

United States Senator Chuck Grassley

Iowa



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For Immediate Release
Monday, May 19, 2008

Grassley urges Iowans to push back against DC-hatched smear campaign against ethanol

WASHINGTON — Senator Chuck Grassley today encouraged Iowans who work for major food manufacturers to make their voices heard in opposition to a national smear campaign against ethanol.

“A national association employing high-priced Washington, DC spin doctors has launched a misleading and disingenuous assault on ethanol,” Grassley said. “The facts are that biofuels are a very small factor in rising grocery costs and just 19 cents of every food dollar spent by consumers goes to farmers. I’m calling on companies who are members of the Grocery Manufacturers Association to protest the trade association’s target and tactics. Every employee of these member companies can join in. We’ve got to speak truth to power and fight back against this smear campaign.”

The text of the letter that Grassley mailed today is below. He sent it to the following companies who are listed as members of the Grocery Manufacturers Association and have operations in Iowa. A copy of the floor speech Grassley delivered last Thursday is also included in this news release. It’s below the text of the letter.

Recipients of Grassley’s May 19th letter:

Archer Daniels Midland
Barilla America
Cargill
ConAgra Foods
Dean Foods Company
General Mills
Hormel Foods
Kraft Foods
Land O’Lakes
Pinnacle Foods Corp
Procter & Gamble
Ralston Foods

Sara Lee Corp

May 19, 2008

Dear _____,

For nearly thirty years, our nation has pursued policies to promote the development and use of domestic, renewable fuels. We've promoted renewable biofuels as a way to lesson our dependence on foreign oil and to improve air quality. During this time, the biofuels movement enjoyed overwhelming support. Now, an anti-ethanol smear campaign led by the Grocery Manufacturers Association is blaming U.S. biofuels policies for the rising cost of food and global food shortages.

As a company with significant operations and employees in Iowa, surely you are well aware of the cooperative effort among all partners in the food supply chain to produce a safe, abundant food supply. Iowa's farmers and agricultural industries have long filled the breadbasket that feeds our nation and the world. This has always been a strong cooperative effort between family farmers, livestock growers, food processors, manufacturers and marketers.

As a family farmer and a long-time partner in the production of our nation's food supply, I am personally disappointed and offended by the public relations smear campaign that the food processors and member companies of the Grocery Manufacturers Association are now spearheading. I hope you'll recognize that this smear campaign against biofuels is unfounded, irresponsible and pits traditional allies and partners in food production against one another.

The propaganda being used by the Grocery Manufacturers Association and its high-paid lobbying firms in Washington, D.C., is patently false and should be disavowed. Administration officials with the Department of Energy, U.S. Department of Agriculture and the President's Chairman of the Council of Economic Advisers have all determined that the production of biofuels has had only a small impact on the rise in retail food prices domestically and globally. The facts prove that the rising cost of energy, worldwide economic growth, global weather problems, rising marketing costs, and the weak U.S. dollar all have a far greater impact on rising food prices than biofuels.

All Iowans, my constituents and your employees, deserve an honest, fair discussion of the issues surrounding the rising cost of food. This smear campaign led by an organization of which you are listed as a member is harmful to an honest discussion and should be abandoned. I therefore strongly encourage you to call on the leadership of the Grocery Manufacturers Association to end this misleading campaign that is undermining and denigrating the patriotic achievements of American farmers to reduce our dependence on foreign oil while also providing a safe, abundant and reliable food supply.

Thank you for your timely consideration of this request and I look forward to hearing from you soon.

Sincerely,
Charles E. Grassley
United States Senator

The Congressional Record, page S4243
Thursday, May 15, 2008

“Scapegoating of Ethanol”

Mr. GRASSLEY. Madam President, I come to the floor to rebut the scapegoating of ethanol, which is part of the food versus fuel debate.

I do not do it for a one-way conversation. I hope I can encourage conversation on this subject among my colleagues so we can look at this from a scientific and economic point of view and avoid scapegoating.

For almost 30 years, I have been leading an effort with many of my colleagues to promote policies to grow a domestic renewable fuels industry. We have promoted homegrown renewable fuels as a way to lessen our dependence on foreign oil and to improve our air quality.

For all these years, we have hardly heard anything negative about these policies. Now, ethanol and other biofuels are being made a scapegoat for a whole variety of problems. Never before in 30 years has the virtuous benefits of ethanol and renewable fuels been so questioned and so criticized.

The problem is, none of these criticisms are based on sound science, sound economics, or for that matter even common sense. I had the opportunity to hear an intelligent discussion of this, maybe it only lasted a couple of minutes, on a program on Fox News Saturday night called, “The Beltway Boys.” And these people are very intelligent people.

I heard Mort Kondracke, a veteran journalist, falling prey to some of the same erroneous talking points that I have heard over and over for the past couple of weeks. Mr. Kondracke is one-half of that intelligent duo on Fox News that I referred to as “The Beltway Boys.” Maybe Mr. Kondracke has spent too much time inside the beltway and could use a little real world explanation from a family farmer like me from the Midwest.

Some of my colleagues in the Senate have also gotten involved in this misinformation campaign, and that is why I did not come to the floor to speak; I come to the floor to encourage dialogue with my colleagues on this subject because it seems there is a “group-think” mentality when it comes to scapegoating ethanol for everything from high gas prices, global food shortages, global warming, and even deforestation.

But, as was recently reported, this anti-ethanol campaign is not a coincidence. It has been well thought out, well programmed, and that program is going on. It turns out that a \$300,000, 6-month retainer of a beltway public relations firm is behind the smear campaign

against ethanol. And they have been hired by a trade association referred to as the Grocery Manufacturers Association. They have outlined their strategy of using environmental, hunger, and food aid groups to demonstrate their contrived crisis. And it is right here in a 26-page document put out by the Glover Park Group, called "The Food and Fuel Campaign." They enlist the support of these other nonprofit groups that are involved with environment and hunger.

I think it is important for policymakers and the American people to know who is behind this effort. According to reports, downtown DC lobbyists, the Glover Park Group, and the Dutko Worldwide are leading the effort to undermine and denigrate the patriotic achievements of American farmers to reduce our dependence on foreign oil, while also providing a safe and affordable food environment.

The principal leaders behind the Glover Park Group's proposal reads like a who's who of Democratic operatives. The effort is led by former President Clinton's Press Secretary, Joe Lockhart. Another is 8-year veteran of the Clinton-Gore White House, Michael Feldman.

Other leaders in this misinformation campaign include Carter Eskew, Mike Donilon, Joel Johnson, and Susan Brophy, all of which proudly display their ties to the Clinton-Gore White House and their credentials of helping elect Democratic candidates.

This campaign against ethanol is more sophisticated than anything I have seen put on by big oil over the last 30 years, as big oil has been a constant fighter. I will show you how this is a well-sophisticated political operation and public relations effort. For instance, the media relations public affairs responsibility comes under the partners in charge, Joe Lockhart and Michael Feldman. The advocacy and image advertising comes under the leadership of partners in charge, Carter Eskew and Mike Donilon. The legislative affairs part of it is directed by partners in charge, Joel Johnson and Susan Brophy.

Now, these people are outstanding people. They are going to be able to deliver what they have said they could do.

That is why we have to take it very seriously.

I suggest that Democrats in the Senate who claim to support our Nation's drive toward energy independence should be alarmed by this group's planned campaign and the tactics being used.

I happen to be one who fought President Clinton during his 8 years in office at every turn when he tried to undermine our renewable fuels industry. The outstanding example I remember is when California made application to the EPA for a waiver under the Clean Air Act at the very time that MTBE was being outlawed because it was poisoning the groundwater. The only oxygenate that you could use in gasoline then was ethanol. California sought an exemption. We were able to win that by the Clinton administration not allowing it. Now, of course, we find ourselves fighting President Clinton's former staff and staff who worked for the Gore and Kerry Presidential campaigns, leading an effort for the grocery manufacturers to

smear ethanol, after 30 years of developing an industry because people called for more renewable energy. They wanted renewable, clean-burning energy. They didn't want to be reliant upon dirty-burning petroleum. They didn't want to be relying upon importing so much.

I imagine that they are leading this effort partly because they are being paid well for doing so, but they maybe can't stand the fact that President Bush has proved to be the best friend the renewable fuels industry has had. Because their old boss failed miserably at crafting policies to promote ethanol, they are doing everything they can to tear down the success President George W. Bush has helped foster.

There are a lot of intelligent people who have been misled by this campaign and are simply wrong. They are using in their speeches a lot of the rhetoric that comes out of this effort. The facts don't back up the argument. I invite my colleagues to look at the facts, challenge me, have a dialog on this subject so we can use science as a basis for what we are doing, and economics as well.

It is time to dispel the myths perpetuated by Mr. Kondracke, one of the Beltway boys--he was probably reporting this misinformation because he is a smart person--the Glover Park Group, and others.

The Grocery Manufacturers Association, I have come to the conclusion, needs an excuse to gouge consumers of America with higher food prices, and an easy scapegoat for increasing food prices is, of course, ethanol. One myth that pops up again and again is that ethanol takes more energy to produce than it provides. I heard Mr. Kondracke say that. Let's look at the facts. In 2005, the Argonne National Laboratory study concluded that it takes only seven-tenths of one unit of fossil energy to make one unit of ethanol. That is a positive net energy balance. In comparison, it takes 1.23 units of fossil energy to make one unit of petroleum gasoline. So why aren't the grocery manufacturers of America bringing up the point that petroleum processing into gasoline is not energy positive? Because gasoline requires more than 1 Btu of energy to deliver 1 Btu to your car. That is a negative net energy balance.

A 2004 U.S. Department of Agriculture study concluded that ethanol yields 67 percent more energy than is used to grow and harvest the grain and to process that grain into ethanol. These figures take into account the energy required to not just process grain into ethanol, it takes into consideration the energy the farmer takes to plant, to grow, to harvest the corn, as well as the energy required to manufacture and distribute the ethanol.

Of 15 different peer-review studies we have looked at and that have been conducted on this issue, 12 of the 15 found that ethanol has a positive net energy balance. Only a single individual from Cornell University, who authored the other three studies, disagrees with this analysis. The Cornell studies have consistently used old data, some from 1979. Remember, in 1979, farmers weren't producing as much corn per acre as they do today. Corn yields then were 91 bushels per acre. It was at 137 bushels per acre in the year 2000. The average is now up to 150 to 160 bushels per acre. The flawed studies also rely on 1979 figures for energy use to manufacture ethanol. This energy consumption was cut in half between the years 1979 and

2000 and continues efficiency gains every year. I could quantify that better than just using a broad sweep.

In the early 1980s, we were producing about 2.3 gallons of ethanol from a bushel of corn. Today, we are producing 2.8 gallons of ethanol per bushel. And pretty soon, the industry believes they might be able to produce 3 gallons per bushel.

So these erroneous Cornell conclusions have been refuted by experts from entities as diverse as the U.S. Department of Agriculture, the Department of Energy, the Argonne National Laboratory, Michigan State University, and the Colorado School of Mines. The fact is, studies using old data overestimate energy use by not taking into account efficiencies gained in agriculture, the greater use of fertilizer, and ethanol production.

I don't understand how intelligent people, then, can continue to argue that ethanol has a negative net energy balance. But that is what I heard on television Saturday night from very intelligent people. That is what I hear in this smear campaign. The net energy balance of ethanol production continues to improve because ethanol production is becoming more efficient. A March 2008 study by Argonne National Laboratory found significant gains just since 2001. Ethanol production since 2001 has reduced water use by 27 percent, reduced electricity use by 16 percent, and reduced total energy use by 22 percent.

Another myth being perpetuated by opponents of a renewable fuels effort and by Mr. Kondracke is that ethanol harms the environment and contributes more in greenhouse gases than petroleum. This claim is likewise hogwash. Science magazine and Time magazine made wildly erroneous claims about corn ethanol that are now being used by these detractors. They claim that ethanol production is the driving force behind rain forest deforestation and grassland conversion to agricultural production. This is an oversimplification to say the least. How could intelligent people ignore the effects of a growing global population? How can one simply ignore the surging global demands for food from growing populations in China and India? Wouldn't urban development and sprawl also be a contributor to the increased demand for arable land?

Secretary of Agriculture Ed Schafer and Energy Secretary Sam Bodman stated in a letter to Time magazine, when they ran this outrageous story that was based on a Science magazine article, that it was "one-sided and scientifically uninformed." They further stated that the Science magazine article had been "thoroughly rebutted by leading scientists at the Department of Energy's Argonne National Laboratory." In fact, Dr. Wang at the Argonne Laboratory stated:

There has been no indication that the U.S. corn ethanol production has so far caused indirect land use changes in other countries. No claim can be made that U.S. ethanol production leads to the clearing of rain forests.

In fact, since 2002, U.S. corn exports increased by 60 percent. Even with the growth in the ethanol industry, our corn exports have steadily increased, meeting growing global

demands. So when it comes to the United States and food, we allow exports to other areas where they need our overproduction.

But one of the things that is driving up the price of rice now is a lot of prohibition in countries that produce rice to exports. So the global trading system is not efficiently distributing rice to where it is needed to feed hungry people. Think of that as a detraction, but also think that in the whole world, 95 percent of all grain produced is consumed and not made into something else.

While some claim that corn ethanol increases greenhouse gas emissions because of land use changes around the globe, they need to think again. According to the U.S. Department of Energy, today's corn ethanol produces about 20 percent fewer greenhouse gas emissions on a life-cycle basis. Ethanol blended fuel emits cleaner tailpipe emissions and, unlike petroleum, ethanol doesn't harm the environment or groundwater the way the petroleum-based product MTBE did for the 20 years it was used in gasoline as an oxygenate, where ethanol can be used as an oxygenate and it doesn't do that.

In recent weeks, a new argument has come forward about the effect of corn ethanol on domestic and global food prices. Food prices are going up. Of course, we all have to be sympathetic to that, whether it is in America or abroad. People are struggling with higher prices for food is not something we like to hear. But to put all the blame at the feet of the U.S. ethanol industry is outrageous and misplaced, and that is what this smear campaign is all about, just so the grocery manufacturers of America can have an excuse to increase the price of food here.

Watching the news and listening to some of my colleagues, there was even a hearing on this a couple weeks ago in the Senate. I have even heard expressed in this hearing that the price of oranges was going up because of ethanol. We have heard that the domestic ethanol industry was blamed for shortages not only in oranges but apples, broccoli, rice, wheat, lentils, peppers, even bananas.

Let's stop to think about the people who are saying: You are growing more corn, so we are growing less wheat or rice. We don't make ethanol out of wheat or rice. But for people to say that fruits are going up or bananas are going up because we are growing more corn, well, let me assure everybody I do not know of anybody who is plowing up and tearing out an apple orchard, an orange orchard or a banana plantation to plant corn for ethanol . But that is the ignorance about the people who are making those mistakes, trying to make the argument that more land is going into corn and less going into wheat, so the price of bread is going up.

With regard to wheat, rice, and lentils, the global demand for food from a growing middle-class in China and India have the most impact is what economists are telling us.

Weather trends, including a 100-year historic--how to say it--the worst drought in 100 years in Australia and poor growing conditions in Southeast Asia and Eastern Europe have had a much greater impact on the supply of rice and wheat.

Many of these countries also have government production policies that manipulate production, supply, and trading of these commodities. Think of some of the dictators in Africa who want a cheap food policy. Farmers cannot make enough producing food, so the farmers move to town and live in the slums, when they could be producing something back home, if the governments had policies that would encourage the production. There is so much resource in Africa that there is no reason to have anybody starving in Africa.

The fact is, the global demand and price for all commodities has increased. Some of this could even be due to speculation. You read that in the business papers in the United States quite regularly.

One of the biggest culprits behind rising food prices is the cost of oil at \$125 a barrel. We had a recent Texas A&M study concluding that the biggest driving force behind the higher food costs is higher energy costs. So if Texas A&M is saying that, let's look at what the Iowa State University Center for Agriculture and Rural Development is saying about ethanol's impact upon the price of gasoline and energy to move food around. They say, without the ethanol we have, you would be paying 30 or 40 cents more for a gallon of gasoline. In turn, then, since Texas A&M says energy is the biggest reason for the increased costs of food, you would have yet higher food prices without having ethanol.

Joseph Glauber, chief economist at the U.S. Department of Agriculture, recently testified that rising prices for corn and soybeans have had little or no effect on the high price for wheat, rice, and other food commodities.

Dr. Glauber cited the worldwide economic growth--that would be China and India, as examples of a couple countries--global weather problems--that would be the drought in Australia--rising marketing costs, and a weak U.S. dollar as having a greater role than biofuels in the cost of food being higher and even being scarce.

A U.N. official has recently referred to biofuels as ``a crime against humanity." Mr. Ziegler, from the country of Switzerland, might benefit from a review of European policies that ban or restrict the growth and import of genetically modified crops.

Let me explain that genetically modified crops have had a great deal to do with the increased production of corn per acre, from 91 bushels per acre in 1979, to 107 bushels per acre in 2000, to 150 to 160 bushels per acre in 2007.

While U.S. farmers are taking great strides, through the use of genetically modified grains, to feed the world, Europe is taking a step backward--the same Europe that Mr. Ziegler lives in, who is saying that biofuels is ``a crime against humanity."

As a result, you have a ripple effect of the policies in Europe because African countries are reluctant to grow genetically modified grains, even though their production gains are great, because European countries might restrict their imports from those African countries.

I might suggest Mr. Ziegler focus more of his efforts on opportunities lost as to growing more grains in Europe and focus on GMOs and their use in Europe than our biofuels policy.

U.S. farmers responded to these increased demands for grain and produced a record corn crop in 2007. Now, we grew more acres of corn in 2007 than any year since 1944. We produced 2.6 billion more bushels of corn in 2007 than 2006. Now, out of that 2.7 billion bushels, ethanol only used 600 million of them. So for all the people complaining about not having enough corn, are they going to use 2.1 billion bushels more that we raised in the greatest acreage since 1944 that was not used for ethanol? Are they going to take that into consideration or are they going to still complain that there is not enough corn around?

Exports have grown as well. Our U.S. Department of Agriculture estimates that this year's corn exports will be a record 2.5 billion bushels--up 18 percent over last year. We are getting that surplus production in the United States around the world, where it is needed. One of the places it is needed is in China. They do not export corn anymore. In the 1980s, the Chinese were eating 44 pounds of meat a year; this year--while I guess the figures are for a couple years ago--111 pounds of meat. They are going from rice to value-added food products. They have to have some of our corn to do that, and we are glad to sell it to them.

With these facts, it is hard for critics to argue that the domestic ethanol industry is diverting corn from feed or food markets. Yet that is what this smear campaign is saying.

It is also important to keep in mind that a tiny fraction of the cost of retail food is the result of farm inputs. Would you think farmers are getting rich because the price of food is going up?

First of all, let's look at all the income from farmers. They only get back 19 cents. Out of \$1 that you, as a consumer, spend for food, the farmer gets 19 cents. Look at a \$5 box of corn flakes. For an interview here, I bought a \$5 box of corn flakes. I think I had to pay a little bit more because I bought it on the Hill. But the family farmer's share of that \$5 box of corn flakes--and it happened to be a little bigger box than normal--was about less than 10 cents. I think the real figure is about 8 cents. That is what the farmer gets out of a box of corn flakes.

Yet the farmer is being blamed for the high price of food because we grow some corn to make ethanol because the American people, 30 years ago, were demanding that we go to a renewable, clean-burning fuel instead of depending upon dirty-burning petroleum, putting more CO₂ into the air. The value of corn in a pound of beef or pork is about 20 or 30 cents. Yet some have suggested we should suspend our policies that promote the use of renewable fuels to help drive down food prices.

If all the evidence suggests that biofuels have little, if any, impact on the rising cost of food, what good can come from lifting our biofuels policies? If people look at the facts, how can a public relations firm of former Clinton employees get a \$300,000 contract from a very respectable organization such as the Grocery Manufacturers of America, whose Members need

an excuse to raise the price of food? How do they get away with it? Well, they get away with it because nobody is looking at the facts.

I was pleased to join 15 of my colleagues in signing a letter to the Environmental Protection Agency, expressing our opposition to this misguided idea. We had about that same number of Senators in this body--some of them even voting for ethanol in the past years--sending a letter down to the same EPA, saying we have to stop ethanol, probably some of the very same people who are complaining about the dirty air we have or the global warming.

Madam President, I ask unanimous consent to have printed in the *Record* a copy of that letter.

An investment researcher with UBS recently said that lifting the biofuels mandate will not ease corn or food prices because energy costs and commodity speculation--speculation--are greater factors. Lifting the renewable fuels mandate will not drive down the cost of corn or the price of groceries. But it will increase our demand for crude oil--dirty-burning crude oil. Big oil wins.

A Merrill Lynch analyst recently estimated that oil and gas prices would be up 15 percent higher without biofuels. I have already spoken to the Iowa State University study: 30 or 40 cents higher for gasoline without having the ethanol industry.

Another economist estimated an even higher price, that gas would go up \$1.40 if we removed 50 percent of the ethanol scheduled to be used this year--as these letters from my colleagues suggest that we do away with half the mandate.

It is clear, then, reducing the amount of ethanol in our Nation's fuel mix will have little, if any, impact on food prices and will actually increase prices at the pump for all Americans.

So to the critics, let me say loudly and clearly: Ethanol is not the cause of all that ails you. While it is easy to blame, it is intellectually dishonest to make these claims. It is time for critics to take an independent look at the facts. They have a responsibility to brush aside this sort of "herd mentality" that is being encouraged by the Grocery Manufacturers Association. It eventually gets taken over by the pundits and talking heads on TV who claim that everything about ethanol is bad. And it is getting louder. It is not only bad, but it is bad, bad, bad.

I wish to tell you what is good, good, good about ethanol because the truth is, ethanol is reducing our dependence upon foreign oil. Ethanol has a significant net energy balance. The same cannot be said for gasoline. Ethanol is reducing our greenhouse gas emissions. Ethanol is not the culprit behind rising food and feed prices here at home or abroad. Ethanol is lowering the price of crude oil and lowering the price of gasoline. Ethanol is increasing our national security, helping our balance of trade, reducing our dependence upon Middle East oil and the whims of big oil.

It is time we clear the air, look at the facts, and recognize, once again, that everything about our domestic renewable fuels is good, good, good--good for agriculture; good for the

refinery business, providing jobs in rural America; good for the environment; good for national defense; good for the balance of payments--good, good, good.

Madam President, I ask unanimous consent that "Ethanol Myths and Facts" from the U.S. Department of Energy be printed in the *Record*.

There being no objection, the material was ordered to be printed in the **RECORD**, as follows:

Ethanol Myths and Facts

Myth: Ethanol cannot be produced from corn in large enough quantities to make a real difference without disrupting food and feed supplies.

Fact: Corn is only one source of ethanol. As we develop new, cost-effective methods for producing biofuels, a significant amount of ethanol will be made from more abundant cellulosic biomass sources.

Future ethanol will be produced increasingly from cellulose found in crop residues (e.g., stalks, hulls), forestry residues (e.g., from forest thinning), energy crops (e.g., switchgrass, sorghum), and sorted municipal wastes. Some promising energy crops grow on marginal soils not suited for traditional agriculture.

A high-protein animal feed, known as Distillers Dried Grains with Solubles (DDGS), is produced in the process of making corn ethanol.

The Energy Independence and Security Act of 2007 (EISA) requires that U.S. transportation fuels contain at least 36 billion gallons of renewable fuels by 2022. Of that quantity, 16 billion gallons must be cellulosic biofuels, while ethanol from corn is capped at 15 billion gallons.

The U.S. Departments of Energy and Agriculture's Billion Ton Study found that we can grow adequate biomass feedstocks to displace about 30% of current gasoline use by 2030 on a sustainable basis--with only modest changes in land use. It determined that 1.3 billion tons of U.S. biomass feedstock is potentially available for the production of biofuels--more than enough biomass to meet the new renewable fuel standard mandated by EISA.

Myth: In terms of emissions, ethanol pollutes the same as gasoline or more.

Fact: Ethanol results in fewer greenhouse gas (GHG) emissions than gasoline and is fully biodegradable, unlike some fuel additives.

Today, on a life cycle basis, corn ethanol produces about 20% fewer GHG emissions than gasoline. With improved efficiency and use of renewable energy, this reduction could reach 52%.

In the future, ethanol produced from cellulose has the potential to cut life-cycle GHG emissions by up to 86% relative to gasoline.

Ethanol-blended fuels currently in the market--whether E10 or E85--meet stringent tailpipe emission standards.

Ethanol readily biodegrades without harm to the environment and is a safe, high-performance replacement for fuel additives such as MTBE.

Myth: More energy goes into producing ethanol than it delivers as a fuel.

Fact: In terms of fossil energy, each gallon of ethanol produced from corn today delivers one third or more energy than is used to produce it.

Ethanol has a positive energy balance that is, the energy content of ethanol is greater than the fossil energy used to produce it--and this balance is constantly improving with new technologies.

Over the last 20 years, the amount of energy needed to produce ethanol from corn has significantly decreased because of improved farming techniques, more efficient use of fertilizers and pesticides, higher-yielding crops, and more energy-efficient conversion technology.

Most studies that claim a negative energy balance for ethanol fail to take into account the energy contained in the co-products.

Myth: Rainforests will be destroyed to create the new croplands required to meet food, feed, and biofuels needs, thus accelerating climate change and destroying valuable ecosystems.

Fact: Biofuels have the potential to significantly reduce global GHG emissions associated with transportation, but--as with all types of development--controls are needed to protect ecologically important lands.

In Brazil and elsewhere, laws have already slowed deforestation, and for the past decade China has converted marginal croplands to grasslands and forests to control erosion.

Links between U.S. ethanol production and land use changes elsewhere are uncertain. We cannot simply assume that increases in U.S. ethanol production will lead to increased crop production abroad. In fact, since 2002, during the greatest period of ethanol growth, U.S. corn exports increased by 60% and exports of Distillers Dried Grains (DDGs) also increased steadily. In part, improvements in U.S. corn yield (about 1.6% annually since 1980) have enabled simultaneous growth in corn and ethanol production.

Greenhouse gas emissions will decrease dramatically as biofuels of the future are increasingly made from cellulosic feedstocks and as the associated farming, harvesting, transport, and production processes increasingly use clean, renewable energy sources.

Myth: Ethanol -gasoline blends can lower, fuel economy and may harm your engine.

Fact: Most ethanol blends in use today have little impact on fuel economy or vehicle performance.

While ethanol delivers less energy than gasoline on a gallon-for-gallon basis, today's vehicles are designed to run on gasoline blended with small amounts of ethanol (10% or less) with no perceptible effect on fuel economy.

Flex-fuel vehicles designed to run on higher ethanol blends (E85 or 85% ethanol) do experience reduced miles per gallon, but show a significant gain in horsepower.

As a high-octane fuel additive and substitute for MTBE, ethanol enhances engine performance and adds oxygen to meet requirements for reformulated gasoline.