S. HRG. 109–1001

S. 1772, THE GAS PETROLEUM REFINER IMPROVEMENT AND COMMUNITY EMPOWERMENT ACT OF 2005

HEARING

BEFORE THE

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS UNITED STATES SENATE

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

OCTOBER 18, 2005

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COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

ONE HUNDRED NINTH CONGRESS

FIRST SESSION

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S. 1772, THE GAS PETROLEUM REFINER IMPROVEMENT AND COMMUNITY EMPOWERMENT ACT OF 2005

TUESDAY, OCTOBER 18, 2005

U.S. SENATE,
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS,
Washington, DC.

The committee met, pursuant to notice, at 2:35 p.m. in room 406, Senate Dirksen Building, Hon. James Inhofe (chairman of the committee) presiding.

Present: Senators Inhofe, Warner, Voinovich, Chafee, Murkowski, Thune, Jeffords, Boxer, Carper, and Obama.

OPENING STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

Senator INHOFE. As usual, we are starting on time.

We have asked the first panel to go ahead and be seated.

The purpose of today's hearing is to consider S. 1772, "The Gas Petroleum Refiner Improvement and Community Empowerment" or the "Gas PRICE Act."

The Gas PRICE Act is not some knee-jerk reaction to recent hurricanes. Rather, S. 1772 builds on the committee's consideration of issues facing the refinery sector since our hearing in May 2004. The fact that the hurricanes shut down one-third of the U.S. refining capacity did, however, highlight what many objective, non-partisan experts have concluded some time ago and that is, the United States lacks sufficient refining capacity to make clean transportation fuels and meet the public demand and tight capacity translates to significantly higher prices at the pump.

The issue is not solely a U.S. challenge but insufficient refinery capacity is a global problem. Even the Federal Reserve Chairman, Alan Greenspan, stated as much May 20 of this year. The chart we have up here is from ICF Consulting depicting the global refining trends. The relatively stable blue and red lines depict how the global demand and global refining capacity are nearly equal. The sharp downward curve shows global surplus capacity.

The erosion of the domestic refining industry is an erosion of national security as well as economic security. Failing to promote increased domestic refining capacity means that the United States is relying on other countries for its gasoline and home heating oil. Today, 25 percent of the East Coast supply is imported. With the Chairman of the Senate Armed Services Committee sitting to my right, we have had many discussions about the National Security

ramifications of our dependence upon foreign countries for our ability to fight a war.

What are we going to do about it? Congress cannot make new refineries spring up overnight. States have the primary role in permitting the facilities and we shouldn't mandate the use of certain fuels where residents don't want them.

The Gas PRICE Act responds to the facts. It supports and assists States in meeting their own objectives that will benefit us all. I am extremely troubled that a critic chose to make sensational baseless assertions rather than read the text in the legislation before this committee. The Gas PRICE Act first directs the Economic Development Administration within the jurisdiction of this committee to provide additional resources to communities.

It is very important that we understand these are resources to communities, not to some industry. Communities are faced with BRAC-related job loss to consider, noting refineries. We encourage them and we have gone through a very onerous BRAC process, our fifth such process and there are a lot of jobs lost in areas where there are ideal sites to build refineries. Refineries are not just a good source of local high paying jobs, but are in the Nation's best interest.

Second, States have a significant role in permitting existing or new refineries, yet they face particular technical and financial constraints when faced with these extremely complex facilities. Therefore, the bill establishes a Governor Opt-In Program that requires the Administrator to coordinate and concurrently review all permits with the relevant State agencies. This voluntary program does not waive or modify any environmental law but assists the States and consumers by providing greater certainty in the permitting process.

Third, natural gas prices this winter are projected to go up 75 percent. The Gas PRICE Act increases efficiency by providing grants to identify and use methane emission reduction through EPA's Natural Gas STAR Program. It requires the EPA to conduct methane emission reduction workshops for State officials.

Fourth, recent hurricanes forced EPA to invoke new authority under the EPACT 2005 to ensure that consumers get the fuel they need. S. 1772 simply clarifies that States acting pursuant to a Federal emergency waiver will be held harmless. Additionally, bipartisan Senators have sought to reduce the number of boutique fuels to promote greater supply stability. Yet, boutique fuels address environmental needs to each program. Therefore, I propose a cautious approach that will reduce fuel blends pursuant to the environmental and consumer preferences in each State.

Fifth, policymakers, businesses and the public have struggled to balance the increased demand for transportation fuels with improved environmental quality while keeping prices low at the pump. Most solutions have focused on technologies that may not be realized for decades or other measures that would hurt U.S. manufacturers.

As Montana's Governor Schweitzer wrote in the New York Times op-ed entitled, "The Other Black Gold," Syn-fuels are a part of the answer. These fuels use petroleum coke, a refining waste or by-

product or domestic coal to produce ultra-clean, virtually sulfur-free diesel or jet fuel. They are price competitive at $35 a barrel.

The Gas PRICE Act requires the EPA to establish a demonstration project evaluating the use of these fuels as an emission control strategy and authorizes the EPA to issue up to two loan guarantees designed to promote private sector response. Promoting domestic ways to reduce oil dependence is an important goal that 85 Senators including nearly every member of this committee, voted for in passing the historic Renewable Fuels Standard in the recent Energy bill.

The choice is clear. Increased refining capacity and developing new domestic resources to meet U.S. needs or to maintain the status quo which as ICF Consulting concluded in its 2005 report means a world of higher prices, supply shortages and slower global economic growth. The Gas PRICE Act is a very reasonable step toward breaking the status quo by empowering participating States and local communities increasing efficiency of natural gas and establishing new programs to develop ultra-clean domestic fuels to benefit U.S. motorists and businesses.

I look forward to hearing from our witnesses today. I think a lot of work has gone into this, a lot of bipartisan effort. We are going to have to do something to correct the problem of refining deficiencies we have in this Nation.

[The prepared statement of Senator Inhofe follows:]

STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM THE STATE OF OKLAHOMA

The purpose of today's hearing is to consider S. 1772, the Gas Petroleum Refiner Improvement and Community Empowerment or Gas PRICE Act.

The Gas PRICE Act is not some knee-jerk reaction to the recent hurricanes. Rather, S. 1772 builds on the committee's consideration of issues facing the refining sector since its hearing in May 2004. The fact that the hurricanes shut down one-third of U.S. refining capacity did however, highlight what many objective, non-partisan experts have concluded some time ago the United States lacks sufficient refining capacity to make the clean transportation fuels the public demands, and tight capacity translates to significantly higher prices at the pump.

The issue is not solely a U.S. challenge; rather insufficient refining capacity is a global problem. Even Federal Reserve Chairman, Alan Greenspan stated as much in a May 20, 2005 speech.

This chart from the energy experts at ICF Consulting depicts global refinery trends. The relatively stable blue and pink lines depict how global demand and global refining capacity are nearly equal. The sharp downward curve shows globally surplus capacity.

The erosion of domestic refining capacity is an erosion of national and economic security. Failing to promote increased domestic refining capacity means that the United States is relying on other countries for its gasoline and home heating oil. Today, 25 percent of the East Coast's supply is imported.

So what are we going to do about it? Congress cannot make new refineries spring up over night, States have a primary role in permitting the facilities, and we shouldn't mandate the use of certain fuels where residents don't want them.

The Gas PRICE Act responds to the facts; it supports and assists States in meeting their own objectives that will benefit us all. I am extremely troubled that a critic chose to make sensational, baseless assertions rather than read the text of the legislation before this Committee. As Sir Winston Churchill said, "Truth is incontrovertible, ignorance can deride it, panic may resent it, malice may destroy it, but there it is."

The Gas PRICE Act first directs the Economic Development Administration to provide additional resources to communities (not to industry as some claim) facing BRAC-related job loss to consider building refineries on those sites. Refineries are not just a good source of local high paying jobs, but are in the Nation's interest.

Second, States have a significant role in permitting existing or new refineries yet they face particular technical and financial constraints when faced with these extremely complex facilities. Therefore, the bill establishes a Governor opt-in program that requires the Administrator to coordinate and concurrently review all permits with the relevant State agencies. This voluntary program does not waive or modify any environmental law, but assists States and consumers by providing greater certainty in the permitting process.

Third, natural gas prices this winter are projected to increase 75 percent. The Gas PRICE Act increases efficiency by providing grants to identify and use methane emission reduction through EPA's Natural Gas Star Program; and it requires the EPA to conduct methane emission reduction workshops for State officials.

Fourth, the recent hurricanes forced EPA to invoke new authority under EPACT 2005 to ensure that consumers get the fuel they desperately need. S. 1772 simply clarifies that States acting pursuant to a Federal emergency waiver will be held harmless. Additionally, bi-partisan Senators have sought to reduce the number of boutique fuels to promote greater supply stability. Yet, boutique fuels address environmental needs of each region. Therefore, I have proposed a cautious approach that will reduce fuel blends pursuant to the environmental and consumer preferences in each State.

Fifth, policymakers, businesses, and the public have struggled to balance increased demand for transportation fuels with improved environmental quality while keeping prices low at the pump. Most "solutions" have focused on technologies that may not be realized for decades or other measures that would hurt U.S. manufacturers.

As Montana's Governor Schweitzer wrote in a New York Times op-ed titled, "The Other Black Gold," syn-fuels are a part of the answer. These fuels use petroleum coke, a refining waste or byproduct, or domestic coal to produce ultra-clean, virtually sulfur free diesel or jet fuel, and are price competitive at $35/ barrel of oil.

The Gas PRICE Act requires EPA to establish a demonstration project evaluating the use of these fuels as an emission control strategy, and authorizes EPA to issue up to two loan guarantees designed to promote private sector response. Promoting domestic ways to reduce U.S. oil dependence is an important goal; a goal that 85 Senators, including nearly every member of this committee voted for in passing the historic Renewable Fuels Standard in the recent Energy bill.

The choice is clear: increase refining capacity and develop new domestic sources to meet U.S. needs or maintain the status quo, which as ICF Consulting concluded in its summer 2005 report means "a world of higher prices, supply shortages, and slower global economic growth."

The Gas PRICE Act is a very reasonable step toward breaking the status quo by empowering participating States and local communities, increasing efficiency of natural gas, and establishing new programs to develop ultra-clean domestic fuels to benefit U.S. motorists and businesses. I look forward to hearing from our witnesses.

Senator INHOFE. I would advise the committee that when we have a quorum of 10, we will have to recess this hearing and have a very brief, not more than probably a 2- or 3-minute business session but we must have a quorum to do that.

Senator Jeffords.

OPENING STATEMENT OF HON. JAMES M. JEFFORDS, U.S. SENATOR FROM THE STATE OF VERMONT

Senator JEFFORDS. Mr. Chairman, thank you for holding this hearing. Thanks to all the witnesses for providing testimony to the committee.

I am certain every member of this committee has heard from our constituents about gas prices. The nationwide pump price for gasoline has set a new record this year. Mr. Chairman, when our constituents are hurting financially, we have to make sure that we are correctly responding to high gasoline prices and that we formulate legislation.

I do not believe this bill is the correct response. Instead of punishing the refineries for price gouging at a time our Nation can least afford it, I believe this bill rewards them for bad behavior

with the promise of new subsidies and lax regulation. My constituents in Vermont should not be asked to further boost the record profits of oil companies at the same time they struggle to pay their winter heating bills.

I also have grave concerns about the environmental impacts of this legislation. I have seen no evidence that environmental permitting is the reason for lack of refinery capacity, nor am I convinced that relaxing our environmental laws will do anything to lower gas prices either in the short term or the long term but it is clear that change in our environmental law is likely to lead to increased pollution at the expense of public health. This is unacceptable.

The correct response, I believe, would be to promote sound policies and encourage conservation, boost the supply of clean fuels and protect the environment. This bill repeals or modifies several sections of the new energy law just recently enacted, including sections on refinery revitalization and a new loan guarantee for refineries making gasoline and ultra clean diesel. How are we to know that these provisions have not worked when they are a little more than 2 months old?

We also gave refiners a 50 cents per gallon fuel blenders credit in the new highway law to make the very fuels we would subsidize in this bill. Instead of giving an additional $1.5 billion in loan guarantees, we should be urging the Federal agencies to implement the program that Congress just passed.

I am also concerned that this bill makes additional changes to the Clean Air Act in the name of addressing boutique fuels. These changes go beyond those in our new energy law. This bill exempts States that have received fuel waivers from accounting for any resulting air pollution under the Clean Air Act. It also attempts to reduce the number of boutique fuels without taking into account what we have done in the new energy law as well.

The bill would also make far reaching changes in the delicate Federal-State structure of judicial review set forth in environmental laws. I am concerned these could actually result in additional litigation delay.

It is my hope that we can get to the heart of some of the issues today. If we don't, I am afraid that our constituents will pay higher prices at the pumps and breathe dirtier air. The Washington Post recently reported that the average price of a gallon of regular gas peaked at $3.07. Of that, the Nation's refiners were getting an estimated 99 cents on each gallon sold. That is more than three times the amount refiners earned a year ago. These profits have been made with the environmental regulations in place and when waivers were granted after Hurricanes Katrina and Rita.

I will be listening closely for any documented evidence that witnesses may have to show that environmental regulations are actually contributing to increases in gasoline prices in any significant way.

Thank you, Mr. Chairman, for holding this hearing. I look forward to hearing from the witnesses.

[The prepared statement of Senator Jeffords follows:]

STATEMENT OF HON. JAMES M. JEFFORDS, U.S. SENATOR FROM THE STATE OF VERMONT

Mr. Chairman, thank you for holding this hearing, and thanks to all the witnesses for providing testimony to the Committee.

Since late 2002, gasoline prices have been extremely volatile. Record gasoline prices continue to prompt calls for quick Federal action. I am certain that every member of this Committee has heard from their constituents about gas prices. The nationwide pump price for regular gasoline has set a new record this year. Inflated gasoline prices harm our constituents in several ways: it takes dollars from their pocketbooks; and it raises the prices of the other goods and services needed by families in Vermont and across the county due to increased transportation costs.

Mr. Chairman, when our constituents are hurting financially, we have to make sure that we are correctly responding to high gasoline prices when we formulate legislation. We need to be sure we are promoting sound policies that promote conservation, expand fuel supply and protect the environment. And we need to be sure that we are not asking constituents to make unwise program investments and pay for those programs in the form of higher taxes when their budgets are already strained.

I look forward to hearing the testimony of the witnesses, Mr. Chairman, but I have grave fiscal and environmental concerns about this legislation. I am not yet convinced that the record shows that environmental permitting is the reason for a lack of refinery capacity, not am I convinced that relaxing our environmental laws will do anything to lower gasoline prices, in either the short term or the long term. I am, however, convinced that changing our environmental laws is likely to lead to increased pollution at the expense of public health, a result I cannot support.

I would first ask whether there a need for this legislation and will it solve the problem it seeks to address, which is high gas prices. I would submit that the answer to both these questions is no. As an initial matter, S. 1772 repeals or modifies several sections of the new energy law that were just enacted earlier this year, including sections on refinery revitalization, and loan guarantees for refineries making gasoline and diesel, including Fischer-Tropsch fuels. How are we to know that these provisions have not worked, when they are a little more than 2 months old?

For instance, we gave these same Fisher-Tropsch fuels a 50 cent per gallon fuel blenders credit in the new highway bill. Now we are proposing to give an additional $1.5 billion dollars in loan guarantees to these technologies and additional Economic Development Administration grant funds to cover assessment and infrastructure costs of developing refineries on former military installations. We currently have a clear process for re-use of military bases, and for providing assistance to communities that seek to economically reuse those sites. Instead of reinventing the wheel, we should be urging Federal agencies to implement these laws and provide the assistance and incentives we have just put into the law, rather than rushing to change programs again midstream.

I also am concerned, Mr. Chairman, that this bill makes additional changes to the Clean Air Act in the name of addressing boutique fuels. These changes go beyond those in our new energy law. This bill exempts States that have received fuel waivers from accounting for any resulting air pollution under the Clean Air Act. It also provides a mechanism for further reducing the number of boutique fuels, without taking into account what we have done in the new energy law as well. These new changes could result in reducing the options for States to meet air quality goals, at a time when the number of new fuel blends is decreasing anyway. In June 2005, the Government Accountability Office issued a report examining the country's boutique fuels situation, before the energy bill became law. Of the 11 specialty gasoline blends they examined, four blends were eliminated by the energy bill and the Tier II sulfur cap. We've already eliminated a third of the fuels that were being sold in the summer of 2004, and the Energy bill provisions may result in more reductions. This hardly seems the time for change, Mr. Chairman.

The bill also revises the consensus refinery revitalization provisions in the new energy law and puts new permitting deadlines for participating States in its place: 270 days for new refineries and 90 days for refinery expansion. It would make far reaching and unexamined changes in the delicate Federal-State structure of judicial review set forth in our environmental laws, by requiring all permits, whether issued pursuant to Federal or State law, to be reviewed in Federal District Court. In some cases, it would actually create an additional step for judicial review, while in others, it would override provisions of environmental law that require State court review. These sweeping changes could actually provide a predicate for additional litigation and delay with regard to refinery permits and make it harder for States and localities to participate in the permitting process.

It is my hope that we can get to the heart of some of these issues today. If we don't Mr. Chairman, I fear that the harm to our constituents of these high prices may include unjustified repeal or revision of our federal environmental laws on top of the highest gas prices in history. Our nation's environmental laws are not to blame for the current price of gasoline. These are important laws, important for the health of our citizens and our environment. Waiving and altering them wholesale for uncertain benefits is adding insult to injury, especially at a time when the oil industry is making record profits.

These laws and their regulations have dramatically reduced harmful emissions from motor vehicles by removing lead and sulfur, adding catalytic converters, and specifying specific performance requirements for both vehicles and fuels. They also require refining facilities to modernize their pollution control equipment at certain times so they do not worsen local air quality.

While compliance with these laws has imposed some financial costs, it has also achieved real benefits well in excess of the costs to refiners or at the pump. In fact, according to EPA, the public health benefits of the new rule to reduce sulfur in diesel for non-road, heavy-duty engines will be 40 times the cost of implementing the rule. This same pattern exists for many of the fuel and pollution controls that the Nation has adopted so far.

Whatever contribution the costs of environmental compliance and the manufacturing of fuels that meet the requirements of the Clean Air Act have made to the overall price of gasoline, I am very skeptical that these costs are a primary driver behind the recent price fluctuations we have seen. Most experts believe the high price of crude oil and the high refining margins are the principal components of increased gasoline prices. We routinely implement our environmental laws in a deliberate and measured way. In the case of Clean Air Act compliant motor fuels, all of them have been phased-in over long time frames in consultation with industry. We have done this specifically to try to avoid market shocks and price spikes. These are not new requirements, they are not a surprise, and the costs associated with meeting them are known.

Mr. Chairman, it also appears that the financial resources to meet these requirements are available. Major newspapers across the country continue to report record high profits for the oil industry. For example, the Washington Post reported on September 25, 2005 that when the average price of a gallon of regular gasoline peaked at $3.07 recently, it was partly because the Nation's refineries were getting an estimated 99 cents on each gallon sold. That was more than three times the amount they earned a year ago when regular unleaded was selling for $1.87.

These are very high profits, much higher than those in other sectors of our economy. And those profits have been made both with the current environmental regulations in place, and when environmental waivers were granted after Hurricanes Katrina and Rita. During this hearing, I will be listening closely for any documented, real-world evidence that witnesses may have to show that environmental regulations are actually contributing to increases in gasoline prices in any significant way.

But, there is one thing that we do know with certainty; our country's voracious appetite for petroleum is continuing to cause environmental and national security problems. We cannot ignore the health and environmental consequences of our growing oil consumption. We owe it to our children to reduce our appetite now and find new, cleaner and, if possible, renewable fuels to keep our transportation sector strong.

Thank you again, Mr. Chairman for holding this hearing. I look forward to hearing from the witnesses.

Senator INHOFE. Thank you, Senator Jeffords.

Following the early bird rule, I will recognize Senator Warner.

OPENING STATEMENT OF HON. JOHN W. WARNER, U.S. SENATOR FROM THE COMMONWEALTH OF VIRGINIA

Senator WARNER. Thank you, Mr. Chairman.

I strongly endorse the initiatives you have taken. I say to my good friend, we have been here many years and we have seen a lot of things together, but I want to go to your phrase, I wrote it down, price gouging.

Would it not be a simple way to get rid of price gouging to expand the base of production and introduce greater competition?

Those are the basic pillars of economics on which this Nation has been formed. If I understand, we are here today to explore the options of increasing that base so that we can introduce competition and hopefully bring down the prices at the tank.

It is my understanding and I suspect our witnesses and others will speak of this, that we haven't build a refinery in 29 years. Is that about right? If you go back to a baseline of 1981, better than half of the existing refineries since 1981 have been closed for one reason or another, I imagine a number not being able to meet environmental considerations and the restraints of the law. Would that be basically correct? Anyway, we will get a chance to question the witnesses in a moment.

Fine, if you have a better idea, I say to my good friend, I would be interested in seeing your bill on this, but we had better do something to try and increase the base of production because we will certainly be hearing from our constituents.

Several of us here were here in 1979 when the gas lines were very long and I remember, that was the most difficult period of my 27 years in this institution. Our offices were shut down, the phones absolutely blocked, everything, irate people all across the country turned to the Congress because they were sitting in gasoline lines as far as the eye could see to fill up their tank. We do not want to revisit that chapter in American history.

I commend you again, Mr. Chairman, for stepping out.

Senator INHOFE. Thank you, Senator Warner.

Senator Obama.

OPENING STATEMENT OF HON. BARACK OBAMA, U.S. SENATOR FROM THE STATE OF ILLINOIS

Senator OBAMA. Thank you, Mr. Chairman. I will be very brief.

I want to congratulate you on holding this hearing because as Senator Warner just stated, I think the issue of expanding refinery capacity is absolutely critical.

Shortly before Hurricane Katrina hit, the Gulf Coast refineries made up one eighth of our country's total capacity were evacuated and shut down; 95 percent of all production was immediately suspended in a region where we refine over a quarter of America's oil; gas prices already at record highs shot up even further all over the country.

Today, the price of gas is down a bit to an average of $2.69 a gallon which is still 70 percent more than it was last year. Very shortly we are going to see the price of home heating oil and natural gas reaching new heights. So most Americans already know that our Nation's economy relies significantly on imports of foreign crude oil but they have also come to realize that the capability to refine crude oil is just as important.

Some experts argue that tight domestic refinery capacity is due to excessive regulations. I know those are some of the issues you have mentioned, Mr. Chairman. Others say the return on capital investment is a deterrent, others believe that the refining capacity in the United States is just right.

I don't claim to have all the answers to this. In the short term, I do know that we need to expand our refinery capacity but I

strongly believe we can do it without weakening important environmental protections.

Another issue that will be discussed is greater fuel interchangeability and whether narrowing the range of boutique fuels can help accomplish this goal. In Illinois, we have four petroleum refineries, four ethanol refineries and one biodiesel plant with flexible fuel vehicles and conventional diesel vehicles.

Fuel interchangeability is already here. That is why I believe that any debate on our refining capacity should also include a discussion of how we can encourage greater domestic refining of alternative fuels, especially if petroleum production capacity remains constrained.

I welcome the opportunity to hear more from your experts. This is something to which I look forward to working on with you and the committee. I would simply suggest that as we think about how we reverse some of the trends on the chart before us that we make sure we are basing whatever policy decisions we make on the information and that we don't simply take industry's word for it, that we have a well rounded discussion to make a determination as to how best we can get the kind of refinery capacity that we need.

Thank you.

[The prepared statement of Senator Obama follows:]

STATEMENT OF HON. BARACK OBAMA, U.S. SENATOR FROM THE STATE OF ILLINOIS

I want to thank the Chairman for holding this hearing today.

Shortly before Hurricane Katrina hit, Gulf Coast refineries that made up one-eighth of our country's total capacity were evacuated and shut down. Ninety-five percent of oil production was immediately suspended in a region where we find over a quarter of America's oil. And gas prices that were already at record highs shot up even further all over the country—reaching $6 a gallon in some places. Today, the price of gas has come down a bit—to an average of $2.69 a gallon, which is still 70 cents more than this time last year. And very shortly, we will see the price of home heating oil and natural gas reaching new heights as well.

Most Americans already know that our nation's economy relies significantly on imports of foreign crude oil. What they have also come to realize is that the capability to refine crude oil is just as important.

Some experts argue that tight domestic refining capacity is due to excessive regulations; others say that the return on the capital investment is a deterrent. Still others believe that the refining capacity in the United States is just right.

I don't claim to have all the answers, but in the short-term, I do know that we need to increase our country's refining capacity. And I believe we can do this without weakening important environmental protections.

Another issue that we will be discussing today is greater fuel interchangeability and whether narrowing the range of boutique fuels can help accomplish this goal. In Illinois, we have four petroleum refineries, four ethanol refineries, and one biodiesel plant. With flexible fuel vehicles and conventional diesel vehicles, fuel interchangeability is already here. That's why I believe that any debate on our refining capacity should also include a discussion of how we can encourage greater domestic refining of alternative fuels, especially if petroleum production capacity remains constrained.

But even as we take steps towards increasing refining capacity, we need to remember that these are only short-term measures that will not fundamentally reduce our dependence on foreign oil. It is my hope that this Committee will concentrate its energies on more long-term solutions to our energy problems.

Thank you.

Senator INHOFE. Thank you, Senator Obama. That is the very reason we are having this hearing.

Senator Murkowski.

OPENING STATEMENT OF HON. LISA MURKOWSKI, U.S. SENATOR FROM THE STATE OF ALASKA

Senator MURKOWSKI. Thank you.

Today is really an all out energy day for me. I think I am the only one in this committee that also serves on the Energy Committee. This morning we had a hearing on the winter fuels outlook and the effect of the high prices this coming winter. This afternoon at 3 p.m., we have another Energy Committee hearing to consider our national capacity for producing innovation in energy technology.

So what you are doing with your legislation fits right in the middle of all this discussion. How do we make a difference in this country in enhancing our capacity and ultimately in furthering our supply to meet that demand.

You mentioned, Senator Warner, the lines back in the 1970s. I was not back here at this point in time. We didn't have those lines in the State of Alaska, fortunately, but I will tell you, a couple of weeks ago to be driving through certain parts of your State here in Virginia and to go to gas stations and have a little sign pasted on the pump saying "We are out of gas" gets peoples' attention as it certainly should and I think highlights the need for not only having these hearings and discussing it but actively moving.

I have to tell you the real focus has been on the refinery issue but I want to point out title 5 of this bill which you have entitled "Future Fuels." There are two provisions to require EPA to establish a demonstration project to use the Fischer-Tropsch for diesel and jet fuel as an emissions control strategy and then requiring the EPA to issue the loan guarantees to demonstrate the commercial scale fuels using the Fischer-Tropsch production facility.

We need to recognize that in this country we have an incredible supply of coal. We have been described as the Saudi Arabia of coal, so it only makes sense for us to try to find a way to turn that fuel into the clean fuels that will also permit carbon dioxide that is generated to be sequestered, keep it from the environment. The Fischer-Tropsch process allows us to do that. Again, it is how do we move forward with the technology so that we can bring down the cost so that ultimately the cost to us all as consumers is ameliorated.

I am pleased that we are moving forward with this particular legislation and let us get the ideas out there and get the ideas moving. Thank you for the time this afternoon. I apologize in advance that I won't be here for all of it, but we want to hear what our witnesses have to say.

Thank you.

Senator INHOFE. Thank you, Senator Murkowski.

Senator Chafee.

OPENING STATEMENT OF HON. LINCOLN CHAFEE, U.S. SENATOR FROM THE STATE OF RHODE ISLAND

Senator CHAFEE. Thank you, Mr. Chairman.

Much has been said about the energy crisis of the late 1970s and Mr. Mannix is going to testify that he was at the Energy Department back then so intimately involved in the long lines and odd-even rationing and the like. Then the cost of oil fell below $10 a

barrel and we kind of fell off the wagon, started driving high consumption vehicles. No more Vegas and Pintos and the Gremlins that were the rage back in the 1970s.

I think it is incumbent upon government to make the decisions to foresee the inevitable swing back to high price of oil and we have failed to do that. I think it is a balance between production and consumption. Over and over again we have tried to address CAFE standards and the SUV loophole, an SUV loophole left over from American Motors and trying to help them with their Wagoneer which is the only vehicle they were selling. We forged that loophole and never addressed it since.

Thus our consumption is very high and now we have to look at production. I think if we are not going to look at the two of them, that is a mistake in direction. We should look at the two of them.

I look forward to the hearing.

Senator INHOFE. Thank you, Senator Chafee.

Senator Thune.

OPENING STATEMENT OF HON. JOHN THUNE, U.S. SENATOR FROM THE STATE OF SOUTH DAKOTA

Senator THUNE. Thank you. I too want to congratulate you on holding this hearing and the action you are taking to address this very important issue.

Coming from a cold weather climate, we are very concerned in my State about the economic impact of high energy prices. Of course that applies to natural gas and a number of other fuels that we use for heating. More specifically, your legislation deals with another issue which I think is long overdue in terms of being addressed and that is additional capacity, refinery capacity.

It seems to me at least that some of these steps should have been taken about a decade ago but it is never too late to do the right thing. I think we have an opportunity now to take some of these steps to eliminate some of the redundancy and duplication that exists with State regulations all in accordance with environmental law.

In my view, we do have a crisis which needs to be addressed not only by renewable fuels, which is something of which I am very supportable and alternative sources of energy but also additional supplies here in this country, not only refinery capacity but also the fuels themselves. That is why I think it is important that we be looking at Alaska and other places we have resources that are abundant and can be used to help address the energy crisis in this country.

I look forward to working with you on this legislation as it moves forward. Again, I appreciate your good work in taking the necessary steps to make sure that Congress is moving forward to address what is going to be a very, very important economic issue to the American people, both in the short term and in the long term.

Senator INHOFE. Thank you, Senator Thune.

Senator Voinovich.

OPENING STATEMENT OF HON. GEORGE V. VOINOVICH, U.S. SENATOR FROM THE STATE OF OHIO

Senator VOINOVICH. Thank you for holding this hearing today and I appreciate your leadership in addressing our Nation's limited refining capacity.

I would also like to welcome Jonathan Adler, associate director of the Center for Business Law and Regulation at Case Western Reserve University in my State of Ohio.

Unfortunately, over the past several weeks we have been painfully reminded that our Nation is far from being energy independent. As I have said before, we need a second Declaration of Independence, a Declaration of Independence to become more self sufficient in terms of our energy involving oil and gas.

Our economy today is being held hostage by too much reliance on foreign sources of energy. Today we import 60 percent of our oil. Senator Warner, you mentioned it was 1979, but it was 1973 when we had the big lines.

Senator WARNER. Senator, I was here in 1970. I will escort you on some of the pictures.

Senator VOINOVICH. We must have had another one in 1979.

Senator WARNER. We really had a whopper in 1979.

Senator VOINOVICH. In 1973 it was pretty bad.

Senator WARNER. I wasn't here in 1973.

Senator VOINOVICH. You weren't here?

Senator WARNER. No.

Senator VOINOVICH. Maybe there was another one in 1979. All I know is back in 1973 we were about 70 percent reliant on foreign oil and today it is over 60 percent.

Americans are concerned about prices at the pump. The Energy Information Agency said the average price of gas in Ohio on September 5 was $3.02 a gallon. This is an increase of 42 cents a gallon after the Katrina disaster, an increase of $1.23 from 1 year ago.

While gas prices have skyrocketed, recently this problem is the result of years of inaction. As my colleagues know, I have been fighting for years for a comprehensive energy plan to address this dilemma. This legislation today folks is just one piece of it. We have to look at the whole deal. We had the energy bill that passed and thank God it got passed, but it should have passed back in 2003 when we first started to debate it on the floor and now the chickens have come home to roost and we are paying for it with high gas prices, high natural gas.

If we don't harmonize our energy, if we don't harmonize our economy and environment, we are in bad, bad shape in this country. I would like to thank the chairman and the co-sponsors of the legislation for at least doing something about refineries. Everybody understands we haven't built a refinery in how many years?

Senator WARNER. Twenty-nine.

Senator VOINOVICH. Twenty-nine years. Part of it is NIMBY, not in my back yard. Part of it is environmental rules and regulations that have made it almost impossible for people to go forward and build a new refinery. We have to get real.

I want to clarify today in case some people haven't got it that this legislation should not be confused with Congressman Barton's

bill in the House. This is not the same piece of legislation. It is different.

I am pleased with this legislation. First, it addresses not only building of new refineries but the expansion of existing refineries. We have four of them in the State of Ohio. It is done without eroding the State and local rights on environmental laws and it would establish a demonstration project for converting coal, our most abundant domestic energy resource to near zero sulfur content, diesel and jet fuel. It is a good piece of legislation.

I don't think anybody here is holding out that it is going to bring down the price of gasoline overnight. It is going to help get the situation taken care of in the next couple of years. We had better understand part of our problem is China has increased their use of gasoline by 30 percent. The demand is way up around the world.

We have to do this and a bunch of other things including Senator Jeffords' conservation and alternative fuels and the rest of it. It has to be a comprehensive plan. This is just a piece of it. Hopefully we can get this thing done and move on and we will get to some of the other things we need to do.

Thank you.

[The prepared statement of Senator Voinovich follows:]

STATEMENT OF HON. GEORGE V. VOINOVICH, U.S. SENATOR FROM THE STATE OF OHIO

Mr. Chairman, thank you for holding this hearing today. I appreciate your leadership as we address our nation's limited refining capacity. I would also like to welcome Jonathan Adler, Associate Director of the Center for Business Law & Regulation at Case Western Reserve University in my State of Ohio.

Unfortunately, over the past several weeks, we have been painfully reminded that our Nation is far from being energy independent. As I have said before, we need a second Declaration of Independence, so this country will become substantially more energy independent, and our economy and national security will no longer be held hostage. Currently, for instance, we import close to 60 percent of our oil.

Specifically, Ohioans and all Americans are very concerned about high prices at the pump. According to the Energy Information Administration, the average price of gas in Ohio on September 5 was $3.02 per gallon of regular gasoline. This was an increase of $0.42 after the Katrina disaster and an increase of $1.23 from one year ago.

While gas prices have skyrocketed recently, this problem is a result of years of inaction. As my colleagues know, I have been fighting for years for a comprehensive energy plan to address this dilemma.

The good news is that we finally passed an Energy bill this summer. The bad news is that it took us a long time to get done—and our families and businesses across the Nation are now literally paying for it. While we made progress with the recent Energy bill, there are a number of issues that must be further addressed. In particular, the Gas PRICE Act focuses on our limited refining capacity. As many of you know, no new refineries have been built in the United States since 1976, and today, our refineries are already operating at near peak. For example, even with surplus crude oil, we would lack the refining capacity to make enough transportation fuels to meet demand.

As Chairman Inhofe helped bring to light in a May 2004 hearing, historic economic factors mixed with regulatory uncertainty have impeded new refinery construction.

One major problem is NIMBY—Not In My Back Yard. I remember the case of the Marathon Ashland pipeline that now provides a direct connection from one of the Nation's largest refineries to central Ohio. After the project was announced in 1998, there was intense opposition with many environmental lawsuits filed to stop this project.

Notably, in 2004, as this project was being completed, Tom Stewart, executive vice president of the Ohio Oil and Gas Association in Granville, which represents 1,250 independent oil and gas producers, stated that "This is just one example of how

hard it is to upgrade that infrastructure. We were perplexed why people would fight that and then complain about the price of gasoline or fuel."

This remains the reality that we must fix, and this legislation brings people to the table early and makes the construction or expansion of refineries a community-driven process. I also want to clarify that this legislation should be distinguished from Congressman Barton's bill in the House. This is NOT the same piece of legislation.

I am pleased with this legislation for a number of reasons. First, this bill addresses not only the building of new refineries but the expansion of existing refineries, such as the four in Ohio. Moreover, this is all done without eroding State and local rights or environmental laws.

As well, the Gas PRICE Act would require EPA to establish a demonstration project for converting coal—our most abundant domestic energy resource into near zero sulfur content diesel and jet fuel. I am very supportive of this particular provision because it moves us toward energy independence and could create jobs in Ohio. Finally, in regard to this issue, I would like to submit a statement for the record from the National Mining Association.

Again, Mr. Chairman, thank you for holding this hearing and putting together a balanced piece of legislation. I am pleased to be a cosponsor and hope that we can join together to address this important problem.

Senator INHOFE. Thank you, Senator Voinovich.

Senator Boxer and others who came in a little later, as soon as we get our tenth person, we will recess and go into our business meeting.

Senator Boxer.

OPENING STATEMENT OF HON. BARBARA BOXER, U.S. SENATOR FROM THE STATE OF CALIFORNIA

Senator BOXER. Thank you very much, Mr. Chairman.

I certainly agree we need to do something about extremely high gas prices. What is going on now across the country, gas at over $3 a gallon in many places, isn't new for those of us from California. We have been fighting these outrageous prices for years now.

S. 1772, in my opinion, and I could be in a minority, I feel it is not the answer. First, the oil industry does not need government help. Let us face it, there are a lot of people out there that need government help. We saw their faces when we saw what happened after Katrina. We see the wounded veterans come back from Iraq. Yes, they need government help. The oil industry does not need government help.

Let us look at some of the profits of the oil companies. Compared to the same period as last year, second quarter, 2005 profits, BP up 31 percent, Conoco Phillips up 56 percent, Exxon-Mobil up 32 percent, Royal Dutch Shell up 118 percent. Right after Katrina, Exxon announced profits of $110 million per day, 60 percent higher than last year.

According to the Denver Post, the gross profit margins of refineries more than tripled between September 2004 and 2005. That is the profits of refineries. By the way, this is a change. In the old days refineries didn't make money; today refineries make money. Their profits currently equal $23 a barrel. Here we are talking about money to the refineries, to the oil companies to build refineries.

Second and interestingly, oil companies are the reasons there aren't more refineries. They don't want to increase supply. Let me tell you a story from California. Shell wanted to close the Bakersfield refinery in 2004. First, they said it wasn't profitable. Then

when the Attorney General asked them for their information, they said, "Oh, well, yeah, it is in fact profitable." When further pushed, they admitted it was the most profitable of their refineries.

Let me tell you, Senators, why Shell finally agreed to sell off the refinery rather than just shut it down. We went public, all of us from California, elected officials across the board, and we said, if you shut down this refinery, California will get a 2 percent shortfall, it is going to really impact us on our gasoline. We pressed and pressed and essentially forced them to sell the refinery. They got a good price for it and it is profitable.

During periods of high gasoline prices in California, refineries have actually shut down under the guise of "routine maintenance." We saw Enron do this and then we saw this. This decreases the supply and keeps prices up. So let us not reward oil companies for this type of behavior.

We can blame environmentalists and environmental groups all we want but we had better not blame the people of this country who vote for us who expect to have clean air, who want to have their children be healthy. In 2003, refineries emitted over 67 million pounds of toxic chemicals. I will get specific, 3.6 million pounds of known cancer causing substances, 2.4 million pounds of toxins that damage the reproductive system, 6.9 million pounds of toxins that harm the development of children.

In California, communities that border refineries and chemical plants have high concentrations of childhood asthma. We should be working to make the air cleaner, not allowing oil companies who are making record profits to make it worse. We already see the pullback on new source review. Is it too much to ask a company that is making billions and billions of dollars to clean up their act when they want to expand their capacity?

Mr. Chairman, I know that we are good friends but we are so different on this point. I think it is a fallacy that there is an either/or option here, either we have refineries or we have strong environmental laws. I believe that two published studies by a professor at U.C. San Diego concluded that strong regulations and procedures governing refineries increased productivity at refineries and may actually increase job growth.

Mr. Chairman, we do have a problem with high gas prices. We should close the SUV loophole, we should set CAFE standards at 35 miles per gallon by 2013, we should promote more hybrids. I drive a hybrid, I know Senator Chafee has a couple of them. They work. Our latest hybrid is getting 52 miles per gallon and yes, gentlemen, because you always ask me, it has good pick-up. My male friends always say, does it have good pick-up. Yes, it has great pick-up.

We should make sure we have better tires on our cars since that adds to fuel efficiency. We should require the FTC to investigate the gas market for manipulation. There are a few of us working to impose a windfall profits tax on oil companies that are taking advantage of consumers and rebate the tax collected back to the American consumer.

The point is there are so many things we could do that don't involve giving government benefits to big oil companies who are mak-

ing record profits and make it easier for them to pollute our air with deadly chemicals.

I thank you, Mr. Chairman.

Senator INHOFE. Thank you, Senator Boxer.

I do have 10 here now, so we are going to recess our hearing for a moment while we take up the request that we have.

[Recess.]

Senator JEFFORDS. Mr. Chairman, I ask consent that I put in a longer version of my statement on this bill into the hearing record. I have to go to the Health Committee but I will try to return for questions.

Senator INHOFE. Yes. Without objection, that will be the order.

Senator JEFFORDS. For the record, I have a hybrid.

Senator VOINOVICH. Mr. Chairman, as part of my statement, I would like to insert in the record a letter from the National Mining Association in regard to the issue of refining coal.

Senator INHOFE. Certainly. Without objection that will be the order.

[The referenced document follows:]

STATEMENT OF THE NATIONAL MINING ASSOCIATION

The National Mining Association (NMA) appreciates the opportunity to provide its views on S. 1772, the "Gas Petroleum Refiner Improvement and Community Empowerment Act." NMA is a national trade association representing the companies that mine most of the coal, metals, industrial and agricultural minerals produced in the United States; manufacturers of mining and mineral processing machinery and supplies; transporters; financial and engineering firms; and other businesses related to mining.

As the committee debates how America should rebuild and reform its energy infrastructure in the wake of natural disasters, persistently high energy prices and shortages of some domestic energy resources, it should not limit discussion to expansion of the number of refineries only. The committee also should look at expanding the kinds of refineries built. Coal liquefaction or coal-to-liquids (CTL) refineries can be located anywhere that coal is produced. This proven technology can produce clean transportation fuel using domestic coal thus expanding our supply of transportation fuels while decreasing dependence on overseas sources of energy.

NMA strongly supports S. 1772, but urges the committee to amend the definition of "refinery" to include refineries that can use coal as a feedstock. This amendment is necessary to ensure that facilities that process and refine coal by any chemical or physical process, including liquefaction, to produce gasoline, diesel or other liquid fuels are afforded the same treatment under the Act as crude oil refineries. Equal treatment with petroleum refineries will encourage the widespread deployment of CTL facilities and promote the economic and national security benefits that modern and existing CTL technology can offer.

According to the Energy Information Agency (EIA), the U.S. now depends on foreign sources of petroleum for 56 percent of its needs. EIA forecasts that share will increase to nearly 70 percent by 2025 if nothing changes. Our dependence on foreign sources extends to both crude oil and refined products, the later due to the lack of new refinery capacity in the U.S. Our existing refining capacity is stretched to its limits and beyond. America's energy security is challenged by both a dependence on foreign supplies and a geographic concentration of refining capacity.

One solution to these, and other, problems related to the Nation's critical need for a reliable and affordable domestic supply of liquid transportation fuels is CTL. CTL fuel technologies are well-established and have been improved by 30 years of U.S. government research and development efforts. These efforts, undertaken directly and through industry partnerships, have produced innovative processes ready for widespread commercialization in the 21st century.

CTL is not a new technology. By 1944, Germany had 25 liquefaction plants that produced up to 124,000 barrels daily and met 90 percent of the Nation's needs. In the 1950s, South Africa developed a commercial liquid fuels industry using synthesis gas to produce transportation fuels such as gasoline and diesel. Since the early 1980s, the technology has been developed further and has produced more than

700 million barrels of synthetic fuels. CTL is not new, but advancements over the years mean that the CTL plant of today is modern, efficient and environmentally sound.

Our Nation, with its abundant and readily available supplies of domestic coal combined with the nation's critical need for reliable and affordable supply of liquid fuel, should be promoting the commercial development of CTL refineries. There are more than 250 billion tons of recoverable U.S. coal reserves, the equivalent of an estimated 800 billion barrels of oil. This is compared to Saudi Arabia's proven reserves of 260 billion barrels. United States coal can be converted into clean, zero sulfur synthetic oil and oil products at a cost of $35 to $40 dollars per barrel compared to current prices that are averaging over $62 per barrel for oil.

China, which is the world's second biggest consumer and importer of oil after the U.S., is planning a $6 billion investment in new liquefaction plants that would produce 440 million barrels of liquid fuel annually. While the stage is set for rapid commercialization and deployment in the U.S., China with its vast coal reserves and rapidly growing economy currently is ahead of the United States in developing the capability to use coal as a transportation fuel.

A number of factors have discouraged the development of CTL plants in the U.S. First, if oil prices stay above $35 to $40 per barrel, a coal refinery makes economic sense. If the price drops below that range (as it has been for most of recent history), there are no assurances that a coal refinery can remain competitive. The historic volatility of oil prices combined with the relatively steady supply of affordable transportation fuel until now has made the risks unacceptable to investors.

Second, coal refineries are expensive to construct with capital costs in the $600 million to $700 million range for a 10,000 barrel per day plant. The technical and financial risks of a "first-of-a kind" plant in the United States have discouraged consideration of this type of investment in the past.

Finally, the lead time for a coal refinery, as with all refineries, is a minimum of five to seven years under optimal circumstances.

But, the many advantages of CTL fuels mean that this committee should take steps to encourage its rapid use. The deployment of CTL facilities can improve national and economic security by lessening dependence on foreign oil and substituting plentiful, more affordable U.S. coal. By using this domestic resource, CTL deployment can produce more jobs for Americans and provide a positive influence on the U.S. balance of trade and the economy in general.

From an environmental perspective, CTL is capable of carbon capture. CTL technology also can serve as a bridge to a hydrogen fuel future by linking multiple types of plants into one, such as co-production of liquid fuels, electricity, hydrogen and other products.

Coal reserves are located in 38 States and coal is mined in 26 States representing every region of the country. This means that CTL facilities can be constructed across the country providing a geographic diversity which will reduce threats to energy security which may result from natural or other disasters.

Although existing impediments to wide scale deployment of CTL technologies are challenging, they can be eliminated or mitigated through concerted and focused efforts by government, industry and public support. Many of these challenges also confront those who are attempting to refurbish or construct new oil refineries.

Among the hurdles to deployment are those that are addressed in S. 1772, including economic development assistance to encourage refinery activity on BRAC property and the streamlining of the refinery permitting process. Coal state economies as well as the energy consuming public will benefit from the provisions of the bill encouraging coal based refineries on BRAC properties. Needless permit delays will affect the construction of CTL refineries just as they do petroleum refineries.

The mining industry is all too familiar with multiple permit challenges and repeated appeals. The delays caused by repetitive challenges and appeals can make projects unattractive to lenders who require a return on their investment within a reasonable period of time. This is particularly true with a first of a kind facility such as a CTL plant where the potential risks set out above are a considerable hurdle to obtaining project financing.

Failure to afford the same incentives and protections for coal liquefaction refineries made available to petroleum refineries under S. 1772, would deny the Nation the opportunity to use its domestic resources to address a significant energy and national security challenge.

NMA appreciates the opportunity to provide the committee its views on S. 1772 and urges it to take advantage of this opportunity to provide a level playing field for coal-to-liquids technology, which could have a significant positive effect on our nation's energy and economic future.

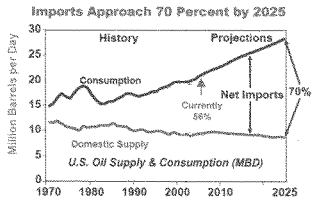
Liquid Fuels from U.S. Coal

The technology is modern, proven and ready . . . It has national security, economic and environmental benefits . . . What is needed to make it happen?

A recent *ABC News* poll reported a majority of Americans believe rising gasoline prices are causing personal financial hardships and are a potential threat to the long-term durability of the U.S. economy.

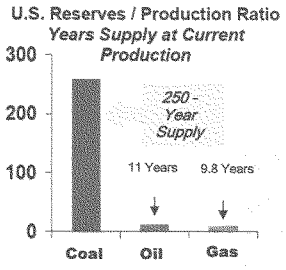
This spring, gasoline prices increased at the *fastest rate in 50 years.*

Recent natural disasters have caused disruption at up to a dozen refineries in the U.S . . . at a time when America is dependent on foreign sources of petroleum for 56 percent of its needs - a share that will grow to nearly 70 percent by 2025 if nothing changes, according to the Energy Information Administration (EIA).



U.S. dependency on imported oil will grow to nearly 70 percent by 2025, according to EIA.

There is a solution to these and other problems related to the nation's critical need for a reliable and affordable supply of liquid fuel - ***America's abundant and readily available supplies of domestic coal.*** Consider these facts:



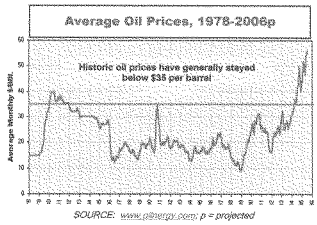
SOURCE: EIA, BP Statistical Review of Energy

- There are more than 250 billion tons of recoverable U.S. coal reserves - *equivalent to an estimated 800 billion barrels* of oil* (compared to Saudi Arabia's proven reserves of 260 billion barrels).
- Coal already provides more than half of the nation's electricity and is the largest single source of overall domestic energy production at more than 31 percent of the total.
- Coal can be converted through proven, existing modern technology into clean, zero-sulfur synthetic oil and oil products at a cost of approximately $35 per barrel - compared to the current world price of about $67 per barrel for oil.
- Coal is a 21st century energy resource - it is mined, transported and used in the U.S. in an environmentally compatible and sustainable manner.
- Unlike other energy resources, the location and quantity of U.S. coal reserves are known and mapped - exploration isn't necessary.

** (Source: Oil and gas data: EIA, Advance Summary U.S. Crude Oil, Natural Gas and Natural Gas Liquids Reserves, 2003 Annual Report; BP Statistical Review of Energy; contained in presentation, "Coal & Liquid Fuels," by Richard Bajura, Edward Eyring, presented at the GCEP Advanced Coal Workshop, March 15-16, 2004, Provo, Utah).*

Given these advantages, why isn't coal-to-liquid fuels a reality?
Why are there no commercial coal-to-liquid plants in the U.S. today?

One reason is the historic *sharp volatility of oil prices* - if the price of oil stays above $35-$40 per barrel, a coal refinery makes economic sense. If it drops below that figure, as it has in the past (see graph at right), there is no assurance a coal refinery can remain competitive, posing a substantial risk for investors.



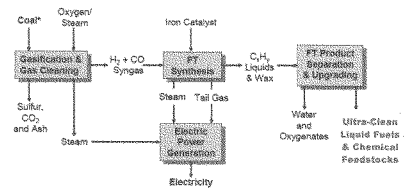
SOURCE: www.pbenergy.com; p = projected

Secondly, the *front end cost is high* - coal refineries are expensive to construct, with capital costs in the $600-million-to-$700-million range for a 10,000 barrel per day plant, according to FT Solutions LLC. The technical and financial risks of a "first of a kind" plant in the United States have discouraged consideration of this type of investment in the past.

Finally, the *lead time* for a coal refinery, as with all refineries, is a minimum of five to seven years under optimal circumstances.

But steps can be taken to create incentives and minimize these disadvantages so that Americans could be using domestic-based coal-to-liquid fuels in the near future - if we act soon.

Producing Liquid Fuels from Coal - Two Approaches



One method of producing liquid fuels from coal is the Fischer-Tropsch indirect liquefaction process, which yields high quality transportation fuels, among other products (SOURCE: FT Solutions LLC).

Two basic approaches to convert coal to a liquid fuel:

- *Direct Liquefaction* calls for breaking coal down in a solvent at elevated temperature and pressure, followed by interaction with hydrogen gas and a catalyst.
- *Indirect Liquefaction* involves first gasifying coal and then making synthetic fuels from this "syngas."

Using modern technology, indirect liquefaction produces environmentally compatible zero-sulfur liquid fuels that are cleaner than required under today's emissions laws and regulations.

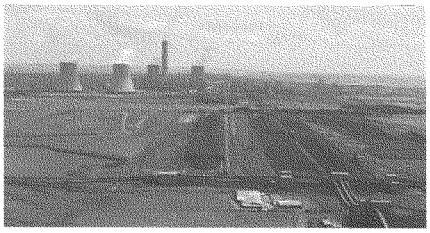
Established Technologies Improved by R&D

Coal-to-liquid fuel technologies are well-established and have been *improved by 30 years of U.S. government research and development efforts*, directly and through industry partnerships, into innovative processes ready for widespread commercialization in the 21st century.

Technology has come a long way since the first coal-derived liquid fuel (a synthetic crude oil) was produced through direct liquefaction in the early 1900s. In 1925, **Franz Fischer** and **Hans Tropsch** used an indirect liquefaction process, which still bears their name, to produce excellent transportation fuels. Germany had 25 liquefaction plants that, at their peak in 1944, produced more than 124,000 barrels daily and met 90 percent of the nation's needs.

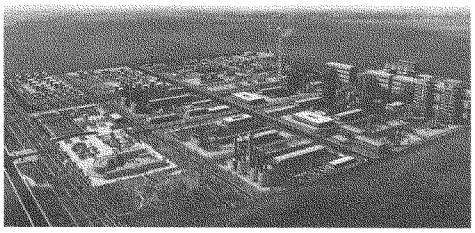
In the 1950s, South Africa, through its **SASOL Co.**, developed a commercial coal liquids industry to produce transportation fuels (gasoline and diesel) using synthesis gas produced by the gasification of coal. Modern research has further developed this technology, and SASOL has produced more than 700 million barrels of synthetic fuels from coal since the early 1980s. About 85 percent of the coal consumed in South Africa is used as synfuels feedstock or to produce electricity.

The U.S. government, directly and through industrial partnerships and international cooperation, has a 30-year research effort that has *resulted in improved processes, catalysts and reactors. These improvements have helped reduce costs and improved product quantity and quality.*



Coal liquefaction is proven technology that has been enhanced by modern research. South Africa's SASOL Co. developed a commercial coal liquids industry that produces about 135,000 barrels daily at its Secunda plant.

While the stage is set for rapid commercialization and deployment in the U.S., **China** - with its vast coal reserves and immensely growing economy - currently **is ahead of America in this regard.**



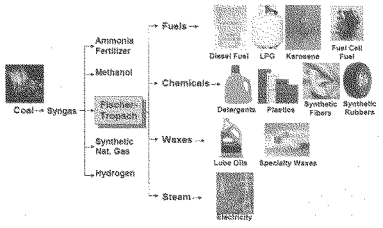
Concerned about increasing dependence on oil imports and its impact on economic growth and national security, China is making a massive $6 billion investment in new coal liquefaction plants. At left is the planned $2 billion Shenhua facility, which is expected to open in October 2007 in Inner Mongolia and eventually produce 50,000 barrels daily of diesel fuel and gasoline.

Source: "Coal to Clean Fuel" presentation by Jerald J. Fletcher and Qingyun Sun, West Virginia University, at the 3rd U.S.-China Clean Energy Workshop, Oct. 18-19, 2004.

China, which is the world's second biggest consumer and importer of oil after the U.S., is planning a *$6 billion investment in new liquefaction plants that would have a total annual production capacity of 440 million barrels of liquid fuel annually,* dwarfing those of SASOL's plants in South Africa, according to UtiliPoint International Inc. A facility planned for Mongolia (and based primarily on U.S.-developed technology) will come on line in this decade and eventually produce 50,000 barrels daily of clean-burning gasoline and diesel fuel.

Advantages of Coal-to-Liquid Fuels

- Improves national and economic security by lessening dependence on foreign oil and substituting plentiful, more affordable U.S. coal.
- Uses domestic resources and produces more jobs for Americans.
- Provides positive influence on U.S. balance of trade and economy.
- Provides environmental benefits, including cleaner fuels that reduce nitrogen oxide and particulate emissions, enabling use of higher efficiency engines.
- Is capable of capturing carbon dioxide (CO2) emissions and serving as a bridge to a hydrogen fuel future through polygeneration (linking multiple types of plants into one, such as co-production of liquid fuels, electricity, hydrogen, etc., embodied in FutureGen initiative).
- Provides geographic diversity of domestic refining capacity (Coal is located in 38 states and all regions of the U.S.).



In addition to synthetic oil and diesel fuels, numerous additional liquid products can be derived from coal, including these examples from the Fischer-Tropsch indirect liquefaction process.

Source: FT Solutions LLC

What is Needed to Make it Happen in the U.S.?

Although existing impediments to wide scale deployment of coal-to-liquids technologies are challenging, all can be mitigated or eliminated through concerted and focused efforts by government and industry and with public support. For example:

- Construction of new coal-to-liquids capacity can be made more attractive with incentives, such as streamlining the permitting process; offering federal loan guarantees to cover construction costs; providing federal financing to pay charges incurred through permitting delays; and offering price guarantees, or providing a price floor, for refinery output.
- Tax incentives, such as federal investment tax credits, fuel excise tax exemptions or accelerated depreciation could be used to reduce risk and assist commercial development.
- Siting issues can be mitigated by maximizing retrofit opportunities at existing coal-based power plants or by placing refineries on closed military bases or abandoned industrial or mine sites.
- State/federal government partnership consortiums with industry to build first-of-a-kind, commercial-scale demonstration facilities that use advanced technologies.

Incentives such as these would get the ball rolling. Eventually, market forces would take over, and the private sector would assume the majority of risks for commercialization and technology deployment. China is putting billions of dollars into its coal-to-liquids fuels program: the failure of the U.S. to provide domestic incentives could prove to be a significant energy, economic, environmental and security challenge later in this century.

Congress should adopt incentives for coal-to-liquid fuel facilities!

Senator INHOFE. Mr. Mannix, we are delighted to have you here today. We appreciate your patience during the opening portion of our hearing.

Mr. Mannix is the Associate Administrator for Policy, Economics and Innovation at the Environmental Protection Agency. We appreciate your being here today.

Try to stay within a reasonable timeframe since there is only one on the first panel, maybe at the most 6 or 7 minutes. Your entire statement will be made a part of the record and we will be able to ask you questions.

Mr. Mannix.

STATEMENT OF BRIAN MANNIX, ASSOCIATE ADMINISTRATOR, POLICY, ECONOMICS AND INNOVATION, ENVIRONMENTAL PROTECTION AGENCY

Mr. MANNIX. Thank you.

For the record, let me state at the outset that I have been driving a hybrid for 5 years and I just got a brand new hybrid SUV Highlander, and it has really good pick-up.

Thank you for inviting me to appear today to provide testimony on S. 1772, the Gas Petroleum Refiner Improvement and Community Empowerment Act.

I am Brian Mannix, Associate Administrator for Policy, Economics and Innovation at the Environmental Protection Agency.

First, I want to commend the committee for proposing steps to address the Nation's critical need for additional refining capacity and a sustained fuel supply. The issue of refinery permitting has a deja vu feeling for me because I was at the Energy Department in 1978–1979 during the oil crisis and, Senators, you are both right; there were gas lines in 1973–1974 and again in 1978–1979. We tried to address the permitting issue then.

Bills were introduced to accelerate the permitting process for critical energy facilities and received broad support on both sides of the aisle and both Houses of Congress. Ultimately, however, no such bill was passed. That was almost 25 years ago and not one refinery has been built since then.

I know that you have also heard that more than 100 refineries have been closed during the past 25 years, but I have to say that that number is a little misleading. Many of the refineries that closed were not economical but existed to collect a variety of government subsidies, mostly associated with the oil price and allocation regulations which disappeared in 1981. In the few years after 1981, several refineries closed that probably should not have been in the business in the first place.

Since that time, other refineries have closed while overall capacity has increased through the expansion of existing facilities. Between 1987 and 2004, the number of refineries in the United States declined from 195 to 146. All totaled, U.S. refining capacity increased by 8 percent. As the events of the last 2 months have helped to demonstrate, the Nation remains critically dependent on refining capacity and the margin of safety has become alarmingly thin. The entire country has felt the impact of the hurricanes on retail gasoline prices, and the possibility of a difficult winter looms ahead.

As we sit here today, major refineries remain shut down or at reduced capacity in Louisiana and Texas. I believe a streamlined permitting process can be part of the solution for this country and that we can also make other improvements in the operation of our Nation's fuel production and supply system. This Administration is committed to ensuring that the United States is able to produce and distribute gasoline, diesel fuel, jet fuel, and home heating oil at a fair price to consumers while protecting the environment and public health.

Since most permits are issued by State and local authorities, EPA does not routinely track permitting activities for refineries and cannot provide precise numbers concerning such activity. However, based on information we currently have, we estimate that approximately 100 permits have been issued to refineries since the year 2000, generally for capacity expansions and other modifications.

Siting a new facility or making major modifications to an existing facility raises a broad range of environmental issues that may require multiple permits and reviews pursuant to the Clean Air Act, the Clean Water Act, the Resource Conservation Recovery Act, the National Environmental Policy Act and other Federal, State, and local laws.

The Environmental Protection Agency has taken a variety of administrative steps to simplify and streamline each of these programs. In addition, the Office of Enforcement and Compliance Assurance has undertaken a refinery initiative that, to date, has brought 77 percent of U.S. refinery capacity under consent agreements. These settlements generally make provision for capacity expansion even as they reduce air emissions. Through these and other efforts, the Agency seeks to ensure that our fuel infrastructure continues to operate as our environmental goals are met. We welcome the opportunity to work with the committee on legislative improvements as well.

Apart from permitting, S. 1772 has various provisions which either confer new authority on EPA or affect the Agency's implementation of existing statutory authority. Title III would modify EPA's natural gas STAR Program to provide for Federal grants. Title IV would affect the Agency's implementation of fuel waivers granted under the Energy Policy Act of 2005 and its approval of boutique fuels found in the State implementation plans. Title V requires EPA to conduct a research and demonstration program to evaluate the air quality benefits of Fischer-Tropsch transportation fuel and authorizes loan guarantees for domestic coal and petroleum coke-based Fischer-Tropsch commercial demonstration projects. The EPA is currently evaluating these provisions and their impact on the Agency's program and its resources.

In conclusion, the Administration believes S. 1772 takes several important steps in the right direction by including provisions to streamline refinery permitting requirements and expanding refinery capacity in the United States. It provides a mechanism to reduce the proliferation of State fuel requirements where such fuels are no longer utilized or are duplicative of Federal standards and it addresses potential consequences of fuel waivers on State SIP compliance among other provisions.

We welcome the opportunity to work with the committee and its members as it continues to consider this legislation and we will provide the committee with any needed technical assistance.

Thank you and I am happy to take any questions.

Senator INHOFE. Thank you. We appreciate your fine opening statement.

I will begin a series of rounds and try to stay within 5 minutes because we do have a panel of three following Mr. Mannix.

The first thing I want to ask you is, it certainly was not the intent of this bill but several people have indicated that perhaps this was something to weaken environmental standards. It certainly was not intended to do that. This is not the same bill, as pointed out by Senator Voinovich, the Barton bill, over in the House. I don't want people to get confused with that.

In title II of the bill, it says, "Nothing in this section affects the operation or implementation of otherwise applicable law regarding permits necessary for the construction and operation of a refinery." Do you agree with that?

Mr. MANNIX. As I read it, Mr. Chairman, it does not change any substantive requirement of environmental law.

Senator INHOFE. Does it undermine any environmental law you can think of?

Mr. MANNIX. No, it does not.

Senator INHOFE. The National Association of Convenience Stores and the Society of Independent Gasoline Marketers of America submitted testimony and I am going to submit this for the record.

[The referenced document follows:]

STATEMENT OF THE NATIONAL ASSOCIATION OF CONVENIENCE STORES AND THE SOCIETY OF INDEPENDENT GASOLINE MARKETERS OF AMERICA

I. INTRODUCTION

The National Association of Convenience Stores ("NACS") and the Society of Independent Gasoline Marketers of America ("SIGMA") respectfully submit this statement in support of S. 1772, the "Gas Petroleum Refiner Improvement and Community Empowerment Act" (Gas PRICE Act). NACS and SIGMA request that this statement be made a part of the official record of the October 18, 2005 hearing before the Senate Environment and Public Works Committee on S. 1772.

II. THE ASSOCIATIONS

NACS is an international trade association comprised of more than 2,200 retail member companies operating more than 100,000 stores. The convenience store industry as a whole sold 142.1 billion gallons of motor fuel in 2004 and employs 1.4 million workers across the Nation.

SIGMA is an association of more than 240 independent motor fuel marketers operating in all 50 States. Last year, SIGMA members sold more than 58 billion gallons of motor fuel, representing more than 30 percent of all motor fuels sold in the United States in 2004. SIGMA members supply more than 35,000 retail outlets across the Nation and employ more than 350,000 workers nationwide.

Together, NACS and SIGMA members sell approximately 80 percent of the motor fuel retailed in the United States each year.

III. SUPPORT FOR S. 1772

NACS and SIGMA support S. 1772 and urge the committee to approve this important legislation at the earliest possible date. In particular, NACS and SIGMA offer strong support for titles I, II, and IV of the bill—provisions designed to expand domestic petroleum refining capacity, to make Federal emergency fuel supply waivers more effective, and to reduce the number of boutique fuels used across the Nation.

All of these provisions in S. 1772 are common sense, modest, and sensible changes to existing Federal law.

In the wake of Hurricanes Katrina and Rita, the fragile nature of our Nation's domestic refining base was apparent for all to see. These storms shuttered and damaged domestic crude oil production facilities and petroleum refining and transportation operations in the southern half of the United States and put these facilities out of action for days, weeks, and perhaps months. However, the fragile state of the Nation's domestic refining and transportation industries exposed by these storms should not be surprising to Federal legislators. Four years ago, NACS and SIGMA testified before this Committee and delivered the following straightforward message regarding the demise of domestic refining capacity and the proliferation of boutique fuels:

> [I]f we, collectively, do not address aggressively the motor fuels supply crisis that is facing this Nation in the near future, then the price spikes we have witnessed, for the past decade in California and for the past 2 years in other portions of the Nation, in gasoline, diesel fuel, and other petroleum products will become the norm rather than the exception. Ultimately, if we fail to act, it will be consumers who will pay for this inaction—through higher retail motor fuels prices at the pump.
>
> [T]he debate over the future of our Nation's energy policy need not be confrontational. Our Nation can have both a clean environment and affordable, plentiful supplies of gasoline and diesel fuel. However, in order to achieve these twin goals, all sides to the current debate—industry, government, consumers, and environmentalists—must approach this debate in a spirit of cooperation, not confrontation.[1]

S. 1772 represents a bold legislative effort to achieve both of these goals: expand domestic supplies of gasoline and diesel fuel while at the same time safeguarding environmental protections and setting up cooperative, instead of confrontational, interaction between industry, public interest groups, and State and local governmental officials. Specifically, S. 1772:

- Would use existing funds from the Economic Development Administration to expand domestic refining capacity by locating new refineries on closed military bases;
- Would, if requested by a State's Governor, streamline the permitting processes for a petroleum refinery and speed up approval of such permits while assuring that all environmental protection statutes remain in place and effective;
- Would enhance the effectiveness of Federal temporary emergency motor fuel waivers under Section 1541(a) of the Energy Policy Act of 2005 (EPAct 2005) by encouraging States to follow Federal waivers in times of severe motor fuel supply emergencies, such as much of the Nation experienced after Katrina and Rita; and,
- Would reduce the number of boutique fuels nationwide by reducing the Federal cap on the number of boutique fuels under Section 1541(b) of EPAct 2005 when a State voluntarily drops a boutique fuel from its State Implementation Plan or when a State boutique fuel becomes identical to a Federal clean gasoline or diesel fuel formulation.

For these reasons, NACS and SIGMA support the "Gas PRICE Act" as a balanced and modest approach to responding to the challenges faced by our Nation's motor fuel refining and distribution industries in the wake of Katrina and Rita. On behalf of motor fuel marketers nationwide and gasoline and diesel fuel consumers in every State, NACS and SIGMA urge this Committee to vote to approve S. 1772 at the earliest possible date.

Thank you for the opportunity to submit this statement for the record.

Senator INHOFE. In the testimony, they state the bill represents "a bold legislative effort to achieve both of these goals, expand domestic supplies of gasoline and diesel fuel while at the same time safeguarding environmental protections and setting up cooperative incentive, confrontational interaction between industry and public interest groups and the State and local government officials." Do you agree with their statement?

Mr. MANNIX. Mr. Chairman, at this point in the legislative process, the Administration generally does not take a position on legis-

[1] Statement of Thomas L. Robinson before the Senate Environment and Public Works Committee, April 5, 2001, page 2.

lation until it is reported out of committee. However, we do believe that this bill takes several steps in the right direction.

Senator INHOFE. That is the reason I was quoting their testimony so you wouldn't have to take a position on this. Do you agree with their testimony?

Mr. MANNIX. I will have to reserve judgment until the Administration takes a position.

Senator INHOFE. That is fine.

Senator Obama.

Senator OBAMA. Thank you.

Rather than go through each provision of the bill, I want to broaden the scope of our discussion a bit.

I think there is uniform agreement on this committee that we need to figure out how to expand refinery capacity. The first question I have for you is what do you think has inhibited the expansion of refinery capacity? There has been mention made of a cumbersome permitting process, undue regulation, low margins. There are a lot of potential culprits out there and I am wondering from where you are sitting, what do you think are the largest contributors to the reduction in refinery capacity?

Mr. MANNIX. I think there is some truth in all the factors you mentioned. It is certainly true that since the hurricanes, the margins that refiners earn are higher; and that is what you would expect when something is scarce and it is in demand: the price goes up. But, historically, refineries have had low margins and I think that has been a factor.

I think it has also been a factor that permits can be cumbersome, they can have uncertain outcome, they can take a lot of time; and all those things factor into financial calculations. I think they are all a factor.

Senator OBAMA. Just the permitting process, the information I have is, and this may be mistaken, that we don't have a lot of instances where permits have actually been rejected. Is it a matter of time, is it a matter it takes too long to get the permit and therefore, it raises increased uncertainty? What is it exactly because the information I have at least indicates that permits are pretty readily obtained.

Mr. MANNIX. As I said, I think it is a combination of factors, including time and uncertainty. I think the companies do get pretty good at figuring when they can make it all the way to the end and when they can't, so it may be the case that you don't see a lot of permits being abandoned halfway through their process or three-quarters of the way through the process. Nonetheless, when they look at the obstacles to siting a new refinery, I do believe the permit process looms pretty large in their calculations.

Senator OBAMA. Do you think that is largely Federal or State and local? Senator Voinovich I think properly noted the nimby problem, people don't necessarily want a big refinery in their back yard. To what degree is it environmental restrictions placed through EPA or the Clean Air Act resulting in the difficulties and whatever difficulties there may be. As I said, it is not clear to me the evidence is that the permitting seems to be the main problem.

Mr. MANNIX. I think it is a combination of Federal, State, and local. Many of the Federal programs are delegated to States and implemented at that level. I think it is a combination.

Senator OBAMA. Just one other question on the nature of the problem. If the problem is low margins and you have oil companies that may have a financial incentive in keeping refinery production low, how do we encourage oil companies, as Senator Boxer indicated, that are making absolutely breathtaking profits to invest in refinery capacity?

Essentially you don't really have a situation of vertical integration here where it is to their advantage to expand refinery capacity, right? The less the refinery capacity, the more restrictive the supply, the higher the gas prices which results in great profits for them.

Mr. MANNIX. I think I am going to have to defer to the Federal Trade Commission which generally looks into industry concentration in the oil industry and how it is affecting investment decisions.

Senator OBAMA. I am not saying that anything they are doing is illegal. I am saying if they are making rational decisions and say to themselves, we make a lot of money with tight refinery capacity. How are we going to encourage them to build more refinery capacity? Are we going to give them subsidies and more money to encourage them when they are making billions of dollars in profits?

Mr. MANNIX. Speaking as an economist, I think the degree to which they make that calculation depends on the concentration of the industry. Again, I will defer to the Federal Trade Commission on the structure of the industry; but I think the current high margins can be attributed to the fact that refinery capacity is in high demand and low supply. I don't think you need to look further than that for an explanation.

Senator OBAMA. I understand. I guess what I am asking is does that mean then that the market should take care of this and we should see people entering the refinery market because now the margins are higher?

Mr. MANNIX. Yes to the extent that low margins were deterring investment in refinery capacity, high margins should be a cure for that. We do, however, have to worry about the other factors that may have been deterring investment such as permitting.

Senator OBAMA. I don't want to take up too much time. I would suggest as I look through your legislation, I don't see anything usually objectionable to what is in here. I would love to see some hard evidence that the permitting process itself is what is inhibiting refinery capacity.

This is one of those things that can be easily asserted but sounds difficult to document. When I asked about it, you said, well, it may be that people aren't even bothering to file because they know it is going to be difficult. The evidence indicates that when they bother to file for a permit, they get one.

I think it is important for us to be very clear if in fact there is a permitting process, and I have no doubt it could be cumbersome, I would like to know the degree to which this is actually the reason we are not seeing more refineries out there.

Senator INHOFE. Senator Voinovich.

Senator VOINOVICH. I would like to point out that the Gas PRICE Act provides no money for oil companies. It provides economic development and administration grants to communities if they decide to put a refinery on a BRAC site. This money can be used for roads, infrastructure to plants and so forth. It is only an incentive and it is a community-driven process.

Senator INHOFE. I am glad you mentioned that. I mentioned it in my opening statement and I think there is some confusion between this legislation and perhaps the House legislation. Sometimes we need to reclarify that.

Senator VOINOVICH. Mr. Mannix, some have expressed concerns that this bill could increase environmental risks. As Associate Administrator of EPA, do you believe that to be the case with this legislation? Is this going to increase environmental risks?

Mr. MANNIX. As we read it, no. It does not affect any substantive standards in existing environmental laws. It should not increase environmental risks.

Senator VOINOVICH. Many of us have been very supportive of a bill that would deal with the diesel engines we have and we are very concerned that EPA does not extend the deadline to put in place the high sulfur diesel program. Are you familiar with that program?

Mr. MANNIX. I am familiar with it, yes.

Senator VOINOVICH. Is there any thought at all at the EPA to extend the deadline beyond October 15, 2006?

Mr. MANNIX. We are working hard to meet the deadlines in the bill.

Senator VOINOVICH. What does that mean?

Mr. MANNIX. As you know, in response to the hurricanes, we have taken several actions including fuel waivers on sulfur in diesel fuel; but none of those actions we believe will lead us to miss that deadline.

Senator VOINOVICH. It is very important because there are a tremendous number of people banking on it that are manufacturing new diesel engines and expect that it is going to go into place. If it doesn't, then it is going to impact them dramatically.

Mr. MANNIX. We are closely monitoring that and are very conscious of the fact that those new engines are susceptible to damage from the sulfur content in diesel fuel. We want to ensure that doesn't happen.

Senator VOINOVICH. Do you have any other ideas on what we could do to facilitate expansion and diversification of our refining capacity? This bill is pretty modest. Do you have any other ideas that we could use to make it more attractive?

Mr. MANNIX. As an Administration witness, I am going to have to defer that question and say we may be able to get back to you with ideas. I don't have any ready for presentation at the moment.

Senator VOINOVICH. I don't know if EPA or the Energy Department, but has anyone ever sat down in the Administration, to your knowledge, and looked at this whole issue of gas and oil and natural gas and said, here is what we really need to do in order to have a comprehensive plan that is going to make a difference? By that, I mean this piece of legislation, alternative sources of energy, for example, fuel cells. We say they are 10 or 15 years away. If we

made a real commitment, could we increase that to say 5 years? In other words, to your knowledge, has anyone really sat down and looked at the big picture?

Mr. MANNIX. I can tell you that meetings are taking place, not just at EPA but throughout the Administration, at high levels, paying close attention to both the short- and the long-term energy situation in this country. In the short term, we are dealing with the damage from the hurricanes and the gas supply situation, diesel supply, and the upcoming winter. So there is a lot of attention to that; but we are also trying to look beyond that to longer term solutions. Refinery permitting is not going to have a big impact in the next 6 months but it can have a longer term impact.

Senator VOINOVICH. I like to refer to the second Declaration of Independence that we become as self reliant on energy resources as we can possibly can. It seems to me that the Administration could go a long way to give comfort to a lot of anxious people in this Nation that we have some short-term, medium- and long-term plans in place so that we are not going to be held hostage to some folks out there that may not like us.

Mr. MANNIX. I appreciate that, Senator.

Senator INHOFE. Senator Boxer.

Senator BOXER. Thank you very much.

I want to make a bit of a counter to Senator Voinovich's comments in a couple of areas. I would ask unanimous consent to place into the record the definition section of title I which deals with what I consider to be giveaways to the oil companies so that they will get the land for nothing.

[The referenced document was not available at press time.]

Senator BOXER. Section 501 I want to put in the record which shows that in fact funds will be made available to them as I understand in excess of $1 billion of loan guarantees. I don't know any thought that this isn't a giveaway, I don't square it with the legislation but I am happy to work with my colleagues if I am wrong on that.

I really do want to take on the issue of NIMBY, Not In My Back Yard. I want to show you a back yard of an area in California. This is a photo of the Phillips Rodeo Refinery in Contra Costa. The building to the lower right is part of the Bayo Vista housing complex. It is not an expensive suburban area by any stretch. People who live in the shadow of this refinery complain a lot to us about nausea and burning eyes.

This refinery is flaring or burning off excess gas which causes tons of extra pollution in the air. Our Bay Area Air Quality Management Board passed the first rule in the Nation to control flaring on July 20, 2005. I am very proud of them. I served on that board. This gives you a better picture of what is going on. I cannot criticize communities that say can you do something to control this pollution.

I believe we need to ensure—and I hope as you evaluate this, you will look at this—we need to ensure that local, State and Federal entities have the time they need if this bill passes to correctly apply such protections, not set arbitrary deadlines. I am asking you, Mr. Mannix, this: Do you have a list of statutes and permitting requirements that apply to refineries that could be affected by

this legislation? We are going to deal not only with Federal law but State law, local law, air quality management law, tribal laws. Do you have a list of statutes and permitting requirements that apply to refineries that could be affected by this legislation?

Mr. MANNIX. No, at this point we don't have such a list.

Senator BOXER. I would urge you, as you look at the legislation, to see how it would impact these laws because one thing I don't like is an unfunded mandate, maybe because I served on a local board of supervisors and I saw things coming down in the 1970s and in 1980, it was still there until I went to Congress in 1982. We had to do these things and we didn't have the funding. So I am concerned because I will tell you, those folks with the burning eyes are not going to want to give up their rights and local government isn't going to tell them to take a walk.

The fact is, if this was the only way to increase energy production, it would be one thing but there are so many other ways to conserve. These big oil companies could do so much more. I hope you will look at all this.

I wonder if you are familiar with EPA's report that examined the cost and benefits of the Clean Air Act from 1970 to 1990?

Mr. MANNIX. The "Cost of Clean" report?

Senator BOXER. Yes. Have you looked at that?

Mr. MANNIX. Yes, I have.

Senator BOXER. The report found that the benefit of reducing six pollutants—I am going to reiterate: sulfur dioxide; nitrogen oxides; ozone; particulate matter; carbon monoxide; and lead—from 1970 to 1990, the benefits were between $5.6 and $49.4 trillion with costs totaling $.05 trillion. It was a $10 to $100 return on every dollar spent.

Because EPA issued this report, I assume you agree with it. Am I correct on that?

Mr. MANNIX. I wasn't at EPA at the time, but I don't disagree with it. Those benefit and cost numbers I think are part of the reason that the Administration adopted the Clean Air Interstate Rule to reduce sulfur dioxide and nitrogen oxide and the associated particular matter, the Clean Air Visibility Rule in the west and the Clean Air Mercury Rule. We have taken great strides in reducing those pollutants.

Senator BOXER. I so appreciate it but also when you come out and say New Source Review is not working and if you give support to this legislation, which you haven't made up your mind on this legislation at this stage?

Mr. MANNIX. That is correct.

Senator BOXER. I think we need to look at EPA's stance in relation to what we know EPA has said before.

I guess my time is up so I will submit the rest of my questions for the record.

Senator INHOFE. Thank you, Senator Boxer.

Senator Carper, I don't think you had an opening statement, did you?

Senator CARPER. I have something I would like to say if I can use an extra minute or two?

Senator INHOFE. An extra 2 minutes.

Senator CARPER. That would be great. Thanks.

I share with Senator Voinovich a passion for this notion of energy independence. We can do a lot better than we are doing in terms of reducing the trend that we see, an ever growing dependence on foreign oil.

Sometimes when I think about our approach as a Nation to this challenge, some folks think the way to get out of this dependence on foreign oil is just to drill, some thing people think we can use energy conservation, and a variety of other approaches. I think in the end what we need is a balanced approach.

We are sitting here today talking about legislation that is designed to make it easy to build new refineries. I know some have concerns about that. On the positive side, we have big oil refinery in Delaware near the town of Delaware City right on the Delaware River and it is probably one of the greatest emitters of sulfur dioxide on the East Coast and is a source of constant sorrow in terms of its pollution for a lot of folks who live in that part of the State.

As much as those folks are dismayed by the pollution from that refinery, my guess is if we tried to build a brand new refinery in the same place, could somehow wave a magic wand and eliminate the one that is there and build a brand new, state-of-the-art refinery, my guess is it would emit only a fraction of sulfur dioxide and other emissions that we currently suffer from.

Ironically about 40 miles south of Delaware City is a little town called Clayton, Delaware, a bit north of Dover. A refinery is being built there without a lot of hoopla, a biodiesel refinery. We raise a lot of chickens in our State, a lot of corn and soy beans to feed the chickens and have a lot of soy bean oil left over, we don't always feed that to the chickens. We take the kernel of the soy bean and we feed that mixed in with the corn.

I am encouraged that not the whole solution to reducing our reliance on foreign oil but a part of it is figuring out how we can better utilize the crops we grow to go into our tanks of our cars, trucks and vans.

A member of my staff was good enough to provide an article I think appeared in the Washington Post this summer about Brazil and some discussion about what they are doing in Brazil to reduce their reliance on petroleum to fuel their cars, trucks and vans. Mr. Mannix, you are probably familiar with some of what is going on down there.

Mr. MANNIX. They are using ethanol.

Senator CARPER. Take a moment and share with us what they are doing, aside from building refineries. What are some of the things they are doing and what kind of success are they enjoying in Brazil in reducing their reliance on gasoline for transportation.

Mr. MANNIX. I have to say, as in many such stories, there are a couple of sides to it. They have made more progress I think than any other nation in replacing gasoline with biologically based ethanol production. I am not up to date on where they are, something like 20 percent.

Senator CARPER. I have heard as high as one-third of the fuel they use to power their cars, trucks and vans comes from sugar cane.

Mr. MANNIX. They had to cut down a lot of rain forest to grow that, so there are some concerns about it as well.

Senator CARPER. Are there any lessons we could learn from what they are doing there? Apparently, they not only use sugar cane and soy beans but they have grown a variety of different grasses and some of those are far better in terms of producing ethanol than is corn.

Mr. MANNIX. As we implement the new Energy Policy Act, we are going to be looking at a lot of those options because there are fuel provisions in that Act. I think we will be doing comparative assessments of different types of fuel as we implement that.

Senator CARPER. One of the provisions in the Energy bill is a tax credit for small producers like our plant in Clayton, Delaware, our diesel refinery, there will be tax credits favorable to small producers of biodiesel as we will be. The same energy bill has some tax credits that encourage people to buy more energy efficient cars, trucks and vans. There are two tax credits that I am aware of. Starting January 1, one is for those who buy hybrid powered vehicles and a tax credit I think worth up to about $3,400. I think there is a similar tax credit for those who buy what is called lean burn clean burn diesel engines that are able to meet the Tier II requirements for low emission. That is another tax credit worth about $3,400. Would you comment on those?

Mr. MANNIX. I am painfully aware of that because the Highlander I just bought became available about a month ago, but the tax credit isn't available until January 1. But I couldn't wait, so I bought it and I will forego that tax credit.

Senator CARPER. Did you enjoy any tax credit at all, did you get $1,000?

Mr. MANNIX. I can't remember. There is a HOV incentive. I just like the hybrid technology.

Senator CARPER. I know some people say they are just buying those vehicles to support the technology and hope it will get better. That is admirable.

The other thing I would like to ask in addition to increasing refinery capacity and finding ways to better harvest the crops in our fields and tell them into fuels for our vehicles, providing tax credits to support hybrid powered vehicles and lean burn, clean burn diesel.

I might just say to my friend Dieter Satcha, the current head of Daimler Chrysler of North America is going to be taking over Daimler Chrysler Worldwide and he was a few months ago. Senator Voinovich I don't know if you had a chance to go to the reception but he had all kinds of vehicles he brought with him, some large ones and some great small ones.

One of the small vehicles he brought was a diesel powered vehicle, very unique in style, gets about 70 miles per gallon and meets the Tier II diesel requirements, 60 miles in the city, 80 miles on the highway. That is pretty attractive.

The idea of marrying a diesel engine with an electric motor, so you have a diesel hybrid is something that is very attractive in my view and would give us the benefit of the extra power, extra torque that diesel provides, lower CO_2 emissions so by marrying it with the electric engine, you have something around the city that provides good mileage as well. Maybe not much pick-up but maybe pretty good mileage.

Mr. MANNIX. I disagree with you on the pick-up. I got great pick-up.

Senator CARPER. Thank you very much.

Senator INHOFE. Thank you, Mr. Mannix, for your time and patience. We will now dismiss you and ask for the next panel to please take the table.

The next panel consists of: Shawn Mitchell, a Colorado State Senator on behalf of the State of Colorado; Eric Schaeffer, director, Environmental Integrity Project; and Jonathan Adler, associate director, Center for Business Law and Regulation, Case Western Reserve University. We welcome all three of you to this panel. We will start with you, Senator Mitchell, and move down the table.

Senator Mitchell.

STATEMENT OF HON. SHAWN MITCHELL, COLORADO STATE SENATOR

Mr. MITCHELL. Thank you for allowing the State of Colorado to testify on the Gas PRICE Act today.

My State strongly supports this legislation. We hope the committee and the full Senate pass the bill. It will provide incentives to site and expand refinery capacity and to do it in a way that protects the environment and simplifies the permitting process to cut delays for needed projects.

This issue is one we have grappled with for some time. As you noted in your hearing back in 2004, it is even more important now given our vulnerabilities that were exposed by Hurricane Katrina, specifically the shortsightedness of placing most of our Nation's refinery capacity in the Gulf Coast region.

I understand that about half of our refining capacity and a quarter of our oil production is concentrated in the Gulf. When Katrina hit, we experienced sharp price spikes because of reduced supply and because of uncertainty about future supply. Those events took days but the effects linger. Further, prices were already rising before the storm. Obviously, any incentive to increase refinery capacity will benefit the country.

Colorado's support for your legislation, Mr. Chairman, is based on those incentives that would be provided to States to expand capacity. The Gas PRICE Act provides incentives through the Economic Development Administration to those parts of the country that are impacted by the Base Closure and Realignment Commission's designations. Thankfully, my State was not hit by the most recent BRAC process, but we have had military facilities closed in Colorado in the past and we know how difficult it can be to overcome those losses.

Although Colorado has been lucky and we have been able to address some of those losses as an opportunity for economic development, for example, we have had military facilities closes to the Denver area that we have transformed into vibrant residential, commercial and hospital centers. Those projects made sense and enriched our State, but I am certain there are circumstances around the country where those kinds of options aren't available.

Helping the Economic Development Administration to address these circumstances while also addressing the Nation's need for additional refining capacity makes absolute sense. This bill seizes

that opportunity by providing incentives for American communities to consider constructing new refineries to expand our nationwide capacity. The bill helps communities take advantage of existing infrastructure to preserve and create jobs.

The legislation does not mandate any action on States, it provides them valuable incentives if they determine vitally needed energy production is an appropriate opportunity for their communities. This bill provides authority to the EDA for additional cost sharing authority. It also provides flexibility that States can choose to exercise in environmental permitting by entering into a refinery permitting agreement.

It is important to remember that this provision only applies to those States or tribes that choose to participate. No State or tribe will be forced to participate. There is no usurpation of the concepts behind any of the Federal environmental laws that are delegated to the States or tribes for enforcement. There is no credible argument that this proposal would infringe the rights of State or tribal authorities.

As we heard the EPA representative testify, nor is there is any argument that this proposal lowers substantive protections for environmental standards. It provides a streamlined process. In fact, we have experience with this kind of collaboration among State and local governments and Federal Government in Colorado. We have an excellent working relationship that has led to ground breaking cooperation.

In southwest Colorado, there are three governmental entities that have developed an air permitting program that places the Southern Ute Tribe in charge of permitting on fee land within tribal boundaries. This ended a dispute over who had the authority. Similarly this bill would provide Governors and tribal leaders the authority to combine permitting requirements for all of the different media into one permit.

In Colorado, this is not a new concept but an opportunity we are already pursuing. In 2003, the Colorado Legislature passed legislation that I sponsored authorizing the Governor and local governments to streamline and consolidate different environmental permits and processes into a single permit through one coordinated process. The idea is twofold. First, to create a single timeline; second, to allow all responsible agencies and authorities to work together.

The purpose of a multimedia permit is to identify where the net gains for the environment are and to work to achieve those gains. One hypothetical example comes from the refining process. To capture sulfur dioxide, wet scrubbers are the effective method. To achieve SO_2 reductions you might think of installing wet scrubbers but as the name implies, that takes a lot of water.

In Colorado with both the Health Department and the Natural Resources Department at the same table, we might balance the gain of marginal SO_2 reductions with the environmental cost of using a lot more water. In consultation with the EPA, we can make the best choice to protect Colorado's environment.

My time is up. I applaud you for bringing this measure forward to provide States an opportunity to create economic opportunity

where bases are closed and also to streamline the process of creating new refinery capacity.

Senator INHOFE. Thank you, Senator Mitchell, for that fine opening statement.

Mr. Schaeffer.

STATEMENT OF ERIC SCHAEFFER, DIRECTOR, ENVIRONMENTAL INTEGRITY PROJECT

Mr. SCHAEFFER. Thank you for the chance to testify.

Congress understandably is concerned about the recent run up in gasoline prices, especially after the devastating hurricanes in the Gulf. I would like to respectfully suggest that while the intent of this legislation may not be to weaken environmental rules, short cutting permitting and some of the other provisions in this bill would have that practical effect.

In particular, I think it is a mistake to think you can change permit procedures to condense and collapse the time it takes to review these projects and not effect how these permits are actually written. Speaking in part from experience at EPA where I worked for 12 years, I don't think it is practical to permit every major refinery project in 90–120 days no matter what the facts. I would like to offer several examples.

In the Gulf Coast where much of our capacity is located, where many of the major expansions are underway, Motiva is reportedly considering adding more than 300,000 barrels a day of capacity to its Port Arthur refinery. That is a huge project. That would make that facility I believe the largest in the world. To try to get through the application in 90 days for an operation that big is not practical.

Second, Texas City, BP had a terrible accident in March of this year, an explosion that killed 15 people. The next time that plant comes in for a permit application, should they be entitled to a 90 day review? I would suggest not. We ought to make sure they can manage safely before they are given that kind of fast track approval.

It has been mentioned that nearly half of our capacity is in the Gulf, nearly a quarter of that capacity was shut down by the recent hurricanes. Oil tanks in Louisiana were ripped off their moorings, spread oil all over neighborhoods surrounding these refineries. Some of these communities will likely never recover.

I would suggest if we are concerned about not losing capacity and not hurting people, that especially in those hurricane prone areas, this is not the time to fast track permits. Rather, we ought out ask what is being done to make sure that capacity isn't lost the next time we have a storm, and they are going to happen again.

Part of my concern is that the refinery industry itself has repeatedly said that the environmental rules don't explain high gasoline prices and don't seem to have much affect on decisions to invest. To try to adjust environmental rules in the hope this will increase the supply of gasoline or significantly affect the price, I think is a classic case of the tail wagging the dog. I would go directly to the industry for those comments.

Last year, the president of the American Petroleum Institute testifying before a House subcommittee said, somewhat indignantly, "We have not said that environmental costs are responsible for

higher gasoline prices." Valero's senior vice president, Valero being the largest refinery in the country today, has said, "It is profit not environmental rules that drive investment decisions." Bob Slaughter of the National Petroleum Refiners Association has asked Congress not to make any further changes in the clean fuels requirements until additional studies are done about the impact of capacity on the industry.

We keep hearing no refineries in 29 years. The only company to apply for a permit for a new refinery in recent memory has the permits. What they don't have are investors with the confidence in the company to put their money behind a big new refinery in a place like Arizona. I am not sure this is a problem that this legislation will solve.

What does drive investment in refining capacity? Profits. Margins are at record levels. Those of us foolish enough not to have oil company stock at this point can only look on with envy as companies like Valero and Sunoco offer two for one stock splits and Citgo pays $400 million in dividends to its shareholders. It just doesn't get any better than this for oil companies. They have the money; money is not the problem.

They are investing some of that money to expand supply. They are doing it mostly by building out at existing facilities. There are nearly 600,000 barrels a day of capacity additions that have been announced or reported at refineries throughout the country. So we are making some progress in addressing the capacity problem.

I would close by suggesting refiners are always going to be very sensitive to price. If the price of gasoline starts to decline, they may well back off some of these investments and may shut down refineries to improve their margins. If we are really serious about legislating a floor on a refinery capacity in this country, maybe we ought to prohibit a refiner from ever closing its facility until we have had a congressional review or some agency has given its approval.

Thank you for your time.

Senator INHOFE. Thank you, Mr. Schaeffer.

Mr. Adler, thank you very much for being here today. You are recognized for your opening statement.

STATEMENT OF JONATHAN ADLER, ASSOCIATE DIRECTOR, CENTER FOR BUSINESS LAW AND REGULATION, CASE WESTERN RESERVE UNIVERSITY

Mr. ADLER. Thank you for the invitation to testify today. Thank you, Senator Voinovich, for your hospitality while I am away from the great State of Ohio. It is a pleasure to be here on this important issue.

No one likes to pay high gas prices. Consumers understandably wish gasoline was less expensive and prices less volatile. The question is how to accomplish that goal without compromising environmental protection, trampling upon State prerogatives or disrupting the efficient operation of energy markets.

History clearly demonstrates that well intentioned interventions can have perverse consequences and cause more harm than good. There have already been discussions today of some of this Nation's

experiences in the 1970s when ill considered energy policies had quite disastrous effects.

From this perspective, I commend this committee for taking a cautious and prudent approach in S. 1772 that should help ease pressures on gasoline supply without sacrificing other policy goals. I want to make a few brief comments about titles II and IV of the bill and submit my full written statement for the record.

With regard to refinery permitting, as Senator Obama noted earlier, just about everyone agrees that there is a clear need for increased refining capacity in the country. While existing domestic refining capacity may be adequate to meet current needs, demand is rising and current capacity is unable to respond to surges in demand or disruptions in supply. This creates both upward pressure on prices as well as increased volatility of prices.

I believe it is indisputable that cumulative regulatory burdens play some role in discouraging investment in the refining sector. This is also a conclusion reached by the Federal Trade Commission in its June 2005 report on gas prices. Insofar as regulations increase the cost of constructing, expanding and/or operating refinery facilities, they decrease the attractiveness of such investment as compared to available alternatives.

While I would agree that regulatory burdens cannot explain the entirety of refinery investment trends, there should be little doubt that regulatory costs have an effect on the margin and the greater the costs and uncertainty involved with existing regulations, the greater that effect will be.

Streamlining the permitting process is an effective way to reduce the cost of uncertainty involved with environmental compliance without sacrificing environmental protection. As the experiences of many State environmental agencies have shown, Colorado is certainly among them, it is possible to streamline the permitting process without sacrificing environmental goals through the adoption of coordinated, simultaneous reviews of various permitting requirements across environmental media, establishing deadlines for permitting decisions and other innovations. Some States even offer money back guarantees on permit fees for failure to meet deadlines. Such measures are fully compatible with high levels of environmental performance.

Even if skeptics are correct, the regulations play a minor, insignificant role in investment decisions in this area. This provision proposes minimal risk. As Senator Mitchell already noted, if streamlining the permitting process for new refineries does not increase the attractiveness of such investments, permitting provisions will not be invoked as no Governor will seek a refinery permitting agreement if there is no interest in expanding or constructing a refinery. Nothing is lost.

While reasonable people may disagree on the extent to which title II of this bill will spur additional investment in refining capacity, I do not see how adoption of this measure will cause any harm. It leaves in place the substantive requirements of State and Federal law that merely seeks to facilitate streamlining and the expeditious processing of the permitting process.

As for the boutique fuel provisions, let me say the ability of gasoline markets to respond to supply disruptions and price changes

have been severely hampered by the proliferation of boutique fuel requirements. While such regulations play an important role in reducing air pollution, they have balkanized gasoline markets making some regions more vulnerable to supply disruptions and volatile gasoline prices. Again, I refer this committee to the June 2005 FTC report which talks about how the proliferation of boutique fuel requirements have left certain regions of the country particularly vulnerable to price volatility and price increases.

Insofar as this bill provides for a gradual reduction in fuel types, it is a welcome step. Under these provisions, States will continue to benefit from the pollution reduction benefits of such fuels with the aggregate number of fuel formulas a refiner is required to produce and therefore the extent to which national gasoline markets are further fragmented will decline over time.

In closing, let me reiterate that Federal interventions in energy markets have always had the potential to do harm as well as good. Given some of the troubling proposals recently advanced to address concerns about increased gasoline prices including some of the provisions of the recently enacted House bill, I appreciate this committee's prudent approach to this important issue. It is far wiser to adopt modest measures designed to facilitate the market's natural response to supply disruptions and price increases than to adopt additional layers of regulatory mandates or to trample upon State and local prerogatives.

I recognize the importance of these issues to you and your constituents. I commend our efforts to develop a sound policy response to these concerns and to increase refinery capacity. I hope my perspective has been helpful. I am happy to answer any questions.

Senator INHOFE. Thank you, Professor Adler.

Mr. Schaeffer, you are the director of the Environmental Integrity Project. Tell me what that is?

Mr. SCHAEFFER. We are a public interest group that tries to promote enforcement of environmental laws.

Senator INHOFE. Are you involved in any challenges of any laws?

Mr. SCHAEFFER. We have challenged successfully a law that would have rethought pared back emission monitoring requirements.

Senator INHOFE. In your statement you said S. 1772 is "likely to face court challenges." Would that be from you?

Mr. SCHAEFFER. That is possible.

Senator INHOFE. Senator Mitchell, it is interesting that all the members here, all five were in State or local government so we all know what unfunded mandates are, we know what local concerns are. I think we probably share the concept that the closer to the people, the better the decisions.

I think we have all felt the insufficient refining capacity for quite a while and we are concerned about the Federal Government and what we should do to act to address this problem but the Federal role has to be considered with the States. The Gas PRICE Act was carefully drafted to assist participating States voluntarily, not to preempt them.

As a local elected representative and speaking on behalf of the State, do you think we have managed to meet this goal, this challenge we have?

Mr. MITCHELL. I believe you have met that goal entirely in several different ways. The opportunities and incentives that are available for BRAC placement of refinery facilities are entirely optional to the States and local communities that will be affected. If they want to pursue those opportunities, they have incentives and additional assistance afforded by the Act. There is no pressure or requirement or mandate that they pursue those opportunities.

Similarly, with respect to the streamlining, the permitting agreement, that again is entirely optional with the State. Any State executive is entirely free to ignore that opportunity but if he or she wishes to facilitate and to streamline the process of approving permitting, then they are granted the opportunity to reach an agreement with EPA to do just that, to streamline the process and they have a voice throughout the entire process.

Senator INHOFE. Professor Adler, I will read a statement by the distinguished Minority Leader of the Senate. It says, "I think we need more refining capacity but you need to expand it according to the law." In reading title II, which you quoted, it says, "Savings, nothing in this section affects the operation or implementation of otherwise applicable law regarding permits necessary for the construction and operation of a refinery." Do you think this statement and the law in general in S. 1772 complies with the desires of Senator Reid?

Mr. ADLER. Certainly. I think the bill is trying to facilitate and streamline the permitting process without changing the substantive laws that apply to refining facilities. I think, as I mentioned in my testimony, States have demonstrated there is substantial ability to make these processes quicker, to streamline the process without sacrificing the substantive requirements. We are not talking about exempting refineries from air pollution or water pollution limits; we are talking about making it easier for States to site facilities and expansions if those expansions are desired.

Senator INHOFE. Isn't it true that as a general rule and perhaps Senator Mitchell would be a better one to answer this, the State permit requirements are more stringent in most cases than the Federal requirements?

Mr. ADLER. It is going to vary from State to State and it is going to vary on the subject matter. We see quite a bit of diversity. One thing we do see across the board is that States increasingly take environmental issues seriously and there certainly are many States that exceed Federal standards both in terms of their substantive requirements but as well as in terms of the amount of innovation they have demonstrated in ways of meeting environmental goals without sacrificing economic benefits.

Senator INHOFE. Senator Mitchell.

Mr. MITCHELL. The States have to at least meet Federal standards but they are free to be more protective of their environmental quality and many are. One of the virtues of your proposal is that it does nothing to limit that State flexibility. By streamlining the process and bringing everyone to the same table, the States still maintain all of their substantive environmental protections.

Senator INHOFE. Thank you.

Senator Jeffords.

Senator JEFFORDS. Senator Mitchell have you discussed the reuse of the Lowry Air Force Base in Denver in your testimony. At any time did Lowry consider locating a refinery on that property, even in the absence of the grants authorized by this bill?

Mr. MITCHELL. Lowry Air Force Base would not be an appropriate site to consider for a refinery because it is in the middle of a residential area. The opportunity afforded by this bill for communities within reasonable distance of bases that are not in close proximity to residential areas that I think is so important.

Senator JEFFORDS. Thank you.

Senator INHOFE. Senator Voinovich.

Senator VOINOVICH. Mr. Adler, one of the things you mentioned were boutique fuels, reformulated gasoline. Could you tell us how they impact refining capacity and spikes in oil prices?

Mr. ADLER. Sure.

Senator VOINOVICH. Do you think we will have more requests for reformulated gasoline with the advent of the new ozone and particulate matter standards that States are going to have to comply with?

Mr. ADLER. First, I certainly think States will be looking at pretty much everything available. Certain States will be looking at virtually everything available to meet the new NOx standards.

Boutique fuels generally, I should note the entire justification for Federal regulation of gasoline was premised on the idea that the Nation as a whole benefits if there is a single standard for a fungible product so that you can make it, refine it in Texas, refine it in California and refine it in Illinois but it doesn't have to be sold there. That reduces the price of the product because you can take advantage of economies of scale. It also means there is a supply disruption. Several years ago if I recall correctly, there was an Illinois refinery that primarily made gasoline for midwestern markets. There was a supply disruption and they were unable to produce for a while.

When you have boutique fuel requirements, different parts of the country are required to sell different types of gasoline, that means when you have a shortage like this, they can't go to the general market and get gasoline from anywhere, they have to get gasoline being produced that meets the specific demands of the Illinois market.

When you have in the neighborhood of a dozen different boutique fuels, that means the options for communities that face supply disruption using some of these fuels are more limited and the ability of the market as a whole to respond to those supply disruptions and to prevent prices from spiking are limited. I would note the Federal Trade Commission report from June 2005 did note those parts of the country that have the most stringent boutique fuel requirements have also been most vulnerable to price volatility because they are least able to get gasoline from other parts of the country. California is a good example of this. California's fuel standard is the most stringent in the country and there aren't many places outside of California where they can acquire gasoline that meets the same standards.

One thing about this bill in terms of meeting future air quality standards is that unlike the Barton bill, it doesn't eliminate bou-

tique fuels tomorrow, doesn't eliminate boutique fuels the second it is enacted, it merely says once States are finished using a certain fuel requirement, once it is no longer in an existing State implementation plan, then the list of fuels will be reduced.

I don't believe this in any significant way reduces State flexibility. I think it leaves on the table for the foreseeable future all the tools States need. I have written extensively on the need to get States lots of flexibility. Just over time in a gradual way, it is going to reduce the total number of fuels that refiners may have to produce. Over time that will reduce volatility and make it easier for the refining sector to respond to supply disruptions.

Senator VOINOVICH. Do you think this legislation is going to cause anyone to build a refinery?

Mr. ADLER. It is hard to know. Certainly profit margins are a big deal in terms of refining investment, so are permitting and regulatory requirements. The FTC report I keep mentioning specifically notes that permitting and regulatory requirements influence decisions to invest in part because they influence profit margins. If it takes a company 3 years to get a permit, that investment is going to look much less attractive than if they know they are going to get an up or down decision in 1 year.

Historically, refining investments have yielded just over half the returns as investments in crude oil production or in pipelines and distribution. So for large, integrated oil companies, it has typically been the last place they want to invest their money. Currently, oil companies are experiencing really high margins in refining sector and one thing this bill does is it makes it easier both for existing companies to expand capacity but also makes it easier for the new firm that wants to come in to do that. If margins stay high, I would think this bill would increase the amount of investment in refining sector than we would have without this bill.

Senator VOINOVICH. Is there anything else you think we could put in this that would make it more attractive to get new refineries built?

Mr. ADLER. I think one of the things this committee should consider is authorizing the sort of experiments begun in the Clinton administration under things like Project Excel to say to States if they can meet or exceed existing environment requirements in a less expensive way, then they should have the ability to do that and have the ability to petition the EPA for that permission.

To give one example, there was a study about a dozen years ago of the Amoco Refinery in Yorktown finding that many of the environmental requirements placed on that refinery could be at much less cost and much lower cost. If I remember correctly, benzene emissions in particular could be reduced more cheaply than regulations provided for.

Giving States that sort of opportunity and encouraging them to take advantage of meeting or exceeding environmental goals at lower cost I think could further reduce the cost of expanding capacity without sacrificing environmental performance and creating that option for State environmental agencies I think would be a step in the right direction.

Senator INHOFE. Thank you.

Senator Boxer.

Senator BOXER. Thank you.

Mr. Adler, do you support S. 1772?

Mr. ADLER. I certainly like title II and title IV. I don't know enough about Fischer-Tropsch fuel to know whether or not they are worthy of Federal loan guarantees.

Senator BOXER. Do you support the bill at this stage?

Mr. ADLER. At this stage, I think the principles underlying titles II and IV are the right principles. Could you tweak language here? Probably but that is always the case with a new bill.

Senator BOXER. The reason I am asking, you have made a very strong statement on the general issue of subsidizing energy. I want to read it to you. You said, "Before new regulatory controls or subsidy programs are even considered, the entire Federal budget should be reviewed with an eye toward eliminating those Federal programs which inflate the use of energy, particularly those energy sources that are blamed for contributing to global warming. Instead of seeking to use fiscal instruments to accelerate or slow down the development of given energy technologies, energy policy should be shifted to neutral so as not to distort the energy marketplace."

My understanding of your work is (I am a very old economics major) that you have great faith in the marketplace. This type of bill is picking a winner clearly by what I consider to be subsidies, giveaways to the oil companies. How does that square with your very strong point that we should shift to neutral so as not to distort the energy marketplace?

Mr. ADLER. I don't think titles II and IV of the bill do pick winners. I think they are about getting out of the way so the market can operate.

Senator BOXER. But I asked about the whole bill, so you are not taking a position on the rest of it? You either are for it or against it.

Mr. ADLER. As you well know, Senator, sometimes to get things passed, different constituencies want different things. I leave to this committee what sorts of compromises need to be made but I think titles II and IV are very important.

Senator BOXER. You are willing to give up the heart of free market economics to get a couple of things in that you like because this is very strong.

Mr. ADLER. I would be happy to have titles II and IV pass by themselves.

Senator BOXER. That helps.

Mr. ADLER. That would be fine with me.

Senator BOXER. That would be fine with me.

Mr. Schaeffer, welcome back. I thought you raised a very important point about whether oil refineries can withstand damage caused by powerful hurricanes; you point out this bill doesn't do anything about upgrading existing oil refineries to harden them against damage that can cause disruptions in the fuel supply.

In California, we have everything in the book, not hurricanes but we have everything else. We have earthquakes, floods, fires, everything. We also have 21 oil refineries so I am concerned that the streamlining that Mr. Adler loves, called for in this bill, may interfere with applying California's earthquake standards to oil refineries by rushing the permitting process and in the long run could

do more harm than good. Do you have a sense there is a danger here?

Mr. SCHAEFFER. As I understand, the bill would pull out State requirements as well and consolidate it in one transaction and put them in front of Federal court. They would all be subject to that fast tracking procedure.

Sure, I would be concerned. To use the Gulf example which I am a little more familiar with, you have more than half our capacity there. That is where the big expansion projects are, that is where the industry wants to go in the short run. There will be more hurricanes, there will be more shutdowns. It doesn't seem that we are planning for that in this kind of legislation.

Senator BOXER. Thank you. If there is an area where we could agree, I would rather focus this bill on that whole issue because it is really key to us. We lost so much capacity and we are suffering all over the country because of it.

Mr. SCHAEFFER. If I could have a few seconds to answer the Chairman's question.

Senator BOXER. You can't because I only have 44 seconds and I have to ask Mr. Adler a question. Sorry.

You said you didn't see any substantive changes in environmental law.

Mr. ADLER. Substantive requirements, no.

Senator BOXER. Mr. Schaeffer, I don't think you agree with that?

Mr. SCHAEFFER. No.

Senator BOXER. I don't either. Let me lay out where I see major changes and I would like you both to comment.

I see just the following changes to environmental laws. States that get fuel waivers no longer have to make up for emissions in their SIPs. Federal monitoring requirements can be replaced by potentially less comprehensive State requirements. It changes judicial review of environmental laws, eliminating State court review. It forces local permitting decisions into mandated rigid timeframes, rushing environmental review. I guess I would start with the person who agrees with me first, Mr. Schaeffer. Did I leave anything out or are those the main things?

Mr. SCHAEFFER. I think that is a good summary to start with.

Senator BOXER. Mr. Adler, do you agree with what I said?

Mr. ADLER. I do think it clarifies what I understood and I think most people understood was the intent of the waiver provisions in the Energy Policy Act with regard to boutique fuels. I think on the other provisions, I don't believe streamlining the permitting process or giving Governors the opportunity to participate in a streamlining permitting process changes the substantive requirements, the substantive limits on emissions will remain in place.

Senator BOXER. States that get fuel waivers no longer have to make up for emissions in their SIP.

Mr. ADLER. My understanding is making clear what the Energy Policy Act intended which is an emergency waiver is granted that they will be held harmless for that.

Senator BOXER. You look at this as a statement of current law?

Mr. ADLER. A clarification.

Senator BOXER. Clarification and a restatement are very different things. I might clarify it one way and you might clarify it

another way. It to me ends up having probably dirtier air at the end of the day.

My time is up and I thank you.

Senator INHOFE. Senator Jeffords didn't have his full time.

Senator JEFFORDS. I have a question for Eric Schaeffer. In your view, is there a sufficient record here to legislate? Have we heard from all the parties that we need to? Do we know what the position of the refinery industry is with regard to these changes? What about the States and local governments?

Mr. SCHAEFFER. Representatives of the refinery industry at other hearings made statements suggesting that these kinds of fixes to permits are, and I am paraphrasing and interpreting to be fair, not going to significantly affect capacity decisions. They have said flat out, we have not said environmental rules drive gasoline prices. That is from the head of API, the American Petroleum Institute.

Bob Slaughter, National Petroleum Refiners Association, has said, "I don't tinker anymore with boutique fuels requirements. We have eliminated the oxygenate rules that were giving us heartburn. Let us let it lie." So they are on the record.

Having said that, I notice they are not here today and it might be useful to get their testimony and whether they feel this would make a significant impact.

You do have people that are kind of hurting now in Gulf Coast communities. I would ask them if they think 90 days is enough for them to get their arms around an expansion the size of Motiva's at Port Arthur which was only recently under water.

Finally, I would hope that you can find a way to talk to people who actually write the permits. I understand folks have different positions at the political level. Get to the people who actually write the permits and find out if they think some of these projects can really be reviewed seriously in the time this bill would allow.

Senator JEFFORDS. Thank you.

Senator INHOFE. I want to thank our witnesses and we are adjourned.

[Whereupon, at 4:19 p.m., the committee was adjourned.]

[Additional statements submitted for the record follow.]

STATEMENT OF HON. CHRISTOPHER S. BOND, U.S. SENATOR FROM THE STATE OF MISSOURI

Thank you, Mr Chairman. I commend your leadership in drafting this important legislation and bringing it in front of this committee for a hearing. I believe that passing this legislation is another important step in helping our Nation reduce its dependence on foreign sources of energy. Conservation must be an important component of our energy policy, but it cannot be the only component. We simply cannot conserve our way to energy independence.

The simple fact of the matter is that our Nation's energy supplies are not keeping up with demand. This situation has been further exacerbated by the recent hurricanes of Katrina and Rita, which shut down a dozen refineries and disrupted a fifth of our Nation's gasoline supply.

One of the main reasons why our Nation's supply of energy is not keeping pace with demand and causing higher prices is due to the lack of refining capacity. The last oil refinery built in the United States was almost 30 years ago. According to the Wall Street Journal, in 1981, there were 125 refineries in the United States with a capacity of 18.6 million barrels a day. Today, there are 148 refineries with a capacity of 16.8 million barrels per day this despite the fact that U.S. demand for gasoline has increased more than 20 percent.

A big reason for the lack of refining capacity is because, over the years, we have created a regulatory climate that has made it extraordinarily difficult and costly to

build new refineries. The permitting process for building these new refineries along with the all of the court challenges can take years to accomplish. One such company in Arizona that intends to build a new refinery has been trying for almost ten years. These delays, in turn, drive up costs so much that constructing the refinery becomes economically infeasible.

I believe S. 1772 takes an important step forward in streamlining the permitting process for new refineries. Specifically, title II of the establishes an opt-in program for State Governors requiring the EPA to coordinate all necessary permits for the construction or expansion of refineries. It also provides participating States with technical and financial resources to assist in permitting and establishes deadlines for permit approval. The bill does this without changing or modifying any existing laws. I am also pleased that the bill provides economic development incentives for building refineries at BRAC sites. Finally, the bill establishes demonstration projects for future fuels (diesel and jet fuel) as an emission control strategy, and holds States harmless for acting pursuant to the emergency waivers under EPACT 2005's Sec 1541.

While I very much support this bill, I believe that it is absolutely critical that coal-based refineries be included in as part of the definition of "refinery" in this bill. The definition of refinery should be amended to include refineries that can use coal as feedstock. There are over 250 billion tons of recoverable coal reserves in the United States, which is equivalent to an estimated 800 billion barrels of oil. Saudi Arabia has reserves of roughly 260 billion barrels of oil. Coal already provides more than half of the Nation's electricity and is the largest single source of energy production at more than 31 percent of the total. Coal can be converted, through proven existing modern technology, into clean, zero sulphur synthetic oil and oil products at roughly $35 per barrel compared to $67 per barrel of oil.

Coal liquefaction or coal to liquid refineries can be located anywhere that coal is produced. This proven technology can produce clean transportation fuels using domestic coal; thereby expanding our supply of transportation fuels while decreasing our dependence on foreign sources of energy. This includes gasoline, diesel and other liquid fuels. The great thing about coal refined diesel fuel is that it will now be low in sulphur—it will come out cleaner, enable refiners meet their clean-air requirements and help the public lead healthier lives.

Unfortunately, much like oil refineries, there are serious impediments to constructing coal to liquid plants. One reason is that the front end cost of construction for these plants is very high. According to the National Mining Association, capital costs for constructing a 10,000 barrel per day plant can range between $600–700 million. Furthermore, the lead time for a coal refinery, as with most refineries is usually a minimum of five to seven years even under the best circumstances.

The existing obstacles to deploying coal to liquid technologies are challenging. Like the oil industry, the coal mining industry faces numerous permit requirements, permit challenges and repeated appeals. As with oil refinery permitting, the delays in this process can drive up costs and make constructing coal-based or coal to liquid plants economically infeasible.

That is why I believe that it is imperative to give the same incentives and protection for coal to liquid refineries that are provided to petroleum refineries under S. 1772. According to the Energy Information Agency (EIA), the U.S. now depends on foreign sources of petroleum for 56 percent of its needs. The EIA estimates that this share will increase to 70 percent by 2025 if nothing changes. With our Nation's abundant supply of domestic coal, increasing dependence on foreign sources of energy, and our urgent need for reliable and affordable supplies of fuel; I believe we should be promoting the deployment of coal to liquid refineries. Including coal based and coal to liquid refineries in S. 1772 would be positive step in this direction.

Thank You, Mr. Chairman, and I ask that my remarks be included in the record.

STATEMENT OF BRIAN MANNIX, ASSOCIATE ADMINISTRATOR, OFFICE OF POLICY, ECONOMICS, AND INNOVATION, U.S. ENVIRONMENTAL PROTECTION AGENCY

INTRODUCTION

Thank you, Mr. Chairman and Members of the Committee for the invitation to appear here today and provide testimony on S. 1772, the Gas Petroleum Refiner Improvement and Community Empowerment Act. I am Brian Mannix, the Associate Administrator of the Office of Policy, Economics and Innovation at the Environmental Protection Agency (EPA). I commend the Committee for proposing steps to address the Nation's critical need for additional refining capacity and a sustained fuel supply. The issue of refinery permitting is not new. I was at the Energy Depart-

ment during the 1978–79 oil crisis and we tried to address it then. While conditions in 2005 are certainly different from those that occurred at the end of the 1970s, it is incumbent on us both to learn from the past experience as well as to plan for the future.

I know that you have also heard that more than 100 refineries have been closed during the past 25 years. Most of the refineries that closed were not economically feasible, and existed to collect a variety of government subsidies, mostly associated with oil price and allocation regulations, which disappeared in 1981. Since that time, overall refining capacity has increased primarily through expansion at existing facilities.

As the events of the last 2 months have helped demonstrate, however, the Nation needs to expand and diversify the location of its modern refining capacity. The entire country has felt the impact of the hurricanes on retail gas prices. Major refineries remain shut down or are operating at a reduced capacity in Louisiana and Texas due to Hurricanes Katrina and Rita. I believe a streamlined permitting process can be part of the solution. We also should make other improvements in the operation of our Nation's fuel production and supply system.

This Administration is committed to ensuring that industry is able to produce and distribute gasoline, diesel fuel, jet fuel, and home heating oil to consumers while protecting the environment and public health. To assist the Senate in its review of these conditions and consideration of legislation, I would like to briefly: (1) review the Agency's actions with respect fuel supply and distribution issues that occurred in response to the recent hurricanes; (2) outline current environmental permitting requirements for petroleum refineries; (3) highlight some of our most recent regulatory reforms and initiatives that are reducing unnecessary burden and streamlining the regulatory requirements that affect the fuel sector; and (4) discuss S. 1772, the Gas Petroleum Refiner Improvement and Community Empowerment Act.

RESPONSE TO HURRICANES KATRINA AND RITA

Over the past 2 months, natural disasters in the Gulf region have resulted in increased gasoline prices. The damage caused by Hurricanes Katrina and Rita disrupted between 13 and 25 percent of the Nation's fuel capacity and the recovery of oil production, natural gas production and refinery throughput is continuing.

EPA responded quickly and decisively in addressing the fuel supply disruption in the Gulf Region, in conjunction with the Department of Energy. In the days immediately following Hurricane Katrina, the disruption to the fuel production and distribution infrastructure made it necessary to minimize the potential for supply disruption and create the greatest flexibility possible for the fuel distribution system.

Beginning on August 30, 2 days after Hurricane Katrina hit the Gulf Coast, EPA issued various temporary waivers that applied to: (1) low sulfur diesel fuel requirements; (2) Reid Vapor Pressure (RVP) standards for the control of volatility of gasoline during the summer months; (3) State gasoline sulfur limits; and (4) reformulated gasoline requirements (RFG). To address each fuel supply situation, the waivers were issued for various periods of time and have been applicable at the national, State or local level. Several waivers are still in effect for RFG requirements in the Houston/Dallas Ft. Worth area, for the Texas Low-Emission Diesel Program, for RFG requirements applicable to the Richmond, Virginia, and St. Louis, Missouri, and certain conventional fuel produced in Louisiana. In addition, waiver of low-sulfur diesel requirements are continuing in the Petroleum Administration for Defense District (PADD) III and certain other PADD I and II states. These waivers were granted in response to requests from Governors to address fuel supply and distribution issues, and to serve the public interest. Whenever we issue such fuel waivers, we address the risk of contamination of emission control systems in motor vehicles.

In addition to our short-term actions, we are working to address long-term concerns. To facilitate construction of new refineries to meet energy needs, EPA is reviewing the new authority conferred on the Agency through title III, subtitle H of the Energy Policy Act of 2005. This law authorizes the Administrator to enter into a refinery permitting cooperative agreement with a State; to accept a consolidated application for all environmental permits required by EPA for a refinery; and to enter into a Memorandum of Agreement with other Federal Agencies and States to coordinate consideration of refinery permits. It also authorizes the EPA to provide financial, technical and other assistance to States related to refinery permits.

S. 1772, THE GASOLINE PETROLEUM REFINER IMPROVEMENT AND COMMUNITY EMPOWERMENT ACT

I would like to address various provisions of this bill that either confer new authority to EPA or involve the Agency's implementation of existing statutory authority.

Title II—Refinery Permitting Process

We can, and should, take steps to improve the efficiency of our permitting process and remove any unnecessary burden and delay.

In general, domestic refining capacity has increased through steady expansion of operations at existing refineries, even as smaller refineries have closed. Because most permits are issued by State and local authorities, EPA does not routinely track permitting activities for refineries and cannot provide precise numbers concerning such activity. However, based on information we currently have in technology clearinghouses and a recent survey of refinery activities, we estimate that approximately 100 permits have been issued to refineries since 2000. It should be noted that, at this juncture, EPA cannot determine how many of these permits were issued for expanded production. Approximately 60 of the permit applications in2000–2003 involved projects to comply with Tier 2 gasoline requirements and may not necessarily involve increased production capacity.

A broad scope of environmental issues may be present in siting a new facility or expanding the capacity of an existing one pursuant to the Clean Air Act, the Clean Water Act, the Resource Conservation and Recovery Act, the National Environmental Policy Act and other Federal, State and local laws. Substantial "up front" work is also required regarding site and design factors prior to the submission of an application for a new refinery. Depending on the complexity of the refinery and the siting, the permitting process can take between one and 2 years *after* a complete application is filed. Those seeking to construct refineries may also revise their applications after they have been submitted. In addition, administrative appeals during the permitting process and judicial review can add substantially to the time required for final approval.

As mentioned earlier, under current Federal environmental law and regulations, State and local authorities consider and approve most of the environmental permits that are required for refineries. States may also impose separate or additional requirements on refineries that can be more stringent than those required for compliance with Federal law and regulations. In addition, State and local decisionmaking with respect to refineries and other large industrial and commercial facilities can frequently involve land use and other local issues, such as conditional use permits, local fire, building and plumbing codes, as well as connections to sewer systems and construction approvals.

With respect to the Committee's review of S. 1772, it may be helpful to briefly outline in more detail some of the specific requirements applicable to refineries under our Nation's major environmental laws.

CLEAN AIR ACT PERMITTING

Currently, a number of permitting provisions stemming from the Clean Air Act apply to construction of a new refinery or expansion of an existing refinery. A New Source Review (NSR) permit must be obtained before construction starts. States typically take 12–18 months to issue NSR permits for large facilities, although this time period can vary significantly and does not include the additional time needed if an administrative appeal is filed.

A Title V "operating permit" is also required for a refinery that constitutes a major source. This program was added to the Clean Air Act in the 1990 amendments to consolidate in a single document all Federal and State regulations applicable to the source. It does not create new substantive requirements. Once it submits a complete application, the facility can operate under an "application shield" while the title V permit is being processed. States must take final action on the permit application within 18 months. If the permit applicant or an interested stakeholder disagrees with the permit terms or conditions, they may file an administrative appeal or petition. This will add additional time to the process, although the facility can continue to operate during the appeals process.

Applicants for a new refinery would also need to comply with other Clean Air Act regulations including New Source Performance Standards, emission standards for hazardous air pollutants and Compliance Assurance Monitoring requirements. Depending on the location of a facility, emission "offsets" may also be required based on the facility's emissions.

The President's Clear Skies cap and trade approach will give our States a powerful, efficient and proven tool for meeting new, health-based air quality standards for fine particles and ozone. EPA has informed over 500 counties that they either do not meet or that they contribute to another county not meeting the new standards. That relatively straightforward action has now triggered a complex process for the States to develop and implement plans to meet the national standards.

Clear Skies, in conjunction with the Bush administration's new rules cutting diesel engine pollution by more than 90 percent and other Clean Air Act programs, will bring most counties into attainment with the new standards without having to take any new local measures beyond the Clear Skies power plant reductions. To the extent Clear Skies can provide for attainment of Clean Air Act health-based standards, States and local governments will have a lighter burden in putting together their local control strategies to attain the National Ambient Air Quality Standards (NAAQS). This may result in an ability at the State and local level to accommodate new or expanded manufacturing or refining activities within plans to meet the NAAQS.

CLEAN WATER ACT PERMITTING

As you know, refineries, similar to other facilities, are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit if they discharge pollutants from a point source into waters of the U.S. Similar to our Clean Air Act programs, EPA has authorized States to issue permits to most States with a few exceptions. The State programs closely mirror the Federal program, but some have additional requirements such as public notice and comment periods or technical requirements that go beyond the Federal requirements. The Federal program does provide a number of permitting flexibilities.

EPA recently finalized the pretreatment streamlining rule, which amends certain provisions of the General Pretreatment Regulations regarding oversight of industrial users that discharge to Publically Owned Treatment Works (POTWs). The pretreatment streamlining rule will reduce the regulatory burden on both indirect industrial dischargers as well as POTW Control Authorities without adversely affecting environmental protection. It will also allow Control Authorities to better focus oversight resources on Industrial Users with the greatest potential for affecting POTW operations or the environment. The reduction in regulatory burden is applicable to both existing Industrial Users and to any new Industrial Users, including any new refineries which choose to discharge pollutants to a POTW, rather than directly to surface waters via a NPDES permit. One change to the regulations specifically benefits refineries and organic chemical manufacturers. POTWs are allowed to use concentration-based standards rather than calculate mass limits based on a facility's wastewater discharge. This amendment will make it easier for POTWs to implement the standards and for facilities to monitor their own performance.

The changes EPA recently adopted also provide another type of flexibility to POTWs by authorizing them to use general permits instead of an individual permit in certain circumstances. General permits cover multiple facilities within a specific category. This type of permit provides a cost-effective option for permitting agencies because of the large number of facilities that can be covered under a single permit. For example, a large number of facilities that have certain elements in common may be covered under a general permit without expending the time and money necessary to issue an individual permit to each of these facilities. In addition, using a general permit ensures consistency of permit conditions for specific facilities.

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) PERMITTING

Regulated entities that generate hazardous waste are subject to waste accumulation, manifesting, and record-keeping standards. Facilities that treat, store, or dispose of hazardous waste must obtain a permit either from EPA or, more likely from a State agency that EPA has authorized to implement the permitting program. States may have more stringent requirements than the Federal RCRA program.

It has been the EPA's experience that more recent petroleum refineries generally are designed to only store materials in secure containers and tanks for less than 90 days, so that they are most often classified as generators only, and thus are not subject to RCRA permitting. However, a few petroleum refineries do have RCRA permits and in circumstances where a refinery expansion results in a change in hazardous waste management, a permit modification may be required. The modification process depends on the significance of the modification and obtaining a permit could take 1–2 years, depending on complexity. A temporary authorization (to start constructing the changes while awaiting the modification approval) may be allowable in certain circumstances.

The Agency has already taken steps to streamline the RCRA permitting process. Specifically, in September, EPA issued the RCRA standardized permit rule, which allows certain waste facilities to submit an abbreviated permit application. These newly streamlined permitting requirements result in a shorter permitting time line and shorter time lines for any subsequent permit modifications. It is estimated that the standardized permitting process will save the States and industry more than three million dollars a year.

Finally, the Agency continues to promote innovative ways waste can be used to supplement the Nation's energy supplies. EPA currently excludes specific industrial wastes, known as comparable fuels, from the hazardous waste management requirements of RCRA when they are used for energy production and do not contain hazardous constituent levels that exceed those found in a typical benchmark fuel used by facilities. This type of waste utilization saves energy by reducing the amount of hazardous waste that would otherwise be treated and disposed. EPA is examining the effectiveness of the current RCRA comparable fuel program and considering whether other industrial wastes could be safely used as well.

Title III—Efficiency

Now I would like to briefly discuss Title III, Efficiency. These provisions concern utilizing EPA's Natural Gas STAR program as a grant vehicle for entities seeking to reduce methane emissions in the oil and gas industries, and direct EPA to organize workshops on methane emission reduction techniques. The Natural Gas STAR Program is a voluntary partnership that encourages companies to adopt cost-effective technologies and practices that improve operational efficiency and reduce emissions of methane. EPA managers and program staff are currently assessing this provision of the bill, including its effect on current program resources.

Title IV—Fuel Emergency Waivers and Boutique Fuel Requirements

Section 401 of this title provides a "hold harmless" provision for States for emissions resulting from waivers granted by EPA under the new fuel emergency waiver provisions contained in the Energy Policy Act of 2005.

To date, EPA believes that its exercise of the new waiver authority contained in section 1541 of the Energy Policy Act of 2005 has not resulted in excessive emissions. For example, on August 30, EPA issued waivers of Federal RVP standards effectively allowing the early sale of "wintertime gasoline." Since the sale of "summertime" RVP-controlled gasoline ends in most parts of the country on September 15, as an initial matter, the Agency does not believe that any increased emissions resulting from the waiver for the 2-week period prior to September 15 were substantial. In addition, EPA would note that the letter informing States and other parties that the waiver had been granted provided that, to the extent practicable, those involved in the fuel distribution system take all reasonable steps to distribute and sell on-hand inventories of compliant fuel. The Agency, however, will continue to review this matter as conditions justifying the granting of fuel waivers continue to exist.

Section 402 of S. 1772 amends section 211(c)(4)(C)(vii) of the Clean Air Act. This provision was also part of the recently enacted Energy Policy Act of 2005. This provision requires the EPA to remove a fuel from the list of fuels that are otherwise approvable as part of a State Implementation Plan (SIP) if such a fuel ceases to be included in a SIP or is identical to a Federal fuel formulation implemented by EPA.

In general, section 211 of the Clean Air Act authorizes EPA, under certain conditions, to approve individual State fuels as part of a State Implementation Plan. While such individual State fuels, often known as "boutique fuels" normally do not strain the fuel production and distribution system, the variation in State and local fuel requirements can make it more difficult to address gasoline supply shortages in times of disruption, such as occurred with the recent hurricanes.

Roughly 15 States have adopted their own clean fuel programs—typically requiring fuels to be sold within the State or within certain areas in the State, to have a lower seasonal volatility than Federal standards. As noted in a Staff White Paper produced by EPA in 2001, we believe that constraining the number of boutique fuels could potentially be beneficial in terms of improving fuel distribution and fungibility. However, such action should be done in a careful manner in order to ensure that environmental benefits of clean fuels are maintained and any unintended negative impacts on fuel supply are avoided.

Title V—Future Fuels

This provision requires the EPA to conduct a research and demonstration program to evaluate the air quality benefits of Fischer-Tropsch transportation fuel and authorizes loan guarantees for domestic foal and petroleum coke-based Fischer-Tropsch commercial demonstration projects. We are currently evaluating this provision and its impact on the Agency's overall resources. A similar provision, including

authorizations for the Department of Energy, was also part of the recently enacted Energy Policy Act of 2005.

CONCLUSION

We believe S. 1772 takes several important steps in the right direction by including provisions to streamline refinery permitting requirements and expand refinery capacity in the U.S. This provides a mechanism to reduce the proliferation of State fuel requirements where such fuels are no longer utilized or duplicative of Federal standards, addressing the potential consequences of fuel waivers on State SIP compliance, among other provisions. We look forward to working with the Committee and its Members as it continues to consider this legislation and provide the Committee with any needed technical assistance.

Thank you for the opportunity to appear before you today. I would be happy to answer any questions that you may have.

RESPONSES BY BRIAN MANNIX TO ADDITIONAL QUESTIONS FROM SENATOR JEFFORDS

Question 1. Earlier this year, Congress passed provisions of the Energy bill that provide streamlined permitting procedures for refineries. These provisions are similar to those that are before us today, yet they would not create any conflicts with existing environmental laws. As you note in your testimony, EPA is reviewing its new authority under the law. What is EPA doing to implement these provisions? Is there any factual record that shows that we should change these provisions less than 3 months after they were passed? Has anyone even sought to use them yet?

Response. The Energy Policy Act of 2005 made substantial changes to existing law regarding the production and regulation of fuels including removal of the oxygenate mandate in the reformulated gasoline (RFG) program and enactment of a renewable fuels standard (RFS). Following enactment of the legislation on August 8 of this year, EPA undertook to review the final statutory provisions contained in the conference report to accompany the legislation. The Agency then began a process to assess how the new law can be implemented across the range of current programs and responsibilities. The review of title III, subtitle H concerning refinery revitalization is part of this overall process, and is not yet complete.

With respect to your question concerning whether anyone has sought to utilize this new law, as you know, subtitle H indicates that "at the request of a Governor of a State, the Administrator may enter into a refinery permitting cooperative agreement." To date, EPA has not entered into such an agreement with a State. With respect to your question concerning whether the existing law should be changed, the Agency favors steps to improve the refinery permitting process.

Question 2. EPA Assistant Administrator Jeffrey Holmstead testified in 2004 that the cost of reformulated gasoline was approximately 4–8 cents per gallon more than conventional gasoline. Reformulated gasoline is one of the most expensive of the so-called "boutique fuels." Mr. Holmstead noted that the primary component of the cost of gasoline was the price of crude oil. He stated: "We believe that environmental regulations have had a minimal effect on gasoline prices." Do you have any evidence that EPA Assistant Administrator Holmstead's testimony was not accurate?

Response. No. Assistant Administrator Holmstead's testimony is every bit as applicable and accurate today as it was in 2004. We did not see any evidence that the recent run up in gasoline prices was caused by environmental regulations. Current industry data continues to show that crude oil prices remain the single largest contributor to the overall fuel price. Refining margins, which include all components of refining costs, are about a quarter of the overall price of gasoline. Environmental requirements are a fraction of this refining factor. Additionally, distribution costs, a minor component, include a very small portion for environmental requirements.

Question 3. In your written testimony you note, EPA waived both sulfur and volatility controls for fuel in the wake of the Hurricane Katrina. There have been national, regional, State and local waivers for various periods of time and some are still in effect. We have had very high gasoline prices as a result of Katrina. In light of the waivers, which temporarily eliminated fuels requirements, did environmental requirements contribute to increased gas prices resulting from the Katrina Hurricane? If they did, please explain how, since the EPA requirements were waived?

Response. We do not believe environmental requirements were a contributing factor in gasoline price increases associated with Hurricanes Katrina or Rita. These extraordinary natural disasters in the Gulf of Mexico damaged refineries and pipelines that supply much of the Nation. The purpose of the waivers was to quickly address the impacts of the disaster on fuel supplies. In the days immediately following Hur-

ricane Katrina, the disruption to the fuel production and distribution infrastructure made it necessary to minimize the potential for supply disruption and create the greatest flexibility possible for the fuel distribution system to respond to this disaster. The waivers we issued were all designed to address supply issues. Fuel prices were not taken into consideration in our deliberations. Additionally, during this period similar increases in higher gasoline prices could be observed in areas that received waivers and areas that did not.

Question 4. In 2000, the EPA Administrator testified before the House Government Reform Committee providing precise information on refinery permit application and the processing time for permits for expansions at existing refineries. She indicated that between 1999–2000, there were 12 permits issued within that 2-year period. Half of the 12 permits were issued within 5 months and the other half within one year. You mention in your testimony that permitting can take 1–2 years after a complete permit application is issued. Is that figure based on actual permitting times since 2000 or is it an estimate? Does EPA have any specific updated information regarding the actual time to process expansion permits at refineries? Why, in EPA's testimony before the Senate Environment and Public Works Committee on Oct. 18, 2005, was EPA unable to provide similar information? Why was EPA able to distinguish between permits for new facilities versus permits for expansion of existing facilities in 2000 but not in 2005?

Response. My testimony citing the time it took to get a refinery permit as being 1 to 2 years was an estimate based on EPA and State experience for permits for other types of new facilities—facilities that are large and complex. We do not have data on permits for new refineries because only one has been issued in the past 25 years. Nonetheless, we expect 1 to 2 years, after a complete application is filed, to be a good estimate for permitting new refineries.

The figures you cite from previous testimony are for issuing permits at existing refineries. These estimates—and it is most appropriate to call them estimates—are generally made by relying on data voluntarily provided by the States that actually do the refinery permitting. We recently reviewed these data, and do not see significant overall differences in the permitting time lines for existing facilities as compared to 2000. However, it is important to note that these data are not limited to refinery "expansions" and may consist of projects for other purposes, such as complying with Tier 2 fuel requirements. The data also include projects that do not trigger the "major modification" provisions of New Source Review and, as such, are subject to State "minor NSR" permitting, which can often be accomplished faster.

To the best of my knowledge, EPA and States can distinguish new refinery permits from existing refinery permits. As I noted, there has been only one new refinery permit in the last 25 years.

Question 5. In 2000, EPA testified before the House Government Reform Committee providing precise information on refinery permit applications. EPA testified that it received one permit application for a new refinery in 25 years and that between 1999 and 2000 EPA received 12 applications for expansion of existing facilities.

Response. [None.]

Question 6. EPA testified in 2000 that most permit applications were resolved within 12 months and about half of them were acted upon within 5 months. EPA testified in Oct. 18, 2005 that the permitting process can take between 1 and 2 years to complete. Are you testifying that under the Bush administration the time to review a refinery permit has more than doubled? Why was EPA able to review permits quicker under the previous Administration than under the current Administration?

Response. As noted in the answer to Question 4, the available data we have from States do not indicate any significant change in permitting time for permits at existing refineries between 2000 and 2005. It is important to recognize the difference between permitting for new and existing refineries. As stated in my testimony, the 1- to 2-year figure is referring to new (also referred to as "greenfield") refineries. The 2000 testimony was based on data related to existing refineries. There has only been one permit issued for a new refinery in more than 25 years, and that was issued in 2005. Thus, the 2000 testimony did not address the 1- to 2-year timeframe for new refineries.

It is also important to clarify that it is States, not EPA, who process air permit applications (except in some very rare instances where EPA is the permitting authority). These data refer to State review times, not, as the question suggests, EPA review times.

Finally, note that both 2000 and 2005 testimony refer to the permitting time frames for New Source Review (NSR) permits. A Title V "operating permit" is also required for a refinery that constitutes a major source. States must take final action on an operating permit application within 18 months. If the permit applicant or an interested stakeholder disagrees with the permit terms or conditions, they may file an administrative appeal or petition. This will add additional time to the process, although the facility can continue to operate during the appeals process.

Question 7. How many permit applications for new refineries did EPA receive between FY 2001–FY 2005?

Response. EPA does not generally receive permit applications for refineries; State and local permitting agencies receive them. As noted in the answer to question 4 above, EPA occasionally receives data from the States concerning their permitting activities. We are aware of only one permit application for a new refinery: a major new refinery with a production capacity of 150,000 barrels per day of motor fuels (including gasoline, diesel fuel, and jet fuel), in the State of Arizona. This project received its major NSR construction permit earlier this year.

We are also aware of a much smaller refinery being proposed by three affiliated tribes (the Mandan, Hidatsa, and Arikara Nation) on the Fort Berthold Indian Reservation in North Dakota. This proposed facility would produce gasoline, diesel fuel, and propane. Reportedly, the facility will not need to obtain a major NSR permit to construct this project. As such we have not received a permit application.

Question 8. How many permit applications for refinery expansions did EPA receive between FY 2001–FY 2005?

Response. As stated previously, EPA does not usually receive permit applications—States and local governments are generally the entity that issues permits of this type. However, we have some data from States concerning refinery applications that they have received in recent years. Unfortunately, it is nearly impossible to distinguish which of these projects should be classified as "refinery expansions" because the permitting data generally cover permits for any project at a refinery, including changes to comply with environmental requirements, efficiency improvements, production increases, new equipment installations, etc., and often combinations of these. From these data, we can, however, estimate that there have been approximately 100 major and minor NSR air pollution permits issued to existing since September 2000.

Question 9. Since FY 2001, how many of these permit applications took longer than 12 months to review? How many of these permit applications took less than 12 months to review. Please distinguish between new permits and expansion of existing refineries.

Response. For the one new refinery, our best estimate from the data supplied by Arizona Department of Environmental Quality is that it took approximately nine months from the date of receipt of a complete application for the final air permit to be issued. However, it took more than three years of communication between the company and the State to reach the point where the company had supplied sufficient information for the application to be deemed complete. This process, while lengthy, allowed the application to be processed more efficiently once it was deemed complete.

For existing refineries, our limited data suggest that it is not uncommon for it to take longer than 1 year for States to issue the permits. However, without a significant additional data collection effort, it is difficult for EPA to make an accurate assessment of the number or frequency of permit issuances from the States that exceed 12 months. In many instances, we simply have not received permit time line data from States. To ensure data quality, we would need to follow up to determine if the time line data we received are consistently measured. Furthermore, there are other factors that should be controlled for, such as where States upgrade and reissue a facility's entire permit in conjunction with the expansion application. Also, as noted, not all of these permits are for refinery expansion projects.

Finally, it is important to note that these permit processing times generally do not include administrative appeals during the permitting process and judicial review, which can add substantially to the time required for final approval.

Question 10. You testified that most refineries are typically classified as generators under the Resource Conservation and Recovery Act since they generally send their wastes off site for disposal and therefore do not need a RCRA permit. Where refineries do require a RCRA permit, you testified that EPA provides temporary authorization. How many refinery permit applications in since FY 2001 have required a RCRA permit and how many of these were provided temporary authorization?

Response. We are not currently aware of any RCRA applications for new refineries or permit modifications since FY 2001; however, EPA is performing a data run to verify this conclusion. Since most States are delegated the authority to operate the RCRA program, States are primarily responsible for granting permit modifications or new permits.

Question 11. You testified that in September EPA issued a RCRA standardized permit that will save time and money. How much time and money does EPA estimate the RCRA standardized permit will save? Considering this RCRA permit streamlining has already been done, what greater efficiencies will S. 1772 provide in the RCRA permitting process? What authorities does S. 1772 provide to streamline the RCRA permitting process that EPA doesn't already have?

Response. EPA estimates that the annual cost savings for standardized permit actions per new permit action to be $29,638. The estimated annual savings for permit renewals is $5,915, and the estimated annual savings for permit modifications was $15,229. More generally, the overall per facility annual savings is estimated to be between $2,478 and $4,023 annually, assuming the final rule is adopted by all States, based on burden reduction benefits of between $2.8 to $3.5 million for between 870 and 1,130 hazardous waste management facilities. Burden hour savings for hazardous waste facilities are estimated are estimated to be between 13,700 and 16,700 hours per year, based on between 166 and 202 permit-related actions per year. Without accounting for the prevalence of the type of facility activity (tank, container storage, containment building), the burden hour savings averages approximately 83 hours per facility. However, States may be more stringent than the Federal program in which case some States may not adopt the final rule. S. 1772 does not change the base RCRA permitting requirements, but allows for such efficiencies as consolidation, and for permitting by EPA. These efficiencies go beyond those EPA promulgated in the RCRA standardized permit rule.

Question 12. EPA currently excludes specific industrial wastes, known as comparable fuels, from RCRA requirements when used for energy production. Since EPA provided this RCRA exclusion, how much hazardous waste is being diverted for energy generation? How much time and money does EPA estimate this has saved companies?

Response. According to a 2003 survey by the American Chemistry Council, 26 million lb/per year of comparable fuel is currently excluded from hazardous waste management under the comparable fuels rule. Based on BTU content, this is equivalent to 2.1 million gallons/per year of No. 2 fuel oil.

Question 13. What is the current budget for the Natural Gas Energy Star Program? If appropriated the authorized levels in S. 1772, how much more money would the Natural Gas Energy Star Program be provided? How would this money be used?

Response. The budget for EPA's Natural Gas STAR Program is $4 million in FY 2006. If appropriated at the authorized levels, S. 1772 (title III, sec. 301) provides an additional $2,000,000 for the period of fiscal years 2006 through 2010. As outlined in Sec. 301, $1,000,000 would be dedicated to an EPA grant program to facilitate methane emission reduction projects in the oil and natural gas industries. Each grant can not exceed $50,000 and the Federal cost share can not exceed 50 percent. The remaining $1,000,000 would be used to support a series of technical workshops, conducted in association with the Interstate Oil and Gas Compact Commission, to provide information to officials in oil and gas producing States on methane emission reduction technologies and management practices.

Question 14. EPA's Heavy Duty Engine rule, which sets both fuel and engine standards for heavy duty engines, is one of the most important initiatives under the Clean Air Act for reducing emissions that are harmful to public health. Under that rule, sulfur will be reduced to 15 ppm between 2006 and 2009. Significant lead time is provided in the rule for the introduction of new cleaner fuel into the marketplace so that engine manufacturers can develop and market vehicles that meet the new standards using the Ultra Low Sulfur Fuel (ULSD). Engine manufacturers have flexibility to meet the new standards through a phase-in approach between 2007 and 2010. Many engine manufacturers are already producing vehicles designed to operate using the new fuel. Ensuring the availability of ULSD fuel (15PPM NTE) is critical to achievement of the Nation's air quality goals. This fuel is due to be at the retail pumps in September 2006. Does EPA fully commit to adhere to its own regulatory schedule for the availability of ULSD in 2006 and beyond?

Response. Implementation of the Clean Diesel rules, which includes the ULSD requirements, is a priority. Based on the current information we have received from the fuels industry, there is no need to make any changes to the program. Any iden-

tified impacts associated with the hurricanes can be dealt with on a refinery-by-refinery basis through our existing regulatory provisions without negatively impacting the overall implementation of the program.

Also on May 27, 2005, EPA announced that it would be seeking a 45-day extension to allow more time for terminals and retail outlets to comply with the 15 ppm USLD standard. This allows the fuel distribution system to successfully complete the transition to ULSD prior to the introduction of the new clean diesel engines and vehicles. We expect to announce this rulemaking soon. To be clear, however, it does not change the June 1, 2006 deadline for refiners to begin producing ULSD.

RESPONSE BY BRIAN MANNIX TO AN ADDITIONAL QUESTION FROM SENATOR VOINOVICH

Question. As part of the Bush administration's suite of clean diesel rules, there will be a new requirement for ultra-low sulfur diesel (ULSD) fuel (diesel fuel containing no more than 15 parts per million sulfur) to be used for on highway diesel purposes. EPA recently announced that it will seek a 45-day delay of the requirement for the introduction of ULSD—pushing the ULSD requirement from September 1, 2006 to October 15, 2006. EPA's on highway diesel rule is a systems approach to emissions controls. It requires new engine technologies, which in turn require the use of ULSD. Both parts of the system are essential to the success of the rule. This rule will result in an overall 90 percent reduction in diesel engine emissions from 2004 levels. Furthermore, ULSD is essential to the success of the Diesel Emissions Reduction Act. According to EPA, the Diesel Emissions Reduction Act would leverage existing funding, and could result in a reduction of approximately 70,000 tons of PM over 30 years in a highly cost-effective manner.

Does EPA and the Bush administration share my view that no legislation or administrative action should: (a) alter or delay the 15 parts per million sulfur standard for on highway diesel fuel; or (b) push the deadline for ULSD beyond October 15, 2006?

Response. Yes, EPA shares your view that no additional legislative or administrative actions beyond those already identified and discussed are necessary. The successful and timely implementation of the Clean Diesel rules, which includes the ULSD requirements, is a priority. This program will provide significant air quality benefits to the new engine and vehicle fleet as well as the existing diesel fleet. Based on the current information we have received from the fuels industry, there is no need to make any changes to the program.

Also on May 27, 2005, EPA announced that it would be seeking a 45-day extension to allow more time for terminals and retail outlets to comply with the 15 ppm USLD standard. This allows the fuel distribution system to successfully complete the transition to ULSD prior to the introduction of the new clean diesel engines and vehicles. We expect to announce this rulemaking soon. To be clear, however, it does not change the June 1, 2006 deadline for refiners to begin producing ULSD.

RESPONSES BY BRIAN MANNIX TO ADDITIONAL QUESTIONS FROM SENATOR WARNER

Question 1. In title II of S. 1772 the term "substantially similar" is used. In your opinion does the definition of this term differ from "substantially equivalent" when considering environmental health and welfare? Is "substantially similar" equally protective of public health and the environment?

Response. Based upon EPA's initial review, the "substantially similar" language goes to permit issuance procedures, as opposed to the stringency of any substantive requirements codified in the permit. In that context, there would be no practical difference between the phrases "substantially similar" and "substantially equivalent" with respect to human health and welfare, since both would be referring to process and not substance. Assuming, notwithstanding the bill's savings clause, Congress's intent is that EPA can rely on State permitting procedures provided that they result in a "substantially similar" Federal permit, i.e., a permit that is as environmentally protective or stringent as a Federal permit, there still might not be a difference between the phrases "substantially similar" and "substantially equivalent." Under many Clean Air Act programs, including NSR and Title V permitting, a State program can receive EPA authorization only if it is at least as stringent as the corresponding Federal base program. In these situations, following either the State or Federal permitting process would be protective of human health and the environment.

Question 2. The Federal Government has substantial experience in the granting of loan guarantees. To your knowledge, has the EPA ever been involved in these types of projects?

Response. EPA does not have any loan guarantee programs.

STATEMENT OF HON. SHAWN MITCHELL, COLORADO STATE SENATOR

Thank you Chairman Inhofe and Senator Jeffords for providing the State of Colorado with the opportunity to testify on the Gas PRICE Act today.

My State strongly supports this legislation and we hope that the committee and the full Senate will pass the bill to provide incentives to States to expand existing and permit new refinery capacity in a fashion that would protect the environment while simplifying the permitting process to prevent delays for necessary projects.

This issue before us today is one we've been grappling with for some time, as you noted in your hearing back in 2004. It is ever so more important now given the vulnerabilities exposed by Hurricane Katrina and the shortsightedness in essentially restricting the majority of the Nation's refinery capacity to the Gulf Coast region. I understand that 47 percent of our refining capacity and 28 percent of our oil production is concentrated in the Gulf Region and when Hurricane Katrina hit, we experienced significant price increases because of reduced supply. We're speaking in terms of a matter of days, though there is surely a long-term impact that I will touch on.

Obviously, any incentive that can be provided to increase refinery capacity will benefit the country as a whole. Colorado's support for your legislation, Mr. Chairman, is based upon the incentives it would provide for States to expand capacity.

The Gas PRICE Act provides incentives through the Economic Development Administration to those parts of the country that are impacted by the Base Closure and Realignment Commission (BRAC) designations. While my State was not negatively impacted by the most recent BRAC process, we have had military facilities in Colorado that were closed in the past and I we know from experience those impacts can be difficult to overcome.

Fortunately, in Colorado we have managed to deal with base closures in a fashion that has resulted in economic development. For example, the former Lowry Air Force Base in Denver has been cleaned up and returned to productive civilian use as a residential neighborhood. We were blessed in that case that Lowry is close to the metropolitan area and redevelopment made sense economically. That's a success story.

The same is true of Fitzsimmons Army Medical Center also in Denver. That site has been redeveloped and is now home to the University of Colorado Health Sciences Center and soon to be home to Children's Hospital. This redevelopment and transition also made sense for the State.

However, I am certain there are circumstances around the country where the options Colorado had with respect to redevelopment of BRAC sites may not exist. Further enhancing the ability of the Economic Development Administration to address these kinds of circumstances while also addressing the Nation's need for additional refining capacity makes absolute sense.

This bill addresses that issue directly by providing incentives for American communities to consider the construction of new refineries to expand our nationwide capacity while taking advantage of existing infrastructure and preserving and creating jobs. It is the very definition of a Win-Win.

The legislation does not mandate any action on States, but merely provides additional incentives should they determine that is an appropriate use of the resource.

The Gas PRICE Act provides flexibility that States can choose to exercise in environmental permitting by entering into a refinery permitting agreement.

It's important to remember that this provision only applies to those States or tribes that choose to participate.

No State or tribe will be forced to participate and there is no usurpation of the concepts behind any of the Federal environmental laws that States or tribes are delegated to enforce. In short, there is simply no credible argument that can be made in claiming this proposal would abuse State or tribal authorities as they currently exist.

In fact, in Colorado, the State, Federal and tribal authorities have developed an excellent working relationship that has led to groundbreaking cooperation. For example, in southwest Colorado the three governmental entities have developed an air permitting program that places the Southern Ute tribe in charge of permitting on fee land within the tribal boundaries, ending a dispute over the question of who has authority on fee lands within tribal boundaries.

What this bill does is provide Governors and tribal leaders the authority to combine the permitting requirements for all of the different medias into one permit that must be issued under a prescribed time frame.

This is hardly a new concept in Colorado. In 2003, the Colorado State Legislature passed legislation providing the governor with the authority to consolidate different environmental permits into a single permit. The idea behind this concept is twofold.

First, we believe that a single process ensures that there is one timeline for issuance of a permit. Timelines for different permits can be for a single project are often prolonged because, for example, an air division may have a different method for handling evaluation for permits applications than say a water division. The idea is that one permit merging different requirements will benefit the applicant by applying one process.

Second, multi-media permitting is good for the environment. Colorado is currently piloting a multi-media performance based permit because we believe that eventually we will have to move to this kind of permit to continue making environmental improvement. Mr. Chairman, your proposal captures that concept and will not only provide needed relief from administrative burdens, but will also provide a better way to enhance environmental quality.

The purpose of a multi-media permit is to identify where the net gains for the environment are and work expeditiously toward achieving those gains. For example, wet scrubbers are better for controlling sulfur dioxide and, therefore, when seeking SO_2 reductions, you would immediately think to install a wet scrubber, which, as you probably know, requires a lot of water to operate. In Colorado we don't view the tradeoff between additional marginal SO_2 controls to be worth the use of water it takes to operate a wet scrubber. In other words, not putting on a wet scrubber would be better for Colorado's environment because it would conserve water.

Importantly, this legislation would force environmental agencies to take into account the net impacts to the environment to permitting a refinery by consolidating the permitting process.

Another positive aspect of your proposal, Mr. Chairman, is the timeline associated with either construction of a new facility or expansion of an existing facility. My experience has been that hard timelines tend to focus attention on what is important and these statutory timelines would certainly focus the attention not only of State regulators but also of EPA regulators who are charged with reviewing permits on facilities.

A definite endpoint to a permitting process is good for an agency as well as for a permittee.

The end result of this process would be a permit that would be issued sooner and would provide better environmental results with less administrative burden historically associated with permitting processes.

In fact, my State believes that a multi-media approach to permitting is so beneficial we are working with the refinery in the Denver Metro Area on a similar approach. Obviously, the State's foremost concern is for protecting our environment. However, we also believe that efficiencies can be gained for the refinery through this approach, and certainly for the State, as well. A single timeline and the ability to issue on consolidated permit will ensure that permitting will not be a hindrance should a State decide to attract new refineries.

In short, we are putting our money where our mouth is with respect to this legislation, and believe that it would provide a key benefit to both the environment and to permittees.

Finally, Colorado strongly supports the hold harmless provision on States for acting pursuant to the grant of an emergency waiver. In Colorado, waivers have been granted and both the State and EPA have collaborated so that they are issued in an appropriate and responsible manner.

EPA has issued several emergency waivers, and, if those waivers result in an air quality problem, States should not be penalized under the Clean Air Act. I think that's just common sense.

In conclusion, I would like to thank the committee for seeking our views and participation, and I would like to thank Chairman Inhofe for his leadership on this issue.

While there are many promising technologies that may serve to replace fossil fuels in the future, it does appear as if the Nation will be relying upon them to some degree into the future. Because that's the case, we need to have sufficient capacity in our country to ensure that a disaster like Katrina doesn't have the same detrimental impact on our economy that Katrina had.

RESPONSES BY HON. SHAWN MITCHELL TO ADDITIONAL QUESTIONS FROM SENATOR WARNER

Question 1. Refinery Capacity.—We all know that the supply of crude, refinery capacity, and the transportation network are the three major variable costs associated with prices at the pump. How specifically will increased refinery capacity bring down the price consumers pay for a gallon of gasoline?

Response. I am responding to those questions which relate to the areas surrounding my testimony. I will defer to other witnesses on the more technical questions.

Question 2. Refinery Capacity.—Is the United States total refinery capacity truly a driver of gasoline cost by itself or is it events such as Hurricane Katrina that shut in many refineries that have the largest effect on price volatility?

Response. I am responding to those questions which relate to the areas surrounding my testimony. I will defer to other witnesses on the more technical questions.

Question 3. Refinery Capacity.—What is preventing refineries from being built or expanded today; cost; bureaucracy of local, State, and Federal permits; environmental regulations?

Response. As other testimony at the hearing commented upon, there are numerous issues that go into a companies determination on whether to expand an existing or build a new refinery. However, our experience in Colorado, with all industries, is that the ability to obtain a permit in a finite timeline is a factor in their decision to build or expand. Further, the ability to combine requirements among different environmental media programs will provide efficiencies for permitting authorities as well as permit applicants that will provide incentives to companies who would like to expand or build a refinery. For those States that choose to opt into this program there will be a reduced cost to permit applicants through a process that is quicker and on a timeline that is predictable.

In Colorado we have used both processes in order to provide incentives to business to locate in Colorado. Further, we have found that a multi-media permitting process as envisioned in S. 1772 can provide additional environmental protections while also making the process more convenient for the applicant. For example, if an industry in considering locating in Colorado they will often meet with the State Health Department about permitting issues and general timeframes will be agreed so that any uncertainty about permitting can be eliminated. Also, our pilot multi-media permitting program considers the total environmental impact of an industry and ensures that the permitting process doesn't merely drive pollution from one media into another. This allows those participating companies to know that they are spending money on environmental protection and improvement and not on process. Further, it allows for efficiencies in permitting between different government programs so that requirements are not duplicative.

Taken as a whole the State of Colorado believes that whatever cost associated with permitting or environmental regulation can be ameliorated by the provisions of S. 1772 so that timelines and environmental requirements are minimized so that they are not determinative on whether a business will expand or build.

Question 4. Fischer-Tropsch technology (converting coal to liquid fuel).—Given the long history of Fischer-Tropsch technology and the decades of Federal R&D investment, what is holding back the development of commercial F–T facilities in the United States?

Response. I am responding to those questions which relate to the areas surrounding my testimony. I will defer to other witnesses on the more technical questions.

Question 5. Fischer-Tropsch technology (converting coal to liquid fuel).—Would long-term contracts with price floors for F–T fuel provide substantial guarantees for companies to invest in the construction of a facility?

Response. I am responding to those questions which relate to the areas surrounding my testimony. I will defer to other witnesses on the more technical questions.

Question 6. Fischer-Tropsch technology (converting coal to liquid fuel).—What affect on national or worldwide demand might the existence of one or two F–T facilities that produce 100,000 barrels of fuel per day? How might that affect prices? Would price effects be more regional than national?

Response. I am responding to those questions which relate to the areas surrounding my testimony. I will defer to other witnesses on the more technical questions.

Question 7. Fischer-Tropsch technology (converting coal to liquid fuel).—What other benefits would F–T fuels have for the Nation/world?

Response. I am responding to those questions which relate to the areas surrounding my testimony. I will defer to other witnesses on the more technical questions.

Question 8. Boutique Fuels.—Many free market thinkers have argued that the expansion of the number of boutique fuels has been a contributing factor to rising prices. In addition, it is believed by some that a ratchet down of the number of boutique fuels would bring down gas prices without any adverse effect on the environment. Would you comment on this theory and whether or not limiting the number of boutique fuels would also limit a State's options to comply with Federal environmental laws?

Response. Boutique fuels are often required by an area of the county that is much smaller than the area being supplied by the fuel provider(s). This requires the fuel supplier to create special blends that can only be distributed to limited regions or subregions of the county. The requirement to use specialized fuel blends in limited parts of the county creates additional handling and storage challenges that can translate into additional costs to the consumer. Also, the specialized blends require the blender or refiner to either add or remove some fraction of the fuel that must go to or come from come from another market to be utilized in some fashion. Therefore, if a fuel component is removed in one area because it is bad for air quality it must be put back into the fuel stream for another area, often at an increased cost as well as maybe not being "good" for that area.

Limiting the number of special blends of gasoline or "boutique fuels" will reduce the overall cost of the fuel by reducing the amount of blending that is required for the fuel, allow fuel providers to more broadly distribute a single (or limited number of) fuel type, and will reduce storage and handling of numerous types of gasoline.

The use of specialized fuel types is an option to achieve emission reductions. The elimination of a particular special blend of gasoline may reduce the number of options an area has to comply with specific Federal regulations, however, there are often several options available to comply with environmental standards. Reducing the number of specialized blends to only a few would continue to provide options that could be utilized solely or in conjunction with another strategy to achieve the desired environmental results.

Also there are several scientists in the business that believe that specialized fuels create as many problems as they address. Boutique fuels have been heavily relied upon in the past to solve the ills of air quality across the county and once implemented have made little impact to poor air quality in an area. Boutique fuels may limit a States options but it may limit a States options to those options that actual do some good for the environment.

STATEMENT OF ERIC SCHAEFFER, DIRECTOR, ENVIRONMENTAL INTEGRITY PROJECT

Thank you, Mr. Chairman, for the opportunity to testify today about S. 1772, the "Gas Petroleum Refiner Improvement and Community Empowerment Act." My name is Eric Schaeffer, and I am director of the Environmental Integrity Project, a nonprofit organization dedicated to improving enforcement of the Clean Air Act and other environmental laws.

S. 1772 is aimed at increasing the supply and reducing the price of gasoline and refined products by fast-tracking environmental permits. While this legislation tries to address a real problem, the solutions it offers could increase environmental risks without making much difference to the availability or cost of gasoline. More specifically, I am concerned that S. 1772 would:

- Result in poorly written permits that could increase the likelihood of accidents that could shut down refinery capacity;
- Delay refinery startups by encouraging litigation over vague new standards;
- Shut communities out of decisions that affect their health and property values;
- Subsidize the construction of refineries on government property for some of the richest companies in America;
- Reward refineries that locate or expand in hurricane zones;
- Have little effect on refinery investment decisions that are ultimately driven by profit margins and conditions in the world market.

I would like to address each of these concerns in turn.

HASTE MAKES WASTE: BADLY WRITTEN PERMITS INCREASE THE RISK OF SHUTDOWNS

Refineries are inherently hazardous operations, and I have nothing but respect for the men and women who work hard to keep these facilities safe while meeting America's need for fuel. But setting artificially short deadlines for reviewing applications to build or expand refineries will only increase the likelihood of accidents or violations that could ultimately lead to shutdowns. And after seeing how vulnerable our refiners are to hurricanes and high winds, we ought to take more time reviewing their design, not less.

It is also a mistake to assume, as S. 1772 does, that refinery expansions are relatively minor events that should require only a few days to permit. Such projects are a major enterprise, requiring the commitment of hundreds of millions of dollars in capital. Motiva is reportedly considering doubling the size of its existing refinery in Port Arthur, increasing current capacity by 325,000 barrels a day. An expansion on that scale is equivalent to adding two brand new refineries to the Nation's capacity. The engineering judgments required to complete such projects successfully are extremely complex, especially when they involve retooling existing capacity to process sour instead of sweet crudes, as most U.S. refiners are doing today.

Permit reviews provide a critical opportunity to make sure these modifications meet environmental and safety requirements, and don't make air pollution worse in surrounding neighborhoods. Requiring hard-pressed Federal and State regulators to approve or deny every permit for a major refinery expansion in ninety days is just not realistic. S. 1772 does not even require that permit applications be complete before the 90 day review period begins, which may force agencies to rubber stamp permits that are plainly inadequate.

Nor would S. 1772 give regulators the time for careful review of accident-prone or particularly hazardous operations. For example, in March of this year, an explosion at BP's Texas City refinery killed fifteen workers and injured many more. Why should regulators face an artificial deadline for approving the next expansion of this plant, unless they can be sure that it will be more safely managed? Many refiners are investing in coking capacity that allows processing of higher sulfur crudes into gasoline. But cokers are prone to accidents, which require lengthy shutdowns for repair. Rubber-stamping such operations only increases the likelihood of malfunctions that can injure or kill workers while curtailing gasoline supplies.

RUSHED PERMITS COULD MEAN MORE LITIGATION AND DELAYED STARTUP

Poorly written permits seem likely to spawn the kind of legal challenges that this bill seeks to avoid. The problem is compounded when vague language is used that implies a shift in legal standards. For example, S. 1722 says that EPA "shall use State permitting and monitoring procedures to satisfy substantially similar Federal requirements under this title." Speaking from experience, I can testify that lawyers love to fight over what words like, "substantially similar" really mean. The bill requires participating agencies to consolidate permits, but then appears to allow piecemeal approval of components, which could further add to the confusion. Permits that are rushed through review with ambiguous language left unresolved are more likely to face court challenges, which could add to the delay in starting up new capacity.

THE PUBLIC NEEDS A VOICE IN PERMITTING DECISIONS THAT AFFECT THEIR HEALTH AND PROPERTY

Refineries are major sources of pollution and, with few exceptions, are situated right in the middle of heavily populated residential neighborhoods that must breathe the exhaust from the refining process every day. Communities like Port Arthur, Texas, and Lake Charles, Louisiana, suffer from chronic air pollution and high asthma rates, and are already overwhelmed with refinery expansions. In 2002, more than 207,000 children in Texas attended school within 2 miles of a refinery or chemical plant.

These are the very people hardest hit by Hurricanes Katrina and Rita which, in Louisiana alone, spewed more than 8 million gallons of oil across the State. The recent spill from the Murphy oil refinery contaminated as many as 1,000 homes, some of which may have to be bulldozed. The USEPA's own sampling shows that sediments in some neighborhoods are soaked with diesel oil and gasoline far above the State of Louisiana's cleanup standards.

The Clean Air Act has always allowed for public review of major permitting decisions, on the reasonable assumption that those who live next to large refineries have an obvious stake in decisions that affect their health and property. These communities are not against refineries, but do expect that they will be built and man-

aged as safely as possible. The rubber-stamp permit process authorized under S. 1722 will eliminate any real public involvement, especially among those people still digging out after the hurricane. There is something fundamentally unfair about telling residents still scraping oil off their houses, some of whom may be suffering from asthma, that they had better make way for an even bigger refinery and be quick about it.

OIL COMPANIES DO NOT NEED OUR TAX DOLLARS TO BUILD REFINERIES

S. 1722 would shift tax dollars to some of the richest industries in America, by subsidizing the construction of refineries on military property. The top five oil companies have reported a quarter of a trillion dollars a year since 2001. While the stock market has been flat for almost everyone else this year, at least three refiners (Valero, Conoco-Phillips and Sunoco) have offered stock splits in the last 6 months. Valero, now the Nation's largest refiner, has reported eight successive quarters of record earnings, and Citgo paid its shareholders a $400 million dividend earlier this year. I would respectfully suggest that this is not an industry that ought to qualify for a handout from hard-working taxpayers.

WILL OUR REFINERIES STAND UP TO THE NEXT HURRICANE?

Almost half of the Nation's refining capacity is in Gulf Coast States, which is also where the largest expansions are underway. In fact, Citgo and Murphy Oil in Louisiana had just completed such expansions before the recent hurricanes forced their shutdown. Katrina literally ripped oil tanks off their moorings, spewing their contents for miles around. The government of Jamaica recently announced that the expansion of a major aluminum refinery in that country would have to meet construction standards designed to withstand hurricanes and high winds. If Jamaica has figured out that its energy infrastructure must be designed for its climate, why can't we?

Even if you don't believe global warming is the cause, meteorologists agree that we are entering a weather cycle in which tropical storms and hurricanes will be more severe. If Congress is going to encourage construction of more refineries, surely we should ask whether so much of our energy infrastructure ought to be situated where natural disasters are most likely to strike. S. 1722 does not address this problem.

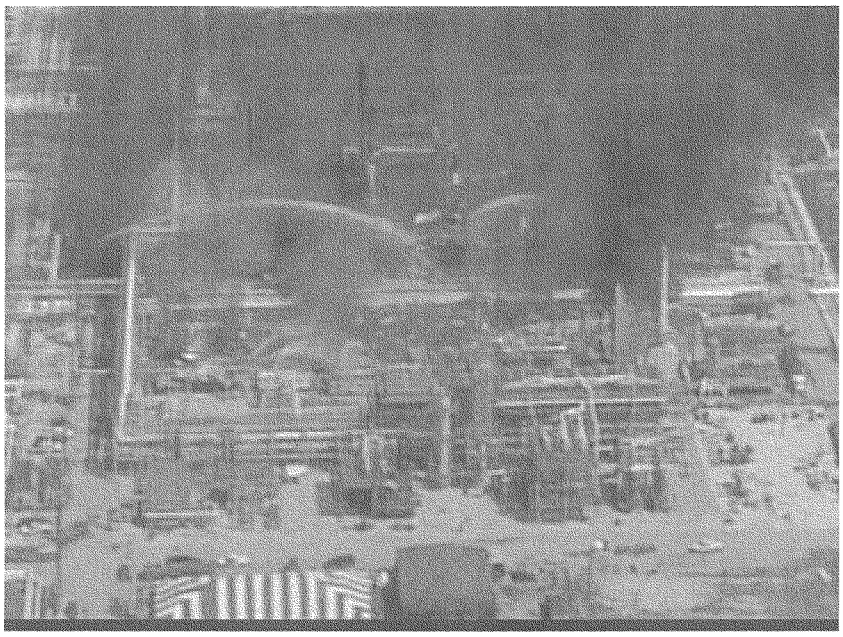
PROFIT MARGINS DETERMINE REFINERY CAPACITY, NOT ENVIRONMENTAL RULES

Ultimately, the bill may rest on a shaky premise, as Clean Air Act permitting provisions seem to have only a marginal effect on decisions by oil companies to invest in new refining capacity. The President of the American Petroleum Institute informed Congressman Barton's subcommittee last year that, "We have not said that environmental costs are responsible for the higher prices." The Department of Energy tells us that low sulfur gasoline and diesel fuels are not expected to affect refining costs over the next few years. Industry and government analysts alike agree that profit margins are the most significant factor, and record profits from high gasoline prices have encouraged a major investment in added refining capacity. Projects already reported or announced are expected to add nearly 600,000 barrels a day to our existing capacity over the next several years.

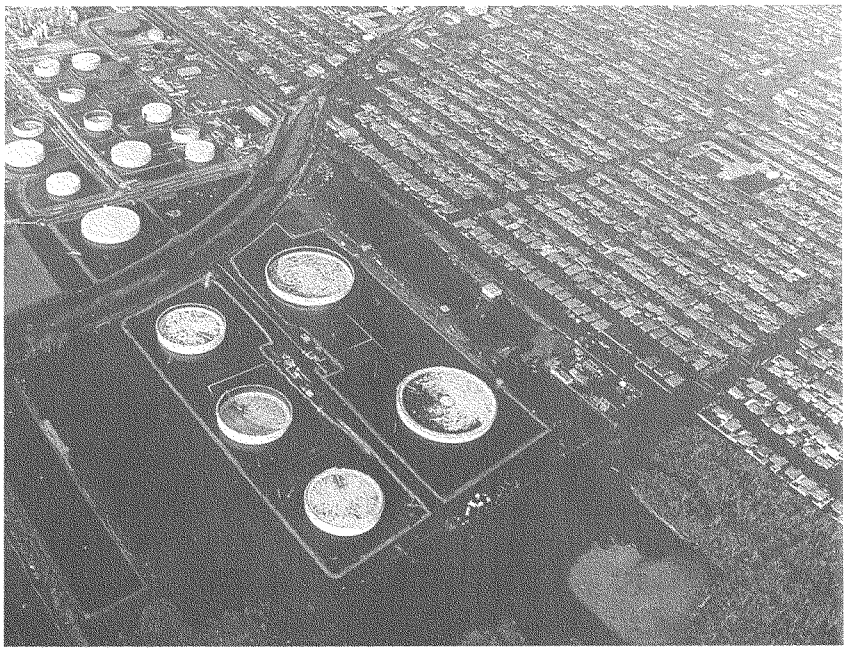
THE PUBLIC WANTS A MORE FUEL-EFFICIENT ECONOMY

Of course, the surest way to secure enough gasoline at a reasonable price is to reduce our consumption. New automotive technologies, even for heavier vehicles, are achieving much higher fuel efficiency without compromising safety. Data from the Department of Energy shows demand had begun moderating in response to high prices even before the hurricane, as consumers shop for more energy efficient choices. Last December, energy analysts at Booz-Allen cautioned refiners that demand for gasoline would "plummet" below supply as easily as 2007, if inflation adjusted prices remained at $2 per gallon, well above today's levels.

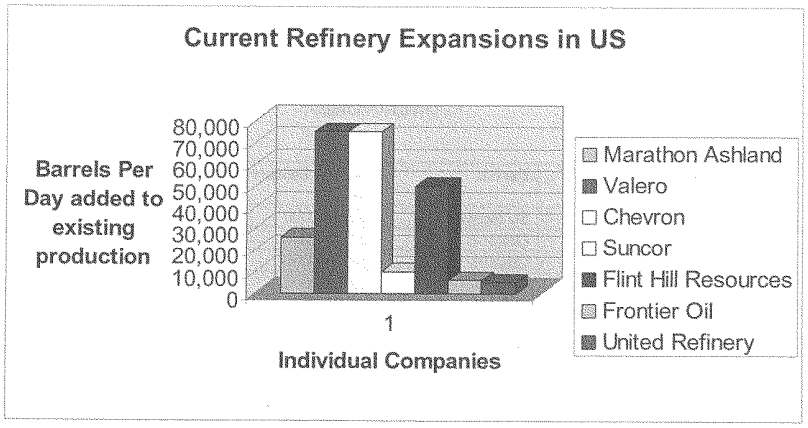
A recent poll by the Pew Charitable Trusts shows that 86 percent of respondents would support tighter fuel economy standards. I hope that Congress will find time to consider a solution that the public is so clearly ready to embrace.



Aftermath of BP Explosion at Texas City Refinery (March, 2005)
Source: KFDM-TV: Beaumont, TX – 3/21/05



Swimming in Oil: Aerial View of Oil Spill from Murphy Refinery in Meraux, LA
Source: Sustainable Energy and Economy Network, 8/31/05



Motiva reportedly has plans for a 325,000 bpd expansion--an expansion that will practically double the current refinery expansions in the nation. (http://www.boston.com/news/nation/washington/articles/2005/09/26/)

Additionally, Citgo has recently announced plans to increase its refining capacity in Corpus Christi to 75,000 bpd.

Oil-Contaminated Sediment in Louisiana EPA Post-Katrina Samples of Diesel Range Organics

EPA Station	Parish	Level Detected µ/kg	Percent Above LDEQ Standard*
8935	St. Bernard	9,920,000	16,300 percent
9362	Orleans	2,010,000	3,300 percent
9684	Orleans	9,140,000	15,000 percent
9816	Orleans	1,280,000	2,100 percent
9895	Orleans	1,140,000	1,900 percent
9897	Orleans	1,180,000	1,900 percent
9899	Orleans	8,250,000	13,500 percent
9950	Orleans	1,430,000	2,300 percent
9951	Orleans	3,160,000	5,200 percent
9976	Orleans	6,850,000	11,200 percent
9978	Orleans	1,310,000	2,100 percent
9985	Orleans	2,490,000	4,100 percent
9987	Orleans	2,200,000	3,600 percent
10173	St. Bernard	1,230,000	2,100 percent

*The Louisiana Department of Environmental Quality has set their safe soil standard for Diesel Range Organics at 61,000/µ/kg.

ENVIRONMENTAL INTEGRITY PROJECT

REFINING CAPACITY AND GASOLINE PRICE: SEPARATING FACT FROM FICTION

In the wake of Hurricane Katrina, Congressman Barton (R–TX) is rushing legislation through Congress that would roll back Clean Air requirements for all industries and postpone deadlines for achieving air quality standards in some areas. The bill would also give the Department of Energy authority to issue permits on a fast track for refineries.

Congressman Barton and his allies argue that these steps are needed to expand refining capacity and thereby reduce gasoline prices. But a closer look at the facts shows that profit margins, not environmental rules, are the primary factor in determining whether refiners expand. High gasoline prices have raised profit margins to record levels over the past 2 years, and refiners have responded with major investments to expand their capacity to produce motor fuels. In short, there is no basis for weakening the Clean Air Act and increasing pollution to encourage refiners to

take advantage of the most favorable market conditions for expansion that we have seen in decades.

MARKET FORCES DETERMINE THE SUPPLY AND PRICE OF GASOLINE, NOT ENVIRONMENTAL RULES

Red Cavaney, testifying before Representative Barton's House Subcommittee in July of 2004 insisted: "We have not said that environmental costs are responsible for the higher prices."[i]

According to Valero's senior vice-president, it was, "the poor margins that had the biggest impact, not the environmental rules."[ii]

The Department of Energy expects refining costs to stay constant, even after new clean fuel standards take effect, according to its 2005 Annual Energy Outlook: "Refining costs for gasoline and diesel fuel are expected to remain about the same, despite rising demand and new Federal requirements for low sulfur gasoline ('04 to '07) and ultra-low sulfur diesel fuel ('06 to '10)."[iii]

Until the mid 1990s, refiners argued that capacity had to be reduced to increase profit margins. A senior energy analyst warned an industry audience at an API convention in the fall of 1995 that: ". . . if the U.S. petroleum industry doesn't reduce its refining capacity, it will never see any substantial increase in refining margins."[iv]

Refineries increased the rate of expansion as profits reached record levels.

REFINERS HAVE INCREASED CAPACITY AT EXISTING REFINERIES, RATHER THAN BUILDING NEW ONES, BECAUSE IT IS FAR MORE PROFITABLE

Only one permit application for a new refinery has been filed in the last 25 years. But EPA's June 13, 2002 report to the President on New Source Review found that NSR regulations had "not significantly impeded investment in new power plants or refineries."[v] Instead, refiners have chosen to meet demand by expanding existing facilities.

Refiners have added 1.4 million barrels per day of crude processing capacity at existing plants, which is equivalent to adding twelve new refineries. Motor gasoline production has increased 13 percent over the same period (from 7.2 million to 8.2 million barrels per day, or bpd).[vi]

Exxon Mobil recently claimed that it adds 200,000 to 300,000 barrels per day of additional capacity every three years at its existing refineries.[vii]

Refiners have announced or just completed numerous expansion projects:

• At the end of 2003, Valero completed an expansion of its Texas City refinery, boosting capacity from 165,000 bpd to 243,000 bpd.[viii]

• Citgo added more than 105,000 bpd to its crude processing capacity at its Lake Charles (LA) refinery in April of this year.[ix] (So far, the company has reported only minor damage at its Lake Charles refinery from Hurricane Rita).

• Marathon Ashland will increase crude processing capacity from 74,000 bpd to 100,000 bpd by the end of this year at its Detroit refinery.[x]

• Valero's Port Arthur, TX facility is in the middle of an expansion that is expected to boost capacity by 75,000 bpd.[xi]

• Chevron received permits in June of this year to increase production 25 percent at its Pascagoula (MS) refinery by about 75,000 bpd.[xii]

• Suncor expects to complete expansion of its Denver refinery in 2006, integrating 10,000 to 15,000 bpd of crude from oil sands into the process.[xiii]

• Flint Hill Resources has announced plans to increase crude oil processing by 50,000 barrels per day at its Minnesota refinery by the summer of 2007.[xiv]

• At least three Montana refineries are investing in coker projects to expand capacity.[xv]

• Tesoro Refining is adding a coker to boost output at its Anacortes refinery.[xvi]

• Even smaller refineries are announcing expansion plans. Frontier Oil secured permits to add 6,000 bpd of new capacity to its Cheyenne refinery in Wyoming, while United Refinery is permitted to increase capacity by 5,000 bpd at its Warren (PA) refinery.[xvii]

REFINERS ENJOYING RECORD PROFIT MARGINS ARE NOT HURRICANE "VICTIMS":— KATRINA RELIEF OUGHT TO BE RESERVED FOR THOSE WHO REALLY NEED IT

As the Washington Post reported on September 25, refiners are earning almost a dollar a gallon for gasoline today, almost three times the amount they earned a year ago.[xviii]

Refinery profits have doubled since Katrina, according to Bloomberg news. Valero, the Nation's largest refiner, announced a stock split on a 2 for 1 basis on September

15, 2 weeks after the hurricane. The company has claimed eight successive quarters of successive earnings.

Hurricanes and floods haven't tempered Valero's bullish outlook, as the company announced in September that, "Structural changes have created a strong refining environment for 2005, 2006 and beyond . . . Forward markets reflect expectation for better product margins in '06 than '05."[xix]

Since 2001, the top five oil companies in the United States have recorded profits of $254 billion[xx]:

ExxonMobil	$89 billion
Shell	$60.7 billion
BP	$53 billion
ChevronTexaco	$31 billion
Conoco Phillips	$20 billion

Since June of 2005, three oil companies have announced two for one stock splits.

Conoco Phillips	June 1, 2005
Sunoco	July 7, 2005
Valero	September 15, 2005

Tesoro's stock price has tripled in the last year. Sunoco claimed "record earnings" in its 2004 annual report to stockholders. Citgo paid out a $400 million dividend to its shareholders earlier this year. Reports by these and other refiners acknowledge the record margins that refiners have enjoyed over the past 2 years, as oil and gas prices have increased.

REFINERY EXPANSIONS DO NOT CREATE LONG-TERM EMPLOYMENT OPPORTUNITIES FOR AMERICANS

From 1997 to 2004, refining capacity in the United States climbed 6.63 percent. However, at the same time that oil refineries were expanding, they were also cutting, not adding, jobs. The number of employees actually employed at refineries between 1997 and 2004 decreased by 27.9 percent.[xxi]

In 1997, the oil refining industry employed 95,979 Americans. By 2004, despite the industry's expansion and increase in profits, the industry only employed 69,168 Americans.[xxii]

ELIMINATING POLLUTION CONTROL STANDARDS AND SHORT-CUTTING PERMITTING IS UNFAIR TO COMMUNITIES ALREADY OVERWHELMED WITH POLLUTION FROM REFINERIES

Oil spilled in Louisiana during Katrina's aftermath has matched the total amount released during the *Exxon-Valdez* accident. Refinery communities need help with cleanup, not weaker Federal laws that compound the risks they already face.

• Over 57 percent of whites, 65 percent of African Americans, and 80 percent of Hispanics live in 437 counties with substandard air quality. In the heavily populated Los Angeles air basin, over 71 percent of African Americans and 50 percent of Latinos live in areas with the most polluted air, compared to 34 percent of whites.[xxiii]

• "Data shows that African Americans and Hispanics suffer from some of the highest rates of environmentally triggered diseases, including asthma. Further, these same communities have the highest rates of health uninsurance, making it more difficult for them to treat and overcome these ailments."[xxiv] Marcela Urrutia, Senior Health Policy Analyst, National Council of La Raza—the largest national constituency based Hispanic civil rights organization in the country.

• In 2002, more than 207,000 children went to schools within a 2-mile radius of a chemical plant or a refinery in Texas. In one year, 139 industrial facilities near Texas schools exposed children to 43.4 million pounds of toxic pollutants.[xxv]

• Air pollution costs Americans $10 to $200 billion a year. Asthma and air pollution are linked. Asthma alone cost Americans over $14.5 billion in 2000. Asthma accounts for more than 10 million lost school days, 1.2 million emergency room visits, 15 million outpatient visits, and over 500,000 hospitalizations each year. African Americans and Latino are almost three times more likely than whites to die from

asthma. The hospitalization rate for African Americans and Latinos is 3 to 4 times the rate for whites.[xxvi]

[i] Testimony of Red Cavaney, President, American Petroleum Institute before the House Energy and Commerce Subcommittee on Energy and Air Quality. July 28, 2004.

[ii] Nelson Schwartz, *Is Dick Cheney the New Hillary?* Fortune, June 11, 2001, at 37. See also Alexei Barrionuevo, *Exxon-Mobil CEO Doubts Anyone Would Build U.S. Refinery,* Dow Jones News Service (May 30, 2001) (citing Exxon Mobil's chairman and chief executive for the statement that no oil company was prepared to build a new refinery because they could make money from doing so).

[iii] 2005 Annual Energy Outlook. See Energy Information Agency website (www.eia.doe.gov).

[iv] See Foundation for Taxpayer and Consumer Rights website (www.corporatewatchdog.org).

[v] EPA, *New Source Review: Report to the President* (June 13, 2002), at 1.

[vi] See Energy Information Agency website (http://www.eia.doe.gov/emeu/aer/txt/ptb0508.html).

[vii] See My West Texas website (www.mywesttexas.com/site/news.cfm?newsid=15073025&BRD=2288&PAG=461).

[viii] Statement made by Valero CEO Bill Klesse at Sept. 7, 2005 Energy Conference.

[ix] Citgo press release, April 21, 2005.

[x] See Marathon Ashland website (www.mapllc.com).

[xi] Statement made by Valero CEO Bill Klesse at Sept. 7, 2005 Energy Conference.

[xii] See Sun Herald website (www.sunherald.com) Sept. 2, 2005.

[xiii] See Suncor website (www.suncor.com/links__popup.aspx?ID=2393).

[xiv] See Flint Hills Resources website (www.fhr.com/newsroom/news__detail.aspx?id=117).

[xv] Minneapolis St. Paul Business Journal. July 13, 2005.

[xvi] Presentation by Bruce Smith, President and CEO, at Lehman Bros. 19th Annual CEO Energy/Power conference. Sept. 8, 2005.

[xvii] PR newswire. July 25, 2005.

[xviii] *Gas Profit Guzzlers*. Just Blum. Washington Post. Sept. 25, 2005. See website(http://www.washingtonpost.com/wp-dyn/content/article/2005/09/24/AR2005092400253.html).

[xix] Presentation by Bill Klesse at Lehman Bros. 19th Annual CEO Energy/Power conference. Sept. 7, 2005.

[xx] See Public Citizen website (http://www.citizen.org/cmep/energy__enviro__nuclear/articles.cfm?ID=13912).

[xxi] Available on file at EIP.

[xxii] Available on file at EIP.

[xxiii] See Environmental Justice Resource Center website (http://www.ejrc.cau.edu/NBEJNEJFS.html).

[xxiv] La Raza letter to Congressman Joe Barton. June 16, 2004

[xxv] See Public Citizen website (http://www.citizen.org/documents/Industrial%20Upset% 20Pollution__Who%20pays%20the%20price__2%20Aug%202005.pdf).

[xxvi] See Environmental Justice Resource Center website (http://www.ejrc.cau.edu/NBEJNEJFS.html).

RESPONSES BY ERIC SCHAEFFER TO ADDITIONAL QUESTIONS FROM SENATOR WARNER

Question 1. Refinery Capacity. We all know that the supply of crude, refinery capacity, and the transportation network are the three major variable costs associated with prices at the pump. How specifically will increased refinery capacity bring down the price consumers pay for a gallon of gasoline?

Response. As with any other product, the price of gasoline can be expected to decline to the extent that supply exceeds demand. Data from the Department of Energy suggests that refining accounts for about a quarter of the price of gasoline. The cost of crude oil remains the most significant factor, however; to the extent the cost of crude remains high, it could offset any reduction in prices that could come from increases in domestic refining capacity.

The evidence suggests that it will be very difficult for Congress to legislate a solution that results in surplus refining capacity and a substantial decline in the price of gasoline. In other words, if gas prices decline too much, refiners will delay investment in new capacity, and even consider cutting back or closing their less efficient operations. Surplus capacity hurts refinery profit margins, and industry memoranda

uncovered by the Foundation for Taxpayer and Consumer Rights (attached), shows that refiners were actively considering strategies to reduce capacity in the mid-nineties when gasoline prices were low.

Question 2. Refinery Capacity. Is the United States total refining capacity truly a driver of gasoline cost by itself or is it events such as Hurricane Katrina that shut in many refineries that have the largest effect on price volatility?

Response. According to the Department of Energy, more than 47 percent of U.S. refining capacity is located in Gulf Coast States, and about one-fifth of total U.S. capacity was shut down as a result of Hurricanes Katrina and Rita. There is little question that the sudden loss of so much capacity had an impact, raising gasoline prices by perhaps 25 to 30 cents per gallon over pre-Katrina prices. As of today (October 24, 2005), prices are averaging about 3 cents above average levels before the most recent hurricanes. That decline is due partly to the restoration of more than half of the lost capacity to date, and what the American Petroleum Institute reports to be the largest year-to-year decline in demand for gasoline in more than a decade this September.

Refiners have just completed major refinery expansions in the Gulf Coast region (e.g. Murphy Oil and Citgo in Louisiana, and Chevron in Mississippi), or are already undertaking expansions at existing plants (Citgo and Valero in Texas). Refining and offshore production will continue to be concentrated disproportionately in the Gulf Coast region, as companies take advantage of economies of scale and the proximity to oil and gas wells, ports, and pipelines. At the same time, meteorologists are predicting that hurricanes and tropical storms will increase in severity over the next decade. Congress should consider legislation to protect this infrastructure from hurricanes, e.g., by improving construction standards, so that the United States may avoid further outages from energy facilities along the Gulf Coast.

Prices had been increasing prior to Hurricane Katrina, to about $2.75 per gallon in August. According to the American Petroleum Institute, these increases were due to the limited supply and higher price of crude oil, which in turn were driven in part by political instability in oil-producing countries, and increased demand in Asia and the U.S. Because the supply and price of crude oil are driven by fast-changing world markets, the price of petroleum-based products may be expected to remain volatile.

Question 3. Refinery Capacity. What is preventing refineries from being built or expanded today? Cost? Bureaucracy of local, State, and Federal permits? Environmental regulation?

Response. According to the Vice-President of Valero, the largest refiner in the United States, profit margins determine whether companies invest in new capacity, not environmental rules. As noted above, less than 10 years ago refiners were discussing closing plants, out of concern that the industry had a surplus of capacity relative to demand. As the demand for gasoline has increased over the past decade, refiners have responded by expanding existing refineries, and have increased U.S. capacity by about 12 percent, or 1.8 million barrels per day.

Additional projects already announced or reported would add another 600,000 barrels per day within the next several years. These investments are not surprising, given the record profits realized by refiners due to the higher prices American consumers have paid for gasoline over the last 2 years.

In contrast to the expansion of existing facilities, only one company has applied for a permit to build a brand new refinery in recent memory. That company received its permit earlier this year, but is still struggling to find investors. Companies have preferred to expand incrementally at existing plants, and to take advantage of economies of scale, because it allows them to tailor increases in capacity to available demand in a volatile marketplace.

Question 4. Fischer-Tropsch technology (converting coal to liquid fuel).—Given the long history of Fischer-Tropsch technology and the decades of Federal R&D investment, what is holding back the development of commercial F–T facilities in the United States?

Response. I am not familiar with this technology.

Question 5. Fischer-Tropsch technology (converting coal to liquid fuel).—Would long-term contracts with price floors for F–T fuel provide substantial guarantees for companies to invest in the construction of a facility?

Response. I am not familiar with this technology.

Question 6. Fischer-Tropsch technology (converting coal to liquid fuel).—What affect on national or worldwide demand might the existence of one or two F–T facili-

ties that produce 100,000 barrels of fuel per day? How might that affect prices? Would price effects be more regional than national?

Response. I am not familiar with this technology.

Question 7. Fischer-Tropsch technology (converting coal to liquid fuel).—What other benefits would F–T fuels have for the Nation/world?

Response. I am not familiar with this technology.

Question 8. Boutique Fuels.—Many free market thinkers have argued that the expansion of boutique fuels has been a contributing factor to rising prices. In addition, it is believed by some that a ratchet down of the number of boutique fuels would bring down gas prices without any adverse effect on the environment. Would you comment on this theory, and whether or not limiting the number of boutique fuels would also limit a State's options to comply with Federal environmental laws?

Response. State and Federal air pollution control officials agree that cleaner gasoline and diesel fuels have played a critical role in reducing unhealthy levels of ozone, particulate, lead, and carbon monoxide pollution. The so-called "boutique" fuels designed to reduce ozone were adopted largely to give both local governments and refiners the flexibility to offer alternatives at a lower price than the reformulated gasoline (RFG) or low Reid Vapor-Pressure (RPV) fuels already available. In short, boutique fuels arose in part to meet a demand for more economical alternatives, which is usually a goal of market-based policies. Some States were also looking for alternatives to reformulated fuels made with MTBE, after the discovery that MTBE had contaminated groundwater in a number of areas.

Congress acted earlier this year to remove the 2 percent oxygenate requirement for clean fuels, although this may have effectively shrunk the supply of gasoline and increased its price (see attached memo from Texaco calling for elimination of the RFG requirement as a way to reduce the supply of gasoline and increase refinery profit margins).

Bob Slaughter, President of the National Petroleum Refiners' Association, responded to a question in February of this year from the House Subcommittee on Energy and Air Quality that, "Legislation aimed at boutique fuel limitations beyond repeal of the 2 percent oxygenate requirement may create unintended consequences that could undermine innovation or cost control in fuels production . . . In some circumstances, local fuels reduce or avoid inefficient investment costs for refiners and can lower overall costs to consumers."

There is little evidence that clean fuels have contributed to the long term price increases that have occurred over the past year-and-a-half. Disruptions in the supply of clean fuels destined for a local market have occurred infrequently (e.g., in California and Milwaukee), and are resolved quickly. The Environmental Protection Agency has used its enforcement discretion to resolve spot shortages that occur on an infrequent basis.

If Congress wants to reduce the number of "boutique" fuels, it should make it easier for States to use RFG, one of the cleanest fuels available that is widely produced and distributed. Under current law, some 14 States outside the Ozone Transport Region with over 150 counties in non-attainment for the eight hour ozone standard are not allowed to "opt-in" to the RFG program.

Question 9. This bill would make State permitting of refineries subject to judicial review in Federal court. It also contains short timelines and it provides for separating out parts of the permit that cannot be processed within the timeframes. Is this a workable system or could it lead to confusion and possibly delay? How does it fit with the existing system under our environmental laws?

Response. My understanding is that the latest draft of S. 1772 no longer applies to State permitting requirements, and that timeframes for reviewing permits have been extended slightly. For example, EPA and State agencies would be required to review and approve or disapprove any Federal permits for refinery expansions within 120 days, instead of 90 days as originally proposed. As noted in my testimony, I remain concerned that this timetable, when combined with vague standards in the legislation, remains too short to complete an adequate review of a major refinery expansion in every case. It could also eliminate any meaningful public participation in the permit process for some communities.

For example, the Motiva refinery in Port Arthur, Texas, is reportedly considering doubling the size of its capacity, to more than 600,000 barrels per day, which would make it the largest refinery in the United States and one of the largest in the world. This is a huge project, equivalent in scale to adding two mid-sized refineries. Permit writers must assure that all requirements are met, that pollution control technologies meet Clean Air standards, that emissions will be accurately monitored and accounted for, that the public is given an opportunity to review and comment on

the expansion, and that the additional emissions will not contribute to the degradation of local air quality. It is just not practical to expect permit writers to do a good job carrying out these responsibilities at every refinery, no matter what the circumstances, in just 4 months.

Permits that are written in haste may include errors that increase the chances that a State agency's decision may be challenged, which in turn could lead to further delays in the project. In addition, permits that are rushed through review may overlook health and safety problems. Many refinery projects involve technologies, such as delayed cokers, that can be dangerous to both workers and nearby residents if they are not properly designed or operated. Poorly designed or maintained plants not only increase risk, they may also result in frequent shutdowns that limit the supply of gasoline or other petroleum products.

Question 10. In light of the EPA waivers of Clean Fuel requirements after the Katrina Hurricane, is there any argument that clean fuel requirements lead to higher gas prices after Katrina?

Response. EPA used its enforcement authority quickly and appropriately after Katrina to waive clean fuels requirements where they would otherwise have resulted in a shortage of gasoline. These waivers were temporary and limited in scope, but more than adequate to assure that clean fuel standards would not add to gasoline shortages in the wake of hurricanes in the Gulf Coast.

As noted in my response to a previous question from Senator Warner, there is little evidence that either clean fuels requirements or other environmental rules have contributed to long-term increases in the price of gasoline. Red Cavaney, President of the American Petroleum Institute, testified before the House Energy and Air Quality Subcommittee last year that, "We have not said that environmental costs are responsible for the higher prices." The Department of Energy's Annual Outlook for 2005 notes that refinery costs are not expected to increase over the next two decades, despite the imposition of clean fuels requirements. Finally, many of these environmental expenditures, such as high-pressure hydro-treating, may actually help to improve product yields and increase the supply of gasoline.

STATEMENT OF JONATHAN H. ADLER, ASSOCIATE PROFESSOR OF LAW; ASSOCIATE DIRECTOR, CENTER FOR BUSINESS LAW & REGULATION, CASE WESTERN RESERVE UNIVERSITY SCHOOL OF LAW

Thank you, Mr. Chairman and members of this Committee, for the invitation to testify on S. 1772, the Gas Petroleum Improvement and Community Empowerment Act. My name is Jonathan H. Adler, and I am an associate professor of law and associate director of the Center for Business Law and Regulation at the Case Western Reserve University School of Law, where I teach several courses in environmental law. This fall, I am a visiting associate professor at George Mason University School of Law, where I am teaching environmental and administrative law.

For the past fifteen years I have researched and analyzed Federal regulatory policies, with a particular focus on environmental regulations. Portions of my research and scholarship have focused extensively on the ways well-intentioned environmental regulations may have unforeseen and unfortunate consequences, on the impact of environmental regulations on the energy sector, and on the balance between Federal and State authority in environmental protection. I appreciate the opportunity to share my views on S. 1772, particularly as it relates to my ongoing research.

Key provisions of S. 1772 seek to expand domestic refining capacity. This is an important goal, as domestic refining capacity is one of the many factors that can influence the cost and volatility of retail gasoline prices. While there have been recent increases in domestic refinery capacity, these increases have not kept pace with demand growth, and this trend is likely to continue. In recent years the lion's share of investment in the refining sector has gone to meet various environmental and other regulatory mandates, not to increasing refining capacity. Moreover, while some of the gap between domestic demand and domestic refining capacity can be made up through imports (which now account for approximately 10 percent of domestic consumption), strong and ever increasing global demand will put further upward pressure on prices. In addition, with the proliferation of additional fuel content and emission requirements, there is reason to question whether foreign refiners will continue to make gasoline for the U.S. market.

Markets respond naturally to price fluctuations when they are able to do so. Higher prices signal to investors that there are potential profit-making opportunities. Where markets are free to operate, price increases should spur investments to increase supply (and should encourage consumers to reduce consumption). Govern-

ment interventions in commodity markets, whether direct or indirect, tend to short-circuit the market's natural feedback mechanisms. This does not mean that such interventions are unwise or unjustified, but it does mean that they should be taken with care. Above all else, new policy measures should be careful not to cause further disruptions in the marketplace that could short-circuit the effective operation of supply and demand.

Few markets today are fully free of government interference. Energy markets are a case in point. Myriad government policies at the Federal and State level affect the discovery production, transportation, processing, distribution, and sale of all forms of energy. These interventions, particularly in the aggregate, retard the market's ability to respond to changes in supply and demand and increase price volatility, as well as the likelihood of temporary supply disruptions.

For these reasons, it is important that Federal responses to recent gasoline price increases seek to remove or ameliorate regulatory barriers to efficient market responses to current and prospective price changes. Such strategies are more sensible than chasing after alleged "price gouging" or adopting new mandates or subsidies for energy efficiency, as such market-enhancing strategies can unleash the market's natural tendency to equilibrate supply and demand. Alternative strategies, however well intentioned, tend to impose costs on consumers in excess of their putative benefits.

While there is much popular discussion about oil industry profits and current margins within the refining sector, it is worth placing these figures in perspective. By historical measures, profit margins in the refining sector have been lower than in other segments of the oil and gas industry, and lower than the average for S&P 500 companies. Moreover, the greater the profit margin in the refining sector, the more rapidly the marketplace will adjust to meet increased demand for fuel products of various types. Insofar as this Committee is concerned that some suppliers are able to charge unduly high prices for gasoline, and reap "excessive" profits, the best policy response is to take measures that will ensure such firms are exposed to competition.

From this perspective, titles II and IV of S. 1772, the Gas Petroleum Improvement and Community Empowerment Act, are most welcome. Rather than seeking to override or second-guess private market decisions, the bill seeks to minimize the extent to which desired environmental protections impede the efficient functioning of energy markets. Rather than imposing Federal mandates on State governments or trampling upon local communities, these provisions seek to provide greater opportunities for increases in refining capacity consistent with State and local preferences. While this legislation is not a panacea for current gas price concerns, it is a modest, welcome step toward addressing those concerns.

REFINERY PERMITTING PROCESS

There is a clear need for increased refining capacity in this country. While existing domestic refining capacity is adequate to meet current demands, it is unable to respond to surges in demand or disruptions in supply. The relative lack of refining capacity both supports higher prices and increases price volatility because it is more difficult to respond to regional changes in demand. Moreover, the steady increase in global demand for refined petroleum products makes it more expensive to meet increased domestic demand through imports.

Insofar as regulations, including permit requirements, add to the financial cost of and potential delay in constructing or expanding a refining facility, they will reduce the likelihood that such investments will take place. Insofar as regulatory requirements create uncertainty, this will further discourage such investments on the margin. Streamlining the permit process, as proposed in S. 1772, is an effective way to reduce the cost and uncertainty involved with environmental compliance without sacrificing environmental protection or public participation. As the experiences of many State environmental agencies have shown, it is possible to streamline the permitting process without sacrificing environmental protection, through the adoption of coordinated, simultaneous reviews of various permitting requirements across environmental media, deadlines for permitting decisions, and other innovations.

Unlike some other proposals to streamline the permitting process for refinery construction and expansion, the provisions in S. 1772 do not displace State authority or trample upon local communities. As the text of the legislation makes clear, the relevant provisions are only to be invoked at a State's request. Equally important, nothing in S. 1772 alters the substantive environmental requirements of Federal or State law. While the legislation establishes clear deadlines for permit review, 270 days is an ample amount of time for the review of a completed permit application for the construction of a new refinery, and 90 days should be sufficient to review

permits for the expansion of facilities that already exist. If a Federal Agency is to be involved in consolidating and streamlining the State and Federal permitting processes for refinery construction or expansion, it should be the Environmental Protection Agency, as the EPA is already responsible for oversight of much State permitting and enforcement under existing Federal environmental laws. Such expertise is important if the permitting process is to be accelerated without compromising environmental safeguards.

Some may maintain that these provisions are unnecessary to increase domestic refinery capacity because existing regulations are not to blame for the relative lack of investment in increased refining capacity. While no single regulatory requirement should be blamed for discouraging investment in the refining sector, it is difficult to seriously maintain that regulatory costs in the aggregate do not effect industry investment decisions at the margin. Insofar as regulations increase the costs of constructing, expanding and/or operating a refining facility, they decrease the attractiveness of such investments as compared to available alternatives and potential investors will demand greater marginal returns before proceeding with such investments. Make no mistake, regulatory costs and permitting delays reduce the profit margins of proposed refinery projects. Thus, while regulatory burdens cannot explain the entirety of investment trends in this sector, there should be little doubt that regulatory costs have an effect on the margin and the greater the costs and uncertainty involved with existing regulations, the greater that effect will be. It is true that few firms have sought to construct new refineries in the past few decades, but this is not particularly relevant. Insofar as existing permitting requirements and other regulatory hurdles discourage the construction of new facilities, they discourage such investment before the siting and permitting process begins. If it took the Arizona Clean Fuels project a reported five years to obtain air quality permits for a proposed refinery project, few companies will be encouraged to follow their lead.

Even were if it true that existing regulations and permitting requirements, in the aggregate, have little effect on industry decisions to construct or expand refineries in the United States, there is nothing to fear from S. 1772. If streamlining the permitting process for new refineries does not increase the attractiveness of such investments, then the law's permitting provisions will not be invoked, as no governor will seek a refinery permitting agreement if there is no interest in expanding or constructing a refinery. In short, while reasonable people may disagree on the extent to which title II of S. 1772 will spur additional investment in refining capacity, adoption of such a measure is unlikely to cause any harm. The same cannot be said for many competing policy proposals.

Streamlining permitting for new refinery capacity makes sense, but the problems faced by refineries are even larger. Indeed, I would suggest that these provisions do not go far enough. It is well known that many existing regulations impose substantial costs without producing corresponding environmental benefits. In particular, various studies, including the EPA's noted Yorktown study, have demonstrated that it is possible to meet or exceed current standards of environmental performance at substantially lower cost. During the Clinton Administration, the EPA launched several initiatives, including Project XL, that sought to improve the performance and reduce the cost of environmental programs simultaneously. These initiatives failed to produce substantial benefits because the EPA and State agencies implementing Federal programs pursuant to delegated authority under the various environmental laws lack the statutory to authorize deviations from existing requirements, even where such deviations will reduce the cost of meeting or exceeding existing environmental standards. For this reason, the Committee should consider authorizing EPA to waive applicable environmental requirements upon a demonstration that equivalent or greater environmental benefits can be achieved at lower cost. This could further reduce the regulatory costs associated with constructing or expanding refineries to serve domestic markets, while also spurring innovation in emissions control, regulatory implementation and design.

BOUTIQUE FUEL PROVISIONS

Gasoline markets' ability to respond to supply disruptions and price changes have been severely hampered by Federal fuel content mandates under the Clean Air Act. Imposing various boutique fuel mandates on different regions of the country has balkanized domestic gasoline markets and increased prices for consumers for minimal environmental benefit. By segmenting national gasoline markets, these requirements have made some regions more vulnerable to supply disruptions and volatile gasoline prices. Some boutique fuel requirements have further strained gasoline supplies by reducing the volume of saleable product that can be produced. Yet since

passage of the 1990 Clean Air Act, such mandates have been expanded, not reduced. This is ironic because one of the primary reasons for Federal, as opposed to State, regulation of fuel content is to take advantage of the economies of scale inherent in producing a fungible commodity for national markets. Because Federal laws have facilitated, and even mandated, the proliferation of various boutique fuels, they have contributed to some of the ills that Federal fuel regulation was intended to solve.

Insofar as S. 1772 slows the proliferation of additional fuel mandates, it is a welcome step. Under these provisions, States will continue to benefit from the use of such fuels, but the aggregate number of fuel formulas that refiners are required to produce—and therefore the extent to which national gasoline markets are further fragmented—will not increase as the Nation seeks to reduce the amount of air pollution from automobiles.

The Energy Policy Act allows States to seek emergency waivers from Federal boutique fuel requirements. S. 1772 sensibly reinforces these provisions by making clear that States will be held harmless under the Clean Air Act where the EPA has granted an emergency waiver. This removes a potential disincentive to States that would otherwise seek waivers under the newly adopted Energy Policy Act waiver provisions. This is a welcome step, but the Committee may wish to consider expanding the opportunities for States to seek waivers from existing boutique fuel requirements where such waivers are consistent with meeting relevant environmental standards. For instance, the Committee should consider granting the EPA broader authority to approve waivers from existing boutique fuel requirements when a State can demonstrate it will attain relevant air quality standards without such fuel mandates. From an environmental standpoint, it is more important that a State meet existing air quality standards than that State adopts specific regulatory controls. If States can meet existing environmental standards without adopting additional fuel content requirements, they should be allowed to do so.

Federal interventions in energy markets always have the potential to do harm as well as good. Sometimes the net impact is negative. Given some of the troubling proposals recently advanced to address concerns about increased gasoline prices, this Committee is to be commended for its prudent approach to this important issue. It is far wiser to adopt modest measures designed to facilitate the market's natural response to supply disruptions and price increases than to adopt additional layers of regulatory mandates. Indeed, some proposals, such as those purportedly designed to prevent "price gouging," could exacerbate the harms that they seek to prevent because the profit motive plays a key role in calibrating supply and demand. As the Federal Trade Commission noted in its June 2005 study, Gasoline Price Changes: The Dynamic of Supply, Demand, and Competition:

> Profits play necessary and important roles in a well-functioning market economy. . . . Profits compensate owners of capital for the use of the funds they have invested in a firm. Profits also compensate firms for taking risks, such as the risks in the oil industry that war or terrorism may destroy crude production assets or that new environmental requirements may require substantial new refinery capital investments.

Therefore, even the best-intentioned regulatory initiatives to constrain profit-seeking, such as by defining what constitutes a "fair" or "reasonable" profit in a given industry, are more likely to produce future shortages and higher prices than the status quo.

Other proposals would needlessly centralize the regulation of local land use decisions under the guise of facilitating increases in refinery capacity. Such measures would be equally unwise, and would likely undermine the protection of environmental resources at the State and local level. These measures, too, should be rejected.

Mr. Chairman and members of this committee, I recognize the importance of these issues to you and your constituents, and I commend your efforts to develop a sound policy response to these concerns. I hope that my perspective has been helpful to you, and will seek to answer any additional you might have. Thank you.

RESPONSES BY JONATHAN ADLER TO ADDITIONAL QUESTIONS FROM SENATOR WARNER

Question 1. Refinery Capacity.—We all know that the supply of crude, refinery capacity, and the transportation network are the three major variable costs associated with prices at the pump. How specifically will increased refinery capacity bring down the price consumers pay for a gallon of gasoline?

Response. There are many factors that influence the retail price of gasoline. While the cost of crude oil is typically the largest single factor, refinery capacity also plays a role. Increased refinery capacity will increase the supply of gasoline and other re-

fined petroleum products. All else equal, this should relieve upward pressure on gas prices. Increased refining capacity should also provide more flexibility in responding to temporary supply disruptions, as there would be more spare capacity available. It is worth noting that those regions of the country with greater refining capacity tend to have lower prices and less price volatility than those regions in which refining capacity is more limited. As the Federal Trade Commission's June 2005 study Gasoline Price Changes: The Dynamic of Supply, Demand, and Competition concluded "Regional differences in refining capacity and gasoline transportation infrastructure can result in differences in average regional prices, as well as regional price variability." (P. 69) The Energy Information Administration and the U.S. GAO have also cited refining capacity constraints as a factor influencing retail gasoline prices.

Question 2. Refinery Capacity.—Is the U.S. total refinery capacity truly a driver of gasoline cost by itself or is it events such as Hurricane Katrina that shut in many refineries that have the largest effect on price volatility?

Response. Limited refinery capacity itself can have an impact on gasoline prices. It also can exacerbate the effects of natural disasters and other events that can cause temporary supply disruptions. As noted above, one consequence of increased refinery capacity is an increase in spare capacity that can be used to meet temporary increases in demand or to compensate for supply disruptions. This is important because occasional supply disruptions, whether caused by natural disasters or other events, are inevitable. While increased refinery capacity will not eliminate such events, it would reduce the effect of such events on consumers.

Question 3. Refinery Capacity.—What is preventing refineries from being built or expanded today; cost; bureaucracy of local, State, and Federal permits; environmental regulation?

Response. All of the above play a role in industry decisions whether to expand or construct new refineries, as do profit margins within the refining sector. As the Federal Trade Commission concluded in its June 2005 report, Gasoline Price Changes: The Dynamic of Supply, Demand, and Competition, the reasons there have been no new gasoline refineries constructed since 1976 include "costly and extensive permitting and licensing requirements mandated by various Federal, State, and local environmental and other laws, as well as community opposition." (P. 50).

Question 4. Fischer-Tropsch technology (converting coal to liquid fuel).—Given the long history of Fischer-Tropsch technology and the decades of Federal R&D investment, what is holding back the development of commercial F–T facilities in the United States?

Response. I do not know enough about the history or economics of Fisher-Tropsch technologies to comment.

Question 5. Fischer-Tropsch technology (converting coal to liquid fuel).—Would long term contracts with price floors for F–T fuel provide substantial guarantees for companies to invest in the construction of a facility?

Response. I do not know enough about the history or economics of Fisher-Tropsch technologies to comment.

Question 6. Fischer-Tropsch technology (converting coal to liquid fuel).—What affect on national or worldwide demand might the existence of one or two F–T facilities that produce 100,000 barrels of fuel per day?

—How might that affect prices?

—Would price effects be more regional than national?

Response. I do not know enough about the history or economics of Fisher-Tropsch technologies to comment.

Question 7. Fischer-Tropsch technology (converting coal to liquid fuel).—What other benefits would F–T fuels have for the nation/world?

Response. I do not know enough about the history or economics of Fisher-Tropsch technologies to comment.

Question 8. Boutique Fuels.—Many free market thinkers have argued that the expansion of the number of boutique fuels has been a contributing factor to rising prices. In addition, it is believed by some that a ratchet down of the number of boutique fuels would bring down gas prices without any adverse effect on the environment. Would you comment on this theory and whether or not limiting the number of boutique fuels would also limit a State's options to comply with Federal environmental laws?

Response. As I noted in my written statement, the ability of gasoline markets to respond to supply disruptions and price changes have been severely hampered by

Federal fuel content mandates under the Clean Air Act. The proliferation of such requirements has balkanized domestic gasoline markets, resulting in higher consumer prices and increased price volatility in much of the country. Some boutique fuel requirements have further strained gasoline supplies by reducing the volume of saleable product that can be produced. This is not just the conclusion of "free market thinkers." The Federal Trade Commission's 2005 report on gasoline prices, cited above, reached similar conclusions, as have other analyses. For example, in May 2005 testimony before the Committee on Government Reform Subcommittee on Energy and Resources, the U.S. GAO observed that California's fuel requirements are among the reasons that California typically experiences higher gasoline prices than the rest of the country. The National Petroleum Council's December 2004 report on petroleum supply likewise concluded that boutique fuel requirements have "fragmented the market, increasing the potential for supply disruptions and price volatility."

While the purpose of most boutique fuel requirements is to improve air quality, it is important to note that this has not always been the result. Some fuel requirements, such as the minimum oxygen requirement imposed under the 1990 Clean Air Act, did not have the environmental benefits that many had hoped. Indeed, in some parts of the country, it appears that the oxygenate requirement caused net environmental harm. I also believe that various fuel regulations requiring the increased use of ethanol have not had a beneficial impact on the environment.

Gradually reducing the number of boutique fuel formulas that refiners can be required to meet should ease upward pressure on gasoline prices and reduce price volatility without compromising States' ability to meet Federal air quality standards. A more rapid reduction, such as would be mandated under the bill recently passed in the House of Representatives, might not have as benign an effect in the short to medium term. Because investments have already been made to meet existing boutique fuel requirements, a sudden, sharp drop in the number of fuel formulas could actually have an adverse effect on fuel prices, insofar as it could temporarily disrupt gasoline supplies in parts of the country. For this reason, a more gradual reduction in the number of fuels, as contemplated in S. 1772, is a more sensible approach.

Nothing in S. 1772 will prevent a State from continuing to rely upon boutique fuel requirements in existing State Implementation Plans. To be sure, limiting the ability of individual States to adopt additional state-specific fuel requirements may limit States' future flexibility at the margin, but I do not believe this effect will be significant. States will retain the ability to adopt a wide range of fuel standards to reduce automotive emissions, and will continue to benefit from remaining clean fuels requirements.

RESPONSES BY JONATHAN ADLER TO ADDITIONAL QUESTIONS FROM SENATOR JEFFORDS

Question 1. In your written statement you State that there is a reason to question whether foreign refiners will continue to manufacture gasoline for the U.S. market, particularly in light of our fuel content requirements. You make this statement despite the fact that the U.S. has and continues to increase its imports of refined product from foreign refiners. Do you have evidence based on your research of this, or an example that you can share with the Committee?

Response. It is well known that foreign demand for both crude oil and refined petroleum products has increased dramatically and that this trend is likely to continue. While U.S. imports of gasoline have increased in recent years, imported gasoline (as opposed to imported crude oil) remains only a very small fraction of overall U.S. gasoline supply. This is because is has traditionally been far more economical to refine petroleum products closer to the end markets.

The adoption of increasingly stringent fuel content requirements is likely to reduce the ability of the U.S. to rely upon foreign refiners to supply gasoline for the same reasons that the proliferation of regional boutique fuel requirements has balkanized domestic markets and made some regions of the country more vulnerable to supply disruptions. Insofar as any refiner, domestic or foreign, has to refine gasoline so as to meet the specific requirements of a given market, they sacrifice some of the economies of scale involved with producing a fungible commodity. As the National Petroleum Council observed in its December 2004 report on petroleum supply, it is unlikely that foreign refiners will produce significant amounts of gasoline that meets the specifications of U.S. markets where those specifications are significantly different, and more expensive to meet, than foreign product specifications.

Question 2. In your written statement, you state that, in the face of high gasoline prices, the Congress should not be seeking to address price gouging or adopting subsidies for energy efficiency because such strategies interfere with market operations. Why then are the loan guarantees for certain types of refineries, the grants to locate refineries on former defense sites, and the grants for EPA's Natural Gas STAR program economically preferable? Aren't these also subsidies that, in your view, would distort the market to pick winning technologies and promote efficiency?

Response. My written statement was largely confined to titles II and IV of the bill. Insofar as other provisions of the bill provide for subsidies for particular energy technologies or investments, I am skeptical that such measures represent an efficient or effective way to address current concerns about energy prices and supply. With regard to the use of recently closed defense facilities as sites for new refinery construction, I would add the qualification that providing Federal redevelopment assistance directly to such communities is not necessarily tantamount to providing a subsidy to industry.

Question 3. You have stated that one of the benefits of the bill is that it provides flexibility to States because "the relevant provisions are only to be invoked at a State's request." Would you agree though that the two Clean Air Act changes in title IV are not invoked at a State's request, and that they are nationwide changes?

Response. The provisions of title II are clearly only invoked at a State's request. The waiver provision in title IV is "nationwide" insofar as it could apply to any part of the country subject to a waiver under Section 211(c)(4)(C) of the Clean Air Act, but I do not consider this provision to be a substantive change in the law. Rather, in my opinion, it merely clarifies that a "waiver" granted under this section of the CAA is a waiver in fact, and not just in name. The EPA cannot be said to have "waived" a fuel requirement under the CAA if States are to be held responsible for the impact of such a waiver.

It could be argued that the boutique fuel reductions provision is a "nationwide change." This provision does not alter in place emission controls, however. Nor does it otherwise effect existing State implementation plans in any part of the country, let alone nationwide. Moreover, this provision will not prevent any State from continuing the use of a given boutique fuel requirement that it has adopted as part of an approved State Implementation Plan. Its only effect is to reduce the number of boutique fuel formulas over time after States have decided to discontinue the use of such fuels under the SIPs. Thus, this provision, like those of title II, is ultimately dependent upon the decision of State policymakers.

Question 4. I want to ask you about how the bill's changes to the Clean Air Act that would no longer require States to account for emissions associated with emergency fuel waivers benefit the market. You stated that the benefit of this provision is that it removes a "disincentive" States face in exercising a waiver. I have to tell you that I find this characterization somewhat surprising, because in my experience Governors have not been hesitant to request waivers during times of fuel supply disruption, emergency or high prices. It happened in 1995 when reformulated fuels were introduced, in 2000 and 2001 in the Midwest market, and, in my experience, Governors are more likely to request waivers than EPA is to grant them.

Response. Whether or not Governors have requested waivers in the past, or will do so in the future, says nothing about whether a given provision of Federal law creates a "disincentive" to seek such a waiver. Where Governors seek waivers, it is because the incentives for such a waiver—incentives caused by supply disruptions and the like—are greater than the disincentives created by the prospect of potential consequences under the Clean Air Act.

Question 5. Nevertheless, I want to understand your views about the effect on the market of removing requirements for compliance with the Clean Air Act once a waiver is granted. Suppose, as happened in the Gulf, there is a refiner, making reformulated gasoline or low sulfur diesel, there is a supply emergency and the use of these products in a State or several States is waived. Further, the State now, under this bill, no longer has to account for those emissions and use the refiner's product after the emergency has passed. How does this provide market surety to clean fuels manufacturers once they get back up and running, and what is a refiner's likely market behavior? Are they likely to manufacture more clean fuels, or produce and stockpile away some dirty fuels that they can still sell during supply emergencies?

Response. If waivers are granted too often it could certainly reduce the incentive refiners have to ensure consistent supplies of boutique fuels. This is one of the reasons why I believe a gradual reduction in boutique fuel requirements, as contemplated under S. 1772, is preferable to more drastic approach adopted in the leg-

islation recently passed in the House of Representatives. I also believe that these sorts of concerns justify the requirement in Section 211 (c)(4)(C)(ii) that the EPA Administrator consult with the Secretary of Energy.

More broadly I would note that Congress has already determined that it is important to have a provision in Section 211 of the Clean Air Act providing for the temporary waiver of boutique fuel requirements where necessary to serve the public interest and respond to temporary supply shortfalls. Congress has already concluded that the benefits of such waivers, particularly to those on fixed incomes for whom price spikes caused by natural disasters and other events have a disproportionate impact, justify the occasional waiver of boutique fuel requirements. If this is to be an actual waiver—that is, if the relevant requirements are actually to be "waived"—then it makes sense that States should not be penalized when such a waiver is granted. If States are not held harmless for the consequences of such a waiver—waivers that the EPA and Department of Energy have concluded are in the public interest due to "extreme and unusual" circumstances—then it cannot be said that the requirements were actually "waived." This is why I believe this provision is simply a clarification of the intent of the provisions that have already been adopted into law.

Question 6. You indicate in your written testimony that "nothing in this bill alters the substantive environmental requirements of Federal and State law." The bill does establish permitting deadlines and new judicial review requirements for participating States, would you agree that those changes, at a minimum, do result in a substantive change in the procedural requirements of Federal and State law?

Response. These changes are not "substantive environmental requirements." Limiting the number of days an agency can review a permit application before accepting or rejecting the permit does not change any substantive environmental requirement, as it does not change any of the environmental requirements imposed on the permit applicant. It is a procedural requirement. Similarly, the judicial review provision does not change the "substantive environmental requirements" of either State or Federal law. It does require that challenges to decisions made under this provision be brought in Federal court, but this does not change the substantive requirements that are to be reviewed.

Question 7. With respect to the judicial review provisions of title II, for States that opt in to the new permitting system authorized by this bill, there would be a required change to the venue in which cases are litigated under Federal and State environmental law. Cases would now have to go to the district court in which the refinery is located. Though a litigated outcome is always difficult for companies to predict, isn't there some benefit to companies to stay within the current judicial forums because of precedent?

Response. No. Where Federal courts are called upon to interpret State law, they are bound by State law precedents in State courts. Insofar as a challenge to a permit alleges that the EPA or relevant State agency violated State permitting rules, the Federal court would apply State law as it has been interpreted by State courts. In my opinion, the primary justification for the judicial review provision is that it avoids the incongruity of suits against the Federal EPA in State courts and provides a single forum for the resolution of challenges to permits issued under this provision. Indeed, by providing a single forum for such challenges, this provision will, if anything, reduce the uncertainty and unpredictability in the process.

Question 8. You discuss in your testimony the need to reduce the proliferation of boutique fuels. The new energy law does just that, it caps the total number of fuels both nationwide and in each region. We cannot, as of the enactment of that law, have a greater number of fuels than we do today. It also requires EPA to remove fuels from the list if a State stops using them, just as this bill does. The difference is that under this bill, if a State stops using a fuel, the slot for that fuel goes away and cannot be replaced with another fuel. Can you explain why this provision of the bill, that prohibits market entry for new cleaner fuels, benefits the market or a manufacturer that has developed a clean fuel and wants to sell it?

Response. As I noted in my written testimony, the proliferation of the number of boutique fuel requirements balkanizes energy markets and thereby creates upward pressure on gasoline prices and increases the risks of supply disruptions and resulting price volatility. This is not merely my personal view. The FTC, NPC, EIA, and GAO have all reached similar conclusions. The provision in S. 1772 seeks to address this concern, but does not prohibit the development of cleaner fuels. It does, however, control the number of fuel formulas that will be available and ensures that the aggregate number of fuel formulas will decline over time.

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