you, and other members of Congress, to strongly consider a sensible reform to the RFS. Help our industry, and state, to benefit from an "all of the above approach" that will help create a balanced energy policy.

If you have any questions or would like to discuss this matter further, please do not hesitate to contact me.

Sincerely,

Jim Krahn, Executive Director
Oregon Dairy Farmers Association
PH: 503.780.9956
jimk@odfa.org

May 20, 2013

The Honorable Kurt Schrader
108 Cannon HOB
Washington, D.C. 20515

10505 SW Barbur Boulevard
Suite 101
Portland, OR 97219
503-780-9956
FAX 503-546-2502
www.odfa.org

Dear Congressman Schrader:

As you know, the Oregon Dairy Farmers Association represents Oregon's 270 dairy farming families. And on behalf of our members, we would like to sincerely thank you for your support of the Domestic Alternative Fuels Act of 2013 (HR 1959).

For the last five years, our members have been dealing with elevated feed prices due to the Renewable Fuel standard's reliance on corn. Not only have dairy farmers been dealing with historically high prices of corn, the Renewable Fuel Standard contributed to the inflated costs of soybeans and alfalfa. The Renewable Fuel Standard has also created difficulties for our organic dairy farmers to source organic feedstocks. Organic crop producers have reverted to conventional crops as conventional production offered fewer limitations with comparable profit margins. And the argument that corn ethanol byproducts can be used as a substitute for corn is also a flawed statement as these byproducts do not offer the same nutritional profile a corn. With feed costs accounting for almost 65 percent of the total cost of production for an Oregon dairy farm, our members cannot longer afford these high feed prices and need change to the Renewable Fuel Standard in order to maintain viable businesses.

Allowing the energy and fuel industries to use alternative feedstocks such as ethanol derived from natural gas to satisfy their obligations under the federal Renewable Fuels Standard is a smart step forward for our economic and our energy futures.

Please know that you have our full support as you work to pass HR 1959. Thank you again for the leadership you have displayed on this issue.

If you have any questions, please feel free to contact me.

Sincerely,

Jim Krahn

Jim Krahn, Executive Director
Oregon Dairy Farmers Association
PH: 503.780.9956
jimk@odfa.org

Serving Oregon Since 1980
(503) 370-8092
FAX: (503) 370-8565
www.ofsonline.org

OREGONIANS FOR FOOD & SHELTER
1149 Court Street NE • Suite 110 • Salem, Oregon 97301-4030
A non-profit coalition to promote the efficient production of quality food and fiber while protecting human health, personal property and the environment, through the integrated, responsible use of pest management products, soil nutrients and biotechnology.

April 9, 2013

The Honorable Ron Wyden
221 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Wyden:

Since 1980, Oregonians for Food and Shelter (OFS) has fought to protect the rights of Oregon's natural resource based business community. Many of our members are in agriculture and those members are suffering today under the high price of animal feed and other corn-based products. We are supportive of steps that would help stabilize and lower animal feed products for our members and one way to do that is to look at reforming the conventional biofuels portion of the Renewable Fuel Standard (RFS).

In 2012, over 40% of our nation's corn crop went toward ethanol production as opposed to food or feed. The dependence on corn leaves markets open to price shocks as was evident with last summer's record drought which had a devastating effect on corn crops. The drought of 2012 severely reduced the corn yield and sent corn prices to record highs and the agricultural community suffered greatly.

If the conventional biofuels portion of the RFS were revised to recognize ethanol sourced from other, non-corn feedstocks, this ongoing problem will be mitigated. Technological developments now allow ethanol production from hydrocarbons and other sources that carry greater environmental and economic impact than corn-based ethanol. We believe that a modified RFS that encourages the diversification of alternative fuel options will help bring immediate and long-term relief of ongoing problems caused by the diversion of our national corn crop for ethanol production.

The agricultural sector is struggling. The administration and both chambers of Congress have called for an "all of the above" approach to energy policy in order to stimulate job growth and reduce our dependence on foreign oil and now is the time for action.

Please support all efforts to diversify the RFS so that pressure can be taken off corn, and feed prices and supplies can return back to beneficial levels.

Sincerely,

Oregonians for Food and Shelter

Paulette L. Pyle, Grass Roots Director

707 S.W. Washington St., Suite 927, Portland, OR 97205
503.670.1777 • Fax: 503.227.0351

June 24, 2013

The Honorable Ron Wyden
221 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Wyden,

The United States needs a balanced and sensible domestic energy policy. In this era of global instability and economic uncertainty, it is critical that we focus on building a broad and comprehensive energy policy that includes new technologies and harnesses our existing natural resources. That is why we are writing you today in support of the effort to reform our nation's Renewable Fuel Standard (RFS).

There are many reasons why the RFS as currently constructed is bad for our members and Oregon consumers, but we would like to particularly draw your attention to E15.

When the EPA decided on the mandate, gasoline volume was projected to be about 135 – 140 billion gallons. Due to the economy and CAFÉ standards, gasoline volume has decreased to 130 billion gallons. RINs can transfer the compliance around between refiners, but at the end of the day, the current mandated ethanol volume must be achieved or huge penalties will be incurred by refiners. The blend wall is expected to occur by the end of 2013 or early 2014.

Largely in response to the RFS mandate that 36 billion gallons of renewable fuel be blended into our transportation fuel by 2022, the ethanol industry is aggressively fighting for the wide scale distribution of a gasoline blend with 15% ethanol, E15.

Gasoline blended with 10% ethanol is standard at our gas stations, but the more caustic E15 threatens our member businesses and Oregon consumers.

The AAA has issued a warning about E15 saying that just 12 million of the more than 240 million cars, trucks and SUVs now in use in the US have manufacturers' approval for E15. Several leading car manufactures, citing potential corrosive damage to fuel lines, gaskets and other engine components, have stated that E15 use will void warranties. In short, this presents a huge liability issue for gas pumping businesses. That liability is compounded here in Oregon where our ban on self-service gas pumps puts the onus of any potential damage to customer cars on the employee pumping the gas and, ultimately, the employer. Mistaking 87 for 89 octane fuel will not destroy an engine but mistaking an E10 for an E15 fuel can. Our members are also concerned about the effect of E15 on station pumps and fuel lines.

The sale of E15 is not the answer to concerns that RFS mandates might go unmet. Modifications to the RFS that encourage the diversification of alternative fuel options seem to be the best way forward. The administration and both chambers of Congress have called for an "all of the above" approach to energy policy in order to stimulate job growth and reduce our dependence on foreign oil and now is the time for action.

Only with a true "all of the above" energy approach will we grow our fuel economy and gain greater energy independence. Our recommendation is to reduce the ethanol mandate from 13.8 billion to 10% of total gasoline consumption, less any credits for RINS and move away from considering E-15.

Please say no to E15 and please work to enact RFS reforms to help our country, state, community and local businesses benefit from a balanced energy policy.

Thank you,

Oregon Petroleum Association

10505 SW Barbur Blvd • Suite 101 • Portland, OR 97219
Fax: (503) 546-2502 • www.odfa.org
Jim Krahn: (503) 780-9956 • jimk@odfa.org
Kathryn Walker: (503) 367-4212 • kathrynw@odfa.org

SPRING 2013 NEWSLETTER

DAIRY DAY @ THE CAPITOL - APRIL 3rd

April 3rd is Oregon Dairy Day at the Capitol. We are calling all producers and industry supporters to come to the Capitol to support the Oregon dairy industry in Salem.

This is a great opportunity for you to visit with legislators and educate them on the Oregon dairy industry! There are no shortages of bills in Salem that will impact dairy farmers: taxes, fees, water quantity, and the list go on. We will provide you with information on these bills to assist you when you talk with legislators. We will also accompany you and support you on your visit to your legislator. Unfortunately, there are no legislators with a direct connection to the dairy industry and only a handful has a direct connection to agriculture. You are the experts in the industry and it is important for legislators to hear directly from those who will be impacted by the legislation.

To visit your legislator, it is best to make an appointment in advance. You can contact your state senator and representative directly (go to www.leg.state.or.us and click on 'Find Your Legislators' located on the right side of the website. This will lead you to your legislator's phone number and email address) or you can contact Kathryn at kathrynw@odfa.org or 503-367-4212 who can make an appointment for you.

We will also be serving delicious Oregon dairy products throughout the day so if you would like to help with this, please let Kathryn know. We will have a mid-morning milk break, grilled cheese sandwich lunch and ice cream social for all in the Capitol that day. We would like to thank Darigold/NDA, Farmers Cooperative Creamery, Lochmead Dairy, Tillamook County Creamery Association and Umpqua Dairy for their generous donation of dairy products for the event.

The event starts at 9:30 AM and concludes at 4:00 PM. Help is also needed for set-up which starts at 7:00 AM.

This day is vital in creating a positive atmosphere for the dairy industry in Salem for the remainder of the legislative session.

The State Capitol is located at 900 Court Street. The day's events will be located in the Galleria (located just behind the Information Desk on the main floor). There is metered parking surrounding the Capitol ($1.50 per hour). There is also a pay parking lot (Yellow Lot) located a few blocks north of the Capitol. The Yellow Lot is a city block in size and is located between Center and Marion Streets (East and West) and Winter and Summer Streets (North and South).

If you have any questions, please do not hesitate to contact Kathryn Walker or Jim Krahn. See you there.

OREGON DAIRY FARMERS CONVENTION

Although convention has come and gone, it will not be forgotten. This year we had a record attendance for convention: 363 people! The Oregon Dairy Women also beat last year's record and raised almost $38,000 at their scholarship auction. Thank you to all who attended and made the event a success.

We would also like to thank the sponsors and exhibitors who supported the event.

COMMUNITY AND DISTINGUISHED SERVICE AWARD RECIPIENTS

During the convention ODFA presents two awards: Community Service and Distinguished Service.

The Community Service Award is presented to a producer or family in recognition of their service to the community and/or state. This year's recipient was Richard Obrist.

Richard, his wife Pam and three grown sons, operate Fairview Acres Dairy in Tillamook. Some

farms throughout the United States and will jeopardize the ability of farmers to operate under established federal, state and local law. Congress clearly did not intend this result: RCRA excludes the regulation of manure as a hazardous waste, and the State of Washington specifically excludes the management of manure under its definition of a solid waste.

The effects of this litigation are not confined to the Yakima Valley. If the plaintiffs succeed in this litigation, all farming activities utilizing common manure management systems throughout the United States which are managed by their state agricultural departments and state environmental agencies will be subject to a new and sweeping federal regulation that will result in endless "citizen" suit litigation. This is a national issue brought by national environmental groups and will have an impact on every farm in the United States.

The following article was published in the March 2013 edition of "Milk Matters", the Washington State Dairy Federation dairy farmer newsletter.

RENEWABLE FUEL STANDARD – CALL TO ACTION

For years now, dairy farmers have been struggling with the rising prices of feedstocks and we know one of the major reasons why: corn based ethanol. Under the federal government's Renewable Fuel Standard (RFS), more and more corn is being dedicated to transportation fuel blends and diverted away from traditional uses like animal feed.

The federal government has mandated that 5.36 billion bushels of corn be used to make fuel regardless of drought conditions. In 2012, more than 40 percent of the corn crop was used to make ethanol. This past year we saw how dangerous this can be.

The drought of 2012 severely reduced the corn yield and sent corn prices to record highs. Everyone in the barnyard business saw feed supplies disappear and prices go through the roof. As a result many dairies have found themselves on the brink of liquidation or have already folded.

We can and must change the RFS. New technologies have been developed that can produce ethanol from natural gas but these advances in technology cannot benefit farmers because the RFS only recognizes corn-based ethanol.

Our own Senator Wyden is the Chairman of a key committee that has the potential to open up the RFS to other sources of ethanol. Please write, call or email him today and let him know that Oregon's dairy farmers are struggling and that we must modify the RFS to include new domestic fuel solutions that will take the pressure off corn and return feed prices and supplies back to beneficial levels for farmers.

We have felt this burden of the RFS for years and now a solution has presented itself. Please make the voice of the dairy farmer heard and contact Senator Wyden today.

Senator Wyden's Contact Information

Call: 202-224-5244
Write: The Honorable Ron Wyden
221 Dirksen Senate Office Building
Washington, DC 20510
Fax: 202-228-2717
Email: http://www.wyden.senate.gov/contact/

OSU BEAVER CLASSIC

Earlier this month, the OSU Dairy Club students held the Beaver Classic, a dairy cattle consignment sale. The event was held in the new Oldfield Animal Science Teaching Facility.

Hundreds of dairy farmers and industry supporters from the West Coast attended the highly successful event. Proceeds from the sale are used to fund dairy club activities, however, a large portion of this year's sale proceeds will be used to fund the newly established "Dairy Advocacy Fund" – a fund dedicated to support dairy related activities including the dairy judging team, dairy challenge contest participation and membership in the American Dairy Science Association.

It was an exciting event. It is even more exciting to know that these students are the future of the dairy industry. And if the Beaver Classic is any indication, the future of the Oregon dairy industry is bright.

Thanks to all of those who supported the sale!

BRIAN CLEM
STATE REPRESENTATIVE
DISTRICT 21

HOUSE OF REPRESENTATIVES

Senator Ron Wyden
221 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Wyden:

The United States needs a balanced and sensible domestic energy policy. In this era of global instability and economic uncertainty, I believe we need to focus on building a broad and comprehensive energy policy that includes new technologies and harnesses existing natural resources. That is why I'm writing you today, advocating updating the RFS (Renewable Fuel Standard) to allow a broader range of domestic fuel sources like natural gas to be used to make ethanol.

Expanding the conventional biofuels portion of the RFS is the answer.

It will lower the price of ethanol, which, in turn, could bring down the price of gasoline. It mitigates the harmful effects of corn ethanol production on the environment and reduces our reliance on foreign oil.

The same product can be made cheaper and domestically by using supplements other than corn, like our bounty of natural gas, to create the same environmentally-friendly fuel and generate potentially hundreds of thousands of high-paying sustainable domestic jobs.

The production portion of the agriculture industry is impacted by the current RFS definition, which currently limits qualified ethanol to a single raw material feedstock. And as a result, we see first hand higher fuel prices that translate into higher prices for food and transportation costs of delivering product. So again, please support updating the RFS (Renewable Fuel Standard) as it will help lead to a fair and competitive alternative fuels marketplace.

Sincerely,

Brian

Rep. Brian Clem

Office: 900 Court St NE, Salem, OR 97301 - Phone: 503-986-1421
rep.brianclem@state.or.us

ORLA
Oregon Restaurant
& Lodging Association

May 17, 2013

The Honorable Ron Wyden
United States Senate
221 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Wyden,

I am writing you today on behalf of the members of the Oregon Restaurant & Lodging Association who are concerned with our nation's energy policies and who believe we must make a strong effort to reduce our dependence on foreign oil and stimulate the growth of the alternative energy economy. As part of the quest for a balanced and sensible domestic energy policy, we must continue to seek out new technologies and harness existing natural resources. I am also encouraging your support of the Domestic Fuel Solutions Group (DFSG). This group is advocating for updating the Renewable Fuel Standard (RFS) to allow a broader range of domestic fuel sources such as natural gas, which can be used to make ethanol.

In fact, expanding the conventional biofuels component of the RFS is the answer. This move will lower the price of ethanol by allowing a move away from corn ethanol production, which hopefully should reduce the escalation of corn prices and in turn the rising cost of beef and other food items. If biofuels can be produced at a lesser cost domestically by using supplements other than corn, with an outcome of the same environmentally-friendly fuel and a potential increase of thousands of sustainable jobs right here in our own nation, then ORLA strongly encourages your support and approval.

The members of the Oregon Restaurant & Lodging Association, as well as our entire industry nationwide, are impacted by the current Renewable Fuel Standard definition, which currently limits qualified ethanol to a single raw material feedstock. As a result, we see firsthand higher prices for food and increased costs for transportation of goods and services. Please support updating the RFS, as it will help lead to a fair and competitive alternative fuels marketplace.

Respectfully submitted,

Vice President of Government Affairs
Oregon Restaurant & Lodging Association

8565 SW Salish Lane, Suite 120 | Wilsonville, OR 97070-9633 | M: 503.682.4422 | T: 800.462.0619 | F: 503.682.4455 | www.OregonRLA.org

ARNIE ROBLAN
STATE SENATOR
DISTRICT 5

OREGON STATE SENATE
900 COURT ST. NE, S-417
SALEM, OR 97301

June 24, 2013

The Honorable Ron Wyden
221 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Wyden,

As Chairman of the Energy and Natural Resources Committee, you are no doubt aware that the United States needs to advance a balance and sensible domestic energy policy. As an Oregonian, you are positioned to understand the unique challenges facing resource-dependent communities in both Oregon and other states. Your work towards long-term permanent solutions with your colleagues is critical to building a broad and comprehensive energy policy that includes new technologies that harnesses our existing natural resources.

On the behalf of the Domestic Fuel Solutions Group (DFSG), a coalition of fuel industry stakeholders, I write in support of their effort to reform our nation's alternative fuels policy – in particular, the need to update the Renewable Fuel Standard (RFS) to allow a broader range of domestic fuel sources, like natural gas, to be used to make ethanol.

The need for an open and robust alternative energy market has never been greater. The RFS' overreliance on corn as the primary feedstock for ethanol has driven up the price of fuel, food and animal feed and his limited innovation in the alternative fuel industry. The dependency on corn leaves both the fuel and food markets open to price shocks as was evident with this summer's record drought which had a devastating effect on corn crops.

A modified RFS that encourages the diversification of alternative fuel options will help bring immediate and long-term relief to this ongoing problem. The administration and both chambers of Congress have called for an "all of the above" approach to energy policy in order to stimulate job growth and reduce our dependence on foreign oil and now is the time for action.

New technologies have been developed since the RFS was enacted that allow ethanol to be produced from feedstocks like natural gas that are more cost effective. Expanding the conventional biofuels portion of the RFS to include natural gas and other hydrocarbon-based feedstocks imparts many benefits for Oregon and the country.

- It lowers the price of ethanol, which in turn, could bring down the price of gasoline helping consumers and businesses.
- It mitigates the harmful effects of corn ethanol production on the environment.
- It will slow the diversion of our national corn crop for ethanol that has had adverse effects on food and feed prices for families and farmers.
- It ramps up a new alternative fuel industry, creating thousands of jobs injecting billions of dollars into local economies. It opens more states to ethanol production and reduces the cost of transporting ethanol from corn-growing states.
- And it reduces our reliance on foreign oil.

Only with a true "all of the above" energy approach will we grow our fuel economy and gain greater energy independence. Please work to enact RFS reforms to help our country, state, community and local businesses benefit from a balanced energy policy.

Sincerely,

Arnie Roblan
State Senator District 5

Office Phone: (503) 986-1705 • Email: senator.roblan@state.or.us
District Office: P.O. Box 1419, Coos Bay, OR

Oregon Sheep Growers Association

April 29, 2013

The Honorable Ron Wyden
U.S. Senate
221 Dirksen Senate Office Building
Washington, DC 20510

Dear Senator Wyden,

On behalf of Oregon's struggling livestock industry, we ask for your help by updating the Renewable Fuel Standard. As originally written, the RFS is limiting the development of alternative fuels markets. Updating the RFS could directly benefit other Oregon agricultural industries, while at the same time developing alternative and potentially cheaper fuel sources.

Since the RFS was originally approved, billions of bushels of the national corn crop have been diverted away from use as animal feed and into the production of ethanol. The resulting increases in the cost of animal feed are creating a serious burden for ranchers and farmers. This situation was made worse in 2012 when severe drought in the Midwest devastated the corn crop and sent prices for corn and corn-based products like animal feed soaring to record highs.

It is time for the RFS to be modified to include ethanol made from other domestic fuel sources like natural gas. This will help take pressure off corn and will begin to return feed prices and supplies back to beneficial levels. Further, modifying the RFS and encouraging an open ethanol market will help stimulate innovation, foster competition and broaden access to affordable energy sources.

Oregon's sheep producers strongly urge you to assist Oregon and other states without a significant corn crop or ethanol production capability by reforming the Renewable Fuel Standard and recognizing other domestic fuel sources. Oregon agriculture and Oregon's economy as a whole will benefit from these changes.

Sincerely,

John M. Fine
OSGA President

1270 Chemeketa Street N.E. • Salem, Oregon 97301-4145
Phone: 503.364-5462 • info@sheeporegon.com

american cleaning institute®
for better living

July 23, 2013

Honorable Ed Whitfield
Chairman
Energy and Power Subcommittee
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

Honorable Bobby L. Rush
Ranking Member
Energy and Power Subcommittee
Committee on Energy and Commerce
United States House of Representatives
Washington, DC 20515

RE: Subcommittee Hearing on the Renewable Fuel Standard (RFS): Stakeholder Perspectives

Dear Chairman Whitfield and Ranking Member Rush:

The American Cleaning Institute® (ACI) welcomes the interest of the subcommittee on stakeholder perspectives regarding the Renewable Fuel Standard (RFS). ACI is the trade association representing the $30 billion U.S. cleaning products market. ACI members include the formulators of soaps, detergents, and general cleaning products used in household, commercial, industrial and institutional settings as well as companies that supply ingredients, including oleochemical manufacturers, and finished packaging. ACI and its members are dedicated to improving health and the quality of life through sustainable cleaning products and practices, and its mission is to support the sustainability of the cleaning products industry through research, education, outreach and science-based advocacy.

The U.S. oleochemical industry has been disadvantaged by federal biofuel subsidies in the form of tax credits and guaranteed markets under the RFS. Oleochemicals are chemicals made from animal fats, an agricultural commodity, and seed oils including fatty alcohols and fatty acids that have wide ingredient application in industrial and consumer products. Oleochemicals are the original "green chemistry" and the domestic oleochemical industry provides direct and indirect employment for an estimated 25,000 people.

The price of animal fats, a co-product of livestock slaughter, has been significantly impacted by the RFS in its establishment of guaranteed markets for categories of biofuels. Animal fats provide raw material for traditional biodiesel as well as advanced biofuels. Animal fats are considered biomass for purposes of the RFS. ACI respectfully urges that animal fats be eliminated as a qualifying commodity under the RFS. This policy change would serve to eliminate the disadvantage currently imposed on oleochemical producers and return balance to the market.

Thank you for your attention and consideration of these comments; I may be reached at (202) 347-2900 or via electronic mail at dtroutman@cleaninginstitute.org.

Respectfully yours,

Douglas Troutman
V.P. & Counsel, Government Affairs

cc: Members of the Subcommittee on Energy and Power

Testimony of the Honorable James C. Greenwood
President and CEO, Biotechnology Industry Organization
Committee on Energy and Commerce
U.S. House of Representatives

July 24, 2013

I am Jim Greenwood, the President and CEO of the Biotechnology Industry Organization or BIO. BIO is the world's largest biotechnology organization, with more than 1,100 members worldwide and in all 50 US states. Within its broad membership, innovative industrial and agricultural biotechnology companies are developing new feedstocks and biological catalysts for production of a range of fuels from conventional ethanol to advanced biofuels, renewable chemicals, and biobased products. Because these feedstocks, biomanufacturing methods, and products are based on plants and biological processes, they are more efficient, sustainable and environmentally friendly. And, because these renewable fuels are produced from homegrown agricultural and forest biomass feedstocks, they help grow the American bio-based economy and reduce America's dependence foreign sources of oil.

How many of you think about America's advanced biotechnology when you think about biofuels? It is a little noticed fact that biotech innovation is underpinning the development of the US bio-based economy, revitalizing American's high-tech manufacturing sector and creating thousands of high skilled, value added jobs and careers.

Thanks to biotechnology, advanced and cellulosic biofuels are here today. The first gallons of cellulosic biofuels have been produced and delivered in Mississippi, with additional cellulosic biorefineries coming online this year and next in Florida, Iowa and Kansas. But it's not just biotechnology that's gotten us this far. Federal policy has played a major role in shepherding this technology across the valley of death to first commercial production. And, without question, the Renewable Fuel Standard (RFS) has been the single most important of these federal policies, which is why BIO is committed to the preserving the RFS as is.

The importance of federal policy is particularly critical in the transportation fuel sector. The U.S. transportation system is overwhelmingly reliant on petroleum fuels. Time and again this overreliance has put our nation's national security and economy at risk. Fuel

prices spikes both decrease demand for fuel and stall economic growth as America continues to recover from its economic recession. The 30 percent increase in the price of oil from October 2011 through April 2012 adversely affected household budgets and likely contributed to a slow rate of increase in consumer spending. According to Dean Maki, chief United States economist at Barclays Capital, a $10 increase in the price of oil shaves about two-tenths of a percentage point off America's growth rate and raises unemployment by one-tenth of a percentage point. Another study has shown that 10 of the 11 U.S. recessions since World War I have been preceded by significant oil price spikes. Even at a time when we have seen an increase in U.S. production of oil of roughly 2 million barrels per day over the past five years, this still only represents just over 2 percent in worldwide consumption. Hardly enough to mitigate the impact world events have on oil prices, such as the recent actions in Egypt.

However, the policy stability afforded by the RFS helps remove the instability in the fuel market. This is because biotechnology processes are developing alternative fuels in a cheaper, more efficient manner. Biofuel production under the RFS has already displaced nearly 10 percent of U.S. gasoline consumption and will account for more than 20 percent of U.S. transportation fuel use by 2022. These fuels, produced in America, help create not just domestic jobs but long lasting high tech careers, while offsetting the impact of foreign sources of oil on our economy. This research and development and early construction have already created more than 5,000 jobs here in the United States. And, according to a study conducted by Bio Economic Research Associates, once the RFS goal of 36 billion gallons of biofuels is achieved, the production of advanced biofuels here in the United States will create more than 800,000 jobs and generate $37 billion in economic activity.

Over the past five years, both domestic and foreign companies have invested nearly $5 billion within the United States towards the research,development and commercialization of advanced biofuels, including pilot and demonstration projects in nearly every state, and real steel in the ground for the first commercial biorefineries. Investors – including many international companies attracted by the economic opportunity here in the United States – are ready to commit additional dollars to commercialize this technology. The RFS is helping the US keep its global lead in biotech innovation and we can't afford to surrender our lead in this important field.

The RFS provides exactly the type of long-term, regulatory stability that is required to send a signal to investors. Congress gave EPA sufficient flexibility to administer the RFS when they adopted the RFS. The single most important thing Congress can do to reduce our nation's dependence on foreign oil, improve the environment, grow our bio-based economy

and create more high skilled, value added jobs and careers is to leave the RFS in place, as-is. We are just 1/3 of the way through the timeline Congress laid out in 2007 – we must stay the course or risk losing the progress we've made.

Rep. Bruce Braley

For the Record
Energy & Commerce: Energy and Power Hearing
"Overview of the RFS: Stakeholder Perspectives"
7/24/2013

Many in DC assume all livestock groups oppose the RFS. I would like to submit evidence to the contrary. In 2012, following the worst drought in a generation, the Iowa Cattlemen's Association adopted the following policy on renewable fuels:

> "WHEREAS, the production of renewable fuels and their co-products in the state of Iowa is beneficial to the Iowa cattle industry.
> THEREFORE, BE IT RESOLVED, the Iowa Cattlemen's Association support renewable fuels production; and legislation that promotes growth in renewable energy and supports initiatives that maximize access to co-products for Iowa's cattle industry."

○